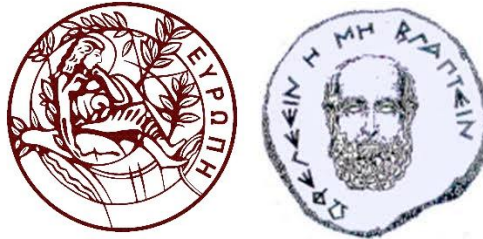


CHARALAMPOS K. MAMOULAKIS

PROFESSOR OF UROLOGY

UNIVERSITY OF CRETE – MEDICAL SCHOOL



CHAIRMAN OF THE FIRST SURGICAL SECTOR

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UNIVERSITY GENERAL HOSPITAL OF HERAKLION, CRETE, GREECE



CURRICULUM VITAE

SEPTEMBER 2025

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ΣΥΝΤΟΜΟ ΒΙΟΓΡΑΦΙΚΟ ΣΗΜΕΙΩΜΑ

Χαράλαμπος Κ. Μαμουλάκης, MD, MSc, PhD, FEBU

Καθηγητής Ουρολογίας, Ιατρική Σχολή, Πανεπιστήμιο Κρήτης

Διευθυντής Α΄ Χειρουργικού Τομέα, Πανεπιστημιακό Γενικό Νοσοκομείο Ηρακλείου

Διευθυντής Ουρολογικής Κλινικής, Πανεπιστημιακό Γενικό Νοσοκομείο Ηρακλείου

Ο Χαράλαμπος Κ. Μαμουλάκης είναι αριστούχος απόφοιτος της Ιατρικής Σχολής του Εθνικού και Καποδιστριακού Πανεπιστημίου Αθηνών (εισαγωγή με Πανελλαδικές εξετάσεις). Μετά την ολοκλήρωση της εκπαίδευσής του ως ειδικευόμενος στην Ουρολογική Κλινική του Νοσοκομείου «Ο Ευαγγελισμός», απέκτησε τον Τίτλο Ιατρικής Ειδικότητας Ουρολογίας στην Ελλάδα (2006) και τον αντίστοιχο Ευρωπαϊκό Τίτλο (Fellow of the European Board of Urology – FEBU) από το Ευρωπαϊκό Συμβούλιο Ουρολογίας (European Board of Urology, EBU) το ίδιο έτος. Είναι κάτοχος του Διαπανεπιστημιακού Μεταπτυχιακού Διπλώματος Ειδίκευσης στη Βιοστατιστική (MSc Biostatistics: α) Ιατρικής Σχολής Πανεπιστημίου Αθηνών, Τμήμα Υγιεινής και Επιδημιολογίας, Τμήμα Μαθηματικών και β) Πανεπιστημίου Ιωαννίνων, Τμήμα Μαθηματικών) και δυο Διδακτορικών Διατριβών (PhDs) στην Ουρολογία [α) «Σπερματολογικές μεταβολές και γενετικοί παράγοντες στην κρυπορχία», Ιατρική Σχολή, Πανεπιστημίου Ιωαννίνων και β) «The position of bipolar technology in transurethral resection of the prostate for benign prostatic obstruction: An evidence-based approach», Ιατρική Σχολή, Πανεπιστήμιο Άμστερνταμ Ολλανδίας, Αρ. Πράξης Δ.Ο.Α.Τ.Α.Π. 10-1230/ 17-07-2015]. Εργάστηκε για δύο χρόνια στην Ουρολογική Κλινική του Γενικού Νοσοκομείου Χανίων «Ο Άγιος Γεώργιος» (Επικουρικός Επιμελητής Β΄ ΕΣΥ). Από τον Φεβρουάριο του 2008 έως τον Μάρτιο του 2010 εργάστηκε στην Ουρολογική Κλινική του Πανεπιστημιακού Νοσοκομείου Academisch Medisch Centrum (AMC), Άμστερνταμ, Ολλανδία ως Επιμελητής σε έμμισθη θέση (Staff Member, Medical Specialties Registration Council) και παράλληλα ολοκλήρωσε Πρόγραμμα Μετεκπαίδευσης (Clinical Fellowship) στη Λαπαροσκοπική Ουρολογία - Ενδοουρολογία αναγνωρισμένο από το Τμήμα Ουροτεχνολογίας της Ευρωπαϊκής Ουρολογικής Εταιρείας (European Association of Urology (EAU, Section of Uro-Technology (ESUT)). Εξελέγη Λέκτορας (2009), Επίκουρος Καθηγητής (2013), Αναπληρωτής Καθηγητής (2018) και Καθηγητής Ουρολογίας (2022) στην Ιατρική Σχολή του Πανεπιστημίου Κρήτης. Επιλέγει Διευθυντής Α΄ Χειρουργικού Τομέα του Πανεπιστημιακού Γενικού Νοσοκομείου Ηρακλείου

(Πα.Γ.Ν.Η.) (2025). Ως Καθηγητής ασκεί αυτοδύναμο διδακτικό έργο από το 2010, με τεκμηριωμένη συμβολή στη διαμόρφωση και διδασκαλία της ύλης και ως υπεύθυνος τριών προπτυχιακών μαθημάτων από το 2014 έως σήμερα («Ουρολογία»: υποχρεωτικό - 7^ο εξάμηνο), Ανδρολογία: κατ' επιλογήν υποχρεωτικό - 8^ο εξάμηνο και «Κλινική Άσκηση στην Ουρολογία»: κατ' επιλογήν υποχρεωτική άσκηση 4 εβδομάδων - 9^ο και 10^ο εξάμηνο). Από το 2022 συμμετέχει στη διδασκαλία του μαθήματος «Προπαιδευτική Χειρουργική» (υποχρεωτικό - 6^ο εξάμηνο – υπεύθυνος Κλινικής Άσκησης στην Ουρολογία στο πλαίσιο του μαθήματος). Εργάστηκε για 6 μήνες (Sabbatical Leave: Φεβρουάριος-Σεπτέμβριος 2014) ως μετεκπαιδευόμενος κλινικός συνεργάτης (Clinical Fellow - Medical Council of India) Ενδοουρολογίας - Λαπαροσκοπικής Ουρολογίας στο Τμήμα Ουρολογίας του Νοσοκομείου Saifee, Βομβάη, Ινδία (Department of Urology, Saifee Hospital, Maharashtra University of Health Sciences (MUHS), Mumbai, India). Ασκεί το κλινικό του έργο στην Ουρολογική Κλινική του Πα.Γ.Ν.Η. από το 2011, όπου κατέχει τη θέση του Διευθυντή της Κλινικής από το 2014 έως σήμερα. Ως Διευθυντής της Ουρολογικής Κλινικής, μεταξύ άλλων: α) οργάνωσε και ανέπτυξε τη συστηματική/πιστοποιημένη εφαρμογή της Ενδοουρολογίας/Λαπαροσκοπικής Ουρολογίας (πρώτη φορά σε δημόσιο Νοσοκομείο της 7^{ης} ΥΠΕ), β) Στο πλαίσιο αυτό, οργάνωσε την απόκτηση υπερσύγχρονου εξοπλισμού (πλήρης γκάμα αναλωσίμων υλικών, ενδοουρολογικοί/λαπαροσκοπικοί πύργοι HD και 4K/3D (Image1S, Visera Elite III), σύστημα Holmium Laser για τη διαχείριση λίθων/όγκων (Medilas[®] Η Solvo[®] 35), σύστημα Advanced Thulium Laser with RealPulse[®] Technology (Thulio[®]) για διαχείριση λίθων/ εκπυρήνιση προστατικού αδενώματος (ThuLEP), συστήματα διαδερμικής νεφρολιθοτριψίας (PNL - Calcuson/LithoClast[®] Trilogy), ενδοουρολογικές αντλίες (Endoflow[®] II), διπολικό σύστημα εκτομής/εξάχνωσης του προστατικού αδενώματος (ESG 410: TURis/TUVP), εύκαμπτα ψηφιακά κυστεοσκόπια και ουρητηροσκόπια μίας χρήσης (ενδοσκόπια τρίτης γενιάς) για εκτέλεση κυστεοσκοπήσεων/παλίνδρομης ενδονεφρικής χειρουργικής (RIRS), σύστημα υπερηχογραφίας για νεφρική προσπέλαση/εκτέλεση βιοψιών του προστάτη με «σύντηξη εικόνων» (Prostate Fusion Biopsy; Flex Focus 500/Biopsee[®]), συστήματα ουροδυναμικού ελέγχου), γ) με βάση εσωτερικό κανονισμό που επιμελήθηκε (ΦΕΚ 1468 τ.Β΄ 13-04-2021) οργάνωσε τη λειτουργία της Κλινικής και των Ειδικών Μονάδων (1. Μελέτης Κατώτερου Ουροποιητικού Συστήματος, 2. Ελάχιστα Επεμβατικής Ουρολογίας - Λιθοθρυψίας, στην

οποία υπάγονται οι Εξωσωματικοί Λιθοθρύπτες (Doli S EMSE 220 F-XP και Delta® III Pro, Dornier) και 3. Βιοψίας Προστάτη, στην οποία εκτελούνται συστηματικά/πιστοποιημένα στοχευμένες βιοψίες του προστάτη με τη μέθοδο «σύντηξης εικόνων» (mpMRI/US Targeted Prostate Fusion Biopsy)) για πρώτη φορά σε δημόσιο Νοσοκομείο της 7^{ης} ΥΠΕ, δ) οργάνωσε την ίδρυση και λειτουργία της νέας ειδικής μονάδας της Ουρολογικής Κλινικής (Ειδική Μονάδα Βιοψίας Προστάτη, ε) οργάνωσε τον εκσυγχρονισμό της Ειδικής Μονάδας Μελέτης Κατώτερου Ουροποιητικού Συστήματος, στ) οργάνωσε την εφαρμογή συστημάτων διαχείρισης της ποιότητας (EN ISO 9001: 2015 & ΕΛΟΤ EN 15224: 2017) για παροχή Διαγνωστικών - Θεραπευτικών - Νοσηλευτικών Υπηρεσιών, Επιστημονικών Εργασιών, Ερευνητικού Έργου και Εκπαιδευτικών Δραστηριοτήτων από την Ουρολογική Κλινική και τις Ειδικές Μονάδες της (μοναδική πανελληνίως Ουρολογική Κλινική πιστοποιημένη με το ΕΛΟΤ EN 15224: 2017), ζ) οργάνωσε την πλήρη Ευρωπαϊκή πιστοποίηση της Κλινικής για το Εκπαιδευτικό Πρόγραμμα Ειδίκευσης Ουρολογίας (EBU accreditation of Residency Training Programme in Urology - μοναδική πανελληνίως Ουρολογική Κλινική πιστοποιημένη). Το ιδιαίτερο ενδιαφέρον του επικεντρώνεται στην εφαρμογή νεότερων ελάχιστα επεμβατικών τεχνικών στην Ουρολογία, με έμφαση στην αντιμετώπιση της καλοήθους υπερπλασίας του προστάτη και λιθίασης του ουροποιητικού συστήματος, στην Ενδοουρολογία/Λαπαροσκοπική Ουρολογία, ουρολογική ογκολογία και ανδρολογία. Έχει τιμηθεί με επαίνους - διακρίσεις από την Ελληνική Ουρολογική Εταιρεία, υποτροφίες από το Κοινωφελές Ίδρυμα «Αλέξανδρος Σ. Ωνάσης» και την EAU. Προτάθηκε από την ΕΟΕ ως ο καταλληλότερος υποψήφιος μεταξύ των νέων ακαδημαϊκών Ελλήνων Ουρολόγων για το διεθνές βραβείο EAU Crystal Matula (2011) και ως ένας από τους πλέον κατάλληλους νέους ακαδημαϊκούς Ουρολόγους για εκπροσώπηση της Ελλάδας ως ομιλητής/συμμετέχων στα διάφορα EBU fora (2016). Υπήρξε μέλος της Διεθνούς Διαβούλευσης για τις Ουρολογικές Παθήσεις (International Consultation on Urological Diseases (ICUD) - 3rd International Consultation on Stone Disease; Société Internationale d'Urologie - SIU), Μέλος και Αντιπρόεδρος του Τμήματος Ανδρολογίας - Υπογονιμότητας (ΑΝΔΡΥΠΟ) της ΕΟΕ, Αναπληρωτής Διευθυντής του Α΄ Χειρουργικού Τομέα του Πα.Γ.Ν.Η., εισδεχόμενο μέλος του Τμήματος Ανδρολογίας της EAU (EAU Section of Andrological Urology - ESAU), μέλος της ομάδας σχεδιασμού των Ευρωπαϊκών κατευθυντηρίων γραμμών (Panel EAU Working Group on Non-Neurogenic Male LUTS,

2011-2022), συντονιστής της τοπικής Εξεταστικής Επιτροπής των Ιατρικών Ειδικοτήτων (Ουρολογία, 2014-2021). Είναι μέλος του Εθνικού Μητρώου Εξεταστών του Κεντρικού Συμβουλίου Υγείας για τις Ιατρικές Ειδικότητες (Ουρολογία), της Επιτροπής Εξεταστών του Ευρωπαϊκού Συμβουλίου Ουρολογίας (Member of the Fellow of the European Board of Urology (FEBU) Board of Examiners (2012-2025)) και πολλών επιτροπών της Ιατρικής Σχολής του Πανεπιστημίου Κρήτης. Έχει διατελέσει μέλος επιστημονικών εταιρειών όπως η Αμερικανική Εταιρεία Ανδρολογίας (American Society of Andrology-ASA), η Αμερικανική Ουρολογική Εταιρεία (American Urological Association-AUA), η EAU, η Ενδοουρολογική Εταιρεία (Endourological Society) και η SIU, έχοντας συνεισφέρει ενεργά στις δραστηριότητές τους (οργανωτικές επιτροπές, προσκεκλημένες ομιλίες). Έχει διατελέσει κριτής σε 34 διεθνή επιστημονικά περιοδικά. Είναι συγγραφέας πρωτότυπων/ αυτοδύναμων δημοσιεύσεων σε επιστημονικά περιοδικά αναγνωρισμένου κύρους, κεφαλαίων βιβλίων και βιβλίων ουρολογίας. Από το συγγραφικό του έργο, 140 εργασίες έχουν δημοσιευθεί σε 72 PubMed-indexed επιστημονικά περιοδικά (1^{ος} σε 27, 2^{ος} σε 21 και τελευταίος/υπεύθυνος αλληλογραφίας σε 50 δημοσιεύσεις), συνολικός impact factor: 784,7/Scopus - Documents: 145, citations: 5818, h-index: 37; Google Scholar - citations: 9659, h-index: 47.

BRIEF CURRICULUM VITAE

Dr. Charalampos Mamoulakis, MD, MSc, PhD, FEBU

Professor of Urology, University of Crete, Medical School, Heraklion, Crete, Greece;

Chairman of the 1st Surgical Sector, University General Hospital of Heraklion

Chairman of the Department of Urology, University General Hospital of Heraklion

Professor Charalampos K. Mamoulakis is a distinguished graduate of the National and Kapodistrian University of Athens Medical School (admission through Panhellenic exams). After completing his training as a resident (Department of Urology, “Evangelismos” General Hospital, Athens, Greece) he obtained the national Title of Medical Specialty of Urology (2006) and the corresponding European Title (Fellow of the European Board of Urology - FEBU) the same year. He holds Master’s degree in Biostatistics (MSc; University of Athens Medical School, Department of Hygiene and Epidemiology and Faculty of Mathematics; University of Ioannina, Faculty of Mathematics, Ioannina, Greece), and two PhDs in Urology [a) “Spermatological alterations and genetic factors in cryptorchidism”, School of Medicine, University of Ioannina and b) “The position of bipolar technology in transurethral resection of the prostate for benign prostatic obstruction: An evidence-based approach”, School of Medicine, University of Amsterdam The Netherlands; No. Act DOATAP (Hellenic National Academic Recognition and Information Center): 10-1230/17-07-2015]. He worked for two years as a National Health System (NHS) consultant at the Department of Urology, General Hospital “Aghios Georgios”, Chania, Crete, Greece. From February 2008 to March 2010, he worked at the Department of Urology, Academic Medical Center (AMC) University Hospital, Amsterdam, the Netherlands as a consultant (Staff Member; MSRC) and at the same time he completed a Clinical Fellowship in Laparoscopic Urology - Endourology recognized by the European Association of Urology (EAU, Section of Uro-Technology (ESUT)). He was elected Lecturer (2009), Assistant Professor (2013), Associate Professor (2018) and Professor of Urology (2022) at the University of Crete (UoC) Medical School. He is appointed Director of the First Surgical Sector of the University General Hospital of Heraklion (2025). He has been exercising teaching work at the UoC Medical School since 2010 at an undergraduate and postgraduate level. Since 2014 he is the Professor in charge of four undergraduate courses

at the UoC Medical School (“Urology”, “Andrology”: “Clinical Training in Urology”, Clinical Training in Urology in terms of “Pre-educational Surgery”). He worked for 6 months (Sabbatical Leave: February-September 2014) as a Clinical Fellow in Endourology-Laparoscopic Urology at the Department of Urology, Saifee Hospital, Maharashtra University of Health Sciences (MUHS), Mumbai, India. He has been practicing his clinical work at the Department of Urology, University General Hospital of Heraklion since 2011 (elected Chairman of the Department: 2014 to date). As a Chairman of the Department, among others: a) he implemented/developed the certified and systematic application of Endourology/Laparoscopic Urology at the University General Hospital of Heraklion for the first time in a public Hospital of the 7th Health District of Greece (Crete). In this context, b) he organized the acquisition of modern equipment (full range of consumable material, specialized endourological/laparoscopic high definition and 4K/3D towers (Image1S, Visera Elite III), holmium laser system for stone and tumor management (Medilas[®] H Solvo[®] 35), Advanced Thulium Laser with RealPulse[®] Technology (Thulio[®]) for stone management and laser enucleation of the prostate (ThuLEP), percutaneous nephrolithotripsy systems (Calcuson, LithoClast[®] Trilogy), endourological pumps (Endoflow[®]II), bipolar prostate resection/vaporization system (ESG 410: TURis/TUVP), flexible single use digital cystoscopes and flexible single use digital ureteroscopes for retrograde intrarenal surgery, ultrasonography unit (Flex Focus 500) for renal access/Prostate Fusion Biopsy (Biopsee[®]), urodynamic units etc.) for scripting/digital recording of interventions that he systematically performs/supervises since 2011. Laparoscopic procedures are also systematically performed at the Department since 2019 with emphasis on Endoscopic Extraperitoneal Radical Prostatectomy, Transperitoneal Nephrectomy, and Partial Nephrectomy, c) based on an internal regulation that he edited (Government Gazette 1468 (B') 13-04-2021), he organized operation of the Department and its Special Units (1. Special Unit of Lower Urinary Tract Investigation, 2. Special Unit of Minimally Invasive Urology - Lithotripsy, to which the Extracorporeal Lithotripter of the hospital belongs (Doli S EMSE 220 F-XP) and 3. Special Unit of Prostate Biopsy, d) he organized the establishment and operation of a new Special Unit (Special Unit of Prostate Biopsy), in which systematic/certified targeted prostate biopsies are performed (mpMRI/US Targeted

Prostate Fusion Biopsy) for the first time in a public Hospital of the 7th Health District of Greece, e) he organized the modernization of the Special Unit of Lower Urinary Tract Investigation, f) he organized the implementation of quality management systems (EN ISO 9001: 2015 and ELOT EN 15224: 2017) for provision of diagnostic, therapeutic - nursing services, research activity - production of scientific work and provision of educational services by the Department of Urology and its Special Units, University General Hospital of Heraklion (the only Department of Urology in Greece certified with ELOT EN 15224: 2017), g) he organized the European Board of Urology (EBU) full accreditation of the Residency Training Programme in Urology (RTPU) of the Department, which is the only Greek certified center at present in Greece. His special interest focuses on the application of novel minimally invasive surgical techniques (MIST) in Urology, mainly for the management of lower urinary tract symptoms secondary to benign prostatic obstruction (LUTS/BPH) and the management of urolithiasis, in Endourology/Laparoscopic Urology, Uro-oncology and Andrology; having worked with pioneers in the field of Endourology/emerging technologies in several projects. He has been honored with distinctions, awards and grants by the Hellenic Urological Association, the Public Benefit Foundation “Alexander S. Onassis” and the EAU. HUA nominated him as the most suitable candidate among the young academic Greek Urologists for the EAU Crystal Matula award (2011) and as one of the most suitable young academic Urologists to represent Greece as a speaker/participant in the various EBU fora (2016). He was a member of the International Consultation on Urological Diseases (ICUD; 3rd International Consultation on Stone Disease; Société Internationale d'Urologie), Member and Vice Chairman of the Andrology-Infertility HUA Section Steering Committee and Deputy Chairman of the First Surgical Sector, University General Hospital of Heraklion, affiliated member of the EAU Section of Andrological Urology, full member of the EAU guidelines planning group (Panel EAU Working Group on Non-Neurogenic Male LUTS, 2011-2022), coordinator of the local Medical Examination Committee of Specialties (Urology, 2014-2021). He is member of the National Register of Examiners of the Central Health Council for Medical Specialties (Urology), Member of the FEBU Board of Examiners (2012-2025) and Member of several scientific committees at the UoC Medical School. He has been a member of

several associations, including the American Society of Andrology, the American Urological Association, EAU, the Endourological Society, and the Société Internationale d'Urologie, having contributed to their activities as a presenter, member of organizing committees or invited faculty. He has been a reviewer in 34 international scientific journals. He has published several book chapters and 140 papers in 72 PubMed-indexed scientific journals (1st in 27, 2nd in 21 and last/ corresponding author in 50 publications), Total Impact Factor: 784.7/Scopus- Documents: 145, citations: 5818, h-index: 37; Google Scholar - citations: 9659, h-index: 47.

1. PERSONAL INFORMATION

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2. UNDERGRADUATE-POSTGRADUATE EDUCATION-DEGREES

I. Basic Education-Foreign languages

- 1985-1988: 2nd Lyceum of Heraklion, Crete- “Apodyterium”: grade “Excellent”
- July 1988: National and Kapodistrian University of Athens, Medical School, Athens, Greece after succeeding in the National “Panhellenic Examinations”
- Foreign languages:

English: Certificate of Proficiency in English-Cambridge University

German: Zeugnis Zertifikat Zentrale Mittelstufenprüfung-Goethe Institute

Spanish: Certificado Básico de Salamanca

II. Undergraduate Education

- 1988-1996: National and Kapodistrian University of Athens, Medical School, Athens, Greece. “Ptychio Iatrikes”: grade “Excellent”. Date of graduation 26-04-1996. Hellenic Medical License: 17982/09-10-1996

III. Postgraduate Education-Degrees

1. Specialization in Urology

- ✓ July 2006: Certified Urologist in Greece; Decision 5456/24-7-2006
- ✓ September 2008: Certified Urologist in the Netherlands (MSRC)

2. PhDs in Urology

- ✓ National PhD, University of Ioannina, Medical School, Ioannina, Greece (18-03-2008)

Subject: “Spermatologic alterations and genetic factors in cryptorchidism”
Supervisor: Prof. N. Sofikitis, Chairman of the Department of Urology, University of Ioannina, Medical School, Ioannina, Greece
- ✓ International PhD, University of Amsterdam, Amsterdam, The Netherlands

Subject: “The position of bipolar technology in transurethral resection of the prostate for benign prostatic obstruction: An evidence-based approach”. Promoters: J.J.M.C.H de la Rosette and J.J. Rassweiler (20/1/2015) <http://hdl.handle.net/11245/1.439238>

3. MSc in Biostatistics (23-05-2005)

2-year-duration, multi-institutional postgraduate program in “Biostatistics”

Academic period: September 2002-September 2004

Participating institutions: 1. University of Athens, Athens, Greece: A. Faculty of Medicine (Department of Hygiene and Epidemiology), B. Faculty of Mathematics; 2. University of Ioannina, Ioannina, Greece: Faculty of Mathematics)

Supervisor: Prof. A. Tzonou, Department of Hygiene, Epidemiology and Medical Statistics, Athens University Medical School, Athens, Greece

Thesis: “Seasonal variation of hypospadias in the Greek population”

4. Fellow of the European Board of Urology (FEBU; 10-06-2006)

5. EUSP/EAU-ESUT Fellow of Laparoscopy and Endourology

Clinical Fellowship program under the auspices of the European Urology Scholarship Program and the European Association of Urology Section of Uro-Technology.

Academic period: March 2009 - February 2010.

Host institution: Department of Urology, Academic Medical Center (AMC) University Hospital, Amsterdam, the Netherlands

Supervisor: Prof. J.J.M.C.H. de la Rosette, Chairman of the Department of Urology, Academic Medical Center (AMC) University Hospital, Amsterdam, the Netherlands

6. Fellow in Endourology and Laparoscopy (Sabbatical Leave)

Academic period: February 2014 - August 2014.

Host institution: Department of Urology, Saifee Hospital; MUHS
(Maharashtra University of Health Sciences), Mumbai, India

Supervisor: Dr. Gaurang Shah

3. MEDICAL EXPERIENCE

- **Fellow abroad:** June-September 1996: Department of Neurosurgery, "St-Luc" University Hospital, UCL, Brussels, Belgium (supervisor: Prof. Ch. Raftopoulos, Chairman of the Department)
- **Military Service:** January-September 1997 Medical Officer of the Hellenic Air Force at "251" General Hospital of the Hellenic Air Force, Athens, Greece, and the Air Force Base of Heraklion, Crete, Greece
- **Rural Medical Service:** October 1997 - October 1998, "Tzermiades" Health Centre, Lassithi, Crete, Greece.
- **Specialization in Urology:** May 1999 - May 2006: "Aghia Sophia" General Children's Hospital, and "Evangelismos" General Hospital (16 months Surgery, 48 months Urology in total). From November 2001 to May 2003, he entered a "between-hospitals waiting list period." During this period, he participated in activities at the First Department of Paediatric Surgery, "Aghia Sophia" General Children's Hospital, focusing on his PhD research.
- **NHS Staff Member (non-academic) in Greece:** November 2006 – November 2007: Department of Urology, General Hospital "Aghios Georgios", Chania, Crete, Greece
- **Staff Member - Fellow abroad:** February 2008 – March 2010 at the Department of Urology, AMC University Hospital, Amsterdam, the Netherlands.
- **NHS Staff Member (non-academic) in Greece:** May 2010 - January 2011: Department of Urology, General Hospital "Aghios Georgios", Chania, Crete, Greece
- **Lecturer of Urology** (election: 26/5/09, appointed by Decision 1254-31/12/2010): Department of Urology, University General Hospital of Heraklion, University of Crete, Medical School, Heraklion, Crete, Greece, 25/01/2011-19/12/2013

- **Assistant Professor of Urology** (election: 15/7/2013, appointed by Decision: 1464-16/12/2013): Department of Urology, University General Hospital of Heraklion, University of Crete, Medical School, Heraklion, Crete, Greece, 20/12/2013-20/05/2018)
- **Fellow abroad (Sabbatical Leave)**: February 2014-August 2014, Department of Urology, Saifee Hospital, MUHS (Maharashtra University of Health Sciences), Mumbai, India.
- **Associate Professor of Urology** (election: 24/01/2018, appointed by Decision: 1946/12-03-2018): Department of Urology, University General Hospital of Heraklion, University of Crete, Medical School, Heraklion, Crete, Greece, 21/05/2018 – 29/05/2022)
- **Professor of Urology** (election: 09/02/2022, appointed by Decision: 5588/13-04-2022): Department of Urology, University General Hospital of Heraklion, University of Crete, Medical School, Heraklion, Crete, Greece, 30/05/2022 – to date)

4. CLINICAL ACTIVITY

During his service at the University of Crete, he has been performing clinical work at the Department of Urology, University General Hospital of Heraklion.

His clinical activity is briefly summarized as follows:

- ✓ Operation theater: on a regular base (10 days/month on average) and emergency base
- ✓ Outpatient clinic (general urology): twice per week
- ✓ Special Unit of Lower Urinary Tract Investigation (Head of SU/Supervision): twice per week
- ✓ Special Unit of Minimal Invasive Urology - Lithotripsy (Head of SU/Supervision): four days/week
- ✓ Special Unit of Prostate Biopsy (Head of SU/Supervision): once per week

He implemented and developed certified Endourology/Laparoscopic Urology at the University General Hospital of Heraklion for the first time in a public Hospital of the 7th Greek Health Region. He guided personnel (urological residents/young consultants, operation theater nurses) to support execution of various interventions. He organized the acquisition of modern equipment (full range of consumable material, specialized endourological/laparoscopic high definition and 4K/3D towers (Image1S, Visera Elite III), holmium laser system for stone/tumor management (Medilas H Solvo[®] 35), thulium laser system (Thulio[®]) for stone management and prostate laser enucleation (ThuLEP), percutaneous nephrolithotripsy (PNL) systems (Calcuson/LithoClast[®] Trilogy), endourological pumps (Endoflow[®]II), bipolar prostate resection/vaporization system (ESG 410: TURis/ TUVP), flexible single use digital cystoscopes and ureteroscopes for retrograde intrarenal surgery (RIRS), ultrasonography unit (Flex Focus 500) for renal access/transrectal Fusion Prostate Biopsy (Biopsee[®]) etc.) for scripting/digital recording of interventions, which he systematically carries out/supervises since 2011. Laparoscopic procedures are also systematically performed, with an emphasis on Endoscopic Extraperitoneal Radical Prostatectomy, Transperitoneal Nephrectomy, and Partial Nephrectomy.

5. EDUCATIONAL EXPERIENCE

1. Medical students, University of Crete (3rd, 4th and 5th year):

He has been exercising independent and autonomous teaching work at the University of Crete, Medical School since 2010, with documented contribution to the formation of the material and teaching of three undergraduate medical courses for more than eight years (2014 - 2024; Professor in charge for “Urology”: compulsory course - 7th semester, “Andrology”: optional-compulsory course - 8th semester, and “Clinical Training in Urology”: optional-compulsory course - 9th and 10th semester). Since 2022 he has participated in teaching of “Pre-educational Surgery” (compulsory course - 6th semester - responsible for Clinical Training in Urology in terms of this course).

2. Medical students, International – Erasmus

He is responsible for the guidance, supervision/evaluation of theoretical, clinical training, and academic activities of national and international undergraduate medical students visiting the Department (Erasmus)

3. Postgraduate students:

- Participation with lectures in the postgraduate seminar of the UOC “Basic surgical skills and knowledge”, University of Crete, Medical School, 2019
- Participation with lectures in the multi-institutional postgraduate program (MSc) “Oncology: From Oncogenesis to Therapy”; Academic periods: 2019-2024; (Modules: 2. Cancer Diagnosis; 9. Surgical Oncology). Participating institutions: 1. University of Crete, Medical School, Heraklion, Crete, Greece; 2. National Hellenic Research Foundation

<https://oncologymaster.gr/>

- Participation with lectures in the postgraduate program (MSc) “Surgical sciences”; University of Crete, Medical School, Academic period: 2019-2024

<https://surgical-sciences.med.uoc.gr:8443/tutors.jsp>

4. Urological Residents:

He is responsible for guidance, supervision/evaluation of theoretical training (annual program of intra-clinical courses), clinical training (endourological interventions, urodynamics), and academic activities of the urological residents at the Department.

In addition, he has participated in the training of the urological residents at the AMC, and other Departments of Urology in Greece/abroad, in collaboration with the responsible Professors serving as an examiner, instructor or invited speaker:

- ✓ Member of the National Register of Examiners of the Central Health Council for Medical Specialties (Urology)
- ✓ Chairing Member of the local Medical Specialties Examination Committee - Urology (2014 – 2021)
- ✓ Member of the FEBU Board of Examiners (2012 – 2025)
- ✓ Invited instructor hands-on training seminars on Robotic and Endourological simulators, organized by HUA and ESUT
- ✓ Invited speaker for seminars organized by the HUA sections
 - a. Endourology – Laparoscopic/Robotic Urology and Urotechnology; b. Urodynamics, Neurourology and Female Urology; c. Andrology-Infertility
- ✓ Invited speaker for the seminars given during the annual training weeks for Greek Urological residents organized by the HUA
- ✓ Invited speaker in ESU Courses

5. Supervision of PhD/MSc Theses:

- ✓ PhD Title: Evaluation of the autonomic nervous system as a causal mechanism of nocturnal enuresis. Angeli M (defended 03/2025); Galanakis E, Shiza S, **Mamoulakis C (Co-promotor)**; for publications see: section 8.2. Publications in international scientific journals (PubMed Indexed): Publication 9
- ✓ PhD Title: The contribution of phosphodiesterase 5 inhibitors in preventing acute kidney injury due to parenteral administration of contrast media. Zisis IE (**defended: 06/2024**); **Mamoulakis C (Promotor)**, Tsatsakis A, Tsiaoussis I; for publications see: section 8.2. Publications in international scientific journals (PubMed Indexed): Publication 1, 34

- ✓ PhD Title: Study of the corticotropin-releasing factor family peptides and their receptors in the urogenital system. Mavridis C (**defended: 12/2023**); **Mamoulakis C (Promotor)**, Liapakis G, Charalampopoulos I; for publications see: section 8.2. Publications in international scientific journals (PubMed Indexed): Publication 17
- ✓ PhD Title: The contribution of resveratrol and lycopene in the prevention of acute kidney injury following parenteral administration of iodinated contrast media. Fragkiadoulaki I (**defended: 05/2023**); **Mamoulakis C (Promotor)**, Tsatsakis A, Nikitovic-Tzanakaki D; for publications see: section 8.2. Publications in international scientific journals (PubMed Indexed): Publication 28
- ✓ PhD Title: The therapeutic approach of the diseases of the urinary tract in the golden age of the Arabo-Islamic medicine (7th-15th century) and its echo in modern urology. Drogosis A (**defended: 07/2022**); Karamanou M, **Mamoulakis C (Co-promotor)**, Chrysos E; for publications see: section 8.2. Publications in international scientific journals (PubMed Indexed): Publication 31
- ✓ PhD Title: Treatment of vasculogenic erectile dysfunction with shockwaves. A comparative study with phosphodiesterase type 5 inhibitors. Kalyvianakis D (**defended: 2018**); Dafnis E, Hadzichristou D, **Mamoulakis C (Co-promotor)**
- ✓ PhD Title: miRNAs as prognostic and predictive markers in radiotherapy of early prostate cancer. Kachris S (**defended: 02/2022**); Mavroudis D, Spantidos D, Sofras F (**Mamoulakis C: 7-member examining committee**)
- ✓ PhD Title: Evaluation of serum inhibin b levels in adolescents with varicocele as a prognostic factor of infertility. Blevrakis E (**defended: 2015**); Chrysos E, Zoras O, Raisaki M (**Mamoulakis C: 7-member examining committee**; for publications see: section 8.2. Publications in international scientific journals (PubMed Indexed): Publication 82)

- ✓ MSc Thesis: Liquid biopsies for personalized management of prostate and renal cancer. Skamagkas I (**presented: 02/2022**); **Mamoulakis C (Promotor)**, Tsatsakis A, Vrekoussis T. MSc “Oncology: From Oncogenesis to Therapy”; Participating institutions: 1. University of Crete, Medical School, Heraklion, Crete, Greece; 2. National Hellenic Research Foundation <https://oncologymaster.gr/>
- ✓ PhD Title: Study of Polyomaviruses in patients with renal cell carcinoma. Gatsos K (06/2023); Sourvinos G, **Mamoulakis C (Co-promotor)**, Stylianos K
- ✓ PhD Title: Assessment of erectile function and quality of life, in patients with locally advanced rectal cancer, undergoing neoadjuvant radiotherapy. Evaluation of the toxicity of the two radiotherapy regimens. Antoniadis C (06/2023); Tolia M, **Mamoulakis C (Co-promotor)**, Sougklakos I
- ✓ PhD Title: The role of flavonoids in the prevention of contrast-and chemotherapeutic agent-induced nephropathy. Georgiadis G (06/2020); **Mamoulakis C (Promotor)**, Tsatsakis A, Calina D
- ✓ PhD Title: Management of patients with benign urological diseases in the primary health care level. Gkatzoudi K (03/2018); Tsiligianni I, **Mamoulakis C (Co-promotor)**, Lionis C
- ✓ MSc Thesis: A novel multimodal spectral endoscopic system for the non-invasive diagnosis in urology. Georgiadis G (2022); Balas C, **Mamoulakis C (Promoters)**. MSc “Biomedical Engineering”; Participating institutions: 1. University of Crete; 2. Technical University of Crete; 3. Foundation for Research and Technology-Hellas <https://www.bme-crete.edu.gr/en/home>

6. Nursing Staff:

Instructor in training programs at “Evangelismos” General Hospital of Athens and at the University General Hospital of Heraklion. He has trained the Department staff to support urodynamic investigations, cystoscopies, prostate biopsies, and operation

theater staff to support endourological-laparoscopic interventions, including PNL and RIRS.

6. ADMINISTRATIVE EXPERIENCE

- 2.** Chairman of the First Surgical Sector, University General Hospital of Heraklion, Heraklion, Crete, Greece Director (03/2025-03/2028; appointed by Decision: 26/19-03-2025)
- Chairman of the Department of Urology, University General Hospital of Heraklion, University of Crete, Medical School, Heraklion, Crete, Greece, (01/09/2014- 31/08/2027)

As a Chairman, among others, he organized:

1. The certified/systematic application of Endourology/Laparoscopic Urology at the University General Hospital of Heraklion (for the first time in a public hospital of the 7th Health District of Greece)
2. The operation of the Department and its Special Units (1. Special Unit of Lower Urinary Tract Investigation, 2. Special Unit of Minimal Invasive Urology - Lithotripsy, to which the Extracorporeal Lithotripter of the hospital belongs, and 3. Special Unit of Prostate Biopsy), based on internal regulation that he edited (Government Gazette 1468 (B') 13-04-2021)
3. The establishment and operation of a new special unit of the Department of Urology (Special Unit of Prostate Biopsy), by ensuring funds for special equipment through grants and programs of the Special Account for Research-University of Crete running under his responsibility. The Special Unit of Prostate Biopsy has been running systematically certified Prostate Fusion Biopsy protocol at the University General Hospital of Heraklion since 2022 (the first time in a public hospital of the 7th Health District of Greece)
4. The modernization of the Special Unit of Lower Urinary Tract Investigation by ensuring funds for special equipment through programs of the Special Account for Research-University of Crete running under his responsibility
5. The recruitment of academic scholars focusing mainly on the development of laparoscopy and operation of the Special Units at the Department by ensuring

funds through programs of the Special Account for Research-University of Crete running under his responsibility,

6. The installation of quality management systems (EN ISO 9001/2015 and EAOT EN 15224:2017) for the provision of diagnostic, therapeutic - nursing services, research activity - production of scientific work, and provision of educational services by the Department of Urology and its Special Units by ensuring funds through programs of the Special Account for Research-University of Crete running under his responsibility
 7. The EBU full accreditation of the Residency Training Programme in Urology (RTPU) of the Department, which is the only Greek-certified center at present (http://www.ebu.com/certification-programmes/ebu-certified-centres/?no_cache=1), by ensuring funds through programs of the Special Account for Research-University of Crete running under his responsibility
- Deputy Chairman First Surgical Sector, University General Hospital of Heraklion, Heraklion, Crete, Greece (10/2018-10/2021; appointed by Decision: 341/02-10-2018)
 - Member of several scientific committees, University of Crete – Medical School, including but not limited to the Committee of Undergraduate Studies, the Committee of Postgraduate Studies, the Committee of Research and Research Infrastructure, the Committee of Liaison with Secondary Education, the Committee of Academic Connections & International Relations, the Committee on Academic Criteria and Evaluation of Requests for Granting the Titles of Emeritus Professors and Honorary Doctorate, the Committee on Competitive Programs and Innovation Committee (Associate Coordinator)
 - Andrology-Infertility HUA Section Steering Committee Member/Vice Chairman

1. DISTINCTIONS-AWARDS

1. Proposed by HUA as one of the most suitable young academic urologists to represent Greece as a speaker/participant in the various EBU fora (2016)
2. Proposed by HUA as the most suitable young Greek urologist to represent Greece in claiming the EAU Crystal Matula Award, 2011

3. Scholar of the Public Benefit Foundation “Alexander S. Onassis” for a Clinical Fellowship Programme at the AMC
4. EAU Scholar (European Urological Scholarship Programme, EUSP) for a Clinical Fellowship Programme at the AMC
5. HUA Distinction (2006): Highest performance at the examinations in terms of the 1st Educational Week for Greek Urological Residents
6. HUA Award (2004): Ranked first among the Greek Urological Residents at the annual written examinations
7. Tuition waivers (MSc; 2002): Excelled during the selection process of candidates
8. N. Kapsoritakis, O. Bourogianni, I. Skamagkas, G. Georgiadis, E. Mathioudakis, MC. Nakou, C. Mamoulakis, S. Koukouraki. **Targeting early recurrence: The diagnostic power of 18F PSMA PET/CT in early and very early biochemical recurrent prostate cancer. Insights from an 8 month single center experience.** 17th Panhellenic & 12th Balkan Congress of Nuclear Medicine, 08-11 May 2025, Athens (**Nikos Karkavitsas Award**)
9. Johnson EE, Mamoulakis C, Stroniute A, Omar MI, Sinha S. **Conservative interventions for managing urinary incontinence after prostate surgery: A Cochrane systematic review.** ICS 2023 Toronto, September 27-29, 2023, Toronto, Canada (**Best in Category Prize: Prostate Clinical / Surgical**)
10. A. Καλτσάς, Φ. Δημητριάδης, Α. Ζαχαρίου, Ε. Μάρκου, Ι. Χαμπηλομάτης, Ε. Δούβλη, Σ. Σκούρος, Α. Καραγιάννης, Α. Παπατσώρης, Χ. Μαμουλάκης, Ν. Σοφικίτης. **Η γονιμοποιητική ικανότητα ανδρών με μη αποφρακτική αζωοσπερμία που οφείλεται σε υπογοναδοτροπικό υπογοναδισμό μετά από θεραπεία με γοναδοτροπίνες.** 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα (**Βραβείο προφορικής ανακοίνωσης**)
11. Α. Καλτσάς, Α. Ζαχαρίου, Φ. Δημητριάδης, Ε. Μάρκου, Σ. Σκούρος, Ι. Γιαννάκης, Ι. Χαμπηλομάτης, Α. Ζηκόπουλος, Α. Καραγιάννης, Π. Τσουνάπη, Α. Takenaka, Χ. Μαμουλάκης, Μ. Πασχόπουλος, Ν. Σοφικίτης. **Η επίδραση της αποκατάστασης της κλινικής κίρσοκλής στην εμφάνιση σπερματοζωαρίων σε άνδρες με μη αποφρακτική αζωοσπερμία.** 12^ο Πανελλήνιο Συνέδριο Ανδρολογίας, 4-6 Ιουνίου 2021, Αθήνα (**Βραβείο αναρτημένης ανακοίνωσης**)

12. Malde S, Umbach R, Wheeler JR, Lytvyn L, Cornu JN, Gacci M, Gratzke C, Herrmann TRW, Mamoulakis C, Rieken M, Speakman MJ, Gravas S, Drake MJ, Guyatt GH, Tikkinen KAO. **A systematic review of patients' values, preferences and expectations for the diagnosis and treatment of male lower urinary tract symptoms. Eur Urol. 2021;79:796-809. (Platinum Priority/Best article of the year 2021 by the Finnish Urological Association)**
13. Karavitakis M, Kyriazis I, Omar MI, Gravas S, Cornu JN, Drake MJ, Gacci M, Gratzke C, Herrmann TRW, Madersbacher S, Rieken M, Speakman MJ, Tikkinen KAO, Yuan Y, Mamoulakis C. **Management of urinary retention in patients with benign prostatic obstruction: A systematic review and meta-analysis. Eur Urol Suppl 2019; 18(1);e1890. 34th Annual EAU Congress, 15-19 March 2019; Barcelona, Spain (Distinction: Abstract selected for the Guidelines Office Poster Walk)**
14. Ι. Σκαμάγκας, Χ. Μαυρίδης, Γ. Γεωργιάδης, Χ. Μπελαντής, Ι.Ε. Ζήσης, Ι. Χαιρέτης, Γ. Αυγενάκης, Ε. Γιαννίτση, Δ. Πανταρτζή, Μ. Πετροδασκαλάκη, Σ. Συνοδινός, Χ. Μαμουλάκης. **Πρότυπα ποιότητας στην ουρολογία. 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα (2^ο Βραβείο ελεύθερης ανακοίνωσης – 2nd Prize of Oral Presentations)**
15. Α. Ζαχαρίου, Α. Καλτσάς, Φ. Δημητριάδης, Κ. Μαργαρίτη, Χ. Μαμουλάκης, Δ. Μπαλτογιάννης, Ι. Γιαννάκης, Σ. Τσαμπαλάς, Σ. Σκούρος, Σ. Κούκος, Α. Παλιούρας, Ε. Βλαχοπούλου, Α. Χατζηκωνσταντίνου, Π. Τσουνάπη, Γ. Σεμίνης, Ι. Χαμπηλομάτης, Υ. Μιο, Α. Takenaka, Ν. Σοφικίτης. **Οι επιδράσεις της πρωτοπαθούς ορχικής δυσλειτουργίας μετά τη γονιμοποίηση στις μικροκινητικές παραμέτρους διαίρεσης του ζυγώτη. 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα (1^ο Βραβείο αναρτημένης ανακοίνωσης – 1st Prize of Poster Presentations)**
16. Α. Καλτσάς Σ. Σκούρος, Φ. Δημητριάδης, Π. Τσουνάπη, Α. Ζαχαρίου, Ε. Ματθαίου, Σ. Σταύρου, Γ. Σεμίνη, Α. Καραγιάννης, Χ. Μαμουλάκης, Δ. Μπαλτογιάννης, Ι. Γιαννάκης, Ι. Γεωργίου, Α. Takenaka, Ν. Σοφικίτης. **Η γονιμοποιητική ικανότητα των σπερματοζωαρίων που αναπαράχθηκαν σε ορχικό ιστό πειραματοζώων χάμστερ, ο οποίος μεταμοσχεύθηκε στα πρόσθια**

- άκρα ανοσοκατασταλμένων αρουραίων: Κλινικές εφαρμογές.** 10^ο Πανελλήνιο Συνέδριο Ανδρολογίας, 17-18 Μαρτίου 2017, Αθήνα (**Βραβείο ελεύθερης ανακοίνωσης**)
17. Mamoulakis C, Sofikitis N, Tsounapi P, Vlachopoulou E, Chatzikyriakidou A, Antypas S, Tzortzakakis D, Sofras F, Takenaka A, Georgiou I. **The (TAAAA)(n) polymorphism of sex hormone-binding globulin gene is not associated with testicular maldescent. Andrologia. 2013;45:40-5.2 (Invited for the Royan International Research Award) <http://www.royanaward.com/index.aspx>**
18. Mamoulakis C. Skolarikos A. Schulze M. Scoffone CM, Jens J. Rassweiler JJ, Alivizatos G. Scarpa RM, de la Rosette JJMCH. **Bipolar versus monopolar transurethral resection of the prostate: Evaluation of the impact on overall sexual function in an international randomized controlled trial setting. BJU Int 2013;112:109-20. (Article of the week)**
19. Mamoulakis C, Schulze M, Skolarikos A, Alivizatos G, Scarpa RM, Rassweiler JJ, de la Rosette JJ, Scoffone CM. **Midterm Results from an International Multicenter Randomised Controlled Trial Comparing Bipolar with Monopolar Transurethral Resection of the Prostate. Eur Urol. 2013;63:667-76. (Platinum Priority)**
20. Mamoulakis C, Skolarikos A, Schulze M, Scoffone C, Rassweiler J, Alivizatos G, Scarpa R, de la Rosette J. **Bipolar vs monopolar TURP: Impact on the overall sexual function and midterm safety-efficacy results of an international multicenter randomized controlled trial Eur Urol Suppl 2013; 12(1):e521-e522. 28th Annual EAU Congress, 15-19 March 2013; Milan, Italy (prized work)**
21. Mamoulakis C, Ubbink D, Laguna M, de la Rosette J. **Bipolar versus monopolar transurethral resection of the prostate: a meta-analysis of randomized clinical trials. J Endourol 2009;23 (s1):A264. 27th WCE, 6-10 October 2009, Munich, Germany (prized work)**
22. Mamoulakis C, Beemster P, Mehmedovic S, Wijkstra H, de la Rosette J, Laguna M. **Intermediate follow-up of renal masses treated by laparoscopic**

- cryoablation. J Endourol 2009;23:A294.** 27th WCE. 6-10 October 2009, Munich, Germany **(prized work)**
- 23.** Lycopoulou L, Bounatsou M, Hantzi E, Mamoulakis C, Antypas S, Dimitriadis D, Bakoula C, Pagali A, Papassotiriou I. **Reduced prognostic value of procalcitonin in the diagnosis of acute appendicitis.** 20th National Congress of Microbiology – 2nd Panhellenic Congress of Medical Biopathology, 13-16 March, 2002; Athens, Greece **(prized work)**
- 24.** Mamoulakis C, Lycopoulou L, Hantzi E, Stamatiadou A, Moraloglou O, Dimitriadis D, Antypas S, Papassotiriou I. **Serum Amyloid A protein levels in the diagnosis and follow-up of acute appendicitis in paediatric patients.** British Association of Paediatric Surgeons, XLVIII Annual International Congress, 17-20 July, 2001 London, UK. Peter Paul Rickham Prize Session

2. PUBLICATIONS AND PRESENTATIONS

8.1. Citations – h-index (10 September 2025)

He has published 140 articles in 72 international scientific journals (PubMed-indexed), receiving several citations to date (Scopus - Documents: 145, citations: 5818, h-index: 37; Google Scholar - citations: 9659, h-index: 47). He is first author (1st) in 27, second author (2nd) in 21 and last/corresponding author (L/C) in 50 publications. The total impact factor (Total IF 2022) is 784.7 (Appendix A; Table 1).

8.2. Publications in international scientific journals (PubMed Indexed)

1. Mavridis C, Zisis IE, Docea AO, Buga AM, Tsatsakis A, Mamoulakis C. **Reducing contrast-induced nephropathy risk in a murine model: Role of avanafil and vardenafil in modulating oxidant/antioxidant balance. Cureus. 2025 Jun 16;17(6):e86136.**
2. Bouchalakis A, Paspalaki E, Ortner G, Somani BK, Mamoulakis C, Biyani CS, Tokas T. **Simulation-based training in minimally invasive partial nephrectomy. Cent European J Urol. (Accepted 05/2025).**
3. Tokas T, Mavridis C, Bouchalakis A, Nakou CM, Mamoulakis C. **Learning curves in robotic urological oncological surgery: Has anything changed during the last five years? Cancers (Basel). 2025;17:1334.**
4. Mavridis C, Paspalaki E, Tsatsakis A, Mamoulakis C. **The corticotropin-releasing factor family in the urogenital system (Review). Mol Med Rep. 2025;32:195.**
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17. Gravas S, Bach T, Drake M, Gacci C, Gratzke C, Herrmann TRW, Madersbacher S, Mamoulakis C, Tikkinen KAO; Members of the European Association of Urology (EAU) Guidelines Office, Guidelines Associates:

Karavitakis M, Malde S, Sakkalis V, Umbach R. **Guidelines on the Management of Non-neurogenic Male LUTS 2017. In: EAU Guidelines. Edn. presented at the EAU Annual Congress London 2017. ISBN: 978-90-79754-91-5**

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18. Sofras F, Mamoulakis C. **Urology, Itanos Publication, 2016. ISBN: 978-960-7549-92-1**

19. Gravas S, Bach T, Bachmann A, Drake M, Gacci C, Gratzke C, Madersbacher S, Mamoulakis C, Tikkinen KAO; Members of the European Association of Urology (EAU) Guidelines Office, Guidelines Associates: Karavitakis M, Malde S, Sakkalis V, Umbach R. **Guidelines on the Management of Non-neurogenic Male LUTS 2016. In: EAU Guidelines. Edn. presented at the EAU Annual Congress Munich 2016. ISBN: 978-90-79754-98-4**

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20. Gravas S, Bach T, Bachmann A, Drake M, Gacci C, Gratzke C, Madersbacher S, Mamoulakis C, Tikkinen KAO; Members of the European Association of Urology (EAU) Guidelines Office. **Guidelines on the Management of Non-neurogenic Male LUTS 2015. In: EAU Guidelines. Edn. presented at the EAU Annual Congress Madrid 2015. ISBN: 978-90-79754-80-9**

<https://uroweb.org/guideline/treatment-of-non-neurogenic-male-luts/?type=archive>

21. Mamoulakis C. Urolithiasis. **In: Urological Notes. F. Sofras (ed) University of Crete, 2014. ISBN: 978-960-93-6370-9**

<https://gr1lib.org/book/2970848/b9a3b0>

22. Gravas S, Bachmann A, Descazeaud A, Drake M, Gratzke C, Madersbacher S, Mamoulakis C, Oelke M, Tikkinen KAO; Members of the European Association of Urology (EAU) Guidelines Office. **EAU Guidelines on the**

Management of Non-neurogenic Male LUTS 2014. In: EAU Guidelines. Edn. presented at the EAU Annual Congress Stockholm 2014. ISBN: 978-90-79754-65-6

<https://uroweb.org/guideline/treatment-of-non-neurogenic-male-luts/?type=archive>

23. Lotan Y, Mamoulakis C, Miyazawa K, Rogers A, Talati J. **Epidemiology of Stone Disease. In: Stone Disease. 3rd International Consultation on Stone Disease. Denstedt J, and de la Rosette J. A Joint SIU-ICUD International Consultation, Glasgow, Scotland, October 12–15, 2014. ISBN: 978-0-9877465-8-0**

<https://www.siu-urology.org/society/siu-icud#EMAIL>

24. Mamoulakis C, Tzortzakakis D, Sofras F. **Cryptorchidism. In: Essentials in Pediatric Urology. Sakellaris G (ed.), Research Signpost, 2012. ISBN: 978-81-308-0511-5**

25. Meißner A, Mamoulakis C, Veldink A., de la Rosette JJC.H. **Sexual problems in patients with cancer. In: The MASCC textbook of cancer supportive care and survivorship MSCC. Olver IN (ed.), Springer, 2011. ISBN: 978-1-4419-1225-1**

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26. Rioja J, Mamoulakis C, Gravas S, de la Rosette J. **Imaging in diagnosis and staging of urological cancers: ultrasound, CT and PET. In: Interventional Techniques in Uro-Oncology. Ahmed HU, Arya M, Scardino PT, Emberton M (eds.), Wiley-Blackwell Science, 2011. ISBN: 978-1-4051-9272-9**

<https://www.wiley.com/en-gb/Interventional+Techniques+in+Uro+oncology-p-9781405192729>

27. Mamoulakis C, Tzortzis V, Rioja J, Gravas S, Wijkstra H, de la Rosette JJMCH. **Advances in diagnostic and therapeutic ultrasonography. In:**

New Technologies in Urology. Dasgupta P, Fitzpatrick JM, Kirby R, Gill IS (eds.), Springer, 2010. ISBN: 978-1-84882-178-1

<http://www.springer.com/gp/book/9781848821774>

28. Mamoulakis C, Kaponis A, Georgiou J, Giannakis D, Antypas S, Tsambalas S, Giannakopoulos X, Miyagawa I, Sofikitis N. **Mammalian testicular descent and maldescent; implications in fertility potential. In: Male infertility today. Colpi GM (ed). Italian Andrological Society, Milan, Italy, 2004**

8.6. Selected presentations in congresses

He has contributed in the presentation of 83 abstracts in international scientific congresses; 60 abstracts have been published in supplements of PubMed-indexed journals (see 8.7.1. and Appendix A; Table 2) and 23 abstracts have been published in abstract books (proceeding volumes) of international congresses (see 8.7.2.). He has also contributed in the presentation of 103 abstracts in Greek congresses (see 8.7.3. and Appendix B).

8.6.1. Abstracts published in international scientific journals

1. Dey A, Georgiadis G, Umezurike J, Yuan Y, Farag F, N'Dow J, Omar MI, Mamoulakis C. **Mirabegron versus placebo and other therapeutic modalities in the treatment of patients with overactive bladder syndrome – A systematic Review. Eur Urol. 2024. 39th Annual EAU Congress, 18-21 April 2024; Paris, France.**
2. Johnson EE, Mamoulakis C, Stroniute A, Omar MI, Sinha S. **Conservative interventions for managing urinary incontinence after prostate surgery: A Cochrane systematic review. (Best in Category Prize: Prostate Clinical / Surgical). Continence. 2023. 7S1;100974. ICS 2023 Toronto, September 27-29, 2023, Toronto, Canada**
3. Zachariou A, Sapouna V, Kaltsas A, Dimitriadis F, Mamoulakis C, Karagiannis A, Tsounapi P, Takenaka A, Sofikitis N. **Evaluation of overactive bladder symptoms in patients recovering from post-acute**

- COVID-19 syndrome. Eur Urol. 2022.** 37th Annual EAU Congress, 18-21 March 2022; Amsterdam, The Netherlands.
4. Dimitriadis F, Tsiampali C, Zachariou A, Mamoulakis C, Symeonidis EN, Karagiannis A, Kaltsas A, Tsounapi P, Takenaka A, Sofikitis N. **Ultrastructural, endocrinological and reproductive effects of experimental unilateral cryptorchidism on the contralateral exocrine testicular function in the rabbit model. Eur Urol. 2022.** 37th Annual EAU Congress, 18-21 March 2022; Amsterdam, The Netherlands.
 5. Malde S, Umbach R, Wheeler JR, Lytvyn L, Cornu JN, Gacci M, Gratzke C, Herrmann TRW, Mamoulakis C, Rieken M. **A systematic review of patients' values, preferences and expectations for the diagnosis and treatment of male Lower Urinary Tract Symptoms (LUTS). Eur Urol. 2021;79;S441.** 36th Annual EAU Congress, 08-12 July 2021; Virtual Congress.
 6. Zachariou A, Filiponi M, Dimitriadis F, Mamoulakis C, Paliouras A, Kaltsas A, Chabilomatis I, Giannakis I, Karagiannis A, Zikopoulos A, Tsounapi P, Takenaka A, Sofikitis N. **Factors contributing to long-term adherence to pelvic floor muscle training in women suffering from stress urinary incontinence. Eur Urol. 2021;79;S140.** 36th Annual EAU Congress, 08-12 July 2021; Virtual Congress.
 7. Alexander CE, Scullion MM, Omar MI, Yuan Y, Mamoulakis C, N'Dow JM, Chen C, Lam TB. **Bipolar versus monopolar transurethral resection of the prostate for lower urinary tract symptoms secondary to benign prostatic obstruction: A Cochrane systematic review and meta-analysis. Eur Urol Suppl. 2020.** 35th Annual EAU Congress, 17-16 July 2020; Virtual Congress.
 8. Karavitakis M, Kyriazis I, Omar MI, Gravas S, Cornu JN, Drake MJ, Gacci M, Gratzke C, Herrmann TRW, Madersbacher S, Rieken M, Speakman MJ, Tikkinen KAO, Yuan Y, Mamoulakis C; EAU Non-neurogenic Male LUTS Guidelines Panel. **Management of urinary retention in patients with**

benign prostatic obstruction: A systematic review and meta-analysis. Eur Urol Suppl. 2019;18(1);e1890. 34th Annual EAU Congress, 15-19 March 2019; Barcelona, Spain.

9. Dimitriadis F, Zachariou A, Giakoumakis I, Dafnis, D, Baltogiannis D, Karagiannis A, Tsounapi P, Giannakis I, Skouros S, Kaltsas A, Margariti K, Mamoulakis C, Takenaka A, Sofikitis N. **Employment of avanafil in a surrogacy program. J Sex Med. 2018;15;S347-S348.** World Meeting on Sexual Medicine, 28 February – 03 March 2018; Lisbon, Portugal.
10. Zisis R, Fragkiadoulaki I, Alegakis A, Karkala F, Vakonaki EK, Apalaki E, Vaki GA, Kovatsi L, Tsatsakis AM, Mamoulakis C. **Natural antioxidants prevent contrast-induced nephropathy in an animal model: Results from a biochemical study. Toxicol Lett. 2018;295:s245.** 54th Congress of the European-Societies-of-Toxicology (EUROTOX)-Toxicology Out of the Box, 02-05 September 2018, Brussels, Belgium.
11. Tsatsakis AM, Fragkiadoulaki I, Kalogeraki A, Tsiaoussis I, Karkala F, Kalliantasi K, Stivaktakis P, Fragkiadaki P, Psycharakis C, Mamoulakis C. **Natural antioxidants prevent contrast-induced nephropathy in an animal model: Results from a cytological study. Toxicol Lett. 2018; 295:s244.** 54th Congress of the European- Societies- of- Toxicology- (EUROTOX)- Toxicology Out of the Box, 02-05 September 2018, Brussels, Belgium.
12. Fragkiadoulaki I, Mamoulakis C, Alegakis A, Tzatzarakis MN, Karzi V, Stratidakis A, Renieri E, Vardavas A, Leon G, Tsitsimpikou C, Tsatsakis AM. **Natural antioxidants prevent contrast-induced nephropathy by enhancing nitric oxide synthesis in an animal model. Toxicol Lett. 2018; 295;s243.** 54th Congress of the European-Societies-of-Toxicology- (EUROTOX)-Toxicology Out of the Box, 02-05 September 2018, Brussels, Belgium.
13. Georgiadis G, Zisis IE, Mpelantis C, Skamagkas I, Mavridis C, Heretis I, Mamoulakis C. **Percutaneous resection of renal pelvis tumors in an**

- academic endourological center (video abstract). Eur Urol Suppl 2018; 17(4);e2146.** 6th Meeting of the EAU Section of Uro-Technology in conjunction with the Italian Endourology Association (IEA), May 24-26, 2018 Modena, Italy.
14. Georgiadis G, Zisis IE, Mpelantis C, Mavridis C, Skamagkas I, Heretis I, Mamoulakis C. **Our experience in retrograde intra renal surgery with a single-use digital flexible ureteroscope in a tertiary academic endourological center (video abstract). Eur Urol Suppl 2018; 17(4);e2125.** 6th Meeting of the EAU Section of Uro-Technology in conjunction with the Italian Endourology Association (IEA), May 24-26, 2018 Modena, Italy.
15. Malde S, Nambiar AK, Umbach R, Lam T, Bach T, Bachmann A, Drake MJ, Gacci M, Gratzke C, Madersbacher S, Mamoulakis C, Tikkinen KAO, Gravas S. Systematic review of the performance of non-invasive tests in diagnosing bladder outlet obstruction in men with lower urinary tract symptoms. **Eur Urol Suppl 2018; 17(2);e1735.** 33rd Annual EAU Congress, 16-20 March 2018; Copenhagen, Denmark.
16. Dimitriadis F, Tsounapi P, Karagiannis A, Giannakis I, Mamoulakis C, Zahariou A, Takenaka A, Sofikitis N. **Delivery of healthy offspring from the fertilization of oocytes with spermatozoa generated in hamster testicular tissue transplanted in the anterior limbs of immune deficient rats: clinical implications. Eur Urol Suppl 2017; 16(13);e3007.** 10th Meeting of the EAU Section of Andrological Urology (ESAU), November 24-25, 2017 Malmö, Sweden.
17. Fragiadoulaki I, Tsitsimpikou C, Vakonaki E, Alegakis A, Kaloudis K, Kanaki K, Nathana D, Stivaktakis P, Tzatzarakis M, Mamoulakis C, Tsatsakis A. **Contrast-induced nephropathy in animal model. Toxicol Lett. 2017;280:s140.** 53rd Congress of the European Societies of Toxicology (EUROTOX), 10-13 September 2017, Bratislava, Slovakia.

18. Fragkiadoulaki I, Stivaktakis P, Kalogeraki A, Tsiaousis I, Kalliantasi A, Karzi V, Stratidakis A, Mamoulakis C, Tsatsakis A. **Micronuclei frequency and blood cell number in rabbit contrast-induced nephrotoxicity model with antioxidants as a preventive strategy.** *Toxicol Lett.* **2017;280:s125.** 53rd Congress of the European-Societies-of -Toxicology (EUROTOX), 10-13 September 2017, Bratislava, Slovakia.
19. Dimitriadis F, Tsounapi P, Honda M, Zachariou A, Skouros S, Hikita K, Matthaiou I, Semini G, Mamoulakis C, Kaponis A, Antonakis G, Sofikitis N, Takenaka A. **Effects of micronutrient supplementation combined with a phosphodiesterase type 5 inhibitor on sperm quantitative, qualitative, and functional parameters: a randomized controlled trial.** *Andrology (Suppl 1)* **2017;5:128.** 42nd ASA Annual Meeting, 21-25 April 2017, Miami, Florida, USA.
20. Dimitriadis F, Tsounapi P, Karagiannis A, Giannakis I, Skouros S, Stavrou S, Mamoulakis C, Kaponis A, Antonakis G, Semini G, Angelis D, Baltogiannis D, Takenaka A, Sofikitis N. **Fertilizing capacity of spermatozoa generated in hamster testicular tissue transplanted in the anterior limbs of immune deficient rats: clinical implications.** *Andrology (Suppl 2)* **2016;4:50.** 9th European Congress of Andrology, 21-23 September 2016, Rotterdam, the Netherlands.
21. Dimitriadis F, Giannakis D, Tsounapi P, Mamoulakis C, Semini G, Skouros S, Stavrou S, Giannakis I, Takenaka A, Sofikitis N. **Spermatogenesis in hamster testicular tissue placed within an abdominal scrotum microsurgically constructed in nude rats.** *Andrology (Suppl 1)* **2016;4:107.** 41st ASA Annual Meeting, 2-5 April 2016, New Orleans, USA.
22. Dimitriadis F, Tsounapi P, Mamoulakis C, Angelis D, Kaponis A, Adonakis G, Gekas A, Dafnis D, Jakumakis I, Takenaka A, Sofikitis N. **Effects of micronutrient supplementation on female sexual function: a randomized trial.** *Andrology (Suppl 1)* **2016;4:119.** 41st ASA Annual Meeting, 2-5 April 2016, New Orleans, USA.

23. Dimitriadis F, Tsounapi P, Mamoulakis C, Angelis D, Kaponis A, Antonakis G, Gekas A, Daphnis D, Jacumakis I, Takenaka A, Sofikitis N. **Effects of PDE5 inhibitors on epididymal rat sperm motility. Andrology (Suppl 1) 2016;4:122.** 41st ASA Annual Meeting, 2-5 April 2016, New Orleans, USA.
24. Chondros K, Kazoulis S, Chrysanthakopoulos G, Tamiolakis D, Kalogeraki A, Tzardi M, Heretis I, Mavromanolakis E, Chondros N, Zoras O, Chalkiadakis G, Mamoulakis C. **White light imaging vs. Storz Professional Image Enhancement System (SPIES) cystoscopy during follow up of patients submitted to WLI – transurethral resection of non-muscle-invasive bladder cancer: Preliminary results of a bicenter randomized diagnostic trial. Eur Urol Suppl 2016;15:e212.** 31st Annual EAU Congress, 11-15 March 2016; Munich, Germany.
25. Kandasami SV, Mamoulakis C, EL-Nahas AR, Averch TjD, Tuncay OL, Rawandale-Patil A, Cormio L, de la Rosette J. **Impact of Case Volume on Outcomes of Ureteroscopy (URS) for Ureteral Stones: the Clinical Research Office of the Endourological Society (CROES) URS Global Study. J Endourol 2015;29 (s1): A337.** 33rd WCE and SWL, 01-04 October 2015, London, UK.
26. Karpathakis N, Fasoulakis K, Georgopoulos I, Bolonakis I, Sofras F, Mamoulakis C. **Completely standardized flexible ureterorenoscopy for treating renal calculi: A single-center experience. J Endourol 2013;27 (s1): A407.** 31th WCE and SWL, 22-26 October 2013, New Orleans, LA, United States.
27. Sakkas P, Chondros K, Karpathakis N, Georgopoulos I, Heretis I, Chondros N, Mavromanolakis E, Mamoulakis C, Sofras F. Ratification of revised Epstein Criteria for insignificant prostate cancer in population of Crete. **Eur Urol Suppl 2013;12:e1289.** EAU 13th Central European Meeting (CEM) and the EAU 9th South Eastern European Meeting (SEEM), 4-6 October 2013, Prague, Czech Republic.

28. Mamoulakis C, Skolarikos A, Schulze M, Scoffone C, Rassweiler J, Alivizatos G, Scarpa R, De La Rosette J. **Bipolar vs. monopolar TURP: Impact on the overall sexual function and midterm safety-efficacy results of an international multicenter randomized controlled trial.** *Eur Urol Suppl* 2013; 12(1):e521-e522. 28th Annual EAU Congress, 15-19 March 2013; Milan, Italy.
29. Omar MI, Lam T, Alexander CE, Graham J, Mamoulakis C, Imamura M, MacLennan S, Stewart F, N' Dow J. **Systematic review and meta-analysis of the clinical effectiveness of bipolar compared to monopolar transurethral resection of the prostate.** *Eur Urol Suppl* 2013; 12(1): e523-e524. 28th Annual EAU Congress, 15-19 March 2013; Milan, Italy.
30. Mamoulakis C, Skolarikos A, Schulze M, Scoffone CM, Rassweiler JJ, Alivizatos G, Scarpa RM, de la Rosette JJM.H. **Results from a randomized double-blind controlled trial on perioperative efficacy and safety of bipolar versus monopolar transurethral resection of the prostate.** *Eur Urol Suppl* 2011; 10(2):62. 26th Annual EAU Congress, 28-22 March 2011; Vienna, Austria.
31. Cauberg ECC, Mamoulakis C, de la Rosette JJ, de Reijke T. **Narrow band imaging-assisted transurethral resection for non-muscle invasive bladder cancer significantly reduces early tumour recurrence rate.** *J Endourol* 2010;24 (s1): A115. 28th WCE, 1-4 September 2010, Chicago, IL, United States.
32. Barwari K, Mamoulakis C, Beemster P, Wijkstra H., de la Rosette JJMCH., Laguna MP. **Midterm oncological follow up of Laparoscopic Renal Cryoablation (LRC) with third generation cryoprobes in 100 small renal masses (SRM).** *Eur Urol Suppl* 2010;9(2):246. 25th Annual EAU Congress, 16-20 April 2010; Barcelona, Spain.
33. Mamoulakis C, Ubbink D, Laguna M, de la Rosette J. **Bipolar versus monopolar transurethral resection of the prostate: a meta-analysis of**

- randomized clinical trials. J Endourol 2009;23 (s1):A264.** 27th WCE, 6-10 October 2009, Munich, Germany.
34. Mamoulakis C, Beemster P, Mehmedovic S, Wijkstra H, de la Rosette J, Laguna M. **Intermediate follow-up of renal masses treated by laparoscopic cryoablation. J Endourol 2009;23:A294.** 27th WCE. 6-10 October 2009, Munich, Germany.
35. Mamoulakis C, Rioja J, Wezel F, Michel M, Alken P, de la Rosette J. **Two contemporary series of percutaneous tract dilation for PNL. J Endourol 2009;23 (s1):A44.** 27th WCE, 6-10 October 2009, Munich, Germany.
36. Mamoulakis C, de la Rosette JJ, Laguna MP, Wink MH, Wondergem N, ten Kate FJC, Zwinderman K, de Reijke TM, Wijkstra H. **8 and 12 core TRUS guided PBPs achieve similar PCa detection. J Endourol 2009;23(11):A-23.** 2nd International Workshop on «Focal therapy and imaging in prostate and kidney cancer». 10-13 June 2009, Nordwijk, Amsterdam.
37. Laguna MP, Beemster P, Kumar V, Klingler C, Wyler S, Anderson C, Keeley FX, Bachmann A, Rioja J, Mamoulakis C, Marberger M, de la Rosette JJ. **Perioperative morbidity of laparoscopic renal cryoablation: a multicentre experience. J Endourol 2009;23(11):A-14.** 2nd International Workshop on «Focal therapy and imaging in prostate and kidney cancer». 10-13 June 2009, Nordwijk, Amsterdam.
38. Schulze M, Mamoulakis C, Rioja J, Skolarikos A, Rassweiler JJ, Alivizatos G, de la Rosette JJ. **Preliminary results from an international multicenter blinded randomized clinical trial comparing bipolar with monopolar transurethral resection of the prostate. J Urol 2009;181(Suppl 1):699.** 104th Annual AUA Meeting, 25-30 April 2009; Chicago, IL, USA.
39. Oelke M, Mamoulakis C, Wijkstra H, Ubbink DT, de La Rosette JJ. **Bladder wall thickness measurements by conventional ultrasound and bladder scan BVM 6500: A method comparison study. Eur Urol Suppl**

- 2009;8(4):133.** 24th Annual EAU Congress, 17-21 March 2009; Stockholm, Sweden.
40. Mamoulakis C, Wijkstra H, de Reijke TM, Laguna MP, de La Rosette JJ. **Is there a difference in prostate cancer detection rates between 8- versus 12-core transrectal ultrasound-guided biopsy protocols? Results from a randomized clinical trial.** *Eur Urol Suppl* **2009;8(4):217.** 24th Annual EAU Congress, 17-21 March 2009; Stockholm, Sweden.
41. Rioja J, Mamoulakis C, Skolarikos A, Alivizatos G, Schulze M, Rassweiler J, Scoffone CM, Scarpa RM, de La Rosette JJ. **Bipolar versus monopolar transurethral resection of the prostate: Results of an international multicenter blinded randomized clinical trial.** *Eur Urol Suppl* **2009;8(4):266.** 24th Annual EAU Congress, 17-21 March 2009; Stockholm, Sweden.¹
42. Mamoulakis C, Wijkstra H, Kuilman L, Visser M, Laguna MP, de Reijke TM, de La Rosette JJ. **Does neoadjuvant sorafenib treatment affect microvessel density count in prostate cancer?** *Eur Urol Suppl* **2009;8(4):277.** 24th Annual EAU Congress, 17-21 March 2009; Stockholm, Sweden.
43. Mamoulakis C, Kuilman L, van der Poel HG, de la Rosette JJ, Laguna P, de Reijke TM, Wijkstra H. **Is ultrasound imaging helpful in predicting extracapsular penetration in prostate cancer?** *J Endourol* **2009;23(6):1041.** 24th Annual Meeting of the Engineering and Urology Society, 25 April 2009; Chicago, IL, USA.
44. Leondi A, Koutsikos J, Rapidi CA, Fotinaki H, Mamoulakis C, Daramaras A, Kandilakis E, Valotasiou V, Karava E, Petropoulou C, Zerva C. **Detection of urological and/or nephrological complications in patients with spinal cord injury and neuropathic bladder by diuretic renogram (Tc-99m MAG-3). Correlation with urodynamics and classification by American Spinal Injury Association (ASIA) impair.** *Eur J Nucl Med Mol Imaging*

- 2007;34(Suppl 2):S369.** Annual EANM Congress, 13-17 October 2007; Copenhagen, Denmark.
- 45.** Hatzikyriakidou A, Mamoulakis C, Baltogiannis D, Sofikitis N, Georgiou I. **No evidence for a correlation of genetic variants of the insulin-like factor with the development of cryptorchidism.** *Eur Urol Suppl* 2005;4(3):100. 20th Annual EAU Congress, 16-19 March 2005; Istanbul, Turkey.
- 46.** Mamoulakis C, Sofikitis N, Baltogiannis D, Giannakis D, Chatzikyriakidou A, Georgiou I. **Evidence against a contribution of (TAAAA)_n repeat polymorphism within the human sex hormone-binding globulin (SHBG) gene promoter region to testicular maldescent (TMD) phenotype: absence of association/genetic linkage in a family-based study.** *Eur Urol Suppl* 2004;3(2):183. 19th EAU Congress, 24-27 March 2004; Vienna, Austria.
- 47.** Tasos A, Pappas I, Baltogiannis D, Tsoukanelis K, Giannakis D, Mamoulakis C, Sofikitis N. **Effects of urinary incontinence on female sexual function.** *J Androl* 2003;March/April Suppl:38. 28th Annual ASA Meeting, 29 March-2 April, 2003; Phoenix, Arizona.
- 48.** Stefiadis C, Tsabalas S, Tasos A, Tsalikis D, Baltogiannis D, Mamoulakis C, Miyagawa I, Sofikitis N. **Testicular fluid dynamics indicate two distinct subpopulations of non-obstructed azoospermia (NOA) men.** *J Androl* 2003; March/April Suppl:45. 28th Annual ASA Meeting, 29 March-2 April 2003; Phoenix, Arizona.
- 49.** Mamoulakis C, Sofikitis N, Panagidis A, Bouba I, Alexandrou I, Giannakis D, Georgiou I. **Lack of evidence for a direct aetiological relationship between Y chromosome microdeletions and testicular maldescent in childhood.** *J Androl* 2003;March/April Suppl:62. 28th Annual ASA Meeting, 29 March – 2 April 2003; Phoenix, Arizona.
- 50.** Sofikitis N, Tsabalas S, Mamoulakis C, Baltogiannis D, Tsalikis D, Giannakis D, Miyagawa I. **Telomerase assay predicts the appearance of**

spermatozoa post-varicocelelectomy in a large number of non-obstructed azoospermic men. J Androl 2003;March/April Suppl:74. 28th Annual ASA Meeting, 29 March – 2 April, 2003, Phoenix, Arizona.

51. Grammeniatis E, Pappas I, Tsalikis D, Mamoulakis C, Tasos A, Giannakis D, Giannakopoulos X, Sofikitis N. **The role of sildenafil in premature ejaculation. J Androl 2003;March/April Suppl:75.** 28th Annual ASA Meeting, 29 March - 2 April, 2003; Phoenix, Arizona.
52. Mamoulakis C, Sofikitis N, Chatzikiyiakidou A, Bouba I, Giannakopoulos X, Georgiou I. **Screening for Y chromosome microdeletions in childhood: lack of evidence for a direct aetiological relationship with testicular maldescent. BJU Int 2003;91 (s1):79.** 14th Annual ESPU Congress, 12-15 March 2003; Madrid, Spain.
53. Kanakas N, Mamoulakis C, Miyagawa I, Chatzilyriakidou A, Yannakis D, Sofikitis N. **Effects of sexual intercourse on testicular function. Fertil Steril 2002;76(3S):S266.** 58th Annual ASRM Meeting, 12-17 October 2002; Seattle WA.
54. Tsalikis D, Sofikitis N, Mamoulakis C, Yannakis D, Kanakas N, Miyagawa I. **ICSI using hamster sperms generated in rat testes. Hum Reprod 2002;17:23.** 18th Annual ESHRE Meeting, 30 June - 3 July 2002, Vienna, Austria.
55. Mamoulakis C, Dimitriadis D, Antypas S, Sofikitis N. **Seasonality of cryptorchidism and hypospadias in Greece: Epidemiological relationships. J Androl March/April 2002 Suppl:36.** 27th Annual ASA Meeting, 24-27 April 2002; Seattle WA.
56. Tsabalas S, Mamoulakis C, Kaponis A, Baltogiannis D, Giannakopoulos X, Miyagawa I, Tasos A, Sofikitis N. **Assisted reproduction using hamster spermatozoa generated into xenogeneic testes. J Androl March/April 2002 Suppl:45.** 27th Annual ASA Meeting, 24-27 April 2002; Seattle WA.

57. Chatzilyriakidou A, Mamoulakis C, Kaponis A, Giannakopoulos X, Miyagawa I, Tsalikis D, Yiannakis D, Sofikitis N. **Effects of two techniques of left varicocelelectomy (VRCL) on fertilization and embryonic capacity for implantation.** *J Androl* March/April 2002 Suppl:57. 27th Annual ASA Meeting, 24-27 April 2002; Seattle WA.
58. Rigas A, Karamanolakis D, Mamoulakis C, Stefanidis A, Androulakakis PA. **PUJ obstruction caused by crossing renal vessels: clinical and imaging features.** *BJU Int* 2002;89 (Suppl 2):33. 13th Annual ESPU Meeting, 11-13 April 2002; Budapest, Hungary.
59. Mamoulakis C, Antypas S, Stamatiadou A, Dimitriadis D, Tzonou A, Sofikitis N. **Cryptorchidism: seasonal variations in Greece.** *J Androl* May/June 2001 Suppl:164. 7th International Congress of Andrology, 15-19 June 2001; Montréal, Québec, Canada.
60. Mamoulakis C, Lycopoulou L, Hantzi E, Malamouli S, Giannaki M, Demetriadis D, Antypas S, Papassotiriou I. **Comparative evaluation of serum amyloid A and C-reactive protein levels in pediatric patients with acute appendicitis.** *Clin Chem Lab Med* 2001;39:S205. 14th IFCC-FESCC European Congress of Clinical Chemistry and Laboratory Medicine, 5th Czech National Congress of Clinical Biochemistry, May 26-31 2001 Prague, Czech Republic.

8.6.2. Abstracts published in abstract books of international congresses

1. Musa H, Mamoulakis C, Omar MI. **Why are men of African heritage at higher risk for prostate cancer?** 45th Congress of the Société Internationale d'Urologie, October 29-November 1, 2025, Edimburgh, UK
2. Johnson EE, Mamoulakis C, Stroniute A, Omar MI, Sinha S. **Conservative interventions for managing urinary incontinence after prostate surgery: Results of a Cochrane systematic review.** 43rd Congress of the Société Internationale d'Urologie, October 11-14, 2023, Istanbul, Turkey

3. Dey A, Mamoulakis C, Hasan N, Yuan Y, Shakil A, Omar MI. **Emerging technologies for the surgical management of lower urinary tract symptoms secondary to benign prostatic obstruction. A systematic review.** 43rd Congress of the Société Internationale d'Urologie, October 11-14, 2023, Istanbul, Turkey
4. de la Rosette J, Martov A, Hurle R, Favre G, Mamoulakis C, Castanheira de Oliveira M, Stenzl A, Linares-Espinós E, Trelles Guzmán CR, Gravas S, Knoll T, Boz MY, Herrmann T, Laguna P. **Conventional white light imaging-assisted transurethral resection of bladder tumour (TURBT) versus IMAGE1S-assisted TURBT in non-muscle-invasive bladder cancer patients: trial protocol and 18 months results.** 41th Congress of the Société Internationale d'Urologie, November 10-14, 2021, Dubai, United Arab Emirates
5. Δρογώσης Α, Μαμουλάκης Χ, Καραμάνου Μ, Ανδρούτσος Γ. **Η ουρολογία στην Ελλάδα από την θεμελίωση του Ελληνικού κράτους έως σήμερα.** The Bicentennial of Modern Greek Medicine, 23-24 September, 2021, Athens, Greece
6. Alexander CE, Scullion M, Omar MI, Yuan Y, Mamoulakis C, N'Dow JMO, Chen C, Lam TBL. **An assessment of the impact of bipolar technology on transurethral resection of the prostate (TURP) outcomes: Results from indirect comparisons from a Cochrane review.** 40th Congress of the Société Internationale d'Urologie, October 10-11, 2020, Virtual Congress
7. Alexander CE, Scullion M, Omar MI, Yuan Y, Mamoulakis C, N'Dow JMO, Chen C, Lam TBL. **Impact of transurethral resection of the prostate (TURP) technology on post-operative urethral stricture outcomes: extended analysis from a Cochrane review.** 40th Congress of the Société Internationale d'Urologie, October 10-11, 2020, Virtual Congress
8. Maris V, Avgenakis G, Mpelantis C, Zisis IE, Heretis I, Hatzidakis A, Lilitsis E, Anyfantakis A, Koutantou Z, Michoglou V, Hatzakis C, Mamoulakis C. **Percutaneous surgery for renal pelvis tumors in a tertiary academic**

Endourological center. 7th International Meeting Challenges in Endourology, May 21-23, 2017, Paris France

9. Chondros K, Gorgoraptis P, Heretis I, Mavromanolakis E, Chondros N, Mamoulakis C. **Subjective image quality assessment of a novel endoscopic image enhancement system of the bladder: Preliminary results of a nation-wide survey study.** 5th International Meeting Challenges in Endourology, June 28-30, 2015, Paris France
10. Gorgoraptis P, Chondros K, Heretis I, Mavromanolakis E, Chondros N, Mamoulakis C. **Prone position and full bladder improve shockwave lithotripsy outcome of distal ureteral stones.** 5th International Meeting Challenges in Endourology, June 28-30, 2015, Paris France
11. Mamoulakis C, Dimitriadis F, Chatzikyriakidou A, Vlachopoulou E, Sofras F, Georgiou I, Sofikitis N. **Lack of evidence for a direct association of Y-chromosome microdeletions in children with testicular maldescent.** 7th European Congress of Andrology (ECA), 28 November-1 December 2012, Berlin, Germany.
12. Wezel F, Mamoulakis C, Rioja J, Alken P, de la Rosette JJ, Michel MS. **Techniken der Traktdilatation bei der perkutanen Nephrolitholapaxie.** Swiss Urology Convention, 5 September 2009, Lausanne, Switzerland
13. Efthimiou I, Mamoulakis C, Kazoulis S, Fildisis A, Chrisafis E, Christoulakis I. **Medical expulsive therapy using extended-release alfuzosin for symptomatic distal ureter stones: a single-centre experience.** 1st Eastern Mediterranean EAU Meeting, 19-20 October, 2007; Antalya, Turkey
14. Mamoulakis C, Kalaitzakis M, Kazoulis S, Zarifis G, Dimitriadis A, Skordilaki A, Giannou S, Mamoulaki M, Efthimiou I, Christoulakis I. **Systemic thrombolysis of acute renal infarction with the use of tenecteplase.** 10^o Symposium of Griechisch-Deutsche Gessellschaft fur Urologie, 27 June - 1 July 2007, Lübeck, Germany

15. Mamoulakis C, Antypas S, Damianou C, Dolatzas T, Tzonou A. **Seasonality of hypospadias: a common pathogenic environmental factor with cryptorchidism.** 52nd Annual International Congress of the British Association of Paediatric Surgeons, 12-15 July 2005, Dublin, Ireland
16. Pappas E, Tzoumis P, Chatzikyriakidou A, Mamoulakis C, Dimitriadis F, Baltogiannis D, Giannakis D, Sofikitis N. **No evidence for a correlation of genetic variants of the insulin-like factor 3 gene with the development of cryptorchidism.** 9th Symposium of the Greek – German Urological Association, 29 June – 3 July 2005, Athens, Greece
17. Malovrouvas D, Dedeilias P, Papadaniil P, Grigorakis A, Androutopoulou V, Karakaidos S, Mamoulakis C, Papadopoulos A, Pantazis E, Petraki C, Syrmos C. **Renal neoplasm invading the inferior vena cava. Our surgical technique.** 16th Video-Urology World Congress, 23-25 June 2005, Athens, Greece
18. Antypas S, Lycopoulou L, Vounatsou M, Mamoulakis C, Hantzi E, Alexandrou I, Panagidis A, Papassotiriou I. **Procalcitonin in children with acute appendicitis.** British Association of Paediatric Surgeons, 51st Annual International Congress, 27-30 July 2004 Oxford, UK
19. Antoniou A, Mamoulakis C, Bratsas K, Stefanidis A, Diamandis EP, Androulakakis PA. **Serum prostate specific antigen (sPSA) levels in childhood.** IXth International Meeting of the European Society of Residents in Urology (ESRU), 23-26 February 2002, Birmingham, UK
20. Bratsas K, Stefanidis A, Mamoulakis C, Spyropoulos E, Zachariades BP, Androulakakis PA. **The role of hyperbaric oxygen in the treatment of chemotherapeutic agent-induced haemorrhagic cystitis in a child.** 9th International Meeting of the European Society of Residents in Urology (ESRU), 23-26 February 2002, Birmingham, UK
21. Mamoulakis C, Lycopoulou L, Hantzi E, Stamatiadou A, Moraloglou O, Dimitriadis D, Antypas S, Papassotiriou I. **Serum Amyloid A protein levels**

in the diagnosis and follow-up of acute appendicitis in paediatric patients. British Association of Paediatric Surgeons, XLVIII Annual International Congress, 17-20 July, 2001 London, UK. Peter Paul Rickham Prize Session

22. Papadaki M, Hadzigeorgi C, Ioannidis K, Mamoulakis C, Antypas S. **Ultrasonographic evaluation of testicular microlithiasis in paediatric patients.** 3rd Congress of Mediterranean Association of Paediatric Surgeons (MAPS), 12-15 October 2000, Corfu
23. Harmanis G, Ververidis M, Dimitriadis D, Mamoulakis C, Antypas S, Dolatzas T. **Hypospadias combined with giant haemangioma of the lower half of the body and Kasabach-Merriit syndrome in a 4 year-old child.** 3rd Congress of Mediterranean Association of Paediatric Surgeons (MAPS) October 12-15, 2000 Corfu
24. Gardikis S, Antypas S, Mamoulakis C, Dimitriadis D, Dolatzas T. **The influence of the colostomy type in the Peña procedure.** VII Pediatric Colorectal Club, 16-17 July, 2000 Rome, Italy

8.6.3. Abstracts presented in Greek congresses (Appendix B)

3. OTHER SCIENTIFIC ACTIVITIES

9.1. EAU BPH/Male LUTS/BOO Guidelines Office Panel member (2011-2021)

**9.2. International Consultation on Urological Diseases (ICUD) member
(3rd International Consultation on Stone Disease; SIU)**

9.3. Opinion Leadership Invitations

1. Janssen-Cilag Pharmaceutical SACI Advisory Board Meeting on Prostate cancer. 09 July 2024, Athens, Greece
2. Janssen-Cilag Pharmaceutical SACI Advisory Board Meeting on Prostate cancer. 13 June 2023, Athens, Greece
3. Janssen-Cilag Pharmaceutical SACI Advisory Board Meeting on Prostate cancer. 06 July 2022, Athens, Greece
4. Bayer Hellas AG Darolutamide Advisory Board Meeting: How novel second-generation androgen receptor inhibitors can improve the OS and quality of life for nmCRPC patients. 19 November 2021, Athens, Greece
5. Astellas Jordan invited lectures at symposium organized during the 11th Jordanian association of urological surgeons congress (JAUS), 03 October 2019 Aman, Jordan
6. Ferring Hellas Advisory Board Meeting: Treating CRPC patients using degarelix. 03 July 2019, Athens, Greece
7. Ferring Hellas invited lecture at symposium organized during 38th Athenean Urological Days. 04-06 May 2018, Athens, Greece
8. Astellas Hellas invited lecture at scientific event “The beneficial doctor-patient relationship”, 13 December 2017, Heraklion, Crete, Greece
9. Astellas Israel invited lecture at the 36th Congress of the Israeli Urological Association, 14 December 2016 Eilat, Israel
10. Astellas Israel invited lecture at the Israeli Uro- Gynecology "Meet the Expert" Meeting. 13 December 2016, Tel-Aviv, Israel

11. Astellas Hellas invited lecture at symposium organized during the 23rd Panhellenic Urological Congress, 20-23 October 2016, Rodos-Greece
 12. Astellas Hellas Advisory Board Meeting for the management of male LUTS in real life practice. 01 October 2016, Athens, Greece
 13. Astellas Asian EAU LUTS Advisory Board Meeting, 10 March, 2016, Munich, Germany
 14. Astellas Pharma Europe Ltd LutForum Summary Meeting 22-23 January 2016, Brussels, Belgium
 15. Astellas Hellas Advisory Board Meeting for treating patients with using the fixed combination solifenacin/tamsulosin OCAS. 23 May 2015, Athens, Greece
 16. Pfizer Pelvic Health European Expert Forum 2015. Workshop: Monopolar versus Bipolar Prostatectomy: Clinical Considerations. April 17-18, 2015; Dublin, Ireland
 17. Astellas Pharma Europe Ltd LutForum Summary Meeting, 16-17 January 2015, Prague / Czech Republic
 18. Lilly Hellas invited lecture at scientific event “Confronting the crisis of the mature man”, 01 June 2014, Heraklion, Crete, Greece
 19. Astellas Pharma Europe Ltd LutForum Summary Meeting 18-19 October 2013, Frankfurt, Germany
 20. Astellas Pharma Europe Ltd LutForum Summary Meeting 1-2 December 2012, Amsterdam, Netherlands
 21. GSK Hellas invited lectures at scientific event “BPH: From theory to everyday clinical practice”, 14-16 September 2012, Rethymnon, Crete, Greece
 22. Teleflex Key Opinion Leader
- 9.4. Andrology-Infertility HUA Section Steering Committee Member and Vice Chairman**
- 9.5. Contribution in the organization of scientific events**

1. 13rd Urological Meeting of Central Greece, 8-10 November 2024, Larissa, Greece
2. 26th Panhellenic Urological Congress, 03-06 October 2024, Thessaloniki, Greece
3. 30th Scientific Congress of Greek Medical Students, 24-26 May 2024, Heraklion, Crete, Greece
Workshop 1: Simulators in Urology: Endourology and Laparoscopy
Workshop 2: Undergraduate Course: Urology Bootcamp for Undergraduate Students: Laparoscopic Basic Skills
4. Scientific Meeting on prostate cancer, 27 January 2023, Heraklion, Crete, Greece
5. Consideration and debates on optimal treatment of advanced prostate cancer, 14 October 2022, Heraklion, Crete, Greece
6. 25th Panhellenic Urological Congress, 06-09 October 2022, Athens, Greece
7. 5th Experts in Stone Disease (ESD) conference. 10-11 June 2022, Athens, Greece
8. 13th Urological Congress of Northern Greece. 25-27 February 2022, Thessaloniki, Greece
9. HUA postgraduate seminars: Laparoscopic surgical urology. December 2021 (webinar)
10. The Bicentennial of Modern Greek Medicine (International Congress), 23-24 September, 2021, Athens, Greece
11. 8th Annual Urological Congress of Evolutions in Urology 22-24 November 2019, Thessaloniki, Greece
12. 1st Panhellenic Intersectional HUA Congress. 6-8 June 2019, Kalamata, Greece
13. Andrology-Infertility HUA Section seminar on male infertility and sexual dysfunction. 18 May 2019, Heraklion, Crete, Greece
14. 24th Panhellenic Urological Congress, 11-14 October 2018, Athens, Greece
15. ESU course Management of BPO: From medical to surgical treatment, 27 April 2017, Skhirat, Morocco

16. 6th International Urological Meeting of Central Greece, 4-5 February 2017, Larissa, Greece
 17. 23rd Panhellenic Urological Congress, 20-23 October 2016, Rodos-Greece
 18. 6th Scientific Meeting of Andrology-Infertility HUA Section, 18-19 September 2015, Ioannina, Greece
 19. 5th International Urological Meeting of Central Greece, 14-15 February 2015, Larissa, Greece
 20. 22nd Panhellenic Urological Congress, 16-19 October 2014, Heraklion-Crete, Greece
 21. 21th Panhellenic Urological Congress, 11-14 October 2012, Athens, Greece
- 9.6. Selected invitations in scientific meetings**
1. Clinical and Translational Oncology Conference. 13-16 November 2025, Heraklion, Crete.
 2. 4th Panhellenic Intersectional HUA Congress. 25-27 September 2025, Volos, Greece
 3. 44th Athenian Urological Days, 23-25 May 2025, Athens, Greece
 4. Chair of ESU course (22) organised at the time of the 25th EAU Annual Meeting: Surgical Management of BPO: From Resection to Ablation of prostate adenoma, 22 March 2025, Madrid, Spain
 5. 13rd Urological Meeting of Central Greece, 8-10 November 2024, Larissa, Greece
 6. 26th Panhellenic Urological Congress, 03-06 October 2024, Thessaloniki, Greece
 7. 42nd Athenian Urological Days, 05-07 May 2023, Athens, Greece
 8. 18th Educational Week of Greek Residents in Urology, 22-25 February 2023, Athens, Greece
 9. 5th Scientific Meeting in Functional Urology. 02-03 December 2022, Athens, Greece

10. 25th Panhellenic Urological Congress, 06-09 October 2022, Athens, Greece
11. 5th Experts in Stone Disease (ESD) conference. 10-11 June 2022, Athens, Greece
12. 41st Athenian Urological Days. 27-29 May 2022, Athens, Greece
13. 13rd Urological Congress of Northern Greece. 25-27 February 2022, Thessaloniki, Greece
14. 17th Educational Week of Greek Residents in Urology, 17-20 February 2022, Athens, Greece
15. 2nd Panhellenic Intersectional HUA Congress. 7-9 October 2021, Thessaloniki, Greece
16. 14th Uroschool, 12-13 June 2021 (webinar)
17. 40th Athenean Urological Days. 21-23 May 2021 (webinar)
18. 16th Educational Week of Greek Residents in Urology, 21-24 April 2021 (webinar)
19. 15th Educational Week of Greek Residents in Urology, 17-21 February 2020, Athens, Greece
20. 8th Annual Urological Congress of Evolutions in Urology, 22-24 November 2019, Thessaloniki, Greece
21. 12th Urological Congress of Northern Greece. 8-10 November 2019, Thessaloniki, Greece
22. 39th Congress of the SIU. 17-20 October 2019, Athens, Greece
23. 1st Panhellenic Intersectional HUA Congress. 6-8 June 2019, Kalamata, Greece
24. 39th Athenean Urological Days. 10-12 May 2019, Athens, Greece
25. 12th Uroschool, 11-14 April 2019, Portaria, Pelio, Greece
26. 14th Educational Week of Greek Residents in Urology, 18-22 February 2019, Athens, Greece

27. 7th Annual Urological Congress Evolutions in Urology - Urothelial Cancer. 23-25 November 2018, Thessaloniki, Greece.
28. 19th Pancretan Medical Congress. 09-11 November 2018, Chania, Crete, Greece
29. Leadership and Advances in Prostate Cancer (LEAP) Annual Meeting, 19-20 October 2018, Lisbon, Portugal
30. 24th Panhellenic Urological Congress, 11-14 October 2018, Athens, Greece
31. 38th Athenean Urological Days. 04-06 May 2018, Athens, Greece
32. HUA Training courses: Andrology-Infertility HUA Section, 21 February 2018, Athens, Greece
33. 13th Educational Week of Greek Residents in Urology, 12-16 February 2018, Athens, Greece
34. Andrology-Infertility HUA Section Scientific Meeting, 04 November 2017, Thessaloniki, Greece
35. Leadership and Advances in Prostate Cancer (LEAP) Annual Meeting, 15-16 September 2017, Amsterdam, The Netherlands
36. Chair of ESU organised course at the time of the national congress of the Moroccan Urological Association: Management of BPO: From medical to surgical treatment, 27 April 2017, Skhirat, Morocco
37. 12th Educational Week of Greek Residents in Urology, 06-10 March 2017, Athens, Greece
38. 10th Uroschool, 16-19 February 2017, Portaria, Pelio, Greece
39. 6th International Urological Meeting of Central Greece, 4-5 February 2017, Larissa, Greece
40. 36th Congress of the Israeli Urological Association, 13-15 December 2016 Eilat, Israel
41. 18th Cretan Medical Congress, 4-6 November 2016, Rethymnon, Crete, Greece
42. 23rd Panhellenic Urological Congress, 20-23 October 2016, Rodos-Greece

43. 5th Meeting of the EAU Section of Urotechnology, 8-10 July 2016, Athens, Greece
44. 36th Athenean Urological Days. 13-15 May 2016, Athens, Greece
45. 11th Educational Week of Greek Residents in Urology, 29 February - 04 March 2016, Athens, Greece
46. LutForum Summary Meeting 22-23 January 2016, Brussels, Belgium
47. HUA Meeting, 16 December 2015, Athens, Greece
48. 6th Panhellenic Scientific Meeting of Neurourology and Female Urology HUA Section, 24-26 September 2015, Thessaloniki, Greece
49. 6th Panhellenic Scientific Meeting of Andrology-Infertility HUA Section, 18-19 September 2015, Ioannina, Greece
50. 5th International Meeting "Challenges in Endourology and Functional Urology", 28-30 June, 2015, Paris-France
51. HUA Meeting, 17 June 2015, Athens, Greece
52. 35th Athenean Urological Days. 18-20 May 2015, Athens
53. Pelvic Health: European Expert Forum 2015. Workshop: Monopolar versus Bipolar Prostatectomy: Clinical Considerations. April 17-18, 2015; Dublin, Ireland
54. 30th Annual EAU Congress, 20-34 March 2015; Madrid, Spain
55. Endocrine Aspects in Andrology, 13-15 March 2015 Heraklion, Crete,
56. 10th Educational Week of Greek Residents in Urology, 09-13 March 2015, Athens, Greece
57. EAU guidelines office: UI and Male LUTS panel workshop, 07-08 February, 2015, Amsterdam, The Netherlands
58. 8th Uroschool, 5-8 March 2015, Portaria, Pelio, Greece
59. 5th International Urological Meeting of Central Greece, 14-15 February 2015, Larissa, Greece
60. LutForum Summary Meeting, 16-17 January 2015, Prague / Czech Republic

61. Andrology Update 2014, 7-9 November 2014, Rethymnon, Crete, Greece
62. 22nd Panhellenic Urological Congress, 16-19 October 2014, Heraklion-Crete, Greece
63. 4th International Meeting "Challenges in Endourology and Functional Urology", 01-03 June, 2014, Paris-France
64. 7th Urolooschool, 20-23 March 2014, Portaria, Pelio, Greece
65. 9th Educational Week of Greek Residents in Urology, 10-14 March 2014, Athens, Greece
66. LutForum Summary Meeting 18-19 October 2013, Frankfurt, Germany
67. 1st International Congress on Clinical Topics in Urology: Lithiasis from A to Z , 5-6 July 2013, Athens, Greece
68. 3rd International Meeting "Challenges in Endourology and Functional Urology", 26-28 June, 2013, Paris-France
69. 6th Urooschool, 26-29 April 2013, Portaria, Pelio, Greece
70. 8th Educational Week of Greek Residents in Urology, 26-30 March 2013, Athens, Greece
71. HUA Meeting, 20 March 2013, Athens, Greece
72. 4th International Urological Meeting of Central Greece, 2-3 February 2013, Larissa, Greece
73. HUA Section of Endourology and Laparoscopic/Robotic Urology-Urotechnology Meeting, 24 November 2012, Athens, Greece
74. LutForum Summary Meeting 01-02 December 2012, Amsterdam, Netherlands
75. Postgraduate Conference of Clinical Oncology, 1-3 November 2012, Heraklion, Crete, Greece
76. 21th Panhellenic Urological Congress, 11-14 October 2012, Athens, Greece
77. 16th Cretan Medical Congress, 25-28 October 2012, St Nikolaos, Crete, Greece
78. 30th World Congress of Endourology 2012, 4-8 September 2012, Istanbul, Turkey

79. 2nd International Meeting "Challenges in Endourology and Functional Urology", 27-29 June, 2012, Paris, France
80. Training in Endourology, 20-22 April 2012, Athens, Greece
81. 5th Uroschool, 26-29 April 2012, Portaria, Pelio, Greece
82. HUA Meeting, 18 January 2012, Athens, Greece
83. 22nd Video World Congress Urology, 7-9 July 2011, Turin, Italy
84. Challenges in Endourology, 8-10 June 2011, Paris, France
85. 4th Uroschool, 26-29 May 2011, Portaria, Pelio, Greece
86. 6th Educational Week of Greek Residents in Urology, 4-8 April 2011 Athens, Greece
87. 3rd International Urological Meeting of Central Greece, 12-13 February 2011 Larissa, Greece
88. Urologic Symposium "Evolutions and dilemmas in the treatment of urologic cancer" 18-20 November 2010, Athens, Greece
89. 15th Medical Cretan Congress, 29-31 October 2010, Chania, Crete, Greece
Clinical Tutorial on multidisciplinary management of severely injured patients
90. 3rd Uroschool, 27-30 May 2010, Portaria, Pelio, Greece
91. 27th World Congress of Endourology. 6-10 October 2009, Munich, Germany.
92. 2nd Aegean Urology Symposium "Office Urology" 1-4 October 2009, Heraklion-Crete, Greece
93. 2nd International Workshop on Focal therapy and imaging in prostate and kidney cancer. 12 June 2009, Nordwijk, Netherlands
94. HUA Meeting, 20 April 201, Athens, Greece
95. 7th Uroschool, 20-23 March 2014, Portaria, Pelio, Greece
96. HUA Meeting, 19 February 2014, Athens, Greece
97. Andrology-Infertility HUA Section seminar on male infertility and sexual dysfunction. 18 May 2019, Heraklion, Crete, Greece
98. 8th International Urological Meeting of Central Greece, 4-5 February 2017, Larissa, Greece

99. Postgraduate Courses Mother of Crete – Euromedica.28 March 2018, Heraklion, Crete, Greece
 100. 5th Meeting of the EAU Section of Uro-Technology, 8-10 July 2016, Athens, Greece
 101. 7th Scientific Meeting of Neurourology and Female Urology HUA Section, 05-07 October 2017, Chania, Crete, Greece
 102. 13th Urological Congress of Northern Greece. 25-27 February 2022, Thessaloniki, Greece
 103. 17th Educational Week of Greek Residents in Urology, 17-20 February 2022
- 9.7. Editorial Board Membership**
1. Experimental and Therapeutic Medicine ([Link](#))
 2. Uro-Journal of Urology ([Link](#))
 3. Medicine International ([Link](#))
 4. Frontiers in Surgery-Genitourinary Surgery
- 9.8. Reviewer invitations in international scientific journals**
1. Aging (Albany, NY)
 2. American Journal of the Medical Sciences
 3. Andrologia
 4. Angiology
 5. Asian journal of Urology
 6. Bioengineered
 7. BMC Urology
 8. BMJ Case Reports
 9. British Journal of Urology International
 10. Cochrane Database of Systematic Reviews
 11. Cancer Management and Research
 12. European Urology
 13. European Urology Focus
 14. Family Practice

15. Hippokratia
16. Histology and Histopathology
17. IEEE Transactions on Instrumentation and Measurement
18. Indian Journal of Urology
19. International Journal of Environmental Research and Public Health
20. Journal of International Medical Research
21. International Journal of Molecular Medicine
22. International Journal of Urology
23. Journal of Endourology
24. Journal of Urology
25. Oncotarget
26. PLoS One
27. Translational Andrology and Urology
28. Urology
29. Urology Journal
30. Urolithiasis
31. World Journal of Urology
32. World Journal of Surgery
33. World Journal of Surgical Oncology
34. Yonsei Medical Journal

9.9. Reviewer in congresses

1. 34th Annual EAU Congress, 15-19 March 2019; Barcelona, Spain
2. 24th Panhellenic Urological Congress, 11-14 October 2018, Athens-Greece
3. 33rd Annual EAU Congress, 16-20 March 2018; Copenhagen, Denmark
4. 32nd Annual EAU Congress, 24-28 March 2017; London, UK
5. 23rd Panhellenic Urological Congress, 20-23 October 2016, Rhodes-Greece
6. 5th Meeting of the EAU Section of Uro-Technology, 8-10 July 2016, Athens, Greece
7. 31th Annual EAU Congress, 11-15 March 2016; Munich, Germany
8. 30th Annual EAU Congress, 20-34 March 2015; Madrid, Spain
9. 22nd Panhellenic Urological Congress, 16-19 October 2014, Heraklion-Crete

10. 29th Annual EAU Congress, 11-15 April 2014; Stockholm, Sweden

11. 21st Panhellenic Urological Congress, 11-14 October 2012, Athens, Greece

9.10. Seminar attendance

1. Personal training program in laser enucleation of the prostate (ThuLep; Dornier Thulio), 23-26/01/2024, Universitätsklinikum Freiburg, Klinik für Urologie, Freiburg, Germany

2. BPH Innovations Forum, 14-15 December, 2023, Hamburg, Germany

3. ISLE Academy personal dedicated dry lab & simulation training program in robotic surgery (da Vinci Xi system), 02-03/12/2022, Sofmedica Hellas, Athens, Greece

4. Advanced Life Support (ALS), 14-15 May 2022, University of Crete, Medical School, Heraklion, Crete, Greece

5. ISLE Academy personal dedicated dry lab & simulation training program in robotic surgery (da Vinci Xi system), 03-04/08/2021, Sofmedica Hellas, Athens, Greece

6. Training of the trainers (ToTT) seminar 2020-2021, University of Crete

7. 1st Hands-on-Workshop in Andrology, male incontinence and urethral strictures in cadaveric preparations. 23-24/02/2019; Laboratory of Anatomy, University of Athens, Medical School, Athens, Greece

<https://www.huanet.tv/hands-on-workshop-stin-andrologia-stin-andriki-akrateia-kai-se-stenomata-oyrithras>

8. Training on penile prosthesis and artificial urinary sphincter surgery, 14/11/2018; Dr Enrique Lledó-Garcia, Andrology & Urethral Reconstructive Surgery Unit, Dept of Urology, Gregorio Marañón Hospital, Madrid Spain.

9. Leadership and Advances in Prostate Cancer (LEAP) Annual Meeting, 19-20 October 2018, Lisbon, Portugal

10. Leadership and advances in prostate cancer care (LEAP) programme: Preceptorship and mentorship in open radical cystectomy and prostatectomy with extended lymph node resection. 07-09/05/2018; Prof. S. Joniau, Dept of Urology, University Hospital Leuven, Belgium

11. Leadership and Advances in Prostate Cancer (LEAP) Annual Meeting, 15-16 September 2017, Amsterdam, The Netherlands
12. Laparoscopic surgery of the urogenital tract. 23-25 November 2016, Leipzig, Germany
13. Educational program for male incontinence. 14 May 2015, Valencia, Spain
14. Laparoscopic Urological Surgery Intensive course IRCAD, 8-12 December 2014, Strasbourg, France
15. The European training in basic laparoscopic urological skills (E-BLUS) e-course.
16. Course in ultrasound-based bladder/detrusor wall thickness measurements, 8-12 December 2008, Hannover, Germany
17. Urodynamic-Expert Course, Bristol Urological Institute, 22-23 November 2007, Bristol, UK
18. Urogynecology and Female Urology Operative Course, Bristol Urological Institute, 19-21 November 2007, Bristol, UK
19. Innovations and EBM in Urology. Hands-on Training Workshop in Laparoscopy; Hands-on Training Workshop in Ureteroscopy, 4-7 October 2007, Athens, Greece.
20. “Certificate in Urodynamics” Course, Bristol Urological Institute, 20-22 February 2006, Bristol, UK

9.11. Participation in research protocols

1. Prospective, Multi-Country, Observational Study of Clinical Outcomes for Patients With Metastatic Hormone Sensitive Prostate Cancer (mHSPC) Treated With ADT plus Apalutamide or Enzalutamide Under Routine Clinical Practice (ArtemisPRO)
<https://clinicaltrials.gov/study/NCT05901649>
2. A study in which non-metastatic castration-resistant prostate cancer (nmCRPC) patients for whom a decision to treat with darolutamide has been made before enrollment are observed and certain outcomes are described (DAROL)
<https://clinicaltrials.gov/ct2/show/NCT04122976>

3. A phase III, randomized, multicenter, parallel-group, double-blind, double-dummy study in adolescent and adult female participants comparing the efficacy and safety of gepotidacin to nitrofurantoin in the treatment of uncomplicated urinary tract infection (acute cystitis)
<https://clinicaltrials.gov/ct2/show/NCT04020341>
4. Study on the efficacy and safety of ampiraterone acetate as a first-line treatment in untreated patients with metastatic castration-resistant prostate cancer: Data from actual clinical practice from oncology and urology centers in Greece (DIZPLAY)
5. A trial comparing cardiovascular safety of degarelix versus leuprolide in patients with advanced prostate cancer and cardiovascular disease (PRONOUNCE)
<https://clinicaltrials.gov/ct2/show/NCT02663908>
6. Ureteral stenting after ureteroscopy for stone treatment, a global perspective on indications and outcomes. Protocol id: uCARE-2018-001 protocol
<https://clinicaltrials.gov/ct2/show/NCT03567421>
7. A prospective non-interventional study in overactive bladder (OAB) patients prescribed Betmiga® as part of routine clinical practice (BELIEVE)
<https://clinicaltrials.gov/ct2/show/NCT02320773>
8. A multi-center, international registry to evaluate the treatment of upper tract urothelial cancer: incidence, indications, treatment types and outcomes (UTUC)
<https://clinicaltrials.gov/ct2/show/NCT02281188>
9. An international randomized study to compare SPIES versus WLI
<https://clinicaltrials.gov/ct2/show/NCT02252549>
10. A randomized, double-blind, multi-centre study to evaluate the efficacy and safety of combining mirabegron treatment with solifenacin in incontinent OAB subjects who have received solifenacin 5mg for 4 weeks and require additional relief for their OAB symptoms (BESIDE)
<https://clinicaltrials.gov/ct2/show/NCT01908829>

11. Clinical Research Office of the Endourological Society (CROES) - The Global Ureteroscopy observational study: URS-A prospective international observational study on indications and perioperative outcomes
12. A prospective, randomized, double-blinded study to compare bipolar trans-urethral resection of the prostate (bipolar TURP) versus monopolar trans-urethral resection of the prostate (monopolar TURP) in terms of safety and efficacy

<https://www.trialregister.nl/trial/643>

9.12. Member in scientific associations

1. American Urological Association (AUA)
2. Endourological Society
3. European Association of Urology (EAU)
4. Hellenic Urological Association (HUA)
5. Société Internationale d'Urologie (SIU)

4. MEMORANDUM OF ORIGINAL SCIENTIFIC PUBLICATIONS

10.1. Brief Presentation of MSc and PhDs

10.1.1. Master in Biostatistics (Thesis)

Subject: **“Seasonal variation of hypospadias in Greek population”**

Supervisor: Prof. A. Tzonou, Department of Hygiene, Epidemiology and Medical Statistics, Athens University Medical School, Athens, Greece (23/5/2005)

Participating institutions: 1. University of Athens, Athens, Greece: A. Faculty of Medicine (Department of Hygiene and Epidemiology), B. Faculty of Mathematics; 2. University of Ioannina, Ioannina, Greece: Faculty of Mathematics); Academic period: September 2002-September 2004

The Master has resulted in the production of one publication (see: **8.2. Publications in international scientific journals (PubMed Indexed): Publication 79**).

Thesis Summary

Hypospadias represents the second commonest congenital abnormality of male external genitalia following cryptorchidism. Its etiology remains elusive. Seasonal variation of its incidence has been investigated in many countries, however results are contradictory. The aim of the current study is to examine seasonality of hypospadias in Greece, in an attempt to shed light on the complicated problem of the etiology.

All boys of Greek origin born among the years 1991-1998 who have been submitted to surgical correction of hypospadias at “Aghia Sophia” Children’s Hospital in Athens (N = 542) were included in the study. All newborns in Greece during the same period (M = 421,175) served as controls (population at risk). Monthly mean sunlight, air temperature, and rainfall during the years 1990-1998 were also analyzed. Seasonality by month of birth was evaluated using specific statistical tests modified in order to take into account the magnitude of the population at risk as well as the exact duration of each month: a) Freedman’s (F^*), b) Edwards’ (E^*), c) Walter-Elwood’s (WE^*), d) Roger’s (R^*), e) Hewitt’s (T) and f) X^2 goodness-of-fit test.

Monthly frequencies of hypospadiac births showed statistically significant departure from a uniform seasonal distribution ($F^* = 1.53 - P < 0.05$), following a cyclic variation well described by the equation of the simple harmonic oscillation with maximum-minimum incidence in October-April, respectively (Edwards': $\mathcal{G}_{\max} = 294.60^\circ$, $\mathcal{G}_{\min} = 114.60^\circ$, $\alpha = 0.171$, $E^* = 7.92 - P < 0.020$, $X_{11}^2 = 13.24 - P > 0.200$, Walter-Elwood: $\mathcal{G}_{\max} = 288.40^\circ$, $\mathcal{G}_{\min} = 108.40^\circ$, $\alpha = 0.168$, $WE^* = 8.85 - P < 0.020$, $X_{11}^2 = 13.64 - P > 0.200$, Hewitt: August-January, $T = 55 - P = 0.048$). The climatic parameters studied exhibit seasonal variation as well (maximal sunlight-temperature in the summer, minimal in the winter, maximal rainfall in the winter, minimal in the summer) and are strongly associated with each other.

Therefore, the first trimester (crucial embryonic period for the differentiation-development of male urethra) of hypospadiac gestations coincides statistically more frequently with the winter period. The relative seasonal pattern of a climatic factor (e.g. low environmental temperature) that acts either directly or indirectly might contribute to the pathophysiology of hypospadias.

It appears that the hypospadiac seasonal pattern observed is associated with the respective cryptorchid one, which has been previously detected in the Greek population (harmonic with maximum-minimum incidence in March-September, respectively). The coincidence of the first and third trimester (crucial embryonic period of the final phase of testicular descent) of a potentially genetically influenced gestation with the winter period, could lead to the phenotypic expression of hypospadias or cryptorchidism, respectively. Since the differentiation-development of male urethra as well as the final phase of testicular descent is both androgen-dependent procedures, the potential role of a cyclic-varied androgen-production stimulator seems plausible. The human chorionic gonadotrophin serves as an example of such a stimulator, since it exhibits a seasonal variation with lowest levels in winter. Seasonality of a common environmental factor, which acts either directly or indirectly via the above described mechanism, might contribute to the appearance of the observed seasonal patterns and possibly to a common pathogenesis of the congenital malformations in question.

10.1.2. PhD - National

Subject: **“Spermatologic alterations and genetic factors in cryptorchidism”**

Supervisor: Prof. N. Sofikitis, Chairman of the Department of Urology, University of Ioannina, Medical School, Ioannina, Greece (18/3/2008)

The Thesis has resulted in the production of 6 publications (see: **8.2. Publications in international scientific journals (PubMed Indexed): Publications 84, 98, 102,105; 8.4. Publications in Greek scientific journals: Publication 15; 8.6. Books and Book chapters: Publication 28).**

Summary

Objective: To investigate the hypothesis whether: a) Yq11 microdeletions are directly implicated in the pathogenesis of cryptorchidism, b) genetic alterations of the INSL3 gene are associated with cryptorchidism and c) the number of TAAAA repeats within the SHBG gene proximal promoter is associated with cryptorchidism.

Material and Methods: A total of 590 subjects participated in this family-based study: a) 180 cryptorchid children aged between 1-13 years (median age: 2.3 years) at the time of orchidopexy from 174 index families (groups A and B: patient population), b) 307 parents: 156 mothers-151 fathers, nine of whom were also cryptorchid (group P: parental population), c) three unrelated affected second degree relatives (group R: uncles: one father-sided, two mother-sided), and d) 100 normal controls (group C: control group). Patients were prospectively and retrospectively recruited from two different sources: a) all children that have been admitted to the 1st Paediatric Surgery Clinic, “Aghia Sophia” Childrens’ Hospital, Athens, Greece as well as to the Department of Urology, University Hospital of Ioannina, Ioannina, Greece for surgical correction of cryptorchidism during the period December 1999–July 2002 (group A: prospective recruitment; n=109) and b) ex-cryptorchid children operated on, during the decade 1990–2000, at the 1st Paediatric Surgery Clinic, “Aghia Sophia” Childrens’ Hospital, who were randomly selected from the archive (group B: retrospective recruitment; n=71). The control group consisted of unrelated males with normal external genitalia of respective age, recruited randomly from the general paediatric population. Each individual was submitted to one blood sampling from a peripheral vein. Molecular analysis was performed at the Genetics Unit,

Department of Obstetrics and Gynaecology, Medical School, Ioannina University, Ioannina, Greece. Genomic DNA was extracted from blood samples using standard salting out procedures. Yq11 microdeletion analysis was based on routine PCR amplification of genomic DNA from all individuals of groups A, B, R and C (n=283) with the use of two multiplex reactions (Multiplex A: sY86, sY127, sY254 sY238 to screen AZFa, AZFb, AZFc and ZFY regions, respectively; Multiplex B: sY14, sY84, sY134, sY255 to screen SRY, AZFa, AZFb and AZFc regions, respectively). Amplified reaction products were submitted to electrophoresis on 2% agarose gel containing ethidium bromide as intercalating DNA stain and visualized under ultraviolet light. INSL3 gene genetic alteration analysis was based on PCR–SSCP method. Genomic DNA from 170 unrelated individuals of groups A and B, including all cases with a documented family history (n=17), as well as from 50 individuals from group C was used. PCR-SSCP was used to examine both exons of the gene. Amplified reaction products were further processed and submitted to electrophoresis on 8% non-denaturing polyacrylamide gel under four different conditions. Bands were detected by silver staining. All different SSCP patterns were sequenced. Restriction assay was further employed using the restriction endonuclease Eag I, which recognizes the wild type G/G genotype at position 178 in exon 1 of the gene. Digested PCR products were analyzed on 2% agarose gel containing ethidium bromide and restriction patterns were visualized under ultraviolet light. Pearson's/ Fisher's chi square test was performed to evaluate differences in the distribution of the alleles/genotypes for the detected genetic changes among: a) patients and controls b) familial and sporadic, c) bilateral and unilateral, and d) intra-abdominal and inguinal cryptorchid cases. TAAAA polymorphism genotype analysis was performed on genomic DNA of the total population of groups A, B and P (n=487). PCR products were electrophorized on 10% non-denaturing polyacrylamide gel and silver stained. The number of repeats (n) of each allele was detected by comparing the amplified products with samples of known number of repeats after sequencing, derived randomly from the general population. Data were separately analyzed for the whole population of parents-affected children as well as for the subpopulations of a) parents-affected children with intra-abdominal and b) parents-affected children with inguinal cryptorchidism. Finally, the statistical analysis included data from 138 completely typed nuclear families

(five of them included a second affected child, eight of them included cryptorchid fathers) as well as from five couples with one missing parent (429 subjects in total: 148 cryptorchid children, 156 cryptorchid cases in total). Statistical analysis was based on a) affected family-based control (AFBAC) method and b) logistic regression-based extension of the transmission disequilibrium test for multi-allelic loci (ETDT).

Results: No Yq11 microdeletions were detected in patients or controls. No genetic alterations of the INSL3 gene were detected exclusively in patients (mutations). However, three genetic alterations affecting exon 1 of the INSL3 gene were detected both in patients and controls (single nucleotide polymorphisms): 27G>A (A9A), 126G>A (L42L), 178G>A (A60T). Their frequency did not differ significantly between either a) patients and controls or b) sporadic and familial cases of cryptorchidism. As far as the non-synonymous polymorphism 178G>A is concerned, the wild type nucleotide was found in 55.9% and 55% of patient and control alleles, respectively ($P=0.917$). The non-wild type nucleotide 178A was detected in 52.9% and 42.3% of patient alleles with and without documented history of familial cryptorchidism, respectively ($P=0.123$). Finally, no association was detected with laterality (bilaterally-unilaterally: $P=0.695$) or with the testicular position (intra-abdominal-inguinal location: $P=0.330$). TAAAA polymorphism genotype analysis revealed five different alleles based on the number of their TAAAA repeats ($n=6-10$) in cryptorchid children. Both the AFBAC method (parental, paternal, maternal alleles transmitted vs. not transmitted to an affected child: $P=0.921$, $P=0.979$, and $P=0.745$, respectively; paternal vs. maternal alleles transmitted/not transmitted: $P=0.690$, $P=0.877$, respectively) and the ETDT (allele-wise and genotype analysis: $P=0.883$, $P=0.615$, respectively) failed to detect an association/genetic linkage between the number of repeats and cryptorchidism. Subgroup analysis in inguinal and intra-abdominal cases resulted in insignificant results as well.

Conclusions: The direct role of the Yq11 microdeletions in the pathogenesis of cryptorchidism is set under severe dispute and therefore their routine screening in children with testicular maldescent is not warranted in terms of preoperative evaluation or during the postoperative follow up. b) Genetic alterations of the INSL3 gene do not seem to be a common cause of cryptorchidism in the human. c) The polymorphic sequence (TAAAA) n within the SHBG gene proximal promoter is not associated/

genetically linked with cryptorchidism. Genetic predisposition that seems to affect a cryptorchid subpopulation should be further evaluated by investigating other candidate genetic factors.

10.1.3. PhD - International (<http://hdl.handle.net/11245/1.439238>)

Subject: **“The position of bipolar technology in transurethral resection of the prostate for benign prostatic obstruction: An evidence-based approach”**

Promoters: J.J.M.C.H de la Rosette and J.J. Rassweiler

University of Amsterdam, the Netherlands

The thesis has resulted in the production of 10 publications (see: **8.2. Publications in international scientific journals (PubMed Indexed): Publications (101, 103, 104, 106-108, 115, 118, 121, 130)**), which are briefly presented in the form of an extended summary of the Thesis.

Extended Summary (brief presentation of relevant publications)

This work was conducted with the scope to evaluate the position of bipolar technology in transurethral resection of the prostate (TURP) for treating patients with lower urinary tract symptoms (LUTS) secondary to benign prostatic obstruction (BPO), using an evidence-based approach. Seeking the best available evidence on a timely topic, this thesis presents the main results derived from the randomized controlled trials (RCTs) comparing efficacy and safety of bipolar TURP (B-TURP) with that of its predecessor, the current surgical “gold standard”, namely monopolar TURP (M-TURP). *It provides unique clinical data from the first international, multicenter RCT in the field and has decisively contributed to the formulation of the basis for the 2014-updated European Association of Urology (EAU) Guidelines on B-TURP versus M-TURP.*

Part I (Chapter 1): General Introduction.

Part II (Chapters 2-4): Current best available evidence in the field:

Chapter 2 (see 8.2., Publication 130) presents an initial, exploratory, *narrative review* summarizing the knowledge accumulated from experimental studies/relevant RCTs with an emphasis on morbidity, appearing in the international literature within 18 months prior to its publication. It is concluded that B-TURP shares similar and durable efficacy with

M-TURP, with low complication rates. B-TURP has minimized bleeding risk and eliminated transurethral resection (TUR) syndrome. Urethral strictures (US)/bladder neck contracture (BNC) rates do not differ between the modalities. The potential advantages of B-TURP over M-TURP, warrant a further systematic evaluation. The importance of this review lies in that it serves as “gap-identifier”; notwithstanding the availability of a capable amount of RCTs—a focused, detailed systematic review (SR)/meta-analysis was never attempted before. Two previous SRs comparing newer methods (including B-TURP) against M-TURP, failed to provide precise estimates due to availability of few data/significant heterogeneity.

Chapter 3 (see 8.2., Publication 121) presents the results of a profound and focused *RCT-based SR/meta-analysis*, in an attempt to critically evaluate the available evidence. ***This work provided for the first time sound and reliable conclusions for the short-term (up to 12 mo), based on level of evidence 1a.*** Based on a detailed, unrestricted strategy, the literature was searched up to February 19, 2009, using Medline, Embase, Science Citation Index, and the Cochrane Library to detect all RCTs comparing B-TURP with M-TURP for patients with LUTS secondary to BPO. Methodological quality assessment of the RCTs was based on the Dutch Cochrane Collaboration checklist. Sixteen RCTs (1406 randomized patients) were included. Efficacy and safety were the primary outcomes. Efficacy was quantified by postoperative maximum flow rate ($Q_{\max}$) and/or International Prostate Symptom Score (IPSS). Re-operation for residual adenoma was evaluated too. Safety was estimated by postoperative occurrence of at least one of the following parameters: (1) serum sodium level drop, (2) TUR syndrome, (3) hemoglobin level drop, (4) need for blood transfusion, (5) clot retention, (6) acute urinary retention after removal of the catheter, (7) meatal stenosis, (8) BNCs and (9) USs. Secondary outcomes included operation time, bladder irrigation duration, catheterization/hospitalization time. Overall trial quality was low (e.g., allocation concealment and blinding of outcome assessors were poorly reported). No clinically relevant differences in short-term (12-mo) efficacy were detected ($Q_{\max}$: weighted mean difference [WMD]: 0.72 ml/s; 95% confidence interval [CI], 0.08–1.35; $p = 0.03$). Data on follow-up >12 mo are scarce for B-TURP, precluding long-term efficacy evaluation. Treating 50 patients (95% CI, 33–111) and 20 patients (95% CI, 10–100) with B-TURP results in one fewer

case of TUR syndrome (risk difference [RD]: 2.0%; 95% CI, 0.9–3.0%; $p = 0.01$) and one fewer case of clot retention (RD: 5.0%; 95% CI, 1.0–10%; $p = 0.03$), respectively. Operation times, blood transfusion rates, retention rates after removal of the catheter and urethral complications did not differ significantly. Irrigation and catheterization duration was significantly longer with M-TURP (WMD: 8.75 h; 95% CI, 6.8–10.7 and WMD: 21.77 h; 95% CI, 19.22–24.32; $p < 0.00001$, respectively). Inferences for hospitalization time could not be made due to heterogeneity. Subgroup analyses to check differences among different bipolar systems were also performed. PlasmaKinetic TURP showed a further improved safety profile regarding blood transfusions (RD: 3%; 95% CI, 1–6%; NNH: 33; 95% CI, 17–100; $p = 0.02$), and clot retentions (RD: 9%; 95% CI, 3–14%; NNH: 11; 95% CI, 7–33; $p = 0.004$) but the results were similar for the other outcomes to the results of the general meta-analysis. Data on TUR in saline (TURis) are not yet mature to permit safe conclusions. It is concluded that no clinically relevant differences in short-term efficacy exist, but B-TURP is preferable due to a more favorable safety profile (lower TUR syndrome/clot retention rates), shorter irrigation/catheterization time. Well-designed multicenter/international RCTs with long-term follow-up and cost analysis are still needed.

Following this publication, two additional SR/meta-analyses comparing M-TURP with minimally invasive procedures for BPO, including B-TURP, have been published. Based on a subset of RCTs, the original conclusions were supported. **Chapter 4 (see 8.2. Publication 118)** criticizes one of these papers on the terminology used and some methodological issues.

Part III (Chapter 5): Standardized way of reporting TURP complications:

Although results from several historical retrospective/prospective multicenter cohorts focusing on TURP morbidity/mortality have been reported, there is still no consensus on how to define its complications and grade their severity. This hampers reproducible and sound comparisons longitudinally within centers or among centers using similar or different technologies such as M-TURP versus B-TURP. Consequently, a standardized classification serving as a common platform for communication among urologists is necessary. The modified Clavien Classification System (CCS) has been proposed as a

standard tool for this purpose to increase the quality of the related urological literature In ***Chapter 5 (see 8.2., Publication 115), the applicability of the modified CCS in grading TURP complications is evaluated for the first time.*** Data on 198 men submitted to M-TURP during a two-year period at a non-academic center were evaluated for complications up to the end of the first postoperative month and were classified prospectively and independently by two urologists according to this system. Final decision was based on consensus. Forty-four complications were recorded in 31/198 patients (overall perioperative morbidity rate: 15.7%). Grading was generally easy, non-time-consuming and straightforward. Most of them were classified as grade I (59.1%) and II (29.5%). Higher grade complications were scarce (grade III: 2.3% and grade IV: 6.8%, respectively) There was one death (grade V: 2.3%) due to acute myocardial infarction (overall mortality: 0.5%). Negative outcomes such as mild dysuria during this early postoperative period or retrograde ejaculation were considered sequelae and were not recorded. Nobody was complicated with severe dysuria. There was one re-operation due to residual adenoma (0.5%). It is concluded that the modified CCS represents a straightforward and easily applicable tool that may help urologists to classify the complications of TURP in a more objective and detailed way, serving as a standardized platform of communication among clinicians that allows for sound comparisons.

Part IV (Chapters 6-8): Results from the first international multicenter RCT in the field

B-TURP is at present the most thoroughly investigated alternative to M-TURP in RCTs. Nevertheless, all these RCTs represent single-center experiences of relatively low quality. ***Chapters 6-9 (see 8.2., Publications 101, 103, 104, 106-108)*** refer to the *first international, multicenter RCT* comparing efficacy/safety of B-TURP vs M-TURP in patients with LUTS due to BPO (NTR703: <https://www.trialregister.nl/trial/643>). The trial was conducted with the *aim to fulfill established criteria of quality assessment for RCTs* (The Cochrane Collaboration).

Within a 3-year period, 295 consecutive patients with BPO were prospectively recruited in four academic urological centers (Center 1: Academic Medical Center, University of Amsterdam, Amsterdam, the Netherlands; Center 2: SLK Kliniken Heilbronn, University

of Heidelberg, Heilbronn, Germany; Center 3: Sismanoglio Hospital, University of Athens Medical School, Athens, Greece; Center 4: San Luigi Hospital, University of Turin, Orbassano, Turin, Italy) and randomized 1:1 into M-TURP/B-TURP after written informed consent was obtained. A medical ethics committee at each center approved the protocol. Randomization was performed blindly among centers through a central electronic system for data collection, to minimize potential selection bias/guarantee allocation concealment, using a stratified permuted computer algorithm based on prostate volume and age. 279 patients (M-TURP, n = 138; B-TURP, n = 141) received allocated intervention. Surgeons were not blinded due to the nature of the intervention. Outcome assessors (different from the surgeons), and patients were both blinded for the intervention type (double-blind RCT). *A true bipolar device not previously evaluated in RCTs* was used (AUTOCON® II 400 ESU; Karl Storz Endoscope, Tuttlingen, Germany). *Patients were evaluated at baseline and regularly (at 6 wk, 6 mo, 12 mo, 24 and/or 36 mo) followed up to 36 mo after surgery. This is one of the longest follow-up durations to date.* Primary outcome was safety throughout follow-up. Sample size determination was based on sodium level changes immediately after surgery. Efficacy quantified using $Q_{\max}$, postvoid residual urine volume, IPSS; and re-intervention rates were also compared.

Chapter 6 (see 8.2., Publications 106-108) presents the *perioperative results* of this RCT. Safety was estimated using sodium and hemoglobin level drop immediately after surgery and complications occurring up to 6 wk after surgery. *Perioperative morbidity was standardized for the first time using the modified CCS, as previously proposed for TURP procedures* (Chapter 5). Secondary immediate perioperative outcomes included operation time, resection time, resection rate, capsular perforation, and catheterization-hospitalization time. No differences were detected in safety, efficacy or secondary immediate outcomes except that the sodium level drop was significantly greater after M-TURP (−2.5 vs. −0.8 mmol/L; $p = 0.003$). The lowest values were 131 and 106 mmol/L (the latter patient with TUR-syndrome) after B-TURP and M-TURP, respectively. The sodium values in nine patients were 125–130 mmol/L and in three patients < 125 mmol/L after M-TURP. Sodium levels decreased also after B-TURP (by 9 mmol/L maximum; two patients). In nine patients, in the M-TURP arm, the decrease was 9–34 mmol/L. These results were not translated into a significant difference in TUR-syndrome rates

(1/138: 0.7% vs. 0/141: 0.0%, for M-TURP and B-TURP, respectively; $p = 0.495$). Hemoglobin levels decreased significantly but similarly in each arm. Fifty-five complications were recorded in 44 patients (morbidity: 15.8%). Two complications were fatal (myocardial infarction) in M-TURP arm vs. no complication in B-TURP arm ($p = 0.244$; overall mortality: 0.7%). Morbidities did not differ (26/138 vs. 18/141, for M-TURP and B-TURP, respectively; $p = 0.220$). No differences were detected in any specific complication rates, failures rates or Clavien grade between arms. In contrast to the previous evidence, no clinical advantage for B-TURP was shown. The potentially improved safety of B-TURP that is attributed to the elimination of dilutional hypernatremia risk, a risk still present with M-TURP, did not translate into a significant clinical benefit in experienced hands.

The effect of TURP on the overall sexual function (SF) and particularly on erectile function (EF) is controversial with conflicting results based on a low level of evidence. The effects of M-TURP/B-TURP on EF are similar, as shown in some non-focused RCTs. *Focused results of a comparative evaluation of these effects on SF quantified with the International Index of Erectile Function Questionnaire (IIEF-15) are published for the first time.* Short-term results (up to 12 mo) of this RCT are presented in **Chapter 7 (see 8.2., Publication 101)**. It is concluded that there no differences exist between arms in any aspect of SF. Total IIEF/domain scores were calculated and EF score classified erectile dysfunction severity (EDS). Differences in EDS at each visit compared to baseline (EF evolution; EFE), classified patients into “improved”, “stable” or “deteriorated”. Pre-postoperative IIEF/domain scores and differences in EFE distribution were compared between arms throughout follow-up. 218/279 patients that received allocated intervention (78.1%) provided complete baseline IIEF-15 data and were considered in SF analysis. Complete pre-post data were available from 193/218 (88.5%), 186/218 (85.3%) and 179/ 218 (82.1%) patients at 6 wk, 6 mo and 12 mo, respectively. M-TURP insignificantly outperformed B-TURP, mainly in terms of IIEF/EF scores. After excluding patients with severe ED at baseline, the effect of resection type on SF scores remained insignificant. There were no differences in the distribution pattern of EDS/EFE at any time (M-TURP vs. B-TURP at 12 mo: improved, 23/87 [26.4%] vs. 18/92 [19.6%]; stable, 53/87 [60.9%] vs. 56/92 [60.8%]; deteriorated, 11/87 [12.7%] vs.

18/92 [19.6%]; $p = 0.323$). Some significant fluctuations were seen in the total population (two arms merged). Apart from an overall satisfaction improvement from 6 mo onwards, no other significant changes were detected at 12 mo. After excluding cases with severe ED at baseline, no alterations were seen. However, a slight transient IIEF drop at 6 wk became significant, mainly driven by steep drops in EF, intercourse satisfaction and orgasmic function that remained low up to 6 mo. Sexual desire/overall satisfaction dropped at 6 wk but the overall fluctuation was insignificant compared to baseline. EFE distribution analysis showed stability in most cases with a trend towards relative improvement. Other baseline/ perioperative parameters potentially influencing EF after TURP were also investigated, including patient age, body mass index (BMI), prostate volume, baseline IIEF/EF scores, and capsular perforation. BMI and IIEF/EF scores at baseline were the only predictors of EFE. Patients with higher BMI had a higher probability of deteriorating opposed to patients with higher IIEF/EF scores at baseline. 7/27 patients with no ED at baseline presented with ED and 20/66 with severe ED improved at 12 mo. No variable tested predicted de novo ED appearance. However, in patients with severe ED at baseline, IIEF/EF baseline scores were the only predictors of EF improvement. Higher IIEF/EF scores at baseline predicted a higher chance of improvement.

Pooled data from RCTs with a short-term follow-up have shown a perioperative safety advantage for B-TURP compared with M-TURP (Chapter 3). However, RCTs with follow-up >12 mo are scarce. **Chapter 8 (see 8.2., Publication 103)** presents the short-term (up to 12 mo) and *midterm results (up to 24-36 mo)* of this RCT. Special emphasis was given on US and BNC rates, two potentially devastating complications of TURP typically occurring in the longer term. Midterm results from the first international/multicenter RCT show that the safety/efficacy of B-TURP is similar to M-TURP. The mean follow-up of the 279 treated patients was 28.8 mo. 186 patients (66.7%) completed the 36-mo follow-up. Post-treatment withdrawals did not differ significantly between arms. Primary outcome (safety) assessment was based on 230 patients (82.4%) at 24–36 mo (mean follow-up: 33.4 mo; 34.1 vs. 32.8 mo for M-TURP vs. B-TURP, respectively; $p = 0.077$). The only additional complications to those reported in the perioperative period (Chapter 6) were US and BNC. Ten US cases were seen in each arm

(M-TURP vs. B-TURP: 9.3% vs. 8.2%; $p = 0.959$), and two versus eight BNC cases (M-TURP vs. B-TURP: 1.9% vs. 6.6%; $p = 0.108$) were collectively detected at midterm. No significant differences were detected between arms in the cumulative short- or midterm rates of either complication within centers or in the total population. Modeling of time-to-complication detection data confirmed that resection type was not a predictor of US/BNC risk formation. Efficacy of methods was adequate, similar, and durable. 10/230 patients (4.3%) who completed the midterm follow-up experienced “failure to cure” and needed re-intervention (re-TURP for residual adenoma [$n = 7$], permanent intermittent catheterization [$n = 2$], bladder diverticulectomy [$n = 1$]). No difference was detected in re-intervention rates between arms. Considering all patients who needed re-intervention (including those with US/BNC), the difference remained insignificant (short term: 12/121 [9.9%] vs. 20/135 [14.8%]; $p = 0.320$; midterm: 16/108 [14.8%] vs. 23/122 [18.9%] for M-TURP vs. B-TURP, respectively; $p = 0.523$). High overall re-intervention rates, withdrawal rates, and sample size determination not based on US/BNC rates represent potential limitations of the trial.

Reply to comments received on this manuscript (Chapter 8) is presented in **Chapter 9** (*see 8.2., Publication 104*). Limitations of the evidence are discussed within the general context of the quality of the existing surgical-urolologic trials in several fields, including the surgical management of LUTS secondary to BPO. Potential solutions to improve the validity/ reduce uncertainty on risk of bias in urologic research are put in a future perspective. The value of the introduction of bipolar technology in TURP, in relation to M-TURP, for treating these patients is highlighted in the context of the current best available evidence.

In the general discussion of the thesis (**Part V**), the main findings of the above-mentioned publications are wrapped up together in relation to the existing literature. Evidence and limitations defining the current position of B-TURP in the urological community and some practical considerations for daily practice are discussed such as economic issues, potential application of B-TURP in training and in special patient subpopulations, including those dependent on anticoagulation treatment, with severe comorbidities or “large” adenomas. Last but not least, future perspectives are discussed.

10.2. Publications (PubMed)

1. Mavridis C, Zisis IE, Docea AO, Buga AM, Tsatsakis A, Mamoulakis C. **Reducing contrast-induced nephropathy risk in a murine model: Role of avanafil and vardenafil in modulating oxidant/antioxidant balance. Cureus. 2025 Jun 16;17(6):e86136.**

Introduction: Contrast-induced nephropathy (CIN) is a major clinical problem, particularly under conditions of preexisting renal insufficiency and comorbidities. The present study evaluates the potential of phosphodiesterase type 5 inhibitors (PDE5is), avanafil (AVA), and vardenafil (VAR) to prevent CIN by modulating oxidative stress in a murine model. **Methods:** Two sets of 25 male Wistar rats were allocated into five groups: control, CIN, N-acetylcysteine (NAC), VAR, and AVA. Indomethacin, L-NG-Nitro arginine methyl ester (L-NAME), and iopromide were used to induce CIN. Oxidative stress markers were evaluated, i.e., total antioxidant capacity (TAC), protein carbonyl (PROTC), thiobarbituric acid reactive substances (TBARS), glutathione (GSH), and catalase (CAT) activity. **Results:** In comparison with the control group, TAC, GSH, and CAT activity were reduced, while TBARS and PROTC levels were elevated in the CIN group. Variations in treatment by VAR, AVA, and NAC induced a notable rise in TAC and blood levels of GSH while lowering TBARS in tissue. **Conclusion:** The treatment groups with VAR, AVA, and NAC were noted with higher values of TAC, CAT, and GSH, while lower values of TBARS and PROTC indicated a protective effect against oxidative injury. The findings indicate that VAR and AVA effectively control the oxidant/antioxidant status, preventing oxidative stress and the incidence of CIN. Further research would be required to replicate these findings and identify the therapeutic potential of VAR and AVA in clinical conditions.

2. Bouchalakis A, Paspalaki E, Ortner G, Somani BK, Mamoulakis C, Biyani CS, Tokas T. **Simulation-based training in minimally invasive partial nephrectomy. Cent European J Urol. (Accepted 05/2025).**

Introduction: Minimally-invasive partial nephrectomy (MIPN) is the standard treatment for kidney tumors with a diameter smaller than 4 cm. It is also performed in selected cases of tumors reaching 7 cm, but it may lead to potential complications. We investigated the current literature for simulators that could be used to teach urologists alone or within the boundaries of a course or a curriculum.

Material and methods: We performed a literature search using PubMed (Ovid Medline Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE [R] Daily, and Ovid MEDLINE [R]). Search terms included: simulation, simulation training, education, curricul*, partial nephrectomy, and nephron-sparing surgery. The primary endpoints were the efficacy of different simulators and the impact of different devices, curricula, or courses in training and trainee learning curves. **Results:** We identified 16 studies evaluating simulation with 3D reconstruction, ex vivo, in vivo, synthetic models, and virtual reality simulators. Additionally, we identified one study presenting a training curriculum. The results appeared promising, although currently available studies are scarce. Regardless of the type of simulator, participants stated that, to some degree, their skills were improved and their confidence was elevated.

Conclusions: Simulation-based training can help novice surgeons familiarize themselves with complex procedure steps and reduce learning curves. A specific validated curriculum for this operation still needs to be included. Validating simulators or curricula for MIPN could be essential to enable more urologists to treat patients safely and effectively.

3. Tokas T, Mavridis C, Bouchalakis A, Nakou CM, Mamoulakis C. **Learning Curves in Robotic Urological Oncological Surgery: Has anything changed during the last five years? Cancers (Basel). 2025;17:1334.**

Background: Despite numerous studies assessing LCs in urological surgical oncology, high-quality evidence and a fully structured curriculum are missing. We aimed to systematically search and review the available literature on the LCs of robot-assisted surgery in urological cancers. **Methods:** Medline was systematically searched up to December 2024 to retrieve studies following the Preferred Reporting Items reporting on LC in robot-assisted radical

prostatectomy (RARP), robot-assisted radical cystectomy (RARC), robot-assisted radical and partial nephrectomy (RARN, RAPN), and robot-assisted radical nephroureterectomy (RANU). The results of the last five years were then compared to those of the previous years. **Results:** In total, 82 studies were identified, 47 of which were for prostatectomy, 9 of which were for the last 5 years. Eighteen studies referred to partial-nephrectomy, seven over the previous 5 years. Finally, 16 studies referred to radical cystectomy, 7 over the previous five years. For radical prostatectomy, LC was based on operative time (OT), estimated blood loss (EBL), length of hospital stays, complication rate, positive surgical margin (PSM), biochemical recurrence (BCR), continence, and potency with ranges of 100–400, 90–290, 200, 15–250, 50–300, 30–250, 200–500 and 200–300 cases, respectively. For partial nephrectomy, the LC was based on OT, EBL, length of hospital stay, complication rate, warm ischemia time (WIT), and trifecta, with unclear ranges for the first three categories and 20–50, 26–140, and 50–77 cases, respectively, for the rest. Finally, for radical cystectomy, the LC was based on OT, EBL, length of hospital stay, complication rate, PSM, and lymph node yield, with ranges 20–75, 88, 40–198, 16–100, no difference, and 30–50 cases, respectively. We could not identify any study assessing the LCs in RARN and RANU. **Conclusions:** Robot-assisted surgery does not have a standard definition of LC regardless of the type of operation, which causes heterogeneity between the studies. Nevertheless, LCs appear to be steep and continuous. Training curriculums are essential to optimize outcomes and prepare new surgeons.

4. Mavridis C, Paspalaki E, Tsatsakis A, Mamoulakis C. **The corticotropin-releasing factor family in the urogenital system (Review). Mol Med Rep. 2025;32:195.**

Corticotropin-releasing factor (CRF) is acknowledged for its role in stress responses and hormonal regulation, and it has been identified as a critical factor in the urinary and reproductive systems. CRF is integral to key processes, such as waste elimination, fluid balance, reproductive function and hormonal activity. Notably, dysregulation of CRF signaling is linked to conditions such as urinary

incontinence, chronic bladder pain/interstitial cystitis (IC), benign prostate hyperplasia and cancer. CRF interacts with related molecules, including urocortins (UCNs), CRF receptors (CRFR1 and CRFR2) and CRF binding protein, to influence inflammation, muscle contractions and cancer progression. Furthermore, CRF influences hormone production and sperm development in the testes by affecting Leydig and Sertoli cells. UCN1 and CRFR2 in the prostate are associated with inflammatory responses and the advancement of prostate cancer. In the bladder, CRF modulates urination, with dysfunction linked to an overactive bladder, chronic pain and malignancy. Furthermore, CRF signaling in the kidneys facilitates normal function while potentially playing a role in the development of kidney cancer. These findings highlight the dual function of CRF as a regulator of health and a potential contributor to disease. Comprehending these mechanisms may facilitate the development of innovative therapies for conditions such as IC or prostate disorders, which currently have no effective treatments. The present review promotes further investigation into the various functions of CRF, with the objective of translating findings into novel strategies that enhance patient quality of life.

5. Dey A, Georgiadis G, Umezurike J, Yuan Y, Farag F, N'Dow J, Omar MI, Mamoulakis C. **Reply to: Rong Dai and Changkai Deng's Letter to the Editor re: Anirban Dey, Georgios Georgiadis, Justin Umezurike, et al. Mirabegron Versus Placebo and Other Therapeutic Modalities in the Treatment of Patients with Overactive Bladder Syndrome-A Systematic Review. Eur Urol Focus. In press. <https://doi.org/10.1016/j.euf.2024.09.012>. Eur Urol Focus. 2025;8:S2405-4569(24)00263-3.**

We appreciate that Dai and Deng have read our systematic review (SR) [1] with great enthusiasm and highlighted that it provides useful information on the efficacy of mirabegron in treating overactive bladder (OAB). The authors mention some limitations that we would like to address.

Our SR was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement and

standards in the Cochrane Handbook for Systematic Reviews of Interventions guidelines, which suggest that randomised controlled trial (RCT)-based designs provide the highest certainty of evidence for robust clinical evaluations in terms of safety and effectiveness [2,3]. Almost all Cochrane SRs include evidence from RCTs only. The results were reported at 3 months, as longer-term data were not published for the trials. The issues regarding publication bias apply to all SRs. According to our published protocol (CRD42020200394), vibegron was beyond the scope of our SR. However, we summarise results from the three RCTs that did compare mirabegron with vibegron here, as we think that these would be of interest to readers [4–6].

Kinjo et al [4] randomised 199 postmenopausal women with treatment-naïve OAB to mirabegron (n = 97) or vibegron (n = 102). At 12 wk after treatment, significant improvements in the OAB Symptom Score (OABSS), quality of life index, the numbers of micturition, urgency, and incontinence episodes, and voided volume per 24 h were observed in comparison to baseline in both arms, and there was no difference in the rate of change between the arms. The difference in postvoid residual urine volume (PVR) between the arms was not statistically significant. The rate of discontinuation because of adverse effects was 6.2% in the mirabegron arm and 6.8% in the vibegron arm (not statistically significant).

Wada et al [5] conducted a multicentre, randomised, crossover study of female patients with OAB. Patients were assigned to mirabegron for 8 wk followed by vibegron for 8 wk (MV arm; n = 40) or vibegron for 8 wk followed by mirabegron for 8 wk (VM arm; n = 43). At week 8 and week 16, 33 and 29 in the MV arm, and 34 and 27 in the VM arm, respectively, continued to receive treatment. The change in PVR did not significantly differ between the arms. Changes in OABSS, nighttime frequency, and the mean and maximum voided volume were similar between the arms. The mean change in daytime frequency was greater with vibegron than with mirabegron. Of the 56 patients, 15 (27%) preferred mirabegron and 30 (53%) preferred vibegron. The remaining 11 patients (20%) expressed no preference. The change in urgency incontinence

score with vibegron was better in the patients who preferred vibegron to mirabegron.

Sato et al [6] conducted a 12-wk, parallel-group, open-label RCT to evaluate the efficacy and safety of mirabegron versus vibegron in Japanese female patients with OAB. There was no statistically significant difference between the arms in the mean change in overall OABSS from baseline to the end of treatment. The difference in the percentage of patients who achieved a minimal clinically important change in overall OABSS between the mirabegron and vibegron arms was not statistically significant but appeared to be clinically important. The incidence of treatment-related adverse events was significantly higher for the vibegron arm (38.5% vs 19.1%).

6. Ortner G, Mavridis C, Bouchalakis A, Nakou MC, Yuan Y, Nagele U, Mamoulakis C, Herrmann TRW, Biyani CS, Tokas T, Kailavasan M. **The incidence and classification of intraoperative adverse events in urological surgery: a systematic review. World J Urol. 2025;43:129.**

Purpose: To perform a systematic review (SR) to examine the application of classification systems (CS) used to report intraoperative adverse events (iAEs) in urological surgery and to evaluate the crude incidence and type of iAEs.

Materials and methods: This review was published via PROSPERO (CRD42024549954) and conducted following the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA). MEDLINE, Embase, and the Cochrane CENTRAL were searched using a predefined PICO framework: (P) patients with benign and malignant urological diseases, (I) all types of urological surgery, (C) none/any, (O) intraoperative complications classified with grading systems. Retrospective and prospective studies published between January 2019 and June 2024 were included. **Results:** The search yielded 1,570 abstracts, 1,043 full-text articles were assessed for eligibility, of which 325 studies reported iAEs (54 used iAE-CS, 64 used Clavien-Dindo Classification and 207 used free-text descriptions). Of the 54 studies (15,298 patients) that used an iAE-CS, the three most used systems were the EAUiaiC (54%), SATAVA (26%), and the modified

SATAVA (7%). The overall incidence of iAE was 14% (2,153/15,225 patients). On a study level, the crude incidence of iAE was between 0 and 100% (median 7%, IQR: 3-13%). The misapplication of the Clavien-Dindo system to describe iAEs was high (n = 64 studies). **Conclusions:** The use of iAE-CS is scarce, and there is a lack of universal consensus on a CS to describe iAEs. iAE are poorly reported in urological studies. Urologists should report all perioperative complications to improve transparency and surgical and hospital processes.

7. Dey A, Georgiadis G, Umezurike J, Yuan Y, Farag F, N'Dow J, Omar MI, Mamoulakis C. **Mirabegron versus placebo and other therapeutic modalities in the treatment of patients with overactive bladder syndrome - A systematic review.** *Eur Urol Focus.* Accepted 17/09/24.

Background and objective: The prevalence of overactive bladder (OAB) increases with age. Mirabegron and other drugs are used for the management of patients with OAB. To evaluate mirabegron versus other treatments for overactive bladder syndrome (OAB). **Methods:** This randomised controlled trial (RCT)-based systematic review (CRD42020200394) was conducted following the 2020 Preferred Reporting Items for Systematic Reviews and Meta-analyses statement, with standards reported in the Cochrane Handbook for Systematic Reviews of Interventions. **Key findings and limitations:** We included 28 RCTs (n = 27 481 adults), comparing the following: mirabegron 25 mg versus placebo (n = 8798; six RCTs): significant changes in urgency urinary incontinence (mean difference [MD] -0.41, 95% confidence interval [CI] -0.56 to -0.26), total incontinence (MD -0.47, 95% CI -0.63 to -0.30), and nocturia (MD -0.10, 95% CI -0.17 to -0.02), and mirabegron 50 mg versus placebo (n = 14 933; 12 RCTs): significant changes in urgency urinary incontinence (MD -0.41, 95% CI -0.52 to -0.31), urgency (MD -0.49, 95% CI -0.64 to -0.33), total incontinence (MD -0.44, 95% CI -0.55 to -0.33), favouring mirabegron 25/50 mg; mirabegron 50 mg versus tolterodine 4 mg (n = 8008; five RCTs): significant changes in micturition (MD -0.16, 95% CI -0.31 to -0.02) and overall adverse events (AEs; odds ratio [OR] 0.71, 95% CI 0.59-0.86), favouring mirabegron 50 mg; mirabegron 50 mg versus solifenacin 5 mg (n = 8911; four RCTs): significant changes in voided

volume/micturition in millilitres (MD -7.77, 95% CI -12.93 to -2.61), favouring mirabegron 50 mg; and mirabegron 50 mg versus oxybutynin 73.5 mg (n = 302; one RCT): significant changes in overall AEs (OR 0.02, 95% CI 0.00-0.16), favouring mirabegron 50 mg. **Conclusions and clinical implications:** Mirabegron is effective, safe, and well tolerated. Coadministration with anticholinergics provides an advantageous additive effect without a higher occurrence of side effects. **Patient summary:** Mirabegron is effective, safe, and well tolerated for treating overactive bladder. When used in conjunction with anticholinergic medications, it provides extra benefits without causing more side effects.

8. Mavridis C, Bouchalakis A, Tsagkaraki V, Somani BK, Mamoulakis C, Tokas T. **Recurrent urinary stone formers: imaging assessment and endoscopic treatment strategies: A systematic search and review. J Clin Med. 2024;13:3461.**

Background/Objectives: Nephrolithiasis is a heterogeneous disease with a high prevalence and recurrence rate. Although there has been much progress regarding the surgical treatment of stones, a standardized follow-up, especially in recurrent stone formers (SFs), has yet to be decided. This fact leads to the overuse of computed tomography (CT) scans and many reoperations in patients, thus increasing their morbidity and the financial burden on the health systems. This review systematically searched the literature for original articles regarding imaging strategies and endoscopic treatment for patients with recurrent urolithiasis, aiming to identify optimal strategies to deal with these patients. **Methods:** We systematically searched the Medline database (accessed on 1 April 2024) for articles regarding imaging modalities and endoscopic treatment for patients with recurrent urinary tract lithiasis. **Results:** No specific follow-up or endoscopic treatment strategy exists for patients with recurrent urolithiasis. CT scan was the imaging modality most used in the studies, followed by X-ray, ultrasonography, and digital tomosynthesis. A transparent algorithm could not be identified. Percutaneous nephrolithotomy (PCNL), retrograde intrarenal surgery (RIRS), and ureteroscopy (URS) were used in the studies for endoscopic

treatment. PCNL showed the best stone-free (SFr) rate and lowest hazard ratio (HR) for reoperation. RIRS showed superiority over extracorporeal shockwave lithotripsy for recurrent SFs, but fragments over 4 mm increased the recurrent rate. URS has an increased HR for reoperation for bilateral stones. **Conclusions:** The heterogeneity of urolithiasis leaves urologists without a standardized plan for recurrent SFs. Thus, each patient's follow-up should be planned individually and holistically. Pre-stenting is not to be avoided, especially in high-risk patients, and SFr status needs to be the aim. Finally, CT scans should not be generally overused but should be part of a patient's treatment plan. Prospective studies are required to define SFr status, the size of significant residual fragments, and the modalities of intervention and follow-up.

9. Angeli M, Bitsori M, Schiza SE, Mamoulakis C, Mavridis C, Georgiadis G, Tzatzarakis M, Galanakis E. **Autonomic nervous system dysregulation in children with monosymptomatic nocturnal enuresis. *Acta Paediatr.* 2024; 113:2288-2296.**

Aim: To investigate the role of autonomic nervous system in subpopulations of children with enuresis. **Methods:** We included 35 children with enuresis, divided in children with (17) and without nocturnal polyuria (18) and 43 healthy controls. For all participants hormones and neurotransmitters were measured. Patients and controls wore a sleep tracker device and children with enuresis underwent a 24 h blood pressure monitoring, nocturnal urine output measurement and uroflowmetry. **Results:** Children with enuresis had lower than controls copeptin and aldosterone, with the latter being more prominent in patients without nocturnal polyuria. Dopamine was lower in patients without nocturnal polyuria compared with patients with nocturnal polyuria. Children without polyuria experienced episodes only during NREM sleep, whereas in children with polyuria episodes occurred in both REM and NREM sleep. Children with enuresis experienced a non-dipping phenomenon during sleep which was more prominent in the group without polyuria. **Conclusion:** In patients with nocturnal polyuria, nocturnal enuresis is associated with sympathetic hyperactivity which results in pressure polyuria and significantly lower systolic dipping during sleep. On the

contrary, in children without nocturnal polyuria, it is mostly associated with bladder overactivity due to parasympathetic overstimulation as demonstrated by the NREM-related enuretic episodes and the lower aldosterone and dopamine levels.

10. Genc S, Cicek B, Yeni Y, Kuzucu M, Hacimuftuoglu A, Bolat I, Yildirim S, Zaker H, Zachariou A, Sofikitis N, Mamoulakis C, Tsatsakis A, Taghizadehghalehjoughi A. **Morinda citrifolia protective effects on paclitaxel-induced testis parenchyma toxicity: An experimental study. Reprod Toxicol. 2024;127:108611.**

The current study aimed to investigate the sensitivity of male testis parenchyma cells to chemotherapy agents and the protective effects and mechanisms of *Morinda citrifolia* (Noni) administration against structural and functional changes before and after chemotherapy (Paclitaxel (PTX)). For this purpose, rats were randomly assigned into four groups (Control = G1, PTX 5 mg/kg = G2; PTX + Noni 10 mg/kg = G3, PTX + Noni 20 mg/kg = G4). PTX was injected intraperitoneally for 4 consecutive weeks, at a dose of 5 mg/kg to all groups except the control group. Then noni was administrated in 10 (G3) and 20 (G4) mg/kg groups orally (gavage) for 14 days. Biochemical analyses, Real-Time Polymerase Chain Reaction (PCR), and immunohistochemical analyses were performed. According to our results, Total Oxidative Stress (TOS) and Malondialdehyde (MDA) were significantly increased in the PTX group ($P < 0.01$). Superoxide Dismutase (SOD) enzyme activity and Total Antioxidant Capacity (TAC) levels were decreased ($P < 0.01$). The changes in the rats treated with PTX + Noni 20 mg/kg were noteworthy. The increased levels of IL1- β (Interleukin 1 beta) and TNF α (tumor necrosis factor-alpha) with PTX were down-regulated after treatment with PTX + Noni 20 mg/kg ($P < 0.01$) (9 % and 5 % respectively). In addition, Noni restored the testicular histopathological structure by reducing caspase-3 expression and significantly (61 %) suppressed oxidative DNA damage and apoptosis (by regulating the Bax (bcl-2-like protein 4)/Bcl-2 (B-cell lymphoma gene-2) ratio). In conclusion, Noni reduced cellular apoptosis and drastically changed Caspase 8 and Bax/Bcl-2 levels. Furthermore,

it considerably decreases oxidative damage and can be used in testicular degeneration.

11. Ioannidis A, Mavridis C, Anagnostakis G, Tsoumi G, Karakostas S, Xylouri I, Drakos E, Mamoulakis C. **Disseminated cryptococcosis with prostate involvement in a patient with T-cell prolymphocytic leukemia and prostate cancer. Cureus. 2024;16:e61555.**

T-cell prolymphocytic leukemia (T-PLL) presents unique treatment challenges because of its rarity and aggressiveness. Allogeneic hematopoietic stem cell transplantation offers a potentially curative option, but its safety in patients with concurrent invasive fungal infections and solid malignancies remains uncertain. We present a case of a 68-year-old male with T-PLL who developed disseminated cryptococcal disease with prostate involvement and concurrent prostate cancer (PCa). Despite the challenges, successful control of the infection and radical prostatectomy enabled the patient to proceed safely to allogeneic transplantation. The case highlights the importance of vigilance for unusual infections, such as *Cryptococcus*, in immunocompromised patients presenting with lower urinary tract symptoms. Clinicians should consider the possibility of PCa in this population, particularly in the context of chronic leukemia. Concurrently, the potential association between fungal prostate infections and PCa warrants further investigation.

12. Gkatzoudi C, Bouloukaki I, Mamoulakis C, Lionis C, Tsiligianni I. **Evaluation of lower urinary tract symptoms in males and urinary incontinence in females in primary health care in Greece. Medicina (Kaunas). 2024;60:389.**

Background and Objectives: The significant prevalence of Lower Urinary Tract Symptoms (LUTS), erectile dysfunction (ED), and associated adverse effects calls for increased attention in primary care settings. In Greece, there is a lack of sufficient data for LUTS and ED screening in primary care. Therefore, the aim of our study was to estimate the prevalence of LUTS and ED, identify associated risk factors, and evaluate their impact on quality of life among adult primary healthcare users aged 40 years and older in Crete, Greece. **Materials and Methods:** A cross-sectional study

was conducted to explore the prevalence of LUTS and ED in 1746 primary health care users visiting rural primary health care practices in Crete, Greece. Participants underwent a comprehensive evaluation including demographic parameters, screening for LUTS utilizing the validated International Prostate Symptoms Score (IPSS) questionnaire and for ED using the International Index of Erectile Function (IIEF-5), in males, and for urinary incontinence in women with the International Consultation on Incontinence Questionnaire–Urinary Incontinence Short Form (ICIQ–UI SF). Participants with a prior diagnosis of LUTS or ED were excluded (n = 183). **Results:** Out of 536 participants finally included (n = 1746 screened), 32% of males and 36% of females exhibited moderate to severe LUTS. Following adjustments, we identified advanced age, retirement, and the presence of diabetes type 2 as factors associated with the occurrence of LUTS in men. Patients with LUTS also had a substantially increased likelihood of experiencing ED. Moreover, it was observed that women with hypertension or diabetes type 2 and lower education levels face an increased likelihood of developing LUTS, which adversely affects their quality of life. **Conclusions:** In conclusion, the findings of this study reveal a high occurrence of LUTS and ED in adults aged 40 years and older who utilize primary healthcare services, with a negative impact on their quality of life.

13. Ortner G, Mavridis C, Fritz V, Schachtner J, Mamoulakis C, Nagele U, Tokas T.

The added value of MRI-based targeted biopsy in biopsy naïve patients: a propensity-score matched comparison. J Clin Med. 2024;13:1355.

Background: Multiparametric Magnetic Resonance Imaging (mpMRI)-based targeted biopsy has shown a benefit in detecting clinically significant Prostate Cancer (csPCa) and avoiding diagnosis of non-csPCa (ncsPCa), yet its role in biopsy-naïve patients is still under discussion. **Methods:** After identifying predictors for the diagnosis of csPCa via multivariate logistic regression analysis (MLRA), a propensity-score (1:1 nearest-neighbor) matched comparison was performed between a systematic-only biopsy (SOB) cohort and a mpMRI based combined (systematic + targeted) biopsy (CB) cohort of two tertiary urologic centers (SOB: Department of Urology, University General Hospital of Heraklion, University of Crete, School of Medicine, Heraklion, Crete, Greece; CB: LKH Hall in Tirol, Austria). Only biopsy

naïve patients were included in the study. The study period for included patients was from February 2018 till July 2023 for the SOB and from July 2017 till June 2023 for the CB group. The primary outcome was the diagnosis of csPCa ($\geq$ ISUP 2); secondary outcomes were overall cancer detection, the added value of targeted biopsy in csPCa detection, and the reduction in ncsPCa diagnosis with CB compared to SOB. To estimate the average treatment effect in the Treated (ATT), cluster-robust standard errors were used to perform g-computation in the matched sample. P-values < 0.05 with a two-sided 95%-confidence interval were considered statistically significant.

Results: Matching achieved well-balanced groups (each $n=140$ for CB and SOB). With CB, 65/140 (46.4%) of patients were diagnosed with csPCa compared to 44/140 (31.4%) with SOB (RR 1.48, 95%-CI: 1.09-2.0, $p=0.01$). For CB, 4.3% (6/140) and 1.4% (2/140) of csPCa were detected with targeted-only and systematic-only biopsy cores, respectively. With CB, 22/140 (15.7%) patients were diagnosed with ncsPCa compared to 33/140 (23.6%) with SOB (RR=0.67, 95% CI: 0.41-1.08, $p=0.1$). When comparing SOB to CB (ATT), the marginal OR was 0.56 (95% CI: 0.38-0.82, $p=0.003$) for the diagnosis of csPCa and 0.75 (95% CI: 0.47-1.05, $p=0.085$) for the diagnosis of overall cancer ($\geq$ ISUP 1). **Conclusion:** The CB approach was superior to the SOB approach in detecting csPCa, while no additional detection of ncsPCa was seen. Our results support the application of mpMRI in biopsy-naïve patients with suspiciousness for prostate cancer.

14. Zachariou A, Zikopoulos A, Sapouna V, Skentou C, Kaltsas A, Giannakis I, Zachariou D, Dimitriadis F, Mamoulakis C; Mai DBT, Phuoc NHV, Takenaka A, Sofikitis N. **Supervised pelvic floor muscle training improves sexual function and diminishes sexual distress in women with relapsing–remitting multiple sclerosis: A randomised controlled study.** *J Pers Med.* 2024;14:88.

This study investigates the impact of pelvic floor muscle training (PFMT) on sexual function and distress in women with multiple sclerosis (MS), a prevalent chronic nervous system disorder associated with sexual dysfunction. This study's primary aim was to assess the effectiveness of PFMT at improving sexual function and alleviating sexual distress in this population. In a randomised controlled trial, 82 women with MS were divided into two groups: Group A (41 women) underwent 12 weeks of

PFMT, while Group B (41 women) served as a control group with no intervention. Both groups were assessed at the beginning and end of this study using the Female Sexual Function Index (FSFI) and Female Sexual Distress Scale-Revised (FSDS-R). Statistical analysis, including Chi-square tests, was employed to compare the outcomes between the two groups, with a *p*-value of less than 0.05 considered significant. The results revealed no significant differences in baseline sexual function and distress between the groups. However, at the conclusion of the 12-week period, Group A exhibited statistically significant improvements in nearly all domains of FSFI and FSDS-R compared to Group B, except in the pain domain. This study concludes that PFMT can effectively enhance sexual function and reduce sexual distress in women suffering from MS. These findings underscore the potential of PFMT as a therapeutic intervention in managing sexual dysfunction associated with MS.

15. Bouchalakis A, Somani BK, Lima E, Rassweiler-Seyfried MC, Mamoulakis C, Tokas T. **Navigation systems and 3D imaging in percutaneous nephrolithotripsy: improving outcomes and safety.** *Curr Opin Urol.* 2024;34:105-109.

Purpose of review: Percutaneous nephrolithotripsy (PCNL) is the first-line management option for large kidney stones (>2 cm). It remains, however, a demanding procedure with considerable morbidity. The present narrative review summarizes recent knowledge from original research studies investigating navigation systems/three-dimensional (3D) imaging in PCNL, particularly on publications during the past 12-18 months. **Recent findings:** Navigation systems and 3D imaging are primarily used for preoperative planning, with few intra-operative applications. Patient management and residents' training could benefit from their use. **Summary:** Navigation systems and 3D imaging technology have emerged as a potential game-changer in PCNL. Even though available evidence is currently scarce/inconclusive, the safety/efficacy of navigation systems and 3D dimensional imaging use in PCNL appears promising. This advanced technology offers precise anatomical mapping, improved visualization, and surgical accuracy. Enabling a comprehensive preoperative evaluation and improving guidance, navigation systems, and 3D

imaging technology may improve the safety and efficacy of PCNL. With continuous technological evolution, it is expected that improvements/innovations will offer further aid in such demanding procedures. Familiarization and cost reduction are necessary for widespread application, while larger-scale prospective studies and well designed randomized controlled trials are still needed.

16. Gravas S, Malde S, Cornu JN, Gacci M, Gratzke C, Herrmann TRW, Karavitakis M, Mamoulakis C, Rieken M, Sakalis VI, Schouten N, Smith EJ, Speakman MJ, Tikkinen KAO, Alivizatos G, Bach T, Bachmann A, Descazeaud A, Desgrandchamps F, Drake M, Emberton M, Kyriazis I, Madersbacher S, Michel MC, N'Dow J, Perachino M, Plass K, Rioja Sanz C, Umbach R, de Wildt M, Oelke M, de la Rosette JJMCH. **From BPH to male LUTS: a 20-year journey of the EAU guidelines. Prostate Cancer Prostatic Dis. 2024;27:48-53.**

The European Association of Urology (EAU) aims to promote the highest standards of urological care throughout Europe. Fundamental to achieving this aim has been the development of evidence-based clinical practice guidelines. These guidelines are intended to improve quality of care, decrease variation in clinical practice and improve patient safety, as well as empowering patients to make informed health choices. Hence the guidelines may be instrumental in influencing healthcare policy. These guidelines are widely perceived to be amongst the most important publications the EAU produce, and adherence to EAU guidelines has been shown to result in improved patient outcomes. Previous studies have shown that adherence to guidelines for Benign Prostatic Hyperplasia (BPH) are poor, with less than 60% of men undergoing basic guideline-recommended investigations in one large study. Guidelines can never replace clinical expertise when making treatment decisions for individual patients, but rather help to focus decisions -also taking personal values and preferences/individual circumstances of patients into account. Guidelines are not mandates and do not purport to be a legal standard of care, although appropriate interpretation and application of guidelines is likely to lead to a safer medicolegal strategy than deviation from these evidence-based recommendations. The first EAU Guideline on BPH was published in 2001 and over the years has been adapted considerably with regard to its concept and philosophy. It has changed from a

guideline on BPH to non-neurogenic male lower urinary tract symptoms (LUTS), thereby highlighting the importance of looking beyond the prostate when trying to assess the underlying functional basis of a patient's symptoms. Changes related to methodology and content have ensured that the breadth of conditions leading to male LUTS are included and that guideline recommendations are based upon the highest quality evidence, incorporating patients' perspectives, values and preferences. This paper discusses these changes and highlights the evolution of the guideline over the past 20 years.

17. Mavridis C, Venihaki M, Dermitzaki E, Deiktakis M, Liapakis G, Mamoulakis C. **mRNA expression of CRF family members in urothelial bladder cancer. *Oncol Lett. Oncol Lett.* 27:13, 2023.**

The corticotropin-releasing factor (CRF) gene family includes the three urocortins (UCN1, 2 and 3) and the two receptors (CRFR1 and 2), which play a significant role in the physiology of various organs. The expression of the CRF family of genes and its receptors are shown to participate in the pathogenesis of inflammation and even tumorigenesis. However, data regarding the human urinary tract, especially the bladder, are scarce. To the best of our knowledge, no studies are currently available on the CRF system and bladder cancer. The primary goal of the present study was to investigate the mRNA expression of the CRF family members in bladder cancer. The secondary aim was to analyze the differences with the expression of the same mRNAs in normal bladders. From August 2018 to July 2021, 43 recruited patients were divided into three groups. Group A included healthy patients, group B included patients with bladder cancer and group C included patients with a history of cancer from whom samples were taken from the normal bladder mucosa. Detection of mRNA of the CRF family of genes was performed using reverse transcription-quantitative PCR. The mRNA of the three urocortins, CRF and the two receptors were predominantly expressed in all three groups of patients. Statistical analysis using the Kruskal-Wallis test showed that UCN1 was downregulated in patients with bladder cancer and those with possible cancer compared with the healthy group (mean rank group A = 24.3 vs. mean rank group B = 12.58; $P = 0.006$) and (mean rank group A = 24.3 vs. mean rank group C = 8.88; $P = 0.001$). The present

experiments showed that mRNA of the CRF family of genes was amplified in normal and cancer bladder tissues. Downregulation of the UCN1 gene may be associated with bladder cancer, contributing to the prognosis, diagnosis or therapy of urothelial malignancies.

18. Ryabova YV, Minigalieva IA, Sutunkova MP, Klinova SV, Tsaplina AK, Valamina IE, Petrunina EM, Tsatsakis AM, Mamoulakis C, Stylianou K, Kuzmin SV, Privalova LI, Katsnelson BA. Toxic kidney damage in rats following subchronic intraperitoneal exposure to element oxide nanoparticles. Toxics. 2023;11:791.

Chronic diseases of the urogenital tract such as bladder cancer, prostate cancer, reproductive disorders and nephropathies can develop under effect of chemical hazards in the working environment. In this respect, nano-sized particles generated as by-products in many industrial processes seem to be particularly dangerous to organs such as the testes and the kidneys. Nephrotoxicity of element oxide particles has been studied in animal experiments with repeated intraperitoneal 25 injections of Al₂O₃, TiO₂, SiO₂, PbO, CdO, CuO and SeO nanoparticles (NPs) in total doses ranging from 4.5 to 45 mg/kg body weight of rats. NPs were synthesized by laser ablation. After cessation of exposure, we measured kidney weight and analyzed selected biochemical parameters in blood and urine characterizing the state of the excretory system. We also examined histological sections of kidneys and estimated proportions of different cells in imprint smears of this organ. All element oxide NPs under investigation demonstrated a nephrotoxic effect following subchronic exposure. Following the exposure to SeO and SiO₂ NPs we observed a decrease in serum creatinine and urea, respectively. Exposure to Al₂O₃ NPs caused an increase in urinary creatinine and urea while changes in total protein were controversial as it increased under effect of Al₂O₃ NPs and reduced after exposure to CuO NPs). Histomorphological changes in kidneys are associated with desquamation of the epithelium (following the exposure to all NPs except those of Al₂O₃ and SiO₂) and loss of the brush border (following the exposure to all NPs except those of Al₂O₃, TiO₂ and SiO₂). Cytomorphological evaluation showed greater destruction of proximal sections of renal tubules. Compared to the controls, we observed

statistically significant alterations in 42.1 % (8 of 19) of parameters following the exposure to PbO, CuO and SeO NPs, in 21.1 % (4 of 19)—following that to CdO and Al₂O₃ NPs, and in 15.8 % (3 of 19) and 10.5 % (2 of 19) of indicators following the exposures to TiO₂ and SiO₂ nanoparticles, respectively. Histomorphological changes in kidneys are associated with desquamation of epithelium and loss of the brush border. Cytomorphological evaluation showed greater destruction of proximal sections of renal tubules. The severity of cyto- and histological structural changes in kidneys depends on the chemical nature of NPs. These alterations are not always consistent with biochemical ones, thus impeding early clinical diagnosis of renal damage. Unambiguous ranking of the NPs examined by the degree of their nephrotoxicity is difficult. Additional studies are necessary to establish key indicators of the nephrotoxic effect, which can facilitate early diagnosis of occupational and non-occupational nephropathies.

19. Dey A, Mamoulakis C, Hasan N, Yuan Y, Shakil A, Omar MI. Emerging technologies for the surgical management of lower urinary tract symptoms secondary to benign prostatic obstruction. A systematic review. Eur Urol Focus. 2024 May;10(3):400-409.

Context: Surgical management of LUTS/BPO aims at ablating prostate adenoma by resection, enucleation or vaporisation. Apart from established ablation modes according to the EAU guidelines, various technologies have emerged as safe/effective alternatives but remain under investigation. **Objective:** To explore short-term benefits/harms of emerging technologies for surgical management of LUTS/BPO. **Evidence acquisition:** A systematic literature search was conducted using MEDLINE, EMBASE, CENTRAL via Ovid up to 18 June 2022. We included RCTs exploring aquablation; prostatic arterial embolization (PAE); Rezum; prostatic urethral lift (PUL); temporary implantable nitinol device (iTIND) vs Sham/TURP. **Evidence synthesis:** We included 10 RCTs (1108 men). Aquablation vs TURP: insignificant change in IPSS (MD 0.0, 95%CI -2.44 to 2.44), QoL (MD 0.30, 95%CI -0.81 to 0.21), Qmax (MD -0.30, 95%CI -3.71 to 3.11), retreatment (RR 0.18, 95%CI 0.02 to 1.66), urinary incontinence (UI) (RR 0.71, 95%CI 0.26 to 1.95). PAE vs M-TURP: insignificant change in IPSS (MD 3.33, 95%CI -28.39 to 35.05), QoL (MD

0.12, 95%CI -0.30 to 0.54), IIEF-5 (MD 3.07, 95%CI -1.78 to 7.92), UI (RR 0.15, 95%CI 0.01 to 2.86) - significant change in Qmax (MD - 9.52, 95%CI -14.04 to - 5.0), favouring M-TURP. PAE vs B-TURP: insignificant change in IPSS (MD -2.80, 95%CI -6.61 to 1.01), QoL (MD -0.69, 95%CI -1.46 to 0.08), Qmax (MD -3.51, 95%CI -8.08 to 1.06), UI (RR 0.14, 95%CI 0.01 to 2.51), retreatment (RR 1.91, 95%CI 0.19 to 19.63). PUL vs TURP: insignificant change in QoL (MD 0.40, 95%CI -0.29 to 1.09), UI (RR 0.13, 95%CI 0.02 to 1.05), retreatment (RR 0.48, 95%CI 0.12 to 1.86) - significant change in IPSS (MD 3.40, 95%CI 0.22 to 6.58), IIEF-5 (MD 3.00, 95%CI 0.41 to 5.59)/ Qmax (MD -9.60, 95%CI -13.44 to -5.76), favouring PUL/TURP, respectively. Rezum and iTIND have not been evaluated in RCTs against TURP to date. **Conclusion:** Supporting evidence for clinical use of aquablation, PAE, PUL, Rezum, and iTIND is very limited. Benefits/harms should be further investigated in high-quality RCTs.

20. Kaltsas A, Markou E, Zachariou A, Dimitriadis F, Symeonidis EN, Zikopoulos A, Mamoulakis C, DMB Tien, Takenaka A, Sofikitis N. **Evaluating the predictive value of diagnostic testicular biopsy for sperm retrieval outcomes in men with non-obstructive azoospermia.** *J Pers Med.* **2023;13(9):1362.**

Background: Non-obstructive azoospermia (NOA) presents a challenge in male infertility management. This study aimed to assess the efficacy of diagnostic testicular biopsy (DTB) in predicting sperm retrieval success via therapeutic testicular biopsy (TTB) and to understand the role of systemic inflammation in microdissection testicular sperm extraction (mTESE) outcomes. **Methods:** A retrospective analysis was conducted on 50 NOA males who underwent mTESE at the University of Ioannina's Department of Urology from January 2017 to December 2019. All participants underwent thorough medical evaluations, including semen analyses and endocrinological assessments. **Results:** DTB did not detect spermatozoa in half of the patients who later showed positive sperm findings in TTB. Preoperative variables, such as age, plasma levels of follicle-stimulating hormone (FSH), luteinizing hormone (LH), total testosterone (TT), prolactin (PRL), estradiol (E2), and inflammation biomarkers (neutrophil-lymphocyte ratio (NLR), platelet-lymphocyte ratio (PLR), monocyte-eosinophil ratio (MER)), were not consistently

predictive of sperm retrieval success. Notably, TTB-negative patients had elevated NLR and PLR values, suggesting a possible link between systemic inflammation and reduced sperm retrieval during mTESE. **Conclusions:** The findings question the necessity of an initial DTB, which might provide misleading results. A negative DTB should not deter further TTB or intracytoplasmic sperm injection (ICSI) attempts. The study emphasizes the need for further research to refine diagnostic approaches and deepen the understanding of factors influencing sperm retrieval in NOA patients, ultimately enhancing their prospects of biological parenthood.

21. Syed S, Qasim S, Ejaz M, Sammar, Khan N, Ali H, Zaker H, Hatzidaki E, Mamoulakis C, Tsatsakis A, Shah STA, Amir S. Effects of dichlorodiphenyltrichloroethane on female reproductive tract leading to infertility and cancer: Systematic search and review. Toxics. 2023;11: 725.

Persistent Organic Pollutants (POPs) such as dichlorodimethyltrichloroethane (DDT) are present and ubiquitous in the environment due to their resilient nature. DDT is a prevalent endocrine disruptor still found in detectable amounts in organisms and the environment even after its use was banned in the 1970s. Medline and Google Scholar were systematically searched to detect all relevant animal and human studies published in the last 20 years (January 2003 to February 2023) in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. In total, 38 studies were included for qualitative synthesis. This systematic search and review indicated that exposure to DDT is associated with female reproductive health issues, such as reduced fecundability; increased risk of preterm/premature deliveries; increased periods of gestation; alterations in the synthesis of crucial reproductive hormones (Progesterone and Oxytocin) through ion imbalances and changes in prostaglandin synthesis, myometrial and stromal hypertrophy, and edema; and variations in uterine contractions through increased uterine wet weight. There was also limited evidence indicating DDT is a carcinogen sufficient to instigate reproductive cancers. However, this review only takes into account the in vitro studies that have established a possible pathway to understand how DDT impacts female infertility and leads to reproductive cancers. Links between the pathways described in various studies have been developed in this review to

produce a summarized picture of how one event might lead to another. Additionally, epidemiological studies that specifically targeted the exposure to DDT of females belonging to various ethnicities have been reviewed to develop an overall picture of prevailing female reproductive health concerns in different nations.

22. Zachos I, Vlachostergios P, Mitrakas L, Karatzas A, Oeconomou A, Mamoulakis C, Tzortzis V. Radiofrequency-assisted, laparoscopic, clampless partial nephrectomy in patients with low-complexity small renal tumors: A retrospective cohort study. Urol Ann. 2023;15:315-319.

Background: This single-center, retrospective study was performed to investigate the safety and efficacy of radiofrequency-assisted (RF), laparoscopic partial nephrectomy (PN) with zero ischemia in patients with low-complexity small renal tumors. **Materials and methods:** Patients with small renal masses (SRMs) who underwent laparoscopic, clampless laparoscopic partial nephrectomy - radiofrequency assisted (LPN-RFA) between January 2016 and June 2020 were studied. Demographics, clinical and pathological characteristics, recurrence-free survival, and overall survival were recorded. **Results:** Fifty-two SRMs were excised from corresponding patients using RFA-LPN. The median tumor size was 2.5 cm and all specimens involved low-complexity masses according to the renal nephrometry score. No conversions to radical nephrectomy were recorded. Postoperatively, there were one patient with fever, one with hematuria, and two with urinary leakage treated endoscopically. The majority of tumors (48/52, 86.2%) were clear-cell carcinomas. According to the glomerular filtration rate postoperatively and 12 months' posttreatment, adequate renal function was preserved in all patients. There were no positive surgical margins identified postoperatively and no recurrences during a median follow-up 24 months. All patients were alive at the last follow-up. **Conclusions:** This study suggests that RFA laparoscopic clampless PN represents an effective method for managing patients with low-complexity SRMs. It offers adequate intraoperative safety and excellent mid-term oncological control and functional preservation.

- 23.** Gravas S, Gacci M, Gratzke C, Herrmann TRW, Karavitakis M, Kyriazis I, Malde S, Mamoulakis C, Rieken M, Sakalis VI, Schouten N, Speakman MJ, Tikkinen KAO, Cornu JN. **Summary paper on the 2023 European Association of Urology Guidelines on the management of non-neurogenic male lower urinary tract symptoms. Eur Urol. 2023;84:207-222.**

Context: Lower urinary tract symptoms (LUTS) are common, often bothersome, and have multifactorial aetiology. **Objective:** To present a summary of the 2023 version of the European Association of Urology guidelines on the management of male LUTS. **Evidence acquisition:** A structured literature search from 1966 to 2021 selected the articles with the highest certainty evidence. The Delphi technique consensus approach was used to develop the recommendations. **Evidence synthesis:** The assessment of men with LUTS should be practical. A careful medical history and physical examination are essential. Validated symptom scores, urine test, uroflowmetry, and postvoid urine residual, as well as frequency-volume charts for patients with nocturia or predominately storage symptoms should be used. Prostate-specific antigen should be ordered if a diagnosis of prostate cancer changes the treatment plan. Urodynamics should be performed for selected patients. Men with mild symptoms are candidates for watchful waiting. Behavioural modification should be offered to men with LUTS prior to, or concurrent with, treatment. The choice of medical treatment depends on the assessment findings, predominant type of symptoms, ability of the treatment to change the findings, and the expectations to be met in terms of the speed of onset, efficacy, side effects, and disease progression. Surgery is reserved for men with absolute indications, and for patients who fail or prefer not to receive medical therapy. Surgical management has been divided into five sections: resection, enucleation, vaporisation, and alternative ablative and nonablative techniques. The choice of surgical technique depends on patient's characteristics, expectations, and preferences; surgeon's expertise; and availability of modalities. **Conclusions:** The guidelines provide an evidence-based approach for the management of male LUTS. **Patient summary:** A clinical assessment should identify the cause(s) of symptoms and define the clinical profile and patient's

expectations. The treatment should aim to ameliorate symptoms and reduce the risk of complications.

- 24. Mavridis C, Lagoudaki E, Georgiadis G, Bouchalakis A, Mamoulakis C. Retroperitoneal hemorrhage due to spontaneous renal rupture as the first presentation of antiphospholipid syndrome: A case report. Cureus. 2023;15(3): e36839.**

Spontaneous renal rupture (SRR) with retroperitoneal hemorrhage is an extremely rare medical emergency and is rather challenging for the surgical team. Management of SRR often requires surgical intervention and nephrectomy as it is life-threatening. Antiphospholipid syndrome (APLS) is an autoimmune disease that affects several organs, including kidneys, causing significant abnormalities. Current data suggest that APLS can result in renal artery stenosis, renal vein thrombosis, arterial hypertension, thrombotic microangiopathy, and antiphospholipid syndrome nephropathy where there is renal involvement. Here, we report the case of a 49-year-old man who presented to the Emergency Department with sudden-onset abdominal pain in the context of retroperitoneal bleeding due to SRR. The patient developed hemodynamic instability and underwent a total nephrectomy. The surgical specimen revealed APLS-related lesions. Serological tests confirmed the diagnosis of APLS, which was managed with acenocoumarol and hydroxychloroquine. Since then, he has not experienced any thromboembolic or hemorrhagic episodes. This article aims to present for the first time a case of SRR as the first presentation of APLS as well as to analyze the possible associated mechanisms.

- 25. Kalogeraki A, Tamiolakis D, Mamoulakis C. Urine cytology and axillary testing for interpretation and follow-up of utinary tumors. Acta Clin Croat 2022;61:505-510.**

Microscopic appearance of cells in urine cytological samples is the formal diagnostic approach adjunct to cystoscopy for the detection and follow-up of urinary tumors. However, cystoscopy is a surgical method and cytology may miss low-grade papillary tumors. Several assays and markers have been developed to assist in this. When combined with conventional cytology, uro-onco-logical diagnostic

performance is improved. We review the value of these non-invasive modalities in comparison with urine cytomorphology in the work-up of urothelial malignancies.

26. Johnson EE, Mamoulakis C, Stroniute A, Omar MI, Sinha S. Conservative interventions for managing urinary incontinence after prostate surgery. Cochrane Database Syst Rev. 2023;4:CD014799.

Background: Men may need to undergo prostate surgery to treat prostate cancer or benign prostatic hyperplasia. After these surgeries, men may experience urinary incontinence (UI). Conservative treatments such as pelvic floor muscle training (PFMT), electrical stimulation and lifestyle changes can be undertaken to help manage the symptoms of UI. **Objectives:** To assess the effects of conservative interventions for managing urinary incontinence after prostate surgery. **Search methods:** We searched the Cochrane Incontinence Specialised Register, which contains trials identified from the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, MEDLINE In-Process, MEDLINE Epub Ahead of Print, ClinicalTrials.gov, WHO ICTRP and handsearched journals and conference proceedings (searched 22 April 2022). We also searched the reference lists of relevant articles. **Selection criteria:** We included randomised controlled trials (RCTs) and quasi-RCTs of adult men (aged 18 or over) with UI following prostate surgery for treating prostate cancer or LUTS/BPO. We excluded cross-over and cluster-RCTs. We investigated the following key comparisons: PFMT plus biofeedback versus no treatment; sham treatment or verbal/written instructions; combinations of conservative treatments versus no treatment, sham treatment or verbal/written instructions; and electrical or magnetic stimulation versus no treatment, sham treatment or verbal/written instructions. **Data collection and analysis:** We extracted data using a pre-piloted form and assessed risk of bias using the Cochrane risk of bias tool. We used the GRADE approach to assess the certainty of outcomes and comparisons included in the summary of findings tables. We used an adapted version of GRADE to assess certainty in results where there was no single effect measurement available. **Main results:** We identified 25 studies including a total of 3079 participants. Twenty-three studies assessed men who had previously undergone radical prostatectomy or radical retropubic prostatectomy, while only one study

assessed men who had undergone transurethral resection of the prostate. One study did not report on previous surgery. Most studies were at high risk of bias for at least one domain. The certainty of evidence assessed using GRADE was mixed. PFMT plus biofeedback versus no treatment, sham treatment or verbal/written instructions Four studies reported on this comparison. PFMT plus biofeedback may result in greater subjective cure of incontinence from 6 to 12 months (1 study; n = 102; low-certainty evidence). However, men undertaking PFMT and biofeedback may be less likely to be objectively cured at from 6 to 12 months (2 studies; n = 269; low-certainty evidence). It is uncertain whether undertaking PFMT and biofeedback has an effect on surface or skin-related adverse events (1 study; n = 205; very low-certainty evidence) or muscle-related adverse events (1 study; n = 205; very low-certainty evidence). Condition-specific quality of life, participant adherence to the intervention and general quality of life were not reported by any study for this comparison. Combinations of conservative treatments versus no treatment, sham treatment or verbal/written instructions Eleven studies assessed this comparison. Combinations of conservative treatments may lead to little difference in the number of men being subjectively cured or improved of incontinence between 6 and 12 months (RR 0.97, 95% CI 0.79 to 1.19; 2 studies; n = 788; low-certainty evidence; in absolute terms: no treatment or sham arm: 307 per 1000 and intervention arm: 297 per 1000). Combinations of conservative treatments probably lead to little difference in condition-specific quality of life (MD -0.28, 95% CI -0.86 to 0.29; 2 studies; n = 788; moderate-certainty evidence) and probably little difference in general quality of life between 6 and 12 months (MD -0.01, 95% CI -0.04 to 0.02; 2 studies; n = 742; moderate-certainty evidence). There is little difference between combinations of conservative treatments and control in terms of objective cure or improvement of incontinence between 6 and 12 months (MD 0.18, 95% CI -0.24 to 0.60; 2 studies; n = 565; high-certainty evidence). However, it is uncertain whether participant adherence to the intervention between 6 and 12 months is increased for those undertaking combinations of conservative treatments (RR 2.08, 95% CI 0.78 to 5.56; 2 studies; n = 763; very low-certainty evidence; in absolute terms: no intervention or sham arm: 172 per 1000 and intervention arm: 358 per 1000). There is probably no

difference between combinations and control in terms of the number of men experiencing surface or skin-related adverse events (2 studies; n = 853; moderate-certainty evidence), but it is uncertain whether combinations of treatments lead to more men experiencing muscle-related adverse events (RR 2.92, 95% CI 0.31 to 27.41; 2 studies; n = 136; very low-certainty evidence; in absolute terms: 0 per 1000 for both arms). Electrical or magnetic stimulation versus no treatment, sham treatment or verbal/written instructions We did not identify any studies for this comparison that reported on our key outcomes of interest. **Authors' conclusions:** Despite a total of 25 trials, the value of conservative interventions for urinary incontinence following prostate surgery alone, or in combination, remains uncertain. Existing trials are typically small with methodological flaws. These issues are compounded by a lack of standardisation of the PFMT technique and marked variations in protocol concerning combinations of conservative treatments. Adverse events following conservative treatment are often poorly documented and incompletely described. Hence, there is a need for large, high-quality, adequately powered, randomised control trials with robust methodology to address this subject.

27. Topal I, Özdamar MY, Catakli T, Malkoc I, Hacimuftuoglu A, Mamoulakis C, Tsatsakis A, Tsarouhas K, Tsitsimpikou C, Taghizadehghalehjoughi A.

Renoprotective effect of taxifolin in paracetamol-induced nephrotoxicity: Emerging evidence from an animal model. J Clin Med. 2023;12:876.

Background: Taxifolin (TXF) is a flavonoid found abundantly in citrus/onion. Encouraging results on its renoprotective effect have been reported in a limited number of drug-induced nephrotoxicity animal models. The present study aimed to evaluate for the first time the potential renoprotective effects of TXF in a paracetamol (PAR)-induced nephrotoxicity rat model. **Methods:** Rats were divided into three equal groups (n = 6 animals per group). Group 1 (PAR group, PARG) received PAR diluted in normal saline by gavage (1000 mg/kg). Group 2 (TXF group, TXFG) received TXF diluted in normal saline by gavage (50 mg/kg) one hour after PAR administration. Group 3 (control group, CG) received normal saline. Twenty-four hours after PAR administration, all animals were sacrificed using high-dose anesthesia. Blood samples were collected and kidneys were removed. **Results:** The

serum blood urea nitrogen, creatinine levels and serum malondialdehyde levels were significantly increased in the PARG. The serum glutathione peroxidase, glutathione reductase and total glutathione levels were significantly higher in the TXFG. At the same time, the kidneys of the PARG animals demonstrated tubular epithelium swelling, distension and severe vacuolar degeneration. The kidneys of the TXFG animals showed mildly dilated/congested blood vessels. **Conclusions:** The TXF renoprotective effects are promising in preventing PAR-induced nephrotoxicity, mainly through antioxidant activity, and warrant further testing in future studies.

28. Fragkiadoulaki E, Tsatsakis A, Nikitovic D, Georgiadis G, Kalogeraki A, Kaloudis K, Alekakis A, Karzi V, Mamoulakis C. **Resveratrol and lycopene ameliorate contrast-induced nephropathy in a rabbit model.** *Hum Exp Toxicol.* 2022;**41**:9603271221145355.

Oxidative stress appears to possess a central role in CIN pathophysiology. Resveratrol (Res) and lycopene (Lyc) are strong natural antioxidants evaluated in a limited number of CIN animal studies in vivo. The aim of the study was to evaluate the potential renoprotective effects of Res/Lyc in a CIN rabbit model. Twenty-four adult male New Zealand white rabbits were equally assigned into four groups: control (saline), CIN (intravenous iopromide; 7.5g iodine/kg), Res+CIN (per os Res; 5mg/kg), and Lyc+CIN (per os Lyc; 4mg/kg). Serum Cr (sCr); symmetric/asymmetric dimethylarginine (SDMA/ADMA); oxidative stress biomarkers: malondialdehyde; total antioxidant capacity; catalase; glutathione) were evaluated in blood samples at three time points: right after (0h); 24h; 48h after iopromide/saline administration. CD20+/CD3+ lymphocytes were determined (48h). All animals were sacrificed at 48h and both kidneys collected. Oxidative stress biomarkers were measured in renal tissue. sCr and SDMA/ADMA levels increased significantly in CIN compared to all groups. Oxidative stress secondary to CIN in blood/kidneys was suppressed by Res/Lyc. B and T lymphocytes decreased significantly in CIN compared to all groups. The present study provides emerging evidence that Res/Lyc ameliorate CIN by modulating oxidant/antioxidant balance in blood/renal tissue and by inhibiting vasoconstriction/blood cytotoxicity.

29. Zachariou A, Zachariou D, Kaltsas A, Giannakis I, Dimitriadis F, Douvli E, Champilomatis I, Kounavou C, Papatsoris A, Tsounapi P, Mamoulakis C, Takenaka A, Sofikitis N. **Translation and validation of the Intermittent Catheterization Difficulty Questionnaire (ICDQ) into Greek. J Multidiscip Healthc. 2022;15: 2571-2577.**

Purpose: Clean intermittent self-catheterization (CISC) is a safe and effective alternative to manage incomplete bladder emptying in patients suffering from neurogenic bladder issues. The Intermittent Catheterisation Difficulty Questionnaire (ICDQ) is a valid questionnaire concerning the assessment of catheter use and the patients' difficulties during CISC. The present study aimed to translate and validate the ICDQ into the Greek language. A secondary outcome was to highlight the need for urologists to consult their patients performing CISC and evaluate different therapeutic options in a detailed manner in cooperation with other specialist physicians. **Material and methods:** The prospective descriptive study was carried out between March 2022 and July 2022 and involved patients in an outpatient department of a Rehabilitation Centre. Sixty-two neurologic patients suffering from spinal cord injury (SCI), multiple sclerosis (MS), cauda equina (CE), and myelitis represented a convenience sample. To calculate the test-retest reliability, patients filled out two consecutive questionnaires, an initial one and a second after one week. The study group evaluated the socio and demographic characteristics of all participants. **Results:** After the examination of the questionnaires, there were no missing data. All patients found it relevant and accessible to understand. All patients, except two, found that answering ICDQ is not time-consuming. Cronbach's alpha coefficient was 0.94, an excellent proof of the inter-correlation between the different topics. The ICC was 0.97, indicating excellent intra-rater reliability. **Conclusion:** ICDQ, a valid and reliable self-administer screening tool for CISC difficulties in patients using this procedure regularly, was successfully translated and validated into the Greek language. Correct assessment and understanding of these difficulties would be helpful to improve the quality of CISC, propose a suitable treatment and modify the type of catheter. Regarding submitting appropriate improved treatment strategies,

repeated use and comparison of the initial and recent ICDQ scores can determine the impact of these treatments.

- 30. Dimitriadis F, Kaltsas A, Zachariou A, Mamoulakis C, Tsiampali C, Giannakis I, Paschopoulos M, Papatsoris A, Loutradis D, Tsounapi P, Takenaka A, Sofikitis N. PDE5 inhibitors and male reproduction: Is there a place for PDE5 inhibitors in infertility clinics or andrology laboratories? Int J Urol. 2022;29:1405-1418.**

The objective of this review study is to evaluate the therapeutic role of PDE5 inhibitors (PDE5is) in the amelioration of oligoasthenospermia in infertile males. PDE5is have a beneficial influence on the secretory function of the Leydig and Sertoli cells, the biochemical environment within the seminiferous tubule, the contractility of the testicular tunica albuginea, and the prostatic secretory function. In several studies, the overall effect of sildenafil and vardenafil increased quantitative and qualitative sperm motility. Furthermore, some studies indicate that PDE5is influence positively the sperm capacity to undergo capacitation under biochemical conditions that are known to induce the sperm capacitation process. Additional research efforts are necessary in order to recommend unequivocally the usage of sildenafil, vardenafil, or avanafil for the alleviation of male infertility.

- 31. Drogosis A, Mamoulakis C, Chrysos E, Tsoucalas G, Michaleas SN, Karamanou M. Medicinal plants in the treatment of urinary tract malignancies during the Araboislamic period (7th- 14th century AD). Arab J Urol. 2022;20:219-223**

Arabic medicine, or Arab-Islamic, mainly refers to all developments achieved in the Age of Khalifs, or the Golden Age of the Arab-Islamic civilization (ca 7th-14th centuries AD). Arab scholars adopted ancient Greek medicine and soon understood the essence of the fatal disease known as cancer. They introduced various new types of cancer, distinguishing other entities like infection and proposed new methods of treatment, both surgical and non-invasive. Herbal medicine after Dioscurides and Galen bloomed in the Arabic world. Malignancy of the urinary tract was identified and a plethora of herbs were used to slow down its expansion. Moreover, herbal drugs

were introduced to alleviate cancerous symptomatology. Avicenna introduced Hindiba, while known scholars like Abulcasis and Rhazes noted the benefits of garlic, onion, black seeds, pomegranate, olive oil as well as leaf and bread wheat. Arabian herbal medicine may still be beneficial in anticancer fight and mainly in the palliative medicine. It should be emphasized that almost 50% of the drugs administered today have their point of origin in the plants used in antiquity.

32. Kaltsas A, Markou E, Zachariou A, Dimitriadis F, Mamoulakis C, Andreadakis S, Giannakis I, Tsounapi P, Takenaka A, Sofikitis N. Varicoceles in men with non-obstructive azoospermia: The dilemma to operate or not. Front Reprod Health. 2022;4:811487.

The knowledge on male reproduction is constantly expanding, especially in treating infertility due to non-obstructive azoospermia (NOA). Varicocele is occasionally diagnosed in a subpopulation of males with NOA. Varicocele repair in NOA-men may contribute to the reappearance of spermatozoa in semen. However, spontaneous pregnancies are observed in only a small percentage of NOA-men post-varicocelectomy. Additionally, it has been reported that the repair of varicocele in NOA-men (before the performance of sperm retrieval techniques) may increase the testicular sperm recovery rate. In addition, it increases the pregnancy rate in intracytoplasmic sperm injection (ICSI) programs in NOA-men without spermatozoa in the semen post-varicocelectomy. In addition, to the improvement in Sertoli cellular secretory function, varicocelectomy may increase the secretory function of Leydig cells, which subsequently results in improved androgen production, raising the probability to negate the need for testosterone replacement therapy in cases of late-onset hypogonadism. On the other hand, the benefit of varicocelectomy in patients with NOA is still debatable. The current review study aims to provide a critical and extensive review of varicocele repair in males with NOA. This study additionally focuses on the impact of varicocele repair on sperm retrieval rates and its influence on the ICSI outcomes for those couples who remain negative for spermatozoa in their semen samples post-varicocelectomy.

33. Gacci M, Sakalis VI, Karavitakis M, Cornu JN, Gratzke C, Herrmann TRW, Kyriazis I, Malde S, Mamoulakis C, Rieken M, Schouten N, Smith EJ, Speakman MJ, Tikkinenm KAO, Gravas S. **European association of urology guidelines on male urinary incontinence. Eur Urol. Eur Urol. 82:387-398.**

Context: Urinary incontinence (UI) is a common condition in elderly men causing a severe worsening of quality of life, and a significant cost for both patients and health systems. **Objective:** To report a practical, evidence-based, guideline on definitions, pathophysiology, diagnostic workup, and treatment options for men with different forms of UI. **Evidence acquisition:** A comprehensive literature search, limited to studies representing high levels of evidence and published in the English language, was performed. Databases searched included Medline, EMBASE, and the Cochrane Libraries. A level of evidence and a grade of recommendation were assigned. **Evidence synthesis:** UI can be classified into stress urinary incontinence (SUI), urge urinary incontinence (UUI), and mixed urinary incontinence. A detailed description of the pathophysiology and diagnostic workup has been reported. Simple clinical interventions, behavioural and physical modifications, and pharmacological treatments comprise the initial management for all kinds of UI. Surgery for SUI includes bulking agents, male sling, and compression devices. Surgery for UUI includes bladder wall injection of botulinum toxin A, sacral nerve stimulation, and cystoplasty/urinary diversion. **Conclusions:** This 2022 European Association of Urology guideline summary provides updated information on definition, pathophysiology, diagnosis, and treatment of male UI. **Patient summary:** Male urinary incontinence comprises a broad subject area, much of which has been covered for the first time in the literature in a single manuscript. The European Association of Urology Non-neurogenic Male Lower Urinary Tract Symptoms Guideline Panel has released this new guidance, with the aim to provide updated information for urologists to be able to follow diagnostic and therapeutic indications for optimizing patient care.

34. Zisis IE, Georgiadis G, Docea AO, Calina D, Tsiaoussis I, Lazopoulos G, Sofikitis N, Tsatsakis A, Mamoulakis C. **Renoprotective effect of vardenafil**

and avanafil in contrast-induced nephropathy: Emerging evidence from an animal model. J Pers Med. Accepted 18 April 2022.

The potential renoprotective effects of vardenafil (VAR) have been evaluated in a very limited number of studies using acute kidney injury animal models other than contrast-induced nephropathy (CIN) with promising results, while avanafil (AVA) has not been evaluated in this respect before. The purpose of this study was to evaluate for the first time the potential renoprotective effect of VAR and AVA in a rat model of CIN. Twenty-five male Wistar rats were equally assigned into five groups: control, CIN, CIN+N-acetyl cysteine (NAC) (100 mg/kg/day) as a positive control, CIN+VAR (10 mg/kg/day) and CIN+AVA (50 mg/kg/day). CIN was induced by dehydration, inhibition of prostaglandin and nitric oxide synthesis as well as exposure to the contrast medium (CM). Serum Cr (sCr) levels were measured at 24 and 48 h after CIN induction. At 48 h of CM exposure, animals were sacrificed. Matrix metalloproteinase (MMP) 2 (MMP-2) and MMP-9, kidney injury molecule 1 (KIM-1) and cystatin-C (Cys-C) were measured on renal tissue. Histopathological findings were evaluated on kidney tissue. All treatment groups had close to normal kidney appearance. sCr levels subsided in all treatment groups compared to CIN group at 48 h following CIN induction. A significant decline in the levels of MMP-2, MMP-9, KIM-1 and Cys-C compared to CIN group was observed. These results provide emerging evidence that VAR and AVA may have the potential to prevent CIN.

35. Fragkiadaki P, Renieri E, Kalliantasi K, Kouvidi E, Apalaki E, Vakonaki E, Mamoulakis C, Spandidos DA, Tsatsakis A. Telomerase inhibitors and activators in aging and cancer: A systematic review. Mol Med Rep. 2022;25:158.

The main aim of the present systematic review was to summarize the most frequently used telomerase regulators with an impact on aging and cancer that are referred to in *in vitro* and *in vivo* studies. For this purpose, a systematic review of the available literature on telomerase regulators referred to in articles from PubMed and Scopus libraries published from 2002 to 2021 and in accordance with PRISMA 2020 criteria, was conducted. Articles were included if they met the following criteria: They

referred to telomerase modulators in aging and in cancer and were *in vitro* and/or *in vivo* studies, while studies that did not provide sufficient data or studies not written in English were excluded. In the present systematic review, 54 publications were included, of which 29 were full-text published studies, 11 were full-text reviews, 10 structure-based design studies and 4 abstracts are reported in this review. Telomerase regulators were then categorized as synthetic direct telomerase inhibitors, synthetic indirect telomerase inhibitors, synthetic telomerase activators, natural direct telomerase activators, natural telomerase inhibitors and natural indirect telomerase activators, according to their origin and their activity. On the whole, as demonstrated herein, telomerase regulators appear to be promising treatment agents in various age-related diseases. However, further *in vivo* and *in vitro* studies need to be performed in order to clarify the potentiality of telomerase as a therapeutic target.

36. de la Rosette J, Martov A, Hurle R, Favre G, Mamoulakis C, Castanheira de Oliveira M, Stenzl A, Linares-Espinós E, Trelles Guzmán CR, Gravas S, Knoll T, Boz MY, Herrmann T, Laguna P. **Conventional white light imaging-assisted transurethral resection of bladder tumour (TURBT) versus IMAGE1S-assisted TURBT in non-muscle-invasive bladder cancer patients: trial protocol and 18 months results.** *World J Urol.* 2022;**40**:727-738.

Purpose: White light (WL) is the traditional imaging modality for transurethral resection of bladder tumour (TURBT). IMAGE1S is a likely addition. We compare 18-mo recurrence rates following TURBT using IMAGE1S versus WL guidance.

Methods: Twelve international centers conducted a single-blinded randomized controlled trial. Patients with primary and recurrent non-muscle-invasive bladder cancer (NMIBC) were randomly assigned 1:1 to TURBT guided by IMAGE1S or WL. Eighteen-month recurrence rates and subanalysis for primary/recurrent and risk groups were planned and compared by chi-square tests and survival analyses.

Results: 689 patients were randomized for WL-assisted (n = 354) or IMAGE1S-assisted (n = 335) TURBT. Of these, 64.7% had a primary tumor, 35.3% a recurrent tumor, and 4.8%, 69.2% and 26.0% a low-, intermediate-, and high-risk tumor, respectively. Overall, 60 and 65 patients, respectively, completed 18-mo follow-up, with recurrence rates of 31.0% and 25.4%, respectively (p = 0.199). In patients with

primary, low-/intermediate-risk tumors, recurrence rates at 18-mo were significantly higher in the WL group compared with the IMAGE1S group (31.9% and 22.3%, respectively: p 0.035). Frequency and severity of adverse events were comparable in both treatment groups. Immediate and adjuvant intravesical instillation therapy did not differ between the groups. Potential limitations included lack of uniformity of surgical resection, central pathology review, and missing data. **Conclusion:** There was not difference in the overall recurrence rates between IMAGE1S and WL assistance 18-mo after TURBT in patients with NMIBC. However, IMAGE1S-assisted TURBT considerably reduced the likelihood of disease recurrence in primary, low-/intermediate risk patients.

37. Bello JH, Khan MJ, Amir S; Kakakhel HG, Tahir F, Sikandar S, Raza SQ, Mamoulakis C, Zachariou A, Tsatsakis A, Sofikitis N, Shah, STA. **Dysregulation of mitochondrial sirtuin genes is associated with human male infertility.** *Andrologia*. 2022;54:e14274.

Mitochondrial sirtuins (SIRT3, SIRT4, SIRT5) are post-translational modifiers that regulate energy production, body homeostasis and mitochondrial activities via different substrates in response to environmental stressors. The present study aimed at assessing the expression of SIRT3, SIRT4, and SIRT5 in the semen of infertile men. Expression analysis was performed using q-RT PCR. All mitochondrial sirtuin genes were significantly down-regulated in the semen of infertile men compared to fertile men. Mitochondrial sirtuin genes expression levels were correlated with mitochondrial HSP90 expression. HSP90 expression was positively correlated with SIRT3, SIRT4 and SIRT5 expression in the semen of fertile men, while a negative correlation was observed between HSP90 in the semen of infertile men and mitochondrial sirtuin genes in the semen of fertile men. These data suggest that dysregulation of mitochondrial sirtuin genes causes mitochondrial dysfunction due to stress, which appears to be associated with human male infertility by compromising functional and structural sperm integrity.

- 38.** Grivas N, Zachos I, Georgiadis G, Karavitakis M, Tzortzis V, Mamoulakis C. **Learning curves in laparoscopic and robot-assisted prostate surgery: A systematic search and review. World J Urol. 2022;40:929-949.**

Purpose: To perform a systematic search and review of the available literature on the learning curves (LCs) in laparoscopic and robot-assisted prostate surgery. **Methods:** Medline was systematically searched from 1946 to January 2021 to detect all studies in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) statement, reporting on the LC in laparoscopic radical prostatectomy (LRP), laparoscopic simple prostatectomy (LSP), robot-assisted radical prostatectomy (RARP) and robot-assisted simple prostatectomy (RSP). **Results:** In total, 47 studies were included for qualitative synthesis evaluating a single technique (LRP, RARP, LSP, RSP; 45 studies) or two techniques (LRP and RARP; 2 studies). All studies evaluated outcomes on real patients. RARP was the most widely investigated technique (30 studies), followed by LRP (17 studies), LSP (1 study), and RSP (1 study). In LRP, the reported LC based on operative time; estimated blood loss; length of hospital stay; positive surgical margin; biochemical recurrence; overall complication rate; and urinary continence rate ranged 40-250, 80-250, 58-200, 50-350, 110-350, 55-250, 70-350 cases, respectively. In RARP, the corresponding ranges were 16-300, 20-300, 25-200, 50-400, 40-100, 20-250, 30-200, while LC for potency rates was 80-90 cases. **Conclusions:** The definition of LC for laparoscopic and robot-assisted prostate surgery is not well defined with various metrics used among studies. Nevertheless, LCs appear to be steep and continuous. Implementation of training programs/standardization of the techniques is necessary to improve outcomes.

- 39.** Zachariou A, Dimitriadis F, Papadimitriou V, Tsafrakidis P, Haensel SM, Mamoulakis C, Haas H. **What factors determine the patients' choice in finding their office urologist? Patient Prefer Adherence. 2021;15:2837-2843.**

Purpose: The present study aimed to investigate how patients identify a quality urologist in primary health care and how they determine and evaluate their provider's qualities before their first examination. **Patients and Methods:** A specific

questionnaire (The ESUO Questionnaire) was prepared to describe the domains that influence the patient's evaluation and summarize the urologist related characteristics and behaviours that the patients estimate are more important. A total of 335 patients, over 18 years of age, presented in primary healthcare urology practice, completed the survey. The participants were divided into three age groups; 18–39 years of age (111 patients), 40–59 years of age (111 patients) and 113 patients 60 years of age and older. **Results:** The majority of patients (68.4%) selected that the urologist must be efficient and well trained. This attitude was primarily expressed in patients ≥ 60 years of age. Individuals under 60 years old stated that they expect a detailed examination and that the patient should be the urologist's priority. The majority of the patients evaluates friends or family's proposals concerning the urologist's quality primarily and believes that there is at least good quality of urological health care. **Conclusion:** Most patients evaluate primarily the effectiveness of the care they receive instead of the urologist's personality traits or personal relationships.

40. Lopes RD, Higano CS, Slovin SF, Nelson AJ, Bigelow R, Sørensen PS, Melloni C, Goodman SG, Evans CP, Nilsson J, Bhatt DL, Clarke NW, Olesen TK, Doyle-Olsen BT, Kristensen H, Arney L, Roe MT, Alexander JH; PRONOUNCE Study Investigators. **Cardiovascular Safety of degarelix versus leuprolide in patients with prostate cancer: The primary results of the PRONOUNCE randomized trial.** *Circulation.* 2021;144: 1295-1307.

Background: The relative cardiovascular safety of gonadotropin-releasing hormone (GnRH) antagonists compared with GnRH agonists in men with prostate cancer and known atherosclerotic cardiovascular disease remains controversial. **Methods:** In this international, multicenter, prospective, randomized, open-label trial, men with prostate cancer and concomitant atherosclerotic cardiovascular disease were randomly assigned 1:1 to receive the GnRH antagonist degarelix or the GnRH agonist leuprolide for 12 months. The primary outcome was the time to first adjudicated major adverse cardiovascular event (composite of death, myocardial infarction, or stroke) through 12 months. **Results:** Because of slower-than-projected enrollment and fewer-than-projected primary outcome events, enrollment was stopped before the 900 planned participants were accrued. From May 3, 2016, to April 16, 2020, a total

of 545 patients from 113 sites across 12 countries were randomly selected. Baseline characteristics were balanced between study groups. The median age was 73 years, 49.8% had localized prostate cancer; 26.3% had locally advanced disease, and 20.4% had metastatic disease. A major adverse cardiovascular event occurred in 15 (5.5%) patients assigned to degarelix and 11 (4.1%) patients assigned to leuprolide (hazard ratio, 1.28 [95% CI, 0.59–2.79]; P=0.53). **Conclusions:** PRONOUNCE (A Trial Comparing Cardiovascular Safety of Degarelix Versus Leuprolide in Patients With Advanced Prostate Cancer and Cardiovascular Disease) is the first, international, randomized clinical trial to prospectively compare the cardiovascular safety of a GnRH antagonist and a GnRH agonist in patients with prostate cancer. The study was terminated prematurely because of the smaller than planned number of participants and events, and no difference in major adverse cardiovascular events at 1 year between patients assigned to degarelix or leuprolide was observed. The relative cardiovascular safety of GnRH antagonists and agonists remains unresolved.

41. Zachariou A, Filiponi M, Kaltsas A, Dimitriadis F, Sapouna V, Giannakis I, Mamoulakis C, Karagiannis A, Zikopoulos Z, Paschopoulos M, Takenaka A, Sofikitis N. **Translation and validation of the TANGO nocturia screening tool into Greek. J Multidiscip Healthc. 2021;14:1883-1891.**

Purpose: The present study aimed to translate the Targeting the individual's Aetiology of Nocturia to Guide Outcomes Questionnaire (TANGO) into the Greek language to create TANGO-Gr. A relative reliability study in prospective samples of community dwellers and rehabilitation centre residents was undertaken in order to validate the translation. In terms of nocturia severity, these groups were considered to be representative of patients at both ends of the scale, and therefore suitable validation purposes. **Patients and methods:** The prospective descriptive study took place between 07 and 09/2020. Fifty residents in a rehabilitation centre and thirty-seven community dwellers were included in the study. All participants had more than one episode of nocturia per night. They were asked to complete the newly translated TANGO-Gr Questionnaire twice (test-retest procedure). TANGO-Gr includes three possible answers ("yes", "no", and "DK/NA") to facilitate increased validity. The study group evaluated the socio and demographic characteristics, the level of

independence and the comprehensive frailty of all participants. **Results:** Both groups satisfactorily completed questionnaire responses. The overall Cronbach's alpha coefficient was 0.753 (community-dwelling people: 0.776; rehabilitation centre residents: 0.531). A test-retest statistical analysis to determine reliability found an overall median Kappa of 0.88 (IQR: 0.79-0.94) in community dwellers and 0.91 (IQR: 0.84-1.00) in rehabilitation centre residents, thereby confirming an almost perfect respective agreement. **Conclusion:** The validity of the newly translated TANGO-Gr Questionnaire was proven. It should be considered to be a reliable, self-administered screening tool suitable for clinical practice, and therefore invaluable for Greek-speaking people. The study also determined that certain environment-related variables may contribute to nocturia in rehabilitation centre populations, which is a finding which invites further study.

42. Zachariou A, Paschopoulos M, Kaltsas A, Dimitriadis F, Zikopoulos A, Mamoulakis C; Takenaka A, Sofikitis N. **Transvaginal closure of urinary bladder opening and Mitrofanoff technique in a neurologically impaired female with chronic indwelling catheter: A case presentation. BMC Urol. 2021;21:93 (Correction: BMC Urol. 2022;22:36.).**

Background: Chronic catheterization remains the only attractive option in specific circumstances, especially in neurologically impaired patients. Complications produced by the indwelling catheters, like patulous urethra and bladder neck destruction, usually lead to severe incontinence and significant nursing difficulties. Here, we describe a rare case, a urinary bladder opening representing massive and extensive destruction of the urethra and bladder sphincter due to an indwelling catheter. **Case presentation:** We present a 46-year-old paraplegic woman complaining of recurrent febrile urinary tract infections and severe urinary incontinence. She suffered from persistent malodorous urine and skin breakdowns from constant urine leakage. The vaginal examination revealed extensive destruction of the urethra and a 10 cm opening permitting the urinary bladder wall to prolapse into the vagina. The patient underwent a combined surgical approach; a transvaginal bladder closure with anterior colporrhaphy and a Mitrofanoff procedure to ensure a continent stoma for future clean intermittent self-catheterization (CISC). The patient

is compliant with CISC and, remains continent twelve years after surgery.

Conclusion: This case demonstrates that in the era of CISC, there are still neurologically impaired females suffering from rare but critical adverse effects of indwelling catheters. The urethra and bladder neck erosion represent a demanding treatment assignment. The Mitrofanoff procedure for continent stoma and the transvaginal closure of urinary bladder opening produced a lifesaving potential treatment.

43. Giordano G, Kyriazi E, Mavridis C, Persico F, Fragkoulis C, Gatto P, Georgiadis G, Giagourta I, Glykas I, Hurle R, Lazzeri M, Lughezzani G, San Lio VM, Mamoulakis C, Meo D, Papadaki HA, Piaditis G, Pontikoglou C, Stathouros G. **Oncology and Complications. Arch Ital Urol Androl. 2021; 93:71-76.**

This collection of cases describes some unusual urological tumors and complications related to urological tumors and their treatment. Case 1: A case of uretero-arterial fistula in a patient with long-term ureteral stenting for ureteral oncological stricture and a second case associated to retroperitoneal fibrosis were described. Abdominal CT, pyelography, cystoscopy were useful to show the origin of the bleeding. Angiography is useful for confirming the diagnosis and for subsequent positioning of an endovascular prosthesis which represents a safe approach with reduced post-procedural complications. Case 2: A case of patient who suffered from interstitial pneumonitis during a cycle of intravesical BCG instillations for urothelial cancer. The patient was hospitalized for more than two weeks in a COVID ward for a suspected of COVID-19 pneumonia, but he did not show any evidence of SARS-CoV-2 infection during his hospital stay. Case 3: A case of a young man with a functional urinary bladder paraganglioma who was successfully managed with complete removal of the tumor, leaving the urinary bladder intact. Case 4: A case of a 61 year old male suffering from muscle invasive bladder cancer who was admitted for a radical cystectomy and on the eighth postoperative day developed microangiopathic hemolytic anemia and thrombocytopenia, which clinically defines thrombotic microangiopathy.

- 44.** Grivas N, Dell'Oglio P, De Groote R, Turri F, Mamoulakis C, Larcher A; J-ERUS YAU Robotic Urology Working Group. **Re: Vinayak G. Wagaskar, Ankur Mittal, Stanislaw Sobotka, et al. Hood technique for robotic radical prostatectomy-preserving periurethral anatomical structures in the space of Retzius and sparing the pouch of Douglas, enabling early return of continence without compromising surgical margin rates. Eur Urol. 2021;79:e152-e153.**

We read with great interest the prospective study by Wagaskar et al [1] describing an initial series of 300 patients treated with their hood technique for robot-assisted radical prostatectomy (RARP). The authors should be commended for their detailed anatomical description and video of this hybrid Retzius-sparing technique that allows the creation of a hood that anatomically protects the membranous urethra and supportive structures. The 1-yr urinary continence rate reported is excellent, at 95%. Remarkably, the positive surgical margin rate was only 6% in the study. These numbers are critically different from those observed in series of patients treated with standard anterior RARP and a Retzius-sparing approach [2,3]. It is possible that the advantages of this hood technique are mainly related to its superior visualization of anatomical landmarks, resulting in gentle isolation and mobilization of the prostate and easier preservation of the periurethral structures. However, the favorable oncological and functional outcomes might be related to the exclusion of anterior tumors, the inclusion mainly of low- and intermediate-risk tumors, the high degree of surgical expertise, and the pathologist interpretation. Moreover, the authors did not report any data regarding the erectile function of patients and their results were not compared with a control group. It is considered that posterior approaches may be technically challenging for anterior tumors, post-trans-urethral prostate resections, and in cases of high-volume glands or bulky median lobes [4]. Owing to the lack of data from multicenter studies, the European Association of Urology guidelines do not favor Retzius-sparing approaches over traditional RARP [5]. However, the proposed hood technique warrants further testing in randomized controlled trials, since it might represent an ideal compromise between oncological safety and careful regard for anatomical structures in selected patients. These are key for optimal functional

outcomes, combining the beneficial elements of traditional and Retzius-sparing RARP procedures.

45. Zachariou A, Filiponi M, Kaltsas A, Dimitriadis F, Champilomatis I, Paliouras A, Tsounapi P, Mamoulakis C, Takenaka A, Sofikitis N. **Mirabegron alleviates the degree of burden experienced by caregivers of older females with mixed or urge incontinence: a prospective study.** *Clin Interv Aging.* 2021;16:291-299.

Purpose: Older people, especially women, have the highest known prevalence of urinary incontinence (UI) of any other age-group. Continual care provision for elderly incontinent females is an incredibly arduous process, yet only very few studies have investigated the issue. Aim of the study was to evaluate the impact of mirabegron's treatment on the degree of burden experienced by caregivers of elderly female patients with UI. **Patients and methods:** A hundred and eighty-six caregivers of older females with mixed or urgency UI besides various conditions (strokes, post-operative recovery after major surgery, etc.) were included in the study. Group A comprised 91 patients that did not want to receive any treatment for UI. Group B consisted of 95 elderly females treated for UI with mirabegron 50 mg/daily for three months. All caregivers completed the Zarit Burden Scale (ZBS) questionnaire at the outset and after the three months. All patients completed a bladder diary at the beginning and at the end of the observation/medication period. **Results:** Patients receiving mirabegron presented a statistically significant improvement in UI parameters. Their caregivers showed a statistically significant decrease in the ZBS total score as well as separate domains. **Conclusion:** This pilot study confirms that mirabegron administration can improve the quality of life of older females suffering from UI while substantially relieving caregiver burden. Recognizing the physical and emotional reactions of caregivers may help health providers deliver better support and resources to meet the needs of caregivers and patients alike.

46. Amir S, Tzatzarakis M, Mamoulakis C, Bello JH, Akbar Shah Eqani SAM, Vakonaki E, Karavitakis M, Sultan S, Tahir F, Abbas Shah ST, Tsatsakis A.

Impact of organochlorine pollutants on semen parameters of infertile men in Pakistan. Environ Res. 2021;195:110832.

Male infertility is a major problem with important socioeconomic consequences. It is associated with several pathological factors, including but not limited to endocrine disruption as a result of environmental pollution and the alarming decline in sperm count over the decades is indicative of involvement of many environmental and lifestyle changes around the globe. Organochlorine pollutants such as dichlorodiphenyltrichlorethanes (DDTs), polychlorinated biphenyls (PCBs) and hexachlorobenzene (HCB) disrupt male reproductive system but the exact effect of environmental exposure on semen parameters in human is still not clear. This study was designed to monitor PCBs, DDTs and HCB in hair, urine and serum samples of infertile and healthy fertile men. Solid-phase microextraction gas chromatography-mass spectrometry (SPME/GC-MS) was used to monitor analytes. All tested compounds were detected, indicating recent use/persistent accumulation. Hair samples revealed no significant association with serum/urine concentrations of the analytes, while serum/urine concentrations were significantly correlated positively. Concentrations were higher in serum compared to other samples. The levels of organochlorine pollutants were higher in infertile men compared to controls with few exceptions. Among PCBs, and DDTs, PCB-153 and pp'-DDT were detected in highest concentrations, respectively. op'-DDT and pp'-DDT levels were significantly higher in infertile men compared to controls. HCB was significantly correlated negatively with sperm motility in all samples. Serum concentrations of all compounds were higher in men with defective semen parameters compared to normospermics. Serum was the best biological sample for assessing health outcomes in relation to exposure levels.

47. Amir S, Shah STA, Mamoulakis C, Docea AO, Kalantzi OI, Zachariou A, Calina D, Carvalho F, Sofikitis N, Makrigiannakis A, Tsatsakis A. **Endocrine disruptors acting on estrogen and androgen pathways cause reproductive disorders through multiple mechanisms: A review. Int J Environ Res Public Health. 2021;18:1464.**

Increasing contamination of the environment by toxic compounds such as endocrine disrupting chemicals (EDCs) is one of the major causes of reproductive defects in both sexes. Estrogen/androgen pathways are of utmost importance in gonadal development, determination of secondary sex characteristics and gametogenesis. Most of the EDCs mediate their action through respective receptors and/or downstream signaling. The purpose of this review is to highlight the mechanism by which EDCs can trigger antagonistic or agonistic response, acting through estrogen/androgen receptors causing reproductive defects that lead to infertility. In vitro, in vivo and in silico studies focusing on the impact of EDCs on estrogen/androgen pathways and related proteins published in the last decade were considered for the review. PUBMED and PUBCHEM were used for literature search. EDCs can bind to estrogen receptors (ER α and ER β) and androgen receptors or activate alternative receptors such as G protein-coupled receptors (GPCR), GPR30, estrogen-related receptor (ERR γ) to activate estrogen signaling via downstream kinases. Bisphenol A, dichlorodiphenyltrichloroethane, dichlorodiphenyldichloroethylene, polychlorinated biphenyls and phthalates are major toxicants that interfere with the normal estrogen/androgen pathways leading to infertility in both sexes through many ways, including DNA damage in spermatozooids, altered methylation pattern, histone modifications and miRNA expression.

48. Malde S, Umbach R, Wheeler JR, Lytvyn L, Cornu JN, Gacci M, Gratzke C, Herrmann TRW, Mamoulakis C, Rieken M, Speakman MJ, Gravas S, Drake MJ, Guyatt GH, Tikkinen KAO. **A systematic review of patients' values, preferences and expectations for the diagnosis and treatment of male lower urinary tract symptoms.** *Eur Urol.* 2021;**79**:796-809.

Context: Understanding men's values and preferences in the context of personal, physical, emotional, relational, and social factors is important in optimising patient counselling, facilitating treatment decision-making, and improving guideline recommendations. **Objective:** To systematically review the available evidence regarding the values, preferences, and expectations of men towards the investigation and treatment (conservative, pharmacological, and surgical) of male lower urinary

tract symptoms (LUTS). **Evidence acquisition:** We searched electronic databases until August 31, 2020 for quantitative and qualitative studies that reported values and preferences regarding the investigation and treatment of LUTS in men. We assessed the quality of evidence and risk of bias using the Grading of Recommendation, Assessment, Development and Evaluation (GRADE) and GRADE Confidence in the Evidence from Reviews of Qualitative Research (CERQual) approaches. **Evidence synthesis:** We included 25 quantitative studies, three qualitative studies, and one mixed-methods study recruiting 9235 patients. Most men reported urodynamic testing to be acceptable, despite discomfort or embarrassment, as it significantly informs treatment decisions (low certainty evidence). Men preferred conservative and less risky treatment options, but the preference varied depending on baseline symptom severity and the risk/benefit characteristics of the treatment (moderate certainty). Men preferred pharmacological treatments with a low risk of erectile dysfunction and those especially improving urgency incontinence (moderate certainty). Other important preference considerations included reducing the risk of acute urinary retention or surgery (moderate certainty). **Conclusions:** Men prefer lower-risk management options that have fewer sexual side effects and are primarily effective at improving urgency incontinence and nocturia. Overall, the evidence was rated to be of low to moderate certainty. This review can facilitate the treatment decision-making process and improve the trustworthiness of guideline recommendations. **Patient summary:** We thoroughly reviewed the evidence addressing men's values and preferences regarding the management of urinary symptoms and found that minimising adverse effects is particularly important. Further research to understand other factors that matter to men is required.

49. Sofikitis N, Kaltsas A, Dimitriadis F, Rassweiler J, Grivas N, Zachariou A, Kaponis A, Tsounapi P, Paterakis N, Karagiannis A, Skouros S, Giannakis I, Champilomatis I, Paschopoulos M, Daphnis D, Giakoumakis I, Gabales MR, M Chua JB, Lantin Iii PL, Mamoulakis C, Takenaka A. **The effect of PDE5 inhibitors on the male reproductive tract. Curr Pharm Des. 2021;27: 2697-2713.**

The therapeutic range of cyclic nucleotide phosphodiesterase 5 inhibitors (PDE5) inhibitors is getting wider in the last years. This review study focuses on the potential employment of PDE5 inhibitors as an adjunct tool for the therapeutic management of male infertility. The literature tends to suggest a beneficial effect of PDE5 inhibitors on Leydig and Sertoli cells secretory function. It also appears that PDE5 inhibitors play a role in the regulation of the contractility of the testicular tunica albuginea and the epididymis. Moreover, scientific data suggest that PDE5 inhibitors enhance the prostatic secretory function leading to an improvement in sperm motility. Other studies additionally demonstrate the role of PDE5 inhibitors in the regulation of the sperm capacitation process. Placebo-controlled, randomized, blind studies are necessary to unambiguously incorporate PDE5 inhibitors as an adjunct tool for the pharmaceutical treatment of semen disorders and male infertility.

50. Hashemzaei M, Tabrizian K, Alizadeh Z, Pasandideh S, Rezaee R, Mamoulakis C, Tsatsakis A, Skaperda Z, Kouretas D, Shahraki J. **Resveratrol, curcumin and gallic acid attenuate glyoxal-induced damage to rat renal cells. Toxicol Rep. 2020;7:1571-1577.**

Glyoxal (GO), a by-product of glucose auto-oxidation, is involved in the glycation of proteins/lipids and formation of advanced glycation (AGE) and lipoxidation (ALE) end products. AGE/ALE were shown to contribute to diabetic complications development/progression such as nephropathy. Diabetic nephropathy progression has an oxidative nature. Given the antioxidant effects of polyphenols, potential protective effects of resveratrol, curcumin and gallic acid, in rat renal cells treated with GO, were evaluated in the present work. According to our results, incubation of GO with the cells reduced their viability and led to membrane lysis, reactive oxygen species (ROS) formation, lipid peroxidation, mitochondrial membrane potential collapse, and lysosomal membrane leakage. These findings were prevented by pre-treatment with resveratrol, curcumin and gallic acid. Mitochondrial and lysosomal toxic interactions appear to worsen oxidative stress/cytotoxicity produced by GO. Resveratrol, curcumin and gallic acid inhibited ROS formation and attenuated GO-induced renal cell death.

- 51.** Hashemzaei M, Mamoulakis C, Tsarouhas K, Georgiadis G, Lazopoulos G, Tsatsakis A, Asrami ES, Rezaee R. **Crocin: A fighter against inflammation and pain. Food Chem Toxicol. 2020;143:111521.**

Crocin, a water-soluble carotenoid, is known as a pharmacologically active compound, particularly for its potent anti-oxidant activity. The present work provides a comprehensive review of the available literature concerning the anti-inflammatory properties of crocin in various organs/systems as well as its anti-nociceptive effects. PubMed, Scopus, and Web of Science electronic databases were systematically searched up to 28 March 2020 to detect all relevant preclinical and human studies in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) statement. In total, 104 studies were included for qualitative synthesis. This systematic search and review indicated that crocin not only combats reactive oxygen species production and suppresses pro-inflammatory cytokines secretion but also alleviates inflammation in various organs (e.g. the lung, heart, brain, and kidney), in a series of animal models and in vitro experiments, via regulating mainly NF- κ B pathway and NF- κ Bp65 translocation to the cell nucleus. In this context, modulation of PI3K/Akt appears to be a favorable crocin target contributing to NF- κ B pathway inhibition. Even though data is limited in humans with only one clinically relevant study retrieved, the results of preclinical studies regarding anti-inflammatory/anti-nociceptive effects of crocin are promising and warrant further testing in clinical settings.

- 52.** Tsatsakis A, Petrakis D, Nikolouzakakis TK, Docea AO, Calina D, Vinceti M, Goumenou M, Kostoff RN, Mamoulakis C, Aschner M, Hernández AF. **COVID-19, an opportunity to reevaluate the correlation between long-term effects of anthropogenic pollutants on viral epidemic/pandemic events and prevalence. Food Chem Toxicol. 2020;141:111418.**

Occupational, residential, dietary and environmental exposures to mixtures of synthetic anthropogenic chemicals after World War II have a strong relationship with the increase of chronic diseases, health cost and environmental pollution. The link between environment and immunity is particularly intriguing as it is known that

chemicals and drugs can cause immunotoxicity (e.g., allergies and autoimmune diseases). In this review, we emphasize the relationship between long-term exposure to xenobiotic mixtures and immune deficiency inherent to chronic diseases and epidemics/pandemics. We also address the immunotoxicologic risk of vulnerable groups, taking into account biochemical and biophysical properties of SARS-CoV-2 and its immunopathological implications. We particularly underline the common mechanisms by which xenobiotics and SARS-CoV-2 act at the cellular and molecular level. We discuss how long-term exposure to thousand chemicals in mixtures, mostly fossil fuel derivatives, exposure to particle matters, metals, ultraviolet (UV)-B radiation, ionizing radiation and lifestyle contribute to immunodeficiency observed in the contemporary pandemic, such as COVID-19, and thus threaten global public health, human prosperity and achievements, and global economy. Finally, we propose metrics which are needed to address the diverse health effects of anthropogenic COVID-19 crisis at present and those required to prevent similar future pandemics.

53. Iordache AM, Docea AO, Buga AM, Zlatian O, Ciurea ME, Rogoveanu OC, Burada F, Sosoi S, Mitrut R, Mamoulakis C, Albulescu D, Vasile RC, Tsatsakis A, Calina D. Sildenafil and tadalafil reduce the risk of contrast-induced nephropathy by modulating the oxidant/antioxidant balance in a murine model. Food Chem Toxicol. 2020;135:111038.

The aim of the study was to evaluate the potential protective role of sildenafil and tadalafil in contrast-induced nephropathy (CIN) by modulating oxidative stress. Thirty Wistar male rats were equally assigned into five groups: sham, CIN, CIN + sildenafil (10 mg/kg bw/day), CIN + tadalafil (5 mg/kg bw/day) and CIN + N-Acetyl Cysteine (NAC) (100 mg/kg bw/day) as a positive control. CIN was induced by 12 h dehydration and administration of indomethacin (10 mg/kg bw), N- ω -nitro-L-arginine methyl ester (10 mg/kg bw), and iopromide (3 g/kg bw iodine). Blood was drawn prior to and 24 h after CIN induction for evaluating renal function and oxidative stress. In the CIN group, total antioxidant capacity (TAC), reduced glutathione (GSH) and catalase (CAT) levels were significantly decreased; and protein carbonyl (PROTC) and thiobarbituric reactive species (TBARS) were significantly increased compared to the sham group. Pre- Sildenafil and tadalafil pre-

treatment reduced CIN risk and reversed oxidative stress almost to the sham group levels. These results suggest that PDE5Is can be good candidates for preventing CIN based on their ability to modulate the oxidant/antioxidant balance.

54. Georgiadis G, Zisis IE, Docea AO, Tsarouhas K, Fragkiadoulaki I, Mavridis C, Karavitakis M, Stratakis S, Stylianou K, Tsitsimpikou C, Calina D, Sofikitis N, Tsatsakis A, Mamoulakis C. **Current concepts on the reno-protective effects of phosphodiesterase 5 inhibitors in acute kidney injury: Systematic search and review. J Clin Med. 2020;9:1284.**

Acute kidney injury (AKI) is associated with increased morbidity, prolonged hospitalization, and mortality, especially in high risk patients. Phosphodiesterase 5 inhibitors (PDE5Is), currently available as first-line therapy of erectile dysfunction in humans, have shown a beneficial potential of reno-protection through various reno-protective mechanisms. The aim of this work is to provide a comprehensive overview of the available literature on the reno-protective properties of PDE5Is in the various forms of AKI. Medline was systematically searched from 1946 to November 2019 to detect all relevant animal and human studies in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) statement. In total, 83 studies were included for qualitative synthesis. Sildenafil is the most widely investigated compound (42 studies), followed by tadalafil (20 studies), icariin (10 studies), vardenafil (7 studies), zaprinast (4 studies), and udenafil (2 studies). Even though data are limited, especially in humans with inconclusive or negative results of only two clinically relevant studies available at present, the results of animal studies are promising. The reno-protective action of PDE5Is was evident in the vast majority of studies, independently of the AKI type and the agent applied. PDE5Is appear to improve the renal functional/histopathological alternations of AKI through various mechanisms, mainly by affecting regional hemodynamics, cell expression, and mitochondrial response to oxidative stress and inflammation.

55. Alexander CE, Scullion MM, Omar MI, Yuan Y, Mamoulakis C, N'Dow JM, Chen C, Lam TB. **Reprint - Bipolar versus monopolar transurethral resection of the prostate for lower urinary tract symptoms secondary to benign**

prostatic obstruction: A Cochrane Review. Can Urol Assoc J. 2020;14: 423-430.

Introduction: There remains uncertainty regarding the differences in patient outcomes between monopolar transurethral resection of the prostate (MTURP) and bipolar TURP (BTURP) in the management of lower urinary tract symptoms (LUTS) secondary to benign prostatic obstruction (BPO). **Methods:** A systematic literature search was carried out up to March 19, 2019. Methods in the Cochrane Handbook were followed. Certainty of evidence (CoE) was assessed using the GRADE approach. **Results:** A total of 59 randomized controlled trials (RCTs) with 8924 participants were included. BTURP probably results in little to no difference in International Prostate Symptom Score (IPSS) at 12 months (mean difference -0.24, 95% confidence interval [CI] -0.39--0.09; participants=2531; RCTs=16; moderate CoE) or health-related quality of life (HRQOL) at 12 months (mean difference -0.12, 95% CI -0.25-0.02; participants=2004, RCTs=11; moderate CoE), compared to MTURP. BTURP probably reduces TUR syndrome (relative risk [RR] 0.17, 95% CI 0.09-0.30; participants= 6,745, RCTs=44; moderate CoE) and blood transfusions (RR 0.42, 95% CI 0.30-0.59; participants=5727, RCTs=38; moderate CoE), compared to MTURP. BTURP may carry similar risk of urinary incontinence at 12 months (RR 0.20, 95% CI 0.01-4.06; participants=751; RCTs=4; low CoE), re-TURP (RR 1.02, 95% CI 0.44-2.40; participants=652, RCTs=6, I2=0%; low CoE) and erectile dysfunction (International Index of Erectile Function [IIEF-5]) at 12 months (mean difference 0.88, 95% CI -0.56-2.32; RCTs=3; moderate CoE), compared to MTURP. **Conclusions:** BTURP and MTURP probably improve urological symptoms to a similar degree. BTURP probably reduces TUR syndrome and blood transfusion slightly postoperatively. The moderate certainty of evidence available for primary outcomes suggests no need for further RCTs comparing BTURP and MTURP.

56. Iordache AM, Buga AM, Albulescu D, Vasile RC, Mitrut R, Georgiadis G, Zisis IE, Mamoulakis C, Tsatsakis A, Docea AO, Calina D. Phosphodiesterase-5 inhibitors ameliorate structural kidney damage in a rat model of contrast-induced nephropathy. Food Chem Toxicol. 2020; 143:111535.

The aim of the study was to investigate the potential of sildenafil and tadalafil to ameliorate structural kidney damage in contrast-induced nephropathy (CIN). A rat model of CIN was developed by dehydration, administration of a nitric oxide inhibitor and a prostaglandin synthesis inhibitor (L-NAME/indomethacin) and contrast media exposure to iopromide. The effect of pre-treatment with sildenafil, tadalafil or N-acetyl cysteine (NAC) for 7 days prior to CIN induction was investigated. All animals were sacrificed at 24 h after CIN induction and both kidneys were collected. Histopathological examination was performed under light microscopy in serial tissue sections stained with hematoxylin and eosin. CIN group showed hydropic changes of the renal tubules (proximal and distal convoluted tubules and Henle's loop), an increased Bowman space with lobulated glomerulus and alteration of macula densa region of distal convolute tubules. The groups pretreated with sildenafil and tadalafil showed nearly normal histological aspects of renal tissue. The group pretreated with NAC showed similar but less intense histopathologic changes compared to CIN group. Sildenafil and tadalafil pre-treatment ameliorates CIN-related structural kidney damage and the protective potential of these agents is superior to NAC.

57. Mavridis C, Georgiadis G, Lagoudaki ED, Skamagkas I, Heretis I, Koutsopoulos AV, Mamoulakis C. Bladder leiomyoma with synchronous solitary fibrous tumor of the pleura. Case Rep Urol. 2020;3717506.

Bladder leiomyomas (BLs) are extremely rare benign tumors of mesenchymal origin. The exact pathophysiological mechanisms that lead to their appearance remain unclear including hormonal disorders, chromosomal abnormalities, and fetal remnants in the bladder. They usually remain asymptomatic for a long period of time. Solitary fibrous tumors (SFTs) are also rare neoplasms of mesenchymal origin with malignant potential usually affecting the pleura. The pathogenesis of SFTs remains unclear. We report the case of a 28-year-old male presenting with SFT of the pleura and synchronous BL. The patient presented with persistent cough as a sole symptom. Computed tomography (CT) of the thorax revealed a pleural mass, which was surgically removed and proved to be a SFT. At an early follow-up, abdominal CT scan revealed a bladder wall mass that proved to be a BL. This is the first report of

BL with synchronous SFT of the pleura. Synchronous BLs and SFTs may be incidental, but the coexistence of two mesenchymal tumors at different sites, in a young patient, may raise the suspicion of a new clinical syndrome that warrants further investigation.

58. Alexander CE, Scullion MM, Omar MI, Yuan Y, Mamoulakis C, N'Dow JM, Chen C, Lam TB. **Bipolar versus monopolar transurethral resection of the prostate for lower urinary tract symptoms secondary to benign prostatic obstruction. Cochrane Database Syst Rev. 2019;12:CD009629.**

Background: Transurethral resection of the prostate (TURP) is a well-established surgical method for treatment of men with lower urinary tract symptoms (LUTS) secondary to benign prostatic obstruction (BPO). This has traditionally been provided as monopolar TURP (MTURP), but morbidity associated with MTURP has led to the introduction of other surgical techniques. In bipolar TURP (BTURP), energy is confined between electrodes at the site of the resectoscope, allowing the use of physiological irrigation medium. There remains uncertainty regarding differences between these surgical methods in terms of patient outcomes. **Objectives:** To compare the effects of bipolar and monopolar TURP. **Search methods:** A comprehensive systematic electronic literature search was carried out up to 19 March 2019 via CENTRAL, MEDLINE, Embase, ClinicalTrials.gov, PubMed, and WHO ICTRP. Handsearching of abstract proceedings of major urological conferences and of reference lists of included trials, systematic reviews, and health technology assessment reports was undertaken to identify other potentially eligible studies. No language restrictions were applied. **Selection criteria:** Randomised controlled trials (RCTs) that compared monopolar and bipolar TURP in men (> 18 years) for management of LUTS secondary to BPO. **Data collection and analysis:** Two independent review authors screened the literature, extracted data, and assessed eligible RCTs for risk of bias. Statistical analyses were undertaken according to the statistical guidelines presented in the Cochrane Handbook for Systematic Reviews of Interventions. The quality of evidence (QoE) was rated according to the GRADE approach. **Main results:** A total of 59 RCTs with 8924 participants were included. The mean age of included participants ranged from 59.0 to 74.1 years. Mean prostate

volume ranged from 39 mL to 82.6 mL. Primary outcomes BTURP probably results in little to no difference in urological symptoms, as measured by the International Prostate Symptom Score (IPSS) at 12 months on a scale of 0 to 35, with higher scores reflecting worse symptoms (mean difference (MD) -0.24, 95% confidence interval (CI) -0.39 to -0.09; participants = 2531; RCTs = 16; $I^2 = 0\%$; moderate certainty of evidence (CoE), downgraded for study limitations), compared to MTURP. BTURP probably results in little to no difference in bother, as measured by health-related quality of life (HRQoL) score at 12 months on a scale of 0 to 6, with higher scores reflecting greater bother (MD -0.12, 95% CI -0.25 to 0.02; participants = 2004; RCTs = 11; $I^2 = 53\%$; moderate CoE, downgraded for study limitations), compared to MTURP. BTURP probably reduces transurethral resection (TUR) syndrome events slightly (risk ratio (RR) 0.17, 95% CI 0.09 to 0.30; participants = 6745; RCTs = 44; $I^2 = 0\%$; moderate CoE, downgraded for study limitations), compared to MTURP. This corresponds to 20 fewer TUR syndrome events per 1000 participants (95% CI 22 fewer to 17 fewer). Secondary outcomes BTURP may carry a similar risk of urinary incontinence at 12 months (RR 0.20, 95% CI 0.01 to 4.06; participants = 751; RCTs = 4; $I^2 = 0\%$; low CoE, downgraded for study limitations and imprecision), compared to MTURP. This corresponds to four fewer events of urinary incontinence per 1000 participants (95% CI five fewer to 16 more). BTURP probably slightly reduces blood transfusions (RR 0.42, 95% CI 0.30 to 0.59; participants = 5727; RCTs = 38; $I^2 = 0\%$; moderate CoE, downgraded for study limitations), compared to MTURP. This corresponds to 28 fewer events of blood transfusion per 1000 participants (95% CI 34 fewer to 20 fewer). BTURP may result in similar rates of re-TURP (RR 1.02, 95% CI 0.44 to 2.40; participants = 652; RCTs = 6; $I^2 = 0\%$; low CoE, downgraded for study limitations and imprecision). This corresponds to one more re-TURP per 1000 participants (95% CI 19 fewer to 48 more). Erectile function as measured by the International Index of Erectile Function score (IIEF-5) at 12 months on a scale from 5 to 25, with higher scores reflecting better erectile function, appears to be similar (MD 0.88, 95% CI -0.56 to 2.32; RCTs = 3; $I^2 = 68\%$; moderate CoE, downgraded for study limitations) for the two approaches. **Authors' conclusions:** BTURP and MTURP probably improve urological symptoms, both to

a similar degree. BTURP probably reduces both TUR syndrome and postoperative blood transfusion slightly compared to MTURP. The impact of both procedures on erectile function is probably similar. The moderate certainty of evidence available for the primary outcomes of this review suggests that there is no need for further RCTs comparing BTURP and MTURP.

- 59.** Tuaeve NO, Falzone L, Porozov YB, Nosyrev AE, Trukhan VM, Kovatsi L, Spandidos DA, Drakoulis N, Kalogeraki A, Mamoulakis C, Tzanakakis G, Libra M, Tsatsakis A. **Translational application of circulating DNA in oncology: Review of the last decades achievements.** *Cells.* 2019;**8**:1251.

In recent years, the introduction of new molecular techniques in experimental and clinical settings has allowed researchers and clinicians to propose circulating-tumor DNA (ctDNA) analysis and liquid biopsy as novel promising strategies for the early diagnosis of cancer and for the definition of patients' prognosis. It was widely demonstrated that through the non-invasive analysis of ctDNA, it is possible to identify and characterize the mutational status of tumors while avoiding invasive diagnostic strategies. Although a number of studies on ctDNA in patients' samples significantly contributed to the improvement of oncology practice, some investigations generated conflicting data about the diagnostic and prognostic significance of ctDNA. Hence, to highlight the relevant achievements obtained so far in this field, a clearer description of the current methodologies used, as well as the obtained results, are strongly needed. On these bases, this review discusses the most relevant studies on ctDNA analysis in cancer, as well as the future directions and applications of liquid biopsy. In particular, special attention was paid to the early diagnosis of primary cancer, to the diagnosis of tumors with an unknown primary location, and finally to the prognosis of cancer patients. Furthermore, the current limitations of ctDNA-based approaches and possible strategies to overcome these limitations are presented.

- 60.** Vasilopoulos E, Fragkiadaki P, Kalliora C, Fragou D, Docea AO, Vakonaki E, Tsoukalas D, Calina D, Buga AM, Georgiadis G, Mamoulakis C, Makrigiannakis

A, Spandidos DA, Tsatsakis A. **The association of female and male infertility with telomere length (Review). Int J Mol Med. 2019;44:375-389.**

Telomere length (TL) has long been associated with aging, as telomeres serve as protective caps of chromosomes, and are thus deeply involved in the preservation of genome integrity and are vital to cellular functions. Traditionally, a strong link connects aging and infertility in both sexes, with an earlier onset in females. Over the past decade, telomeres have attracted increasing attention due to the role they play in fertility. In this review, we investigated the potential positive or negative association between relative TL and different factors of female and male infertility. A systematic search of the PubMed database was conducted. Out of the 206 studies identified, 45 were reviewed as they fulfilled the criteria of validity and relevance. Following an analysis and a comparison of the study outcomes, several clear trends were observed. The majority of female infertility factors were associated with a shorter TL, with the exception of endometriosis, premature ovarian failure and clear cell carcinoma that were associated with a longer TL and polycystic ovary syndrome (PCOS), which revealed conflicting results among several studies, leading to ambiguous conclusions. Male infertility factors were associated with a shorter TL. Although this review can provide an outline of general trends in the association of TL with infertility factors, further epidemiological and original research studies are required to focus on investigating the basis of these varying lengths of telomeres.

61. Speakman MJ, Cornu JN, Gacci M, Gratzke C, Mamoulakis C, Herrmann TRW, Omar MI, Rieken M, Tikkinen KAO, Gravas S. **What is the required certainty of evidence for the implementation of novel techniques for the treatment of benign prostatic obstruction? Eur Urol Focus. 2019;5:351-356.**

Context: A large number of minimally invasive techniques have been developed for the surgical management of male lower urinary tract symptoms (LUTS) presumed to be secondary to benign prostatic obstruction (BPO) over the last 3 decades. Many have not stood the test of time often because they were overpromoted before there were sufficient data. **Objective:** The scope of this paper is to consider whether new devices, for the treatment of male LUTS/BPO, have been implemented prematurely

in the past. We also examine the relative certainty of evidence (CoE) that is currently available for newer developing technologies and make recommendations about the CoE that should be demanded in the future before widespread implementation. **Key messages:** This evidence must provide adequate length of follow-up to allow proper information to be provided for patients before treatment choices are made and to be able to create recommendations in high-quality guidelines such as those of the European Association of Urology. It is not just within the domain of LUTS treatments that this is important, other urological devices, such as mesh devices, have been equally "guilty" and likewise devices in most other (surgical) specialities. We believe that there is a need for a set of requirements built around primary randomised controlled trials (RCTs) looking at both efficacy and safety, and secondary studies to confirm the reproducibility and generalisability of the first pivotal studies. Otherwise, there is a danger that a single pivotal study can be overexploited by device manufacturers. Studies that are needed include (1) proof of concept, (2) RCTs on efficacy and safety, as well as (3) cohort studies with a broad range of inclusion and exclusion criteria to confirm both reproducibility and generalisability of the benefits and harms. It is not the purpose of this paper to make judgements about individual treatments but simply to look at different treatments to provide verification for this debate. **Patient summary:** Many new treatment devices have been developed over the last 20-30 yr, often with inadequate medium- to long-term results. Many have not stood the test of time, but were heavily promoted by manufacturers, the press, and some doctors when they were first released, meaning that many patients had unsatisfactory results. This paper proposes minimum standards for the investigation of new treatments before their widespread promotion to patients.

62. Karavitakis M, Kyriazis I, Omar MI, Gravas S, Cornu JN, Drake MJ, Gacci M, Gratzke C, Herrmann TRW, Madersbacher S, Rieken M, Speakman MJ, Tikkinen KAO, Yuan Y, Mamoulakis C. **Management of urinary retention in patients with benign prostatic obstruction: A systematic review and meta-analysis.** *Eur Urol.* 2019;**75**:788-798.

Context: Practice patterns for the management of urinary retention (UR) secondary to benign prostatic obstruction (BPO; UR/BPO) vary widely and remain

unstandardized. **Objective:** To review the evidence for managing patients with UR/BPO with pharmacological and nonpharmacological treatments included in the European Association of Urology guidelines on non-neurogenic male lower urinary tract symptoms. **Evidence acquisition:** Search was conducted up to April 22, 2018, using CENTRAL, MEDLINE, Embase, ClinicalTrials.gov, and World Health Organization International Clinical Trials Registry Platform. This systematic review included randomized controlled trials (RCTs) and prospective comparative studies. Methods as detailed in the Cochrane handbook were followed. Certainty of evidence (CoE) was assessed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach. **Evidence synthesis:** Literature search identified 2074 citations. Twenty-one studies were included (qualitative synthesis). The evidence for managing patients with UR/BPO with pharmacological or nonpharmacological treatments is limited. CoE for most outcomes was low/very low. Only α 1-blockers (alfuzosin and tamsulosin) have been evaluated in more than one RCT. Pooled results indicated that α 1-blockers provided significantly higher rates of successful trial without catheter compared with placebo [alfuzosin: 322/540 (60%) vs 156/400 (39%) (odds ratio {OR} 2.28, 95% confidence interval {CI} 1.55 to 3.36; participants=940; studies=7; I^2 =41%; low CoE); tamsulosin: 75/158 (47%) vs 40/139 (29%) (OR 2.40, 95% CI 1.29 to 4.45; participants=297; studies=3; I^2 =30%; low CoE)] with rare adverse events. Similar rates were achieved with tamsulosin or alfuzosin [51/87 (59%) vs 45/84 (54%) (OR 1.28, 95% CI 0.68 to 2.41; participants=171; studies=2; I^2 =0%; very low CoE)]. Nonpharmacological treatments have been evaluated in RCTs/prospective comparative studies only sporadically. **Conclusions:** There is some evidence that usage of α 1-blockers (alfuzosin and tamsulosin) may improve resolution of UR/BPO. As most nonpharmacological treatments have not been evaluated in patients with UR/BPO, the evidence is inconclusive about their benefits and harms. **Patient summary:** There is some evidence that alfuzosin and tamsulosin may increase the rates of successful trial without catheter, but little or no evidence on various nonpharmacological treatment options for managing patients with urinary retention secondary to benign prostatic obstruction.

- 63.** Mamoulakis C, Fragkiadoulaki I, Karkala P, Georgiadis G, Zisis IE, Stivaktakis P, Kalogeraki A, Tsiaoussis I, Lazopoulos G, Burykina T, Lazopoulos G, Tsarouhas K, Kouretas D, Tsatsakis A. **Contrast-induced nephropathy in an animal model: Evaluation of novel biomarkers in blood and tissue samples.** *Toxicol Rep.* 2019;6:395-400.

Identification of novel biomarkers of contrast-induced nephropathy (CIN) that may more accurately detect renal function changes; reflect kidney damage; assist monitoring; and elucidate pathophysiology attract considerable scientific attention nowadays. To evaluate novel biomarkers of nephrotoxicity in blood/tissue samples of a CIN model, 10 New Zealand white rabbits were divided into group 1 (n = 5; iopromide) and group 2 (n = 5; control). Blood was drawn at 0 h (immediately), 24 h and 48 h after contrast medium (CM) administration. Animals were euthanized at 48 h and kidneys were removed. Serum creatinine (sCr)/symmetric-asymmetric dimethylarginine (SDMA-ADMA) levels were measured. CM genotoxic/cytotoxic effect was investigated 48 h post-CM exposure using micronucleus assay in lymphocytes. Cytological examination was conducted using touch preparation technique (TPT). All animals in group 1 developed CIN: mean sCr levels increased by 68.2% within 48 h. Significant SDMA-ADMA level elevation was observed at 0 h and 24 h with insignificant drop at 48 h in group 1, remaining normal in group 2 at all time-points. Significant increase in bi-nucleated cells with micronuclei and micronuclei frequency was detected in group 1. Cytokinesis block proliferation index was reduced insignificantly in group 1. TPT revealed degenerative lesions/inflammation, cell degeneration, abnormal uterine tubular casts and rubella in kidneys of all animals in group 1. Group 2 presented normal cells.

- 64.** Brown P, RELISH Consortium; Zhou Y. **Large expert-curated database for benchmarking document similarity detection in biomedical literature search.** *Database (Oxford).* 2019 Jan 1;2019:baz085.

Document recommendation systems for locating relevant literature have mostly relied on methods developed a decade ago. This is largely due to the lack of a large offline gold-standard benchmark of relevant documents that cover a variety of

research fields such that newly developed literature search techniques can be compared, improved and translated into practice. To overcome this bottleneck, we have established the RElevant Literature Search consortium consisting of more than 1500 scientists from 84 countries, who have collectively annotated the relevance of over 180 000 PubMed-listed articles with regard to their respective seed (input) article/s. The majority of annotations were contributed by highly experienced, original authors of the seed articles. The collected data cover 76% of all unique PubMed Medical Subject Headings descriptors. No systematic biases were observed across different experience levels, research fields or time spent on annotations. More importantly, annotations of the same document pairs contributed by different scientists were highly concordant. We further show that the three representative baseline methods used to generate recommended articles for evaluation (Okapi Best Matching 25, Term Frequency-Inverse Document Frequency and PubMed Related Articles) had similar overall performances. Additionally, we found that these methods each tend to produce distinct collections of recommended articles, suggesting that a hybrid method may be required to completely capture all relevant articles. The established database server located at <https://relishdb.ict.griffith.edu.au> is freely available for the downloading of annotation data and the blind testing of new methods. We expect that this benchmark will be useful for stimulating the development of new powerful techniques for title and title/abstract-based search engines for relevant articles in biomedical research.

65. Georgiadis G, Mavridis C, Belantis C, Zisis IE, Skamagkas I, Fragkiadoulaki I, Heretis I, Tzortzis V, Psathakis K, Tsatsakis A. Mamoulakis C. **Nephrotoxicity issues of organophosphates. Toxicology. 2018;406-407: 129-136.**

Organophosphates are a large class of chemicals, initially invented in 1850 and since then they have been applied in numerous aspects of science to serve our purposes. Their mechanism of action in living organisms involves the irreversible inhibition of acetylcholinesterase, therefore they interfere with neuromuscular signal transmission. Due to the systematic and exaggerated use of these chemicals, there is massive exposure to them, hence there is great concern regarding the ramifications to all mammalian organisms. It has been widely accepted that over-exposure to

organophosphates, has a deleterious impact on the renal tissue and subsequently on the renal function. Despite the significance of this global issue, limited knowledge exists, regarding the effect of these substances on our health. Therefore, new and extensive research is required to expand our knowledge and ensure proper guidance regarding the use of organophosphates as well the protection against their detrimental consequences. The aim of this review is to negotiate the effect of organophosphate exposure on renal tissue and kidney function.

66. Tsiaoussis J, Hatzidaki E, Docea AO, Nikolouzakis TK, Petrakis D, Burykina T, Mamoulakis C, Makrigiannakis A, Tsatsakis A. **Molecular and clinical aspects of embryotoxicity induced by acetylcholinesterase inhibitors. Toxicology. 2018;409:137-143.**

Acetylcholinesterase inhibitors are widely used for a variety of medical, agricultural and public health purposes. Consequently, exposure is highly possible during lifetime. However, their systematic use raises concerns for the potential impact on the fetus and newborn since these substances may affect angiogenesis, the neonatal and maternal intensive care, neuroimmune function and response, mammary growth/lactation via cholinergic/non-cholinergic central and peripheral neuroendocrine pathways. New methodologies, neuroscientific technologies and research studies are needed to harness existing knowledge along with the proper management, availability for new acetylcholinesterase inhibitors, with stable pharmacodynamics and clinical outcomes.

67. Zachariou A, Mamoulakis C, Filiponi M, Dimitriadis F, Giannakis J, Skouros S, Tsounapi P, Takenaka A, Sofikitis N. **The effect of mirabegron, used for overactive bladder treatment, on female sexual function: A prospective controlled study. BMC Urol. 2018;18:61.**

Background: Aim of the study was to determine the effect of mirabegron, used for overactive bladder (OAB) treatment, on female sexual function. **Methods:** Eighty five sexually active women suffering from overactive bladder were prospectively enrolled in this study. Females were divided into two groups. In Group A (control), 48 patients received no treatment and in Group B, 37 patients received mirabegron

50 mg/daily for 3 months. Patients were evaluated with FSFI-Gr at the beginning of the study and again after a period of 3 months. **Results:** In Group B, there was a significant increase post-treatment compared to baseline ($p < 0.001$) in total FSFI (20.3 (3.8) to 26.6 (4.2)) and all domains (desire: 3.0 (1.2) to 4.8 (1.2)), arousal: 3.0 (0.8) to 4.8 (0.9), lubrication: 3.9 (1.1) to 4.8 (1.2), orgasm: 3.6 (0.8) to 4.8 (1.0), satisfaction: 3.2 (0.4) to 4.0 (0.8) and pain: 3.2 (0.8) to 4.4 (1.2)). In Group A, there were no statistically significant changes in pre- and post-observation values. **Conclusions:** This study is one of the few demonstrating that management of OAB with mirabegron improves female sexual function.

68. Tsarouhas K, Tsitsimpikou C, Papantoni X, Lazaridou D, Koutouzis M, Mazzaris S, Rezaee R, Mamoulakis C, Georgoulas P, Nepka C, Rentoukas E, Kyriakides Z, Tsatsakis A, Spandidos DA, Kouretas D. **Oxidative stress and kidney injury in trans-radial catheterization. Biomed Rep. 2018;8: 417-425.**

Oxidative stress is linked to coronary artery disease and is a major mechanism in contrast-induced nephropathy. Trans-radial approach in coronary angiography (CA) with minimized peri-procedural bleeding is expected to reduce acute kidney injury incidence. In the present study, oxidative stress patterns observed in radial CA and their associations with early manifestations of kidney injury are described. A total of 20 stable coronary disease patients submitted to CA and 17 sex-matched patients undergoing computed tomography for myoskeletal reasons were enrolled. Reduced glutathione, catalase, thiobarbituric acid reactive species (TBARS) levels and total anti-oxidant status were measured at various time points postangiography. In ischemic patients baseline TBARS levels were 2-fold lower compared to controls, while carbonyls levels were 35% higher. Glutathione was almost 4-fold lower than the control group. Glutathione and lipid peroxidation in ischemic patients gradually increased after contrast medium administration and reached 180% ($P < 0.001$) and 20% ($P = 0.021$) after 4-6 h, respectively. Four patients presented early evidence of contrast-induced nephropathy postangiography, while no control patient developed acute kidney injury. In the multiple logistic regression analysis, only the creatinine levels at baseline influenced the frequency of early contrast-induced nephropathy development ($\beta = 0.36$, 95% CI: 0.285-0.438, $P = 0.01$). Glutathione low levels were

dominant in the baseline values of ischemic patients who developed contrast-induced nephropathy. Glutathione levels rapidly increased while protein oxidation decreased at the expense of lipid peroxidation. In conclusion, early oxidative stress changes occur in trans-radial CA patients with a mild profile, sufficient to mobilize patient antioxidant defenses.

69. Kalliora C,¹ Mamoulakis C,¹ Vasilopoulos E, Stamatiades GA, Kalafati L, Barouni R, Karakousi T, Abdollahi M, Tsatsakis A. **Association of pesticide exposure with human congenital abnormalities. Toxicol Appl Pharmacol. 2018;346:58-75.**

Human pesticide exposure can occur both occupationally and environmentally during manufacture and after the application of indoor and outdoor pesticides, as well as through consumption via residues in food and water. There is evidence from experimental studies that numerous pesticides, either in isolation or in combination, act as endocrine disruptors, neurodevelopmental toxicants, immunotoxicants, and carcinogens. We reviewed the international literature on this subject for the years between 1990 and 2017. The studies were considered in this review through MEDLINE and WHO resources. Out of the n = 1817 studies identified, n = 94 were reviewed because they fulfilled criteria of validity and addressed associations of interest. Epidemiological studies have provided limited evidence linking pre- and post-natal exposure to pesticides with cancers in childhood, neurological deficits, fetal death, intrauterine growth restriction, preterm birth, and congenital abnormalities (CAs). In this review, the potential association between pesticide exposure and the appearance of some human CAs (including among others musculoskeletal abnormalities; neural tube defects; urogenital and cardiovascular abnormalities) was investigated. A trend towards a positive association between environmental or occupational exposure to some pesticides and some CAs was detected, but this association remains to be substantiated. Main limitations of the review include inadequate exposure assessment and limited sample size. Adequately powered studies with precise exposure assessments such as biomonitoring, are

¹ Equal contribution of authors

warranted to clarify with certainty the potential association between pesticide exposure and human CAs.

- 70.** Boda D, Docea AO, Calina D, Ilie MA, Caruntu C, Zurac S, Neagu M, Constantin C, Branisteanu DE, Voiculescu V, Mamoulakis C, Tzanakakis G, Spandidos DA, Drakoulis N, Tsatsakis AM. **Human papilloma virus: Apprehending the link with carcinogenesis and unveiling new research avenues (Review).** *Int J Oncol.* **2018;52:637-655.**

Human papilloma viruses (HPV) are a small group of non-enveloped viruses belonging to the Papillomaviridae family with strong similarities to polyoma viruses. The viral particles consist of a genome in the form of a circular double-stranded DNA, encompassing eight open reading frames, as well as a non-enveloped icosahedral capsid. HPV infection is considered the most common sexually transmitted disease in both sexes and is strongly implicated in the pathogenesis of different types of cancer. 'High-risk' mucosal HPV types, predominantly types 16, 18, 31, 33 and 35, are associated with most cervical, penile, vulvar, vaginal, anal, oropharyngeal cancers and pre-cancers. Screening for HPV is necessary for the prognosis and for determining treatment strategies for cancer. Novel HPV markers, including proteomic and genomic markers, as well as anti-papillomavirus vaccines are currently available. The aim of this comprehensive review was to thoroughly present the updated information on virus development, cancer occurrence, treatment and prevention strategies, in an attempt to shed further light into the field, including novel research avenues.

- 71.** Mamoulakis C, Gorgoraptis P, Kehagias E, Karantanis AH. **Foreign body mimicking neoplasia of the renal pelvis on magnetic resonance imaging.** *Turk J Urol.* **2018;44:82-86.**

A 65-year-old male presented with an incidental magnetic resonance imaging (MRI) finding of a right renal pelvis (RP) tumor-like mass. He was submitted to nephrostomy tube (NT) placement due to hydronephrosis secondary to an impacted ureteral stone. NT was removed after successful Ho:YAG laser lithotripsy. Abdominal MRI performed 19 months later for another indication showed RP wall

thickening/ enhancement and an intra-pelvic low-intensity linear structure presenting a magnetic susceptibility artifact. He underwent diagnostic ureterorenoscopy/ retrograde intrarenal surgery. A calcified NT locking suture remnant was found within the pelvis surrounded by reactive edema without evidence of tumor. Foreign body (FB) was removed after disintegration of surrounding calcifications using Ho:YAG laser. This is the first case of a calcified NT locking suture remnant mimicking RP tumor on MRI. The case underlies the importance of safe NT removal. Specific MRI findings may prove valuable for pre-operative diagnosis of intrarenal FBs in cases with history of endourological interventions evaluated for upper urinary tract masses. Multidisciplinary-uroradiological approach of such cases is essential.

72. Petrakis D,¹ Vassilopoulou L,¹ Mamoulakis C,¹ Psycharakis C, Anifantaki A, Sifakis S, Docea AO, Tsiaoussis J, Makrigiannakis A, Tsatsakis A. **Endocrine disruptors leading to obesity and related diseases. Int J Environ Res Public Health. 2017;14:1282.**

The review aims to comprehensively present the impact of exposure to endocrine disruptors (EDs) in relation to the clinical manifestation of obesity and related diseases, including diabetes mellitus, metabolic syndrome, cardiovascular diseases, carcinogenesis and **infertility**. EDs are strong participants in the obesity epidemic scenery by interfering with cellular morphological and biochemical processes; by inducing inflammatory responses; and by presenting transcriptional and oncogenic activity. Obesity and lipotoxicity enhancement occur through reprogramming and/or remodeling of germline epigenome by exposure to EDs. Specific population groups are vulnerable to ED exposure due to current dietary and environmental conditions. Obesity, morbidity and carcinogenicity induced by ED exposure are an evolving reality. Therefore, a new collective strategic approach is deemed essential, for the reappraisal of current global conditions pertaining to energy management.

73. Costa C, Tsatsakis A, Mamoulakis C, Teodoro M, Briguglio G, Caruso E, Tsoukalas D, Margina D, Dardiotis E, Kouretas D, Fenga C. **Current**

¹ Equal contribution of authors

evidence on the effect of dietary polyphenols intake on chronic diseases. Food Chem Toxicol. 2017;110:286-299.

Polyphenols are secondary metabolites of plants. They comprise several antioxidant compounds and they are generally considered to be involved in the defense against human chronic diseases. During the last years, there has been growing scientific interest in their potential health benefits. **In this comprehensive review, we focus on the current evidence defining the position of their dietary intake in the prevention/treatment of human chronic diseases, including prostate cancer** and other types of cancer, cardiovascular diseases, diabetes mellitus and neurodegenerative diseases such as Alzheimer's and Parkinson's disease; we also discuss their ability to modulate multiple signaling transduction pathways involved in the pathophysiology of these diseases. Despite the fact that data regarding the biological functions of polyphenols can be considered exhaustive, evidence is still inadequate to support clear beneficial effects on human chronic diseases. Currently, most data suggest that a combination of phytochemicals rather than any single polyphenol is responsible for health benefit. More studies investigating the role of polyphenols in the prevention of chronic human diseases are needed, especially for evaluating factors such as gender, age, genotype, metabolism and bioavailability.

74. Kouka P, Priftis A, Stagos D, Angelis A, Stathopoulos P, Xinos N, Skaltsounis AL, Mamoulakis C, Tsatsakis AM, Spandidos DA, Kouretas D. Assessment of the antioxidant activity of an olive oil total polyphenolic fraction and hydroxytyrosol from a Greek Olea europea variety in endothelial cells and myoblasts. Int J Mol Med. 2017;40:703-712.

Olive oil (OO) constitutes the basis of the Mediterranean diet, and it seems that its biophenols, such as hydroxytyrosol (HT) may scavenge free radicals, attracting distinct attention due to their beneficial effects in many pathological conditions, such as cancer. To the best of our knowledge, this is the first study in which the functional properties of an OO total polyphenolic fraction (TPF) and pure HT were examined in order to determine their antioxidant effects at a cellular level in endothelial cells and myoblasts. The test compounds were isolated using a green gradient-elution

centrifugal partition chromatography-based method that allows the isolation of large volumes of OO in a continuous extraction procedure and with extremely low solvent consumption. For the isolation of HT, a combination of two chromatographic techniques was used, which is effective for the recovery of pure compounds from complex natural extracts. Moreover, TPF and HT exhibited potent free radical scavenging activity in vitro. The cells were treated with non-cytotoxic concentrations and their redox status [in terms of glutathione (GSH) and reactive oxygen species (ROS) levels] was assessed. TPF extract was less cytotoxic than HT, and the observed differences between the two cell lines used suggest a tissue-specific activity. Finally, flow cytometric analysis revealed that both TPF and HT improved the redox status by increasing the levels of GSH, one of the most important antioxidant molecules, in both endothelial cells and myoblasts, while the ROS levels were not significantly affected.

75. Lupu M, Caruntu A, Caruntu C, Papagheorghe LML, Ilie MA, Voiculescu V, Boda D, Carolina C, Tanase C, Sifaki M, Drakoulis N, Mamoulakis C, Tzanakakis G, Neagu M, Spandidos DA, Izotov BN, Tsatsakis AM. **Neuroendocrine factors: The missing link in non-melanoma skin cancer (Review). *Oncol Rep.* 2017;38:1327-1340.**

Non-melanoma skin cancer (NMSC) is the most common form of cancer worldwide, comprising 95% of all cutaneous malignancies and approximately 40% of all cancers. In spite of intensive efforts aimed towards awareness campaigns and sun-protective measures, epidemiological data indicate an increase in the incidence of NMSC. This category of skin cancers has many common environmental triggers. Arising primarily on sun-exposed skin, it has been shown that ultraviolet radiation is, in the majority of cases, the main trigger involved in the pathogenesis of NMSC. **Aside from the well-known etiopathogenic factors, studies have indicated that several neuroactive factors are involved in the carcinogenesis of two of the most common types of NMSC, namely basal cell carcinoma (BCC) and squamous cell carcinoma (SCC), with the exception of penile SCC, for which a paucity of specific data on their pathogenic role exists.** The complex interaction between the peripheral nervous system and target cells in the skin appears to be mediated by

locally released neuroendocrine factors, such as catecholamines, substance P, calcitonin gene-related peptide and somatostatin, as well as neurohormones, such as proopiomelanocortin and its derived peptides, α -melanocyte-stimulating hormone and adrenocorticotropin. All these factors have been, at least at some point, a subject of debate regarding their precise role in the pathogenesis of NMSC. There is also a significant body of evidence indicating that psychological stress is a crucial impact factor influencing the course of skin cancers, including SCC and BCC. Numerous studies have suggested that neuroendocrine factor dysregulation, as observed in stress reactions, may be involved in tumorigenesis, accelerating the development and progression, and suppressing the regression of NMSC. Further studies are required in order to elucidate the exact mechanisms through which neuroactive molecules promote or inhibit cutaneous carcinogenesis, as this could lead to the development of more sophisticated and tailored treatment protocols, as well as open new perspectives in skin cancer research.

76. Lilitsis E, Dermitzaki D, Avgenakis G, Heretis I, Mpelantis C, Mamoulakis C. Takotsubo cardiomyopathy after spinal anesthesia for a minimally invasive urologic procedure. Case Rep Anesthesiol. 2017;2017:8641641.

We present the case of a patient who suffered from Takotsubo cardiomyopathy (TCM) immediately after the initiation of subarachnoid anesthesia for a minimally invasive urologic procedure (tension-free vaginal tape (TVT) surgery for stress urine incontinence). TCM mimics acute coronary syndrome and is caused by an exaggerated sympathetic reaction to significant emotional or physical stress. Our patient suffered from chest pain, palpitations, dyspnea, and hemodynamic instability immediately following subarachnoid anesthesia and later in the postanesthesia care unit. Blood troponin was elevated and new electrocardiographic changes appeared indicative of cardiac ischemia. Cardiac ultrasound indicated left ventricular apical akinesia and ballooning with severely affected contractility. The patient was admitted to coronary intensive care for the proper care and finally was discharged. TCM was attributed to high emotional preoperative stress for which no premedication had been administered to the patient. In conclusion, adequate premedication and anxiety management are not only a measure to alleviate psychological stress of surgical

patients, but, more importantly, an imperative mean to suppress sympathetic nerve system response and its cardiovascular consequences.

77. Sakalis VI, Karavitakis M, Bedretdinova D, Bach TJLH, Bosch R, Gacci M, Gratzke C, Herrmann TR, Madersbacher S, Mamoulakis C, Tikkinen KAO, Gravas S, Drake MJ. **Medical treatment of Nocturia in men with lower urinary tract symptoms; systematic review by the EAU Guidelines panel for Male LUTS. Eur Urol. 2017;72:757-769.**

Context: The treatment of nocturia is a key challenge due to the multifactorial pathophysiology of the symptom, and the disparate outcome measures used in research. **Objective:** To assess and compare available therapy options for nocturia, in terms of symptom severity and quality of life. **Evidence acquisition:** Medical databases were searched with no date restriction. Comparative studies were included which studied adult men with nocturia as the primary presentation, LUTS including nocturia, or nocturnal polyuria. Outcomes were symptom severity, quality of life and harms. **Evidence synthesis:** We identified 46 articles. Antidiuretic therapy using dose titration was more effective than placebo in relation to nocturnal voiding frequency and duration of undisturbed sleep; baseline sodium is a key selection criterion. Medications to treat lower urinary tract dysfunction (alpha-1 adrenergic antagonists, 5-alpha reductase inhibitors, PDE-5 inhibitor, antimuscarinics, beta-3 agonist, phytotherapy) were generally not significantly better than placebo in short term use. Differences emerged in studies where alpha-1 adrenergic antagonist was the comparator. Benefits with combination therapies were not consistently observed. Other medications (diuretics, agents to promote sleep, non-steroidal anti-inflammatories) were sometimes associated with response or quality of life improvement. The recommendations of the Guideline panel are presented. **Conclusions:** Issues of trial design make therapy of nocturia a challenging topic. The range of contributory factors relevant in nocturia makes it desirable to identify predictors of response to guide therapy. Consistent responses were reported for titrated antidiuretic therapy. For other therapies, responses were less certain, and potentially of limited clinical benefit. **Patient summary:** This review provides an overview of the current drug treatments of nocturia, which is the need to wake at

night to pass urine. The symptom can be caused by several different medical conditions, and measuring its severity and impact varies in separate research studies. No one treatment deals with the symptom in all contexts, and careful assessment is essential to make suitable treatment selection.

78. Mamoulakis C,¹ Tsarouhas K,¹ Fragkiadoulaki I,¹ Heretis I, Wilks MF, Spandidos DA, Tsitsimpikou C, Tsatsakis A. **Contrast-induced nephropathy: Basic concepts, pathophysiological implications and prevention strategies. Pharmacol Ther. 2017;180:99-112.**

Contrast-induced nephropathy (CIN) is reversible acute renal failure observed following administration of iodinated contrast media (CM) during angiographic or other medical procedures such as urography. There are various mechanisms through which CM develop their nephrotoxic effects, including oxidative stress and apoptosis. CIN is a real-life, albeit not very rare, entity. Exact pathophysiology remains obscure and no standard diagnostic criteria apply. The Acute Kidney Injury Network criteria was recently employed but its incidence/clinical significance warrants further clarification based on recent methodological advancements, because most published studies to date were contaminated by bias. The current study is a comprehensive review conducted to provide an overview of the basic concepts of CIN and summarize recent knowledge on its pathophysiology and the evidence supporting potential prevention strategies. CIN is expected to increase morbidity, hospital stay and mortality, while all patients scheduled to receive CM should undergo risk assessment for CIN and high-risk patients may be considered candidates for prevention strategies. The value of using compounds with antioxidant properties other than sodium bicarbonate, remains controversial, warranting further clinical investigation.

79. Mamoulakis C, Avgenakis G, Gkatzoudi C, Duijker G, Zisis IE, Heretis I, Antypas S, Sofikitis N, Spandidos DA, Tsatsakis A, Tzonou A. **Seasonal trends in the prevalence of hypospadias: Aetiological implications. Exp Ther Med. 2017;13:2960-2968.**

¹ Equal contribution of authors

The aim of the present study was to examine the seasonality of hypospadias in Greece in an attempt to elucidate the aetiology. All boys born between 1991-1998, who underwent hypospadias repair at 'Aghia Sophia' Children's Hospital, Athens (n=542) were analysed. All Greek live-born males during the same period (population at risk; m=421,175) served as the controls. Seasonality by month of birth was evaluated with specific statistical tools. Meteorological parameters were also analysed. All tests yielded significant results, suggesting a simple harmonic prevalence pattern (highest/lowest: autumn, peak in October/spring, trough in April). Therefore, the first trimester of hypospadiac gestations coincides more frequently with winter. Meteorological parameters varied seasonally (maximal sunlight; air temperature in summer/minimal in winter, maximal rainfall in winter/minimal in summer) and were strongly associated pairwise. Hypospadiac birth prevalence follows a simple harmonic seasonal pattern and is associated with that of cryptorchidism in Greece. The coincidence of the first or third trimester of a potentially genetically influenced gestation with winter could lead to the phenotypic expression of hypospadias or cryptorchidism, respectively. The potential role of a cyclic-varied androgen-production stimulator, such as human chorionic gonadotrophin may be speculated. The seasonality of a common environmental factor acting directly/indirectly may contribute to these patterns, and possibly to the common pathogenesis of these congenital malformations.

80. Sorokin I, Mamoulakis C, Miyazawa K, Rodgers A, Talati J, Lotan Y. Epidemiology of stone disease across the world. *World J Urol.* 2017;35**:1301-1320.**

Nephrolithiasis is a highly prevalent disease worldwide with rates ranging from 7 to 13% in North America, 5-9% in Europe, and 1-5% in Asia. Due to high rates of new and recurrent stones, management of stones is expensive and the disease has a high level of acute and chronic morbidity. The goal of this study is to review the epidemiology of stone disease in order to improve patient care. A review of the literature was conducted through a search on Pubmed®, Medline®, and Google Scholar®. This review was presented and peer-reviewed at the 3rd International Consultation on Stone Disease during the 2014 Société Internationale d'Urologie

Congress in Glasgow. It represents an update of the 2008 consensus document based on expert opinion of the most relevant studies. There has been a rising incidence in stone disease throughout the world with a narrowing of the gender gap. Increased stone prevalence has been attributed to population growth and increases in obesity and diabetes. General dietary recommendations of increased fluid, decreased salt, and moderate intake of protein have not changed. However, specific recommended values have either changed or are more frequently reported. Geography and environment influenced the likelihood of stone disease and more information is needed regarding stone disease in a large portion of the world including Asia and Africa. Randomized controlled studies are lacking but are necessary to improve recommendations regarding diet and fluid intake. Understanding the impact of associated conditions that are rapidly increasing will improve the prevention of stone disease.

81. Malde S, Nambiar AK, Umbach R, Lam TB, Bach T, Bachmann A, Drake MJ, Gacci M, Gratzke C, Madersbacher S, Mamoulakis C, Tikkinen KA, Gravas S; European Association of Urology Non-neurogenic Male LUTS Guidelines Panel. **Systematic review of the performance of non-invasive tests in diagnosing bladder outlet obstruction in men with lower urinary tract symptoms.** *Eur Urol.* 2017;**17**:391-402.

Context: Several noninvasive tests have been developed for diagnosing bladder outlet obstruction (BOO) in men to avoid the burden and morbidity associated with invasive urodynamics. The diagnostic accuracy of these tests, however, remains uncertain. **Objective:** To systematically review available evidence regarding the diagnostic accuracy of noninvasive tests in diagnosing BOO in men with lower urinary tract symptoms (LUTS) using a pressure-flow study as the reference standard. **Evidence acquisition:** The EMBASE, MEDLINE, Cochrane Database of Systematic Reviews, Cochrane Central, Google Scholar, and WHO International Clinical Trials Registry Platform Search Portal databases were searched up to May 18, 2016. All studies reporting diagnostic accuracy for noninvasive tests for BOO or detrusor underactivity in men with LUTS compared to pressure-flow studies were included. Two reviewers independently screened all articles, searched the reference lists of retrieved articles, and performed the data extraction. The quality of evidence and risk

of bias were assessed using the QUADAS-2 tool. **Evidence synthesis:** The search yielded 2774 potentially relevant reports. After screening titles and abstracts, 53 reports were retrieved for full-text screening, of which 42 (recruiting a total of 4444 patients) were eligible. Overall, the results were predominantly based on findings from nonrandomised experimental studies and, within the limits of such study designs, the quality of evidence was typically moderate across the literature. Differences in noninvasive test threshold values and variations in the urodynamic definition of BOO between studies limited the comparability of the data. Detrusor wall thickness (median sensitivity 82%, specificity 92%), near-infrared spectroscopy (median sensitivity 85%, specificity 87%), and the penile cuff test (median sensitivity 88%, specificity 75%) were all found to have high sensitivity and specificity in diagnosing BOO. Uroflowmetry with a maximum flow rate of <10 ml/s was reported to have lower median sensitivity and specificity of 68% and 70%, respectively. Intravesical prostatic protrusion of >10 mm was reported to have similar diagnostic accuracy, with median sensitivity of 68% and specificity of 75%. **Conclusions:** According to the literature, a number of noninvasive tests have high sensitivity and specificity in diagnosing BOO in men. However, although the majority of studies have a low overall risk of bias, the available evidence is limited by heterogeneity. While several tests have shown promising results regarding noninvasive assessment of BOO, invasive urodynamics remain the gold standard. **Patient summary:** Urodynamics is an accurate but potentially uncomfortable test for patients in diagnosing bladder problems such as obstruction. We performed a thorough and comprehensive review of the literature to determine if there were less uncomfortable but equally effective alternatives to urodynamics for diagnosing bladder problems. We found that some simple tests appear to be promising, although they are not as accurate. Further research is needed before these tests are routinely used in place of urodynamics.

82. Blevrakis E, Chatzidarellis E, Anyfantakis D, Sakellaris G, Raissaki M, Zoras O, Mamoulakis C, Sofras F, Chrysos E. **Impact of varicocele on biological markers of gonadal function.** *Hernia.* 2016;20:435-9.

Purpose. The aim of this study is to evaluate the potential effect of varicocele in the hormonal and clinical profile of adolescents. **Methods.** Twenty adolescents at Tanner stage 4–5 with left varicocele were studied and compared with a control group of 20 healthy adolescents. All patients underwent ultrasonographic testicular volumetry as well as hormonal evaluation of inhibin B, testosterone, baseline and gonadotropin-releasing hormone stimulated, follicle-stimulating hormone as well as luteinizing hormone. Statistical analysis was performed using the student's t test with p value\0.05 taken as statistical significant. **Results.** Patients with varicocele showed reduced levels of inhibin B compared to controls and a significant reduction in the testicular volume on the affected side. The response of luteinizing hormone to gonadotropin-releasing hormone stimulation was significantly higher in the varicocele group compared to the control group. Furthermore a significant inverse relationship of inhibin B compared to follicle-stimulating hormone was noted. **Conclusion.** Serum inhibin B levels could represent a useful marker of Sertoli cell damage caused by varicocele.

83. Skolarikos A, Rassweiler J, de la Rosette JJ, Alivizatos G, Scoffone C, Scarpa RM, Schulze M, Mamoulakis C. **Safety and efficacy of bipolar versus monopolar transurethral resection of the prostate in patients with large prostates or severe lower urinary tract symptoms: Post hoc analysis of a European multicenter randomized controlled trial.** *J Urol.* 2016;195:677-84.

Purpose: To compare B-TURP vs. M-TURP safety/secondary outcomes including efficacy in patients with large PV or severe LUTS. **Material and Methods:** From July 2006 to June 2009, TURP candidates were recruited in four centers, randomized 1:1 into M-TURP/B-TURP arm and followed-up to 36 months. Post hoc data analysis from patients with large PV or severe LUTS is presented. Patients with large PV or severe LUTS were defined as those with transrectal ultrasound-based PV >80ml or IPSS >19. Safety was estimated using sodium/hemoglobin changes immediately post-surgery; complications during early postoperative period (up to 6 weeks), short-term (up to 12 months) and midterm (up to 36 months) follow-up. Secondary outcomes included among others efficacy quantified by changes in maximum urine flow rate, post-void residual urine volume and IPSS compared with baseline. **Results:**

279 patients were randomized. Post hoc analysis of data from patients with large PV or severe LUTS was based on A) 62/279 (22.3%) (M-TURP, n=32; B-TURP, n=30) or B) 126/279 (45.2%) participants (M-TURP, n=57; B-TURP, n=69). Mean (SD) PV was 108.0 (25.9) ml (M-TURP) and 108.9 (23.4) ml (B-TURP) (p=0.756). Mean (SD) IPSS was 25.0 (4.2) (M-TURP) and 25.3 (3.7) (B-TURP) (p=0.402). Neither safety nor any secondary outcome differed significantly between arms throughout follow-up. The only exception was sodium drop (analysis A); significantly greater after M-TURP (-4.2 vs. -0.7 mmol/L; p=0.023) not translating into significant difference in TURsyndrome rates (M-TURP: 1/32 vs. B-TURP: 0/30; p=1.000). **Conclusion:** B-TURP and M-TURP show similar safety/efficacy in these patients' subpopulations.

84. Mamoulakis C, Antypas S, Sofras F, Takenaka A, Sofikitis N. Testicular Descent. Hormones (Athens). 2015;14:515-30.

Normal testicular descent (TD) appears to be a complex, multistage process involving interplay of different anatomical structures, hormones, environmental and genetic factors but its purpose and the exact aetiology of TD impairment remains largely unknown due to relative lack of knowledge on the precise governing molecular mechanisms. TD is under hormonal control. Hypothalamo-pituitary-gonadal axis integrity is usually a prerequisite for normal TD but hormonal deficiencies do not appear to be common causes of TD impairment. Several animal and human studies are underway to test the hypothesis that in utero factors, including environmental and maternal lifestyle factors, may interfere with normal TD. Genetic factors are also expected to cause or modify the risk of TD impairment under certain conditions by gene - environment interactions and the overall evidence supports a genetic basis, at least in some cases. The role of several genetic factors including Insulin-like 3 (INSL3) gene alterations has been recently evaluated in a large study conducted at our institutions. In line with other human mutational studies, it was concluded that the genetic predisposition that seems to affect a subpopulation with TD impairment should be further evaluated by investigating novel candidate genetic factors.⁶⁻⁸ and that known genetic factors are responsible for only a small proportion of such cases.

The aim of the present review is to summarize current knowledge on normal TD in the human, including evolutionary aspects and interspecies differences.

85. Oelke M, Speakman MJ, Desgrandchamps F, Mamoulakis C. Acute urinary retention rates in the general male population and in adult men with lower urinary tract symptoms participating in pharmacotherapy trials: A literature review. Urology. 2015;86:654-65.

Despite proven efficacy, antimuscarinics are not frequently used for treating lower urinary tract symptoms in adult men, due to the perception of an increased risk of acute urinary retention (AUR). Men treated with alpha-blockers, 5-alpha-reductase inhibitors, or their combinations have lower AUR incidence rates than the general symptomatic population. In the selected study population in this review (men with post-void residuals ≤ 200 ml), the risk of AUR with antimuscarinics with/without alpha-blockers may be increased during short-term treatment, but if patients do not develop AUR in the first 3 months, their subsequent risk is lower than in the untreated, symptomatic population.

86. Chondros K, Heretis I, Papadakis M, Bozionelou V, Mavromanolakis E, Chondros N, Mamoulakis C. Dedifferentiated paratesticular liposarcoma with osseous metaplasia. Case Rep Urol. 2015;2015:965876.

Paratesticular liposarcoma is a rare tumour of the genitourinary track but the most common of all sarcomas in adults. The dedifferentiated variation occurs only in 10% of liposarcoma cases. The typical clinical presentation is similar to an inguinal hernia or a benign lipoma. We present the case of a dedifferentiated paratesticular liposarcoma with osseous metaplasia of the spermatic cord, in a male presented with acute scrotum.

87. Mamoulakis C, de la Rosette J. Bipolar transurethral resection of the prostate: Darwinian evolution of an instrumental technique. Urology. 2015;85:1143-50.

Bipolar transurethral resection of the prostate (B-TURP) represents a Darwinian evolution of an instrumental technique that has been justified by reinforcing the

leading position of monopolar transurethral resection of the prostate. Notwithstanding limitations, the best available evidence recommends B-TURP as an attractive alternative. It may serve as a reliable training platform for modern residents. High-quality evidence is lacking to definitely define its position in treating special subpopulations (anticoagulation dependence, comorbidities, and large adenomas). Regarding economic issues, preliminary evidence supports B-TURP, warranting further investigation. Future perspectives include attempts toward improvements of the existing technology, combining advantages with those of other new techniques, and evolution to novel, potentially safer, or more efficient techniques to address remaining challenges.

88. Chondros K, Karpathakis N, Heretis I, Chondros N, Mavromanolakis E, Sofras F, Mamoulakis C. **Validation of revised Epstein's criteria for insignificant prostate cancer prediction in a Greek subpopulation. Hippokratia. 2015;19:30-3.**

Background: Different treatment options for patients with prostate cancer (PCa) are applicable after stratifying patients according to various classification criteria. The purpose of our study is to evaluate the revised Epstein's criteria for insignificant PCa prediction in a Greek subpopulation. **Methods:** During a 4-year-period, 172 Cretan patients were submitted to radical retropubic prostatectomy in our institution. 23 out of them met the revised Epstein's criteria for the presence of clinically insignificant PCa (clinical stage T1c, prostate specific antigen density < 0.15 ng/ml/g, absence of Gleason pattern 4-5, <3 positive biopsy cores, presence of <50% tumor per core) during pre-treatment evaluation and were retrospectively included in the study. Post-surgery outcomes were evaluated including pathological stage, surgical margins and Gleason score upgrade. **Results:** Organ confined disease and insignificant PCa were predicted with a 74% and 31% accuracy, respectively. These figures are remarkably lower than those derived from similar studies worldwide. **Conclusions:** Due to the high variation in the revised Epstein's criteria prediction accuracy observed worldwide, the development and implementation of novel tools/nomograms with a greater predictive accuracy is still warranted.

89. Mamoulakis C. Clinical Research Office of the Endourological Society global registries: A reliable platform for robust evidence in Endourology. J Endourol. 2015;29:109-12.

Background. The Clinical Research Office of the Endourological Society (CROES) has been facilitating global clinical research in endourology for more than 6 years. Fulfilling its objectives (promote/support international research, create a global network, provide adequate infrastructure to support/conduct studies, serve as a platform for technologic development in partnership with industry), CROES has coordinated several qualitative (survey-based) studies and a number of prospective quantitative (global registry-based) studies to date, including the Global Percutaneous Nephrolithotomy (PCNL) Study, the Global GreenLight™ Laser Study, the Global Renal Mass Study, the Global Ureterorenoscopy Study, and the first randomized controlled trial (RCT), namely the Global Narrow Band Imaging (NBI) Study.

Quality of CROES global patient registries. Patient registry is an organized system that uses observational study methods to collect uniform data to evaluate specified outcomes for a population defined by a particular disease, condition, or exposure, and serves one or more predetermined scientific/clinical purposes. The development of a high-quality patient registry is demanding, but the benefits of such a hard task have long been recognized. Such registries must include data on all consecutive cases, make use of standardized definitions of conditions/outcomes, ensure data completeness/ accuracy, and include data on all known patient characteristics that may potentially affect the outcomes.¹ Concretely, for the planning and creation of high quality registries, the following should apply: (1) Data are collected in a naturalistic manner - that is, patient management is determined by caregivers and patients together and not by the registry protocol; (2) the registry is designed to fulfill specific purposes defined before data collection/analysis; (3) the registry captures data elements with specific/consistent definitions; (4) data are collected in a uniform manner for each patient; (5) data collected are derived from/reflect the clinical status of the patient; and (6) data are collected specifically for the purpose of the registry rather than inferred from sources created for another purpose (administrative, billing, pharmacy databases, etc.). CROES fully endorses these recommendations aiming to

conduct studies according to highest standards of ethics and quality. Its structure facilitates the necessary conditions that guaranty reliable/scientifically credible study conduction by focusing on particular steps that ensure highest quality of its patient registries. To safeguard that CROES registries are conducted within a reliable platform able to provide robust evidence in endourology, an audit committee is in place. This mechanism most of the time is absent from other retrospective multicenter data sets or even from prospective multicenter studies being undertaken currently. Consequently, the CROES network can truly claim to be able to provide robust evidence from their global registries. **Registry-based studies vs RCTs.** In the era of evidence-based urology, the highest level of evidence (LoE) is demanded. Such evidence is typically derived from well-designed, conducted, and reported (international multicenter) RCTs and high-quality RCT-based meta-analyses. It is well recognized, though, that high-quality surgical RCTs are scarce in several fields, with a majority of urologic studies providing a low LoE not well suited to guiding clinical decisions because of barriers to high-quality surgical research inevitably jeopardizing the validity of many RCTs.⁵ This fact often leads to a compromise by accepting “the best available evidence” in many cases, and potential solutions have already started to be implemented. Registry-based studies and RCTs have important and complementary roles in evaluating patient outcomes. Ideally, registries consist of data collected in a comprehensive manner, potentially producing generalizable results to a wide range of patients; they evaluate actual care (not assigned, determined, or recommended by a protocol), reflecting better real-world practice; they offer the ability to evaluate outcomes when RCTs are difficult, impractical, or not ethically acceptable to conduct (such as often in surgery), or when very long-term outcomes are desired.³ Furthermore, registries can also facilitate the conduct of RCTs by retrospectively identifying very large numbers of potential subjects for eligibility screening and enrollment in RCTs. This matching can lead to more timely recruitment and help solve a major problem in conducting clinical trials. Registries observing real-world clinical practice may collect all the information to assess outcomes in a generalizable way, but interpretation necessitates analytic methodology geared to address potential bias sources that challenge observational studies, while data

interpretation necessitates internal validity checks and sometimes uses of external data sources to validate key assumptions. Patient registries and RCTs should be considered tools for evidence development, each with its own advantages and limitations.¹¹ A question that arises, however, is where to place registry-based studies within the evidence hierarchy. Even the most rigorously conducted registries, such as prospective observational studies, are traditionally placed below RCTs in some commonly used hierarchies, and at an equal position in others.^{12–14} Debate continues regarding traditional methods of grading LoE. Beyond evidence hierarchy debate, evidence users should comprehend the value of registries for providing complementary information that can extend the results of RCTs to populations not studied in those trials, for showing real-world effects of treatments outside of the research setting and potentially in large subsets of affected patients, and for providing long-term follow-up when such data are not available from clinical trials. **Novel CROES global patient registries.** Consistent with its mission and vision, CROES has recently launched the coordination of two new projects: (1) Registry of irreversible electroporation for the ablation of prostate cancer with the use of Nanoknife (IRE Nanoknife) and (2) registry for treatment of upper-tract urothelial cancer (UTUC). IRE Nanoknife is a multicenter international registry (prospective observational study) to evaluate treatment of patients with prostate cancer in terms of recurrence and functional outcomes/safety. Data will be recorded for 5 years from consecutive patients undergoing treatment with IRE Nanoknife® (AngioDynamics) for ablating prostate cancer, with a 5-year follow-up. The aim is to assess recurrence after 1 and 5 years, to determine baseline patient characteristics, and to collect information on possible differences in IRE treatment among centers. UTUC is a multicenter international registry (prospective observational study) to evaluate the treatment of UTUC in terms of incidence, indications, treatment types, and outcomes. Data from consecutive patients undergoing treatment for UTUC will be recorded. Main study parameters/end points are overall and cancer-specific survival at 1 year after diagnosis after different kinds of treatment. Follow-up will be as long as 5 years.

90. Gratzke C, Bachmann A, Descazeaud A, Drake MJ, Madersbacher S, Mamoulakis C, Oelke M, Tikkinen KA, Gravas S. **EAU Guidelines on the**

Assessment of Non-neurogenic Male Lower Urinary Tract Symptoms including Benign Prostatic Obstruction. Eur Urol. 2015;67:1099-109.

Context: Lower urinary tract symptoms (LUTS) represent one of the most common clinical complaints in adult men and have multifactorial aetiology. **Objective:** To develop European Association of Urology (EAU) guidelines on the assessment of men with non-neurogenic LUTS. **Evidence acquisition:** A structured literature search on the assessment of non-neurogenic male LUTS was conducted. Articles with the highest available level of evidence were selected. The Delphi technique consensus approach was used to develop the recommendations. **Evidence synthesis:** As a routine part of the initial assessment of male LUTS, a medical history must be taken, a validated symptom score questionnaire with quality-of-life question(s) should be completed, a physical examination including digital rectal examination should be performed, urinalysis must be ordered, post-void residual urine (PVR) should be measured, and uroflowmetry may be performed. Micturition frequency-volume charts or bladder diaries should be used to assess male LUTS with a prominent storage component or nocturia. Prostate-specific antigen (PSA) should be measured only if a diagnosis of prostate cancer will change the management or if PSA can assist in decision-making for patients at risk of symptom progression and complications. Renal function must be assessed if renal impairment is suspected from the history and clinical examination, if the patient has hydronephrosis, or when considering surgical treatment for male LUTS. Uroflowmetry should be performed before any treatment. Imaging of the upper urinary tract in men with LUTS should be performed in patients with large PVR, haematuria, or a history of urolithiasis. Imaging of the prostate should be performed if this assists in choosing the appropriate drug and when considering surgical treatment. Urethrocystoscopy should only be performed in men with LUTS to exclude suspected bladder or urethral pathology and/or before minimally invasive/surgical therapies if the findings may change treatment. Pressure-flow studies should be performed only in individual patients for specific indications before surgery or when evaluation of the pathophysiology underlying LUTS is warranted. **Conclusions:** These guidelines provide evidence-based practical guidance for assessment of non-neurogenic male LUTS. An extended version is

available online (www.uroweb.org/guidelines). **Patient summary:** This article presents a short version of European Association of Urology guidelines for non-neurogenic male lower urinary tract symptoms (LUTS). The recommended tests should be able to distinguish between uncomplicated male LUTS and possible differential diagnoses and to evaluate baseline parameters for treatment. The guidelines also define the clinical profile of patients to provide the best evidence-based care. An algorithm was developed to guide physicians in using appropriate diagnostic tests.

91. Hatzidakis A, Kozana A, Petrakis I, Mamoulakis C. Post-surgical large adrenal cyst recurrence: Treatment by means of percutaneous alcohol ablation. BMJ Case Rep. 2014 Dec 22;2014.

A case of a 28-year-old man who presented with symptomatic, right-sided, large adrenal cyst recurrence 9 months after laparoscopic decortication is described. Final treatment was achieved by means of percutaneous aspiration and ethanol ablation. On 6-month follow-up the patient was asymptomatic and the cyst remained minimised. In our opinion, percutaneous treatment with alcohol ablation of primary benign symptomatic or recurrent uncomplicated adrenal cysts should be considered as an effective alternative method when patients are frail or surgery fails to resolve the problem.

92. Hatzidakis A, Kozana A, Glaritis I, Mamoulakis C. Right sided Bochdalek hernia causing septic ureteric obstruction. Percutaneous treatment with placement of a nephro-ureteral double pigtail. BMJ Case Rep. 2014 Oct 31; 2014.

A case of an 86-year-old female patient who presented with a septic, right ureteric obstruction, caused by a symptomatic Bochdalek hernia is reported. The patient was initially managed with percutaneous nephrostomy and final treatment was achieved by placement of an external-internal nephroureteral double pigtail.

93. Chondros K, Karpathakis N, Tsetis D, Sofras F, Mamoulakis C. Systemic thrombolysis with the use of tenecteplase for segmental acute renal

infarction associated with multiple thrombophilic gene polymorphisms. Hippokratia. 2014;18:67-70.

Background: The potential association of acute renal infarction with multiple thrombophilic gene polymorphisms and the experience of treatment with tenecteplase are described for the first time in the international literature. **Description of the case:** The case of a 50-year old male with segmental acute renal infarction potentially associated with multiple thrombophilic gene polymorphisms is presented. He was thrombolysed with a single intravenous bolus of tenecteplase in a weight-adjusted dose (0.53mg/Kg bodyweight). Within 30 minutes after drug administration, the patient's symptoms were completely relieved. Patient's clinical course was uneventful with an acceptable renal function outcome eight weeks post-treatment. The following gene polymorphisms were identified: G455A (b-fibrinogen); C677T; A1298C (methylene-tetra-hydro-pholate reductase); T196C (platelet glycoprotein IIIa); 4G/5G (plasminogen activator inhibitor-1). **Conclusion:** Tenecteplase is a safe and simple to use thrombolytic, with favourable pharmacokinetic profile, which might be useful if administered early, especially when local thrombolysis is impossible or unavailable and therefore warrants further investigation in clinical trials.

94. Kandasami SV, Mamoulakis C, El Nahas AR, Averch T, Tuncay OL, Rawandale-Patil A, Cormio L, de la Rosette JJ. Impact of case volume on outcomes of ureteroscopy (URS) for ureteral stones: the Clinical Research Office of the Endourological Society (CROES) URS Global Study. Eur Urol. 2014;66:1046-51.

Background: The Clinical Research Office of the Endourological Society (CROES) undertook the Ureteroscopy Global Study to establish a prospective global database to examine the worldwide use of ureteroscopy (URS) and to determine factors affecting outcome. **Objective:** To investigate the influence of case volume on the outcomes of URS for ureteral stones. **Design, Setting, And Participants:** The URS Global Study collected prospective data on consecutive patients with urinary stones treated with URS at 114 centres worldwide for 1 yr. Centres were identified as low or high volume based on the median overall annual case volume. **Outcome**

measurements And Statistical analysis: Pre- and intraoperative characteristics, and postoperative outcomes in patients at low- and high-volume centres were compared. The relationships between case volume and stone-free rate (SFR), stone burden, complications, and hospital stay were explored using multivariate regression analysis. **Results And Limitations:** Across all centres, the median case volume was 67; 58 and 56 centres were designated as low volume and high volume, respectively. URS procedures at high-volume centres took significantly less time to conduct. Mean SFR was 91.9% and 86.3% at high- and low-volume centres, respectively ($p<0.001$); the adjusted probability of a stone-free outcome increased with increasing case volume ($p<0.001$). Patients treated at a high-volume centre were less likely to need retreatment, had shorter postoperative hospital stay, were less likely to be readmitted within 3 mo, and had fewer and less severe complications. At case volumes approximately >200 , the probability of complications decreased with increasing case volume ($p=0.02$). The study is limited by the heterogeneity of participating centres and surgeons and the inclusion of patients treated by more than one approach. **Conclusions:** In the treatment of ureteral stones with URS, high-volume centres achieve better outcomes than low-volume centres. Several outcome measures for URS improve with an increase in case volume. **Patient Summary:** Outcomes following treatment of ureteral stones by ureteroscopy (URS) were studied in a large group of patients at centres worldwide. The proportion of successful procedures (ie, those in which patients became stone free) increased as the annual volume of URS at a hospital increased. Hospital stays were shorter and postoperative complications were less likely at high-volume hospitals. We conclude that for URS, the best outcomes are seen in patients treated at high-volume hospitals.

95. Hatzidakis A, Rossi M, Mamoulakis C, Kehagias E, Orgera G, Krokidis M, Karantanis A. **Management of renal arteriovenous malformations: A pictorial review. Insights Imaging. 2014;5:523-30.**

Background: Arteriovenous malformations (AVMs) are communications between an artery and a vein outside the capillary level. This pathologic communication may be either a fistula, a simple communication between a single artery and a dilated vein, or a more complex communication, a nidus of tortuous channels between one or more

arteries/arterioles and one or more draining veins. The latter type of lesion is most frequently seen in the extremities; in the kidney they tend to appear more rarely. The most common clinical presentation of renal arteriovenous malformations (RAVMs) is haematuria. Percutaneous treatment with selective endovascular techniques offers a minimally invasive, nephron-sparing option in comparison to the more invasive surgical approaches. The purpose of this pictorial review is to highlight the general lines of management and to show the range of imaging findings of the percutaneous treatment of RAVMs. **Methods:** The imaging characteristics of a selection of cases of percutaneously managed congenital RAVMs are presented and the most common lines of approach are discussed. **Conclusion:** The imaging spectrum of diagnosis and percutaneous treatment of RAVMs is presented in order to aid interpretation and endovascular management. **Teaching Points:** Renal arteriovenous malformations are very rare lesions. Clinical expression is usually haematuria. Diagnosis is made with CT or MRI but the gold standard is digital subtraction angiography. Catheter-directed treatment with the use of coils or liquid embolics is minimally invasive, safe and effective.

96. Oelke M, Weiss JP, Mamoulakis C, Cox D, Ruff D, Viktrup L. Effects of tadalafil on night-time voiding (nocturia) in men with lower urinary tract symptoms suggestive of benign prostatic hyperplasia: a post-hoc analysis of pooled data from four randomized, placebo-controlled clinical studies World J Urol. 2014;32:1127-32.

Purpose: The phosphodiesterase type 5 inhibitor tadalafil is approved for the treatment of signs and symptoms of benign prostatic hyperplasia (BPH). While tadalafil significantly improves overall lower urinary tract symptoms suggestive of BPH (LUTS/BPH), improvements in nocturia were not significant in individual studies. We therefore sought to further assess nocturia based on data integrated from four tadalafil registrational studies. **Methods:** Data were integrated from four randomized, placebo-controlled, double-blind, 12-week registrational studies of tadalafil for LUTS/BPH. Nocturia was assessed as nighttime voiding frequency using the International Prostate Symptom Score question 7 (IPSS Q7). Efficacy results were analyzed using analysis of covariance. **Results:** For the tadalafil 5 mg once daily (N

= 752) and placebo (N = 748) groups, baseline characteristics were well balanced, and the overall severity of nocturia per mean IPSS Q7 was 2.3 ± 1.2 . The mean treatment change was -0.4 with placebo and -0.5 with tadalafil; the least-squares mean (standard error) treatment difference was -0.2 (0.05), $p = 0.002$. For patients receiving placebo and tadalafil, respectively, the proportion with improved nocturnal frequency was 41.3 and 47.5 %, with no change was 44.8 and 41.0 %, and with worsening was 13.9 and 11.5 %. **Conclusions:** A statistically significant improvement in nocturnal frequency was seen with tadalafil over placebo; however, the treatment difference was small and not considered clinically meaningful. Further studies using voiding diaries and excluding patients with nocturnal polyuria would be needed to more precisely estimate the impact of tadalafil on nocturia associated with LUTS/BPH.

97. Mamoulakis C. A plea for higher quality data for GreenLight laser technology in the context of surgical benign prostatic obstruction trials: The GOLIATH study - Fact or fiction in the era of evidence based urology? Eur Urol. 2014;65:943-6.

Despite the advent of new technologies, conventional monopolar transurethral resection of the prostate (M-TURP) has remained for more than nine decades the cornerstone of surgical management for benign prostatic obstruction (BPO)-related lower urinary tract symptoms (LUTS). This is mainly attributed to its well-documented long-term efficacy. However, it is still associated with considerable morbidity. Strenuous attempts over the years to improve standard M-TURP systems led to small incremental changes with negligible impact on safety and efficacy. The urologic community has been under the constant pressure of increased competition, patient demands, and marketing to embrace, often prematurely, novel technologies that finally subsided over time. Unlike drugs, implementation of novel devices and techniques into clinical practice is not governed by strict regulatory mechanisms. Various devices, including minimally invasive modalities to treat BPO-related LUTS, entered surgical practice without data based on well-designed randomized controlled trials (RCTs), often through uncritical or unscientific approaches that need reconsideration by the scientific community and regulatory authorities in the milieu

of massive cost limitations in health care systems. Extensive clinical research for an effective and safe alternative, driven mainly by M-TURP complications, need for shorter hospitalization, and an increasingly changing patient profile (older age, severe comorbidities, dependence on anticoagulation), is hindered by serious methodological limitations. High-quality, surgical, urologic RCTs are scarce in several fields, including surgical management of BPO related LUTS. A majority of urologic studies provide a low level of evidence (LoE) not well suited to guiding clinical decisions, due to barriers to high-quality surgical research that inevitably jeopardize the validity of many RCTs. The Idea, Development, Exploration, Assessment, Long-term (IDEAL) study recommendations have been recently established as a potential solution by serving as guidelines tailored to surgical research; a platform for systematic data generation from well-designed, conducted, and reported trials; and a regulatory protective framework against potential harms of novel procedures before incorporation into practice. Bipolar transurethral resection of the prostate (B-TURP) is indisputably the most thoroughly investigated alternative at present. With >30 RCTs (>3500 patients; >33% followed-up for >12 mo and up to 60 mo) and 4 RCT-based meta-analyses at hand, we have reached an acceptable state to judge the adequacy of B-TURP's efficacy and safety comparability with its predecessor. However, notwithstanding these ample data, trial quality limitations make the urologic community reluctant to accept the best available evidence of B-TURP's advantage over M-TURP. Regarding laser technology, among all devices, GreenLight (American Medical Systems Inc., Minnetonka, MN, USA) has gained high uptake and widest acceptance. In the United States in 2011, around 20% of transurethral prostatectomies were performed by this laser type, 60% by transurethral resection of the prostate (TURP), and the remaining by other technologies. Undoubtedly, this procedure frenzy is not scientifically justified. RCT data on lasers versus TURP are few; most suffer from methodological limitations, rendering quality low, and the research has not been based on modern potential solutions such as the IDEAL recommendations. To date, only six trials on two different GreenLight systems have been published and have undergone meta-analysis: the outdated 80W potassiumtitanyl-phosphate laser (n = 2; 195 patients; 6–12 mo follow-up) and the

120W high performance system laser (n = 4; 379 patients; 12–36 mo follow-up). Therefore, conclusions should be drawn with caution since they are based on scarce, low-level evidence, and noncomparable data with limited follow-up. In this month's issue of *European Urology*, Bachmann et al. present results of the first RCT comparing prostate vaporization using the 180-W XPS GreenLight laser (American Medical Systems Inc., Minnetonka, MN, USA) with TURP. The XPS GreenLight laser was found to be noninferior in safety and efficacy at 6 mo, but superior in catheterization and hospitalization length and time to stable health. These results have been awaited with great interest. Launched in 2010, this system had scarcely been evaluated in case series with promising results. The authors should be congratulated for their titanic effort to conduct the largest-ever trial in the field among 29 centers across nine European countries, justifying its name: GOLIATH. Furthermore, their meticulous attempt through all trial steps (design, conduction, reporting) to reduce risk of bias (RoB) and provide the highest possible LoE by fulfilling the majority of established criteria for RCT quality assessment is obvious. Undoubtedly, noninferiority design, timely accrual of patients, sufficient power, and validation of surgical technique in an international/multicentre RCT setting provides guarantees of highest LoE in the field to date. However, the extent to which this aim is achieved will be definitely judged in future, well-conducted systematic reviews, implementing explicit approaches like Grading of Recommendations Assessment, Development, and Evaluation to rank LoE on specific outcomes. At this point, some methodological aspects (potential sources of bias) that warrant attention, and trial limitations should be pointed out: 1) Sequence generation: Blocked randomization was used, but the process of selecting the blocks, such as a randomnumber table or computer random-number generator was not specified (unclear RoB). 2) Allocation concealment: Central randomization was not performed and the inferior method of (opaque?) envelopes was used instead (unclear RoB). 3) Open-label nature: Patients and outcome assessors for most outcomes were not blinded. In addition, other issues may have influenced the results: 4) Recruitment period: It is surprising that it took nine centers 17 mo to enroll 291 patients (ie, one patient on average per center in 2 mo). 5) Clinical heterogeneity of the TURP arm (M-TURP [58.6%] and B-TURP

[42.4%]): Pooled RCT data have shown that BTURP bears a more favorable perioperative safety profile. 6) Arbitrary definition of complication: The authors' definition of a complication as "an [adverse event] related to the treatment that involved prolonged or additional hospitalisation or surgical or invasive intervention excluding medications and urinary retention with short-term catheterisation (ie, catheterisation that lasted <7 d)" is not consistent with that used in the modified Clavien-Dindo classification system. This leads to improper application of the system, a well-known flaw in reporting and grading of urologic surgical complications. 7) Short follow-up is a major limitation considering the 2-yr trial design. At 2 yr, the important and clinically relevant information that we currently need on long-term functional results, reintervention rates, and patient satisfaction should be provided. Therefore, it remains to be seen if the trial will fulfill the expectations over time or follow the fate of the biblical giant, the Philistine warrior Goliath from Gath.

98. Mamoulakis C, Georgiou I, Dimitriadis F, Tsounapi P, Giannakis I, Chatzikyriakidou A, Antypas S, Sofras F, Takenaka A, Sofikitis N. Genetic analysis of the human Insulin-like 3 gene: Absence of mutations in a Greek paediatric cohort with testicular maldescent. *Andrologia*. 2014;46:986-96.

This study investigated the hypothesis that genetic alterations of the human insulin-like 3 (INSL3) gene are associated with testicular maldescent (TMD). Genomic DNA was extracted and amplified from peripheral blood samples of 170 unrelated children with all possible phenotypical expressions of TMD and 50 volunteers with normal external genitalia from the general paediatric population (controls). PCR-single strand conformation polymorphism analysis was used to screen INSL3 gene for genetic variants. For rapid screening of a detected nonsilent genetic alteration, restriction assay using endonuclease Eag I was further employed. Products were analysed on 2% agarose gel and restriction patterns were visualised by ethidium bromide. Differences in genotype and allelic distributions of nonsilent genetic alterations were evaluated between (i) patients-controls, (ii) familial-sporadic, (iii) bilateral-unilateral and (iv) intra-abdominal-inguinal cases of TMD. No mutations were detected. Three common INSL3 gene polymorphisms (27G>A, 126G>A,

178G>A) unrelated to any particular phenotype of TMD were detected both in patients and controls. These results indicate that INSL3 gene mutations are not a common cause of TMD in the human.

99. Omar MI, Lam TBL, Cameron A, Graham J, Mamoulakis C, Imamura M, MacLennan S, Stewart F, N'Dow J. Systematic review and meta-analysis of the clinical effectiveness of bipolar compared to monopolar transurethral resection of the prostate. BJU Int. 2014;113:24-35.

To compare monopolar and bipolar transurethral resection of the prostate (TURP) for clinical effectiveness and adverse events. We conducted an electronic search of MEDLINE, Embase, CENTRAL, Science Citation Index, and also searched reference lists of articles and abstracts from conference proceedings for randomised controlled trials (RCTs) comparing monopolar and bipolar TURP. Two reviewers independently undertook data extraction and assessed the risk of bias in the included trials using the tool recommended by the Cochrane Collaboration. The quality of evidence was assessed using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach. From the 949 abstracts that were identified, 94 full texts were assessed for eligibility and a total of 24 trials were included in the review. No statistically significant differences were found in terms of International Prostate Symptom Score (IPSS) or health-related quality of life (HRQL) score. Results for maximum urinary flow rate were significant at 3, 6 and 12 months (all $P < 0.001$), but no clinically significant differences were found and the meta-analysis showed evidence of heterogeneity. Bipolar TURP was associated with fewer adverse events including transurethral resection syndrome (risk ratio [RR] 0.12, 95% confidence interval [CI] 0.05-0.31, $P < 0.001$), clot retention (RR 0.48, 95% CI 0.30-0.77, $P = 0.002$) and blood transfusion (RR 0.53, 95% CI 0.35-0.82, $P = 0.004$). Several major methodological limitations were identified in the included trials; 22/24 trials had a short follow-up of ≤ 1 year, there was no evidence of a sample size calculation in 20/24 trials and the application of GRADE showed the evidence for most of the assessed outcomes to be of moderate quality, including all those in which statistical differences were found. Whilst there is no overall difference between monopolar and bipolar TURP for clinical effectiveness, bipolar TURP is associated

with fewer adverse events and therefore has a superior safety profile. Various methodological limitations were highlighted in the included trials and as such the results of this review should be interpreted with caution. There is a need for further well-conducted, multicentre RCTs with long-term follow-up data.

100. Mamoulakis C, Ubbink DT, Sofras F, N'Dow JM, de la Rosette JJ. **Letter to the Editor referring to the article: Huang X, Wang L, Wang XH, Shi HB, Zhang XJ, Yu ZY. Bipolar transurethral resection of the prostate causes deeper coagulation depth and less bleeding than monopolar transurethral prostatectomy. Urology. 2012;80:1116-20. Urology 2013; 81:1113-5.**

We read with interest the report recently published by Huang et al on bipolar (B-TURP) vs monopolar transurethral resection of the prostate (M-TURP). With due respect, we would like to comment on some issues regarding the clinical relevance and accuracy of their results and conclusions that need further attention. Postoperative bleeding is vaguely and subjectively defined a “bleeding within the first day after operation, irrigation fluid draining out becoming bright red, and clot retention occurring when serious.” Thus, the reported significantly less bleeding with B-TURP is questionable. Even if this is the case, the finding is of unclear importance because it is not obvious whether this is translated into a significant clinical benefit. This randomized controlled trial (RCT) is one of the very few that detected significant differences in the immediate postoperative hemoglobin level drop between arms. However, the value of this end point as a valid parameter of blood loss is debatable. Clot retention rates did not differ (M-TURP/B-TURP: 2/65 vs 0/71; $P = .227$). Apart from actual lack of significance, reasons that might have precluded detection of a potentially significant result include insufficient sample size or inadequate follow-up duration throughout the perioperative period. Furthermore, transfusion rates were not reported. In any case, a sound, clinically relevant basis of the conclusions is not obvious. The potential association of reduced bleeding with significantly deeper bipolar coagulation depths is interesting. These results are in accordance with those published by the same group on a modified model of the isolated blood-perfused porcine kidney and canine and human prostates. Nevertheless, the proposed mechanism is controversial due to conflicting data from contrary reports. One of the

major complications of M-TURP is perioperative bleeding, which is considered clinically relevant mainly if causing clot retention or necessitating blood transfusion or reintervention. In this context, a favorable perioperative safety profile of B-TURP attributed, among others, to reduced clot retentions, was advocated in a RCT-based meta-analysis. Transfusions were also significantly reduced, specifically with the use of the PlasmaKinetic device,¹ used in the present trial too, and its superiority has been recently confirmed in a contemporary, updated version of this meta-analysis (Fig. 1).² In contrast, no clinical advantage was detected for B-TURP in an international multicenter RCT setting with the use of a different true bipolar system. Notwithstanding existence of conflicting reports, we have currently reached a point in time in which the best available evidence, despite limitations, supports bipolar technology's reassurance of TURP's leading position in the surgical management of lower urinary tract symptoms secondary to benign prostatic obstruction due to maintained efficacy at lower perioperative morbidity. In this demanding evidence-based era, there is a pressing plea for ongoing research of the highest quality. The need to reduce variability in TURP results among urologists with different levels of experience and patients with different disease stages and health status is nowadays clear. The next frontier to be reached will be the evaluation of B-TURP in RCTs of adequate quality against newer, minimally invasive technologies, such as lasers, or vs M-TURP in special subpopulations such as patents with larger prostates, severe comorbidities, or dependence on anticoagulants.

101. Mamoulakis C. Skolarikos A. Schulze M. Scoffone CM, Jens J. Rassweiler JJ, Alivizatos G. Scarpa RM, de la Rosette JJ. **Bipolar versus monopolar transurethral resection of the prostate: Evaluation of the impact on overall sexual function in an international randomized controlled trial setting.** *BJU Int* 2013;112:109-20.

What's known on the subject? And what does the study add?: The effect of TURP on overall sexual function and particularly erectile function (EF) is controversial with conflicting results based on a low level of evidence. The effects of monopolar and bipolar TURP (M-TURP and B-TURP, respectively) on EF are similar, as has been shown in a few non-focused randomized control trials (RCTs). For the first time, the

present study offers focused results of a comparative evaluation of the effects of B-TURP and M-TURP on overall sexual function, as quantified with the International Index of Erectile Function Questionnaire (IIEF-15) in an international, multicentre, double-blind RCT setting. **Objective:** To compare monopolar and bipolar transurethral resection of the prostate (M-TURP and B-TURP, respectively) using a true bipolar system, for the first time in an international multicentre double-blind randomized controlled trial focusing on the overall sexual function quantified with the International Index of Erectile Function Questionnaire (IIEF-15). Other baseline/perioperative parameters potentially influencing erectile function (EF) after TURP were secondarily investigated. **Materials and Methods:** From July 2006 to June 2009, consecutive TURP candidates with benign prostatic obstruction were prospectively recruited in four academic urological centres, randomized 1:1 into M-TURP/B-TURP arms and followed up at 6 weeks, 6 and 12 months after surgery. In all, 295 eligible patients were enrolled. Overall sexual function was quantified using self-administered IIEF-15 at baseline and at each subsequent visit. Total IIEF/domain scores were calculated and EF score classified erectile dysfunction severity. Differences in erectile dysfunction severity at each visit compared with baseline (EF evolution), classified patients into 'improved', 'stable' or 'deteriorated'. Pre-postoperative IIEF/domain scores and differences in the distribution of EF evolution were compared between arms throughout follow-up. **Results:** In all, 279 patients received the allocated intervention; 218/279 patients (78.1%) provided complete IIEF-15 data at baseline and were considered in sexual function analysis. Complete IIEF-15 data were available from 193/218 (88.5%), 186/218 (85.3%) and 179/218 (82.1%) patients at 6 weeks, 6 months and 12 months, respectively. Sexual function did not differ significantly between arms during follow-up (scores: IIEF, $P = 0.750$; EF, $P = 0.636$; orgasmic function, $P = 0.868$; sexual desire, $P = 0.735$; intercourse satisfaction, $P = 0.917$; overall satisfaction, $P = 0.927$). Resection type was not a predictor of any sexual function changes observed. Distribution of EF evolution did not differ between arms at any time (M-TURP vs B-TURP at 12 months: improved, 23/87 [26.4%] vs 18/92 [19.6%]; stable, 53/87 [60.9%] vs 56/92 [60.8%];

deteriorated, 11/87 [12.7%] vs 18/92 [19.6%]; $P = 0.323$). **Conclusion:** There were no differences between M-TURP/B-TURP in any aspect of sexual function.

- 102.** Mamoulakis C, Georgiou I, Dimitriadis F, Tsounapi P, Koukos S, Antypas S, Tzortzakakis D, Sofras F, Takenaka A, Sofikitis N. **Screening for Y chromosome microdeletions in childhood: lack of evidence for a direct association with testicular maldescent.** *Andrologia*. 2013;45:409-16.

The aim of the study was to investigate the hypothesis that Y chromosome microdeletions are directly implicated in testicular maldescent. Genomic DNA was extracted from the peripheral blood of 292 subjects. This population consisted of (i) 180 children with all phenotypes of isolated (non-syndromic) testicular maldescent from 174 index families, (ii) affected adult relatives available ($n = 12$) and (iii) 100 unrelated children with normal external genitalia (controls). The sequence-tagged site primer set and the conditions of conventional polymerase chain reaction amplification were based on the current laboratory guidelines for molecular diagnosis of Y chromosome microdeletions recommended by the European Academy of Andrology and the European Molecular Genetics Quality Network. Two multiplex reactions were designed to screen the regions of azoospermic factors a, b and c. Each multiplex reaction included adequate internal and external amplification controls. Amplification products were submitted to electrophoresis on 2% agarose gel impregnated with ethidium bromide dye solution for 80 volt-h and visualised under ultraviolet light. No microdeletions were detected in any subject. These results indicate that Y chromosome microdeletions are not directly implicated in the pathogenesis of testicular maldescent. Other factors should be investigated to potentially explain the genetic predisposition that seems to exist in at least a subgroup of these patients.

- 103.** Mamoulakis C, Schulze M, Skolarikos A, Alivizatos G, Scarpa RM, Rassweiler JJ, de la Rosette JJ, Scoffone CM. **Midterm Results from an International Multicentre Randomised Controlled Trial Comparing Bipolar with Monopolar Transurethral Resection of the Prostate.** *Eur Urol*. 2013;63:667-76.

Background: Pooled data from randomised controlled trials (RCTs) with short-term follow-up have shown a safety advantage for bipolar transurethral resection of the prostate (B-TURP) compared with monopolar TURP (M-TURP). However, RCTs with follow-up >12 mo are scarce. **Objective:** To compare the midterm safety/efficacy of B-TURP versus M-TURP. **Design, Setting, And Participants:** From July 2006 to June 2009, TURP candidates with benign prostatic obstruction were consecutively recruited in four centres, randomised 1:1 into the M-TURP or the B-TURP arm and regularly followed up to 36 mo postoperatively. A total of 295 patients were enrolled. **Intervention:** M-TURP or B-TURP using the AUTOCON II 400 electrosurgical unit. **Outcome Measurements And Statistical Analysis:** Safety was estimated by complication rates with a special emphasis on urethral strictures (US) and bladder neck contractures (BNCs) recorded during the short-term (up to 12 mo) and midterm (up to 36 mo) follow-up. Efficacy quantified by changes in maximum urine flow rate, postvoid residual urine volume, and International Prostate Symptom Score was compared with baseline, and reintervention rates in each arm were also evaluated. **Results And Limitations:** A total of 279 patients received treatment after allocation. Mean follow-up was 28.8 mo. A total of 186 of 279 patients (66.7%) completed the 36-mo follow-up. Posttreatment withdrawal rates did not differ significantly between arms. Safety was assessed in 230 patients (82.4%) at a mean follow-up of 33.4 mo. Ten US cases were seen in each arm (M-TURP vs B-TURP: 9.3% vs 8.2%; $p=0.959$); two versus eight BNC cases (M-TURP vs B-TURP: 1.9% vs 6.6%; $p=0.108$) were collectively detected at the midterm follow-up. Resection type was not a significant predictor of the risk of US/BNC formation. Efficacy was similar between arms and durable. A total of 10 of 230 patients (4.3%) experienced failure to cure and needed reintervention without significant differences between arms. High overall reintervention rates, withdrawal rates, and sample size determination not based on US/BNC rates represent potential limitations. **Conclusions:** The midterm safety and efficacy of B-TURP and M-TURP are comparable.

104. Mamoulakis C, Schulze M, Skolarikos A, Alivizatos G, Scarpa RM, Rassweiler JJ, de la Rosette JJ, Scoffone CM. **Reply from Authors re:**

Alexander Bachmann, Gordon H. Muir, Stephen F. Wyler, Malte Rieken. Surgical benign prostatic hyperplasia trials: The future is now! Eur Urol. 2013;63:677-9. Best available evidence in 2012 on bipolar versus monopolar transurethral resection of the prostate for benign prostatic obstruction: It's about time to decide! Eur Urol. 2013;63:677-680.

We would like to thank the authors for commenting on our article. It is unfortunately true that high-quality surgical–urologic randomized controlled trials (RCTs) are scarce in several fields, including surgical management of lower urinary tract symptoms secondary to benign prostatic obstruction. A majority of studies in the urologic literature provide a low level of evidence (LoE) that may not be well suited to guiding clinical decisions. Many barriers exist, including flaws related to design, conduct, and reporting. Such flaws jeopardize the validity of many RCTs and create uncertainty about risk of bias and surgical research value. Thorough evaluations of novel surgical interventions are difficult because of challenges related to surgical practice, but they are achievable and necessary. It is clear that particular problems exist related to the conduct of surgical RCTs, and study designs to evaluate medications do not always fit surgical interventions well because of their procedural complexity [3]. To explore barriers to highquality surgical research and seek potential solutions, an expert forum—the Balliol Colloquium—was initiated in 2007. Within 2 yr, the IDEAL framework (Idea, Development, Exploration, Assessment, Long-term study) was established, and specific proposals were made for appropriate designs to improve evidence collection before incorporating innovations into surgical practice [3]. The IDEAL recommendations are expected to solve the problem to a great extent by serving as accepted guidelines tailored to surgical research; as a platform for systematic data generation from well-designed, well-conducted, and wellreported studies; and as a regulatory framework to protect patients from the potential harms of novel procedures. Accurate LoE grading represents another crucial issue. Systematic reviews (SRs) provide transparent and robust summaries of existing research, but the information may be insufficient for making well-informed decisions, without implementation of a systematic and explicit approach to making judgments on LoE. Unfortunately, a variety of grading systems are often used, resulting in

miscommunication. The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system provides concise and precise information. This framework has been adopted as a standard by many organizations including the World Health Organization and the Cochrane Collaboration. An important feature is that LoE is split into four categories (high, moderate, low, very low) in an outcome-specific manner. Certain study limitations may affect some outcomes more than others. RCT-derived evidence starts as high quality but may be downgraded if specific strict criteria are not met. Clinical decision making should ideally be based on the highest LoE. Nevertheless, we fully agree with the authors in acknowledging that, under certain circumstances, we may have to compromise by accepting lower LoE and just relying on the best evidence available. Regarding the debate about bipolar transurethral resection of the prostate (B-TURP) versus monopolar transurethral resection of the prostate (M-TURP), the fact is that we currently have >30 RCTs(>3500 patients) and three recent RCT-based meta-analyses. Indisputably, B-TURP is presently the most widely used and thoroughly investigated alternative to M-TURP. What can we infer from these ample data? Half of the RCTs have been meta-analyzed to date. Pooled results show that no clinically relevant differences exist in shortterm efficacy, urethral stricture, and bladder neck contracture rates, but B-TURP is preferable due to a more favorable perioperative safety profile (elimination of transurethral resection syndrome; less bleeding, ie, lower clot retention and blood transfusion rates; shorter irrigation, catheterization, and possibly hospitalization times). The remaining RCTs are being investigated in a contemporary updated SR, and LoE for specific outcomes is being rated using GRADE. Pooled results are awaited. However, it should be stressed that no individual RCT favors M-TURP in any aspect. More than half favor B-TURP in some of the outcomes mentioned above, and the rest show no difference. Having seven RCTs currently at hand with a follow-up >12 mo, we have reached acceptable durations to judge the adequacy of B-TURP efficacy and safety comparability with the predecessor in time. Regarding economic issues, we are still unable to argue decisively. A true cost analysis is needed, but it is questionable whether the results of such a hard task could be generalizable; rules regulating reimbursement systems vary greatly among and

within countries. Recent data from a nationwide administrative database in Japan on >6500 patients showed that B-TURP is not inferior. On the contrary, a cost benefit of statistical significance but little clinical relevance was demonstrated (1.7% cost reduction). The present paper is the third one derived from the first international multicenter RCT in the field. Given the relatively low quality of many RCTs, great effort was made at each step (design, conduct, reporting) to reduce risk of bias and provide the highest possible LoE by fulfilling the majority of established criteria for RCT quality assessment. Limitations exist: The extent to which this aim is achieved will be judged in well-conducted SRs implementing explicit approaches such as GRADE to rank LoE on specific outcomes in the future. In our hands, no clinically relevant differences in efficacy or safety were detected between B-TURP and M-TURP in the perioperative or midterm follow-up period. Comparative evaluation of the impact on overall sexual function, quantified with the International Index of Erectile Function-15 for the first time, showed no difference in any aspect of sexual function. These results should be seen as a valuable addition to the existing puzzle. Many RCTs in the field are indeed of low quality. The research has not been based on modern, potential solutions such as the IDEAL recommendations or the GRADE system. But can we ignore this ample evidence just because “the overall quality is not the best,” without being prone to bias? If yes, then what can we infer from much less data on other alternatives to M-TURP, such as lasers, for which evidence is based on fewer trials with similar methodological limitations? High-quality international multicenter RCTs are always welcomed; in the modern era of evidence-based urology, there will always be “a plea for more.” Nevertheless, there comes a time when we have to decide based on the best available evidence. This is the case for B-TURP versus M-TURP. Definitely we can decide, and it’s about time!

105. Mamoulakis C, Sofikitis N, Tsounapi P, Vlachopoulou E, Chatzikyriakidou A, Antypas S, Tzortzakakis D, Sofras F, Takenaka A, Georgiou I. **The (TAAAA)(n) polymorphism of sex hormone-binding globulin gene is not associated with testicular maldescent. *Andrologia*. 2013;45:40-5.**

The aim of this family-based study was to investigate the potential association/genetic linkage of the (TAAAA)n polymorphism of sex hormone-binding globulin gene

proximal promoter with testicular maldescent (TMD). Genomic DNA was extracted from the peripheral blood of 487 subjects (174 index families): (i) 180 children with all phenotypes of TMD, (ii) 307 parents (156 mothers and 151 fathers). Conventional polymerase chain reaction amplification products were electrophoresed on 10% nondenaturing polyacrylamide gel and visualised by silver staining. After excluding ambiguous parental-child trios and most cases of index families with missing parental genotypes, 429 individuals were left for analysis: 138 completely typed nuclear families (five included a second affected child) and five child-parent couples (one parent missing). Eight fathers presented history of TMD, that is, a total of 156 cases with TMD were analysed. Alleles were analysed with the affected family-based control method and logistic regression-based extension of the transmission disequilibrium test for multiallelic loci. (TAAAA)n polymorphism analysis revealed six alleles based on repeat numbers (n=5-10). No association/genetic linkage between the (TAAAA)n polymorphism and TMD was detected. Other factors should be investigated to potentially explain the genetic predisposition that seems to exist in at least a subgroup of these patients.

106. Mamoulakis C, Skolarikos A, Schulze M, Scoffone CM, Rassweiler JJ, Alivizatos G, Scarpa RM, de la Rosette JJ. **Results from an international multicenter double-blind randomized controlled trial on the perioperative efficacy and safety of bipolar vs. monopolar transurethral resection of the prostate. BJU Int. 2012;109:240-8.**

Objective: To compare the perioperative efficacy and safety of bipolar (B-) and monopolar transurethral resection of the prostate (M-TURP) in an international multicentre double-blind randomized controlled trial using the bipolar system AUTOCON(®) II 400 ESU for the first time. **Patients and Methods:** From July 2006 to June 2009, consecutive transurethral resection of the prostate (TURP) candidates with benign prostatic obstruction were prospectively recruited in four academic urological centres, randomized 1:1 into an M-TURP or B-TURP arm and followed up for 6 weeks after surgery. A total of 295 eligible patients were enrolled. Of these, 279 patients received treatment (M-TURP, n= 138; B-TURP, n= 141) and were analysed for immediate postoperative outcomes and perioperative safety. In all,

268 patients (M-TURP, n= 129; B-TURP, n= 139) were analysed for efficacy, which was quantified using changes in maximum urinary flow rate, postvoid residual urine volume and International Prostate Symptom Score at 6 weeks compared with baseline. Safety was estimated using sodium and haemoglobin level changes immediately after surgery and perioperative complication occurrence graded according to the modified Clavien classification system. Secondary outcomes included operation-resection time, resection rate, capsular perforation and catheterization time. **Results:** No significant differences were detected between each study arm except that postoperative decreases in sodium levels favoured B-TURP (-0.8 vs -2.5 mmol/L, for B-TURP and M-TURP, respectively; P= 0.003). The lowest values were 131 mmol/L (B-TURP) and 106 mmol/L (M-TURP). Nine patients ranged between 125 and 130 mmol/L and the values for three patients were <125 mmol/L after M-TURP. The greatest decrease was 9 mmol/L after B-TURP (two patients). In nine patients (M-TURP) the decrease was between 9 and 34 mmol/L. These results were not translated into a significant difference in TUR-syndrome rates (1/138: 0.7% vs 0/141: 0.0%, for M-TURP and B-TURP, respectively; P= 0.495). **Conclusion:** In contrast to the previous available evidence, no clinical advantage for B-TURP was shown. Perioperative efficacy, safety and secondary outcomes were comparable between study arms. The potentially improved safety of B-TURP that is attributed to the elimination of dilutional hyponatraemia risk, a risk still present with M-TURP, did not translate into a significant clinical benefit in experienced hands.

107. Mamoulakis C, Skolarikos A, Schulze M, Scoffone CM, Rassweiler JJ, Alivizatos G, Scarpa RM, de la Rosette JJ. **Letter to the Editor (Reply), Re: Results from an international multicenter double-blind randomized controlled trial on the perioperative efficacy and safety of bipolar vs. monopolar transurethral resection of the prostate. BJU Int. 2012;109: E22-E4.**

We thank the authors of the Letter to the Editor for commenting on our article and we appreciate their remarks. Regarding the issues raised for discussion, we would like to position ourselves as follows. Our trial did not detect any clinical advantage of bipolar over monopolar transurethral resection of the prostate (M-TURP). In

contrast, it has been previously showed in a randomized controlled trial (RCT)-based meta-analysis that although no clinically relevant differences exist in short-term efficacy and in some complication rates (acute urine retention after catheter removal and urethral strictures), bipolar TURP (B-TURP) is preferable due to a more favourable safety profile (elimination of TUR syndrome, less bleeding: lower clot retention rates, lower blood transfusion rates with the use of a true bipolar system, shorter irrigation and catheterisation duration). Currently, this meta-analysis is being updated to include all recent RCTs and the results are awaited in the near future. We agree that urethral stricture formation is traditionally considered one of the major late complications of TURP. Some authors prefer not to investigate or report its incidence during the perioperative period, in contrast to others. The question is where to put the time limit for seeking such a complication. To our knowledge there is no clear, evidence-based limit, even for the longer term and thus, urethral stricture rates have been compared at several intervals (3, 6, 12 months etc.) in RCTs. We saw that urethral strictures can appear as early as 6 weeks after TURP. We detected seven cases (5/138 vs 2/141, less in B-TURP; $P = 0.279$). Five of them were grade III according to the modified Clavien classification system because optical urethrotomy was necessitated (4/138 vs 1/141, less in B-TURP; $P = 0.210$). Consequently, we think that RCTs focusing on the perioperative morbidity should still report on this potentially devastating complication, otherwise it may be underreported. There is no evidence from individual RCTs or meta-analyses of a statistically significant difference in urethral stricture rates between arms, and the previously reported alarming results have been proven misleading. To the best of our knowledge the longest follow up reported to date in RCTs is 100 months, showing no difference between arms. Furthermore, rates appear not to differ significantly even between “quasi-bipolar” and M-TURP systems over a follow up period of > 2.5 years. We stated in the text and elsewhere that “accrual of increased numbers of patients and/or longer follow-up, which is still limited might change these results”. Hence we envision longer follow-up results, and our report is underway. Nevertheless, for the moment, we should position ourselves on actual facts: based on the current, best available evidence, urethral stricture rates do not differ significantly between B-

TURP and M-TURP. The idea of using B-TURP as a “reliable training vehicle for today’s urology residents” is not new and has been advocated by many authors. Nevertheless, supporting evidence is lacking. According to our findings the potentially improved safety of B-TURP, attributed to the elimination of dilutional hyponatraemia risk, which is still present with M-TURP, did not translate into a significant clinical benefit. However, we acknowledged the potential lack of generalizability of this result in less experienced settings including urology residents, stating that “...although the clinical significance of this protective effect might not be considered such an important issue in experienced hands, B-TURP might be preferable, especially in less experienced settings”. Thus, we share the authors’ notion that the inherent safety of B-TURP leads to significant clinical advantages for TURP training. However, “the obvious” should be supported by evidence stemming from proper investigation in clinical trials. Erectile dysfunction is typically considered a late complication of TURP and retrograde ejaculation affects most patients (53 – 75%) according to the nature of the procedure. It has been recently proposed that retrograde ejaculation should be considered a sequel rather than a complication of TURP. Based on these we opted not to report on these two entities in this paper. However, the authors are correct in that the comparison of these incidence rates between arms remains largely unexplored in RCTs. Retrograde ejaculation rate has been reported not to differ significantly between arms in a few RCTs. However, bipolar technology has shown no electric current passage through the periprostatic tissues to stimulate or damage the surrounding nerves, and our results from a double-blinded RCT focusing specifically on sexual dysfunction with the use of validated questionnaires are underway and might reveal yet another potential advantage of bipolar technology, which is up to now not clearly evident.

- 108.** Mamoulakis C, Skolarikos A, Schulze M, Scoffone CM, Rassweiler JJ, Alivizatos G, Scarpa RM, de la Rosette JJ. **Letter to the Editor (Reply), Re: Results from an international multicenter double-blind randomized controlled trial on the perioperative efficacy and safety of bipolar vs. monopolar transurethral resection of the prostate. BJU Int. 2012;109: E38-E40.**

We would like to thank the authors for commenting on our paper. Intrigued by their remark on hospitalisation time, we looked back and analysed our data for this outcome. The methodology and the statistical software used have been previously described. Our results are presented below. Data were available from three out of the four participating centers in our international multicentre randomized controlled trial (RCT), concretely from: Centre 1, Academic Medical Centre, University of Amsterdam, Amsterdam, the Netherlands; Centre 3, Sismanoglio Hospital, University of Athens Medical School, Athens, Greece; and Centre 4, San Luigi Hospital, University of Turin, Orbassano, Turin, Italy. The mean (SD) hospitalisation time in monopolar transurethral resection of the prostate (mTURP) vs bipolar TURP (bTURP) arm was calculated as follows, respectively: a) Centre 1, 2.66 (1.03) vs 2.72 (1.09) days, $P=0.925$; b) Centre 3, 4.26 (0.77) vs 3.83 (0.79) days, $P=0.415$; c) Centre 4, 3.78 (1.22) vs 4.39 (2.03), $P=0.386$; and d) All three centers, 3.44 (1.23) vs 3.49 (1.45) days, $P=0.682$. Centre of origin was a statistically significant predictor of the outcome ($P<0.001$) but the difference between arms remained insignificant ($P=0.648$) after adjusting for the centre of origin in a two-way ANOVA . These results partly agree with those from other RCTs. It has been previously shown in a RCT-based meta-analysis that three out of nine trials reporting on hospitalisation time provided estimable data showing a significantly quicker discharge (up to 48 h) in the bTURP arm. Nevertheless, despite the observed significant trend favouring bTURP (Figure 1), also noted by others, the data could not be pooled due to extreme heterogeneity, and thus inferences for hospitalisation duration could not be made. Currently, this meta-analysis is being updated to include the recent RCTs and the results are awaited in the near future. To the best of our knowledge, there is no true economic evaluation to date comparing mTURP vs bTURP. The issue has only sporadically and inconclusively been discussed by some authors. In their retrospective study, Starkman and Santucci performed a partial economic evaluation showing that the shorter stay after plasmakinetic bTURP (1.2 vs 2.1 days) can result in cost savings of up to \$1200/patient/day at their institution. Nevertheless, it has been recognised that it is difficult to estimate the role of economic factors due to the diverse costs of the different devices and the wide variation among

the different countries' healthcare systems. Cetti et al. in their letter present data claiming to question the economic credentials of bTURP in the face of their experience with mTURP. Nevertheless, with due respect, we would like to underline the following: a) It is encouraging to provide data supporting the argument "...a 23-h stay should be the preoperative intention in all patients undergoing mTURP, and routine in-patient stays in excess of this should be consigned to history". However, such a statement may be considered rather absolutist, over-optimistic, and nongeneralizable, in view of the evidence presented here and elsewhere. b) The decision for hospital discharge is multifactorial with prior knowledge of the treatment offered potentially resulting in bias. Therefore, studies emphasising such an outcome should ideally be double-blinded. c) For the moment, we should position ourselves on actual facts, which means that based on the current, best available evidence, although no clinically relevant differences exist in short-term efficacy and the rates of some complications (acute urinary retention after catheter removal, urethral strictures), bTURP is preferable due to a more favourable safety profile (elimination of TUR syndrome, less bleeding, lower clot retention rates, lower blood transfusion rates with the use of a true bipolar system, shorter irrigation and catheterisation duration). Regarding the economic issues, we are still unable to definitely argue, and a costanalysis is needed. Nevertheless, it is questionable whether the results of such a hard task could be universally generalizable, as rules regulating the reimbursement systems vary among countries, different regions/states within a country and between public – private institutions.

109. Rassweiler MC, Mamoulakis C, Kenngott HG, Rassweiler J, de la Rosette J, Laguna MP. **Classification and detection of errors in minimally invasive surgery. J Endourol. 2011;25:1713-21.**

Purpose: To provide a comprehensive review of the classification of surgical errors as well as general measures to detect and prevent their occurrence. **Materials and Methods:** Search in PubMed, Medline, and Cochrane library with combination of the key words: Endoscopy or surgical procedures, minimally invasive, and medical error. Relevant articles were selected by three senior authors involved in minimally invasive surgery (MIS). **Results:** Error is an unintended healthcare outcome caused by a defect

in the delivery of care to a patient. Surgical errors are common and account for half of all hospital adverse events (AEs). Urology is the fifth specialty in decreasing order of AE. Errors may be classified according to the place where they occur (co-face or systemic), to the outcomes (near miss, recovery, and remediation). A specific classification for errors in MIS has also been described (Cushieri), depending on the step of the surgical procedure in which they occur. Each classification serves definite purposes, and no one can be definitive over the others. No classification has been applied so far to urology. Detection through appropriate reporting is the basis for prevention. **Conclusion:** Surgical errors represent a significant proportion of all medical error. Multiple classifications exist, depending on the purposes they are intended to serve. A classification based on the place of occurrence of the errors has been adopted in the medical system; however, when referring to MIS, a finer classification is proposed.

- 110.** Rioja J, Mamoulakis C, Sodha H, Suwijn S, Laguna P, de la Rosette J. **A plea for centralized care for ureteroscopy: results from a comparative study under different conditions within the same center. J Endourol. 2011;25:425-9.**

Purpose: We stratified factors that affect treatment morbidity, compared the outcomes of ureteroscopy procedures from a single department under different conditions, and provided evidence of treatment benefits when ureteroscopy is performed in an expert setting. **Patients and Methods:** Since the department became a dedicated endourologic center in 2002, we grouped all ureteroscopy procedures into those performed before 2002 (group A) and after 2002 (group B). The modified Clavien classification was used to score morbidity. Independent variables with an influence on postoperative outcomes were studied, including operative time, intraoperative and postoperative complications, and hospitalization time. **Results:** Of the 248 ureteroscopy procedures performed, 62 comprised group A and 186 comprised group B. Statistical preoperative differences were in the American Society of Anesthesiologists score, patients with diabetes mellitus, cardiovascular disease, and the use of anticoagulants; and the perioperative differences were seen in operative time, hospital stay, and the number of eventful procedures. Group A had a

significantly longer operative time and a longer hospital stay compared with group B. The number of failed and eventful procedures are also higher in group A compared with group B. Stone-free rates were similar in both groups. **Conclusions:** The dedicated setting for ureteroscopy at our center resulted in decreased operative time, more uneventful procedures, and decreased hospitalization time. The modified Clavien morbidity score is a reliable tool for more objective comparisons of morbidity after ureteroscopic stone treatment.

111. Cauberg EC, Mamoulakis C, de la Rosette JJ, de Reijke TM. **Narrow band imaging-assisted transurethral resection for non-muscle invasive bladder cancer significantly reduces residual tumor rate. World J Urol 2011;29:503-9.**

Purpose: To investigate whether narrow band imaging (NBI)-assisted transurethral resection (TUR) (NBI-TUR) has an impact on non-muscle invasive bladder cancer (NMIBC) residual tumour rate compared to white light (WL)-assisted TUR (WL-TUR). **Methods:** Patients with NMIBC treated with either NBI- or WL-TUR were compared in a frequency-matched index-control setting. During NBI-TUR, all suspicious lesions identified by either WL or NBI were resected. Index patients (NBI-TUR, n=40) were prospectively recruited and control patients (WL-TUR, n=120) were retrospectively collected, whilst being blinded for their first follow-up (fFU)-status. Non-radical TUR cases, patients without evidence of urothelial carcinoma in the pathology specimen and those with isolated carcinoma in situ or muscle invasive disease were excluded. Matching was based on the risk of tumour recurrence defined by (a) the EORTC risk score for recurrence and (b) the administration or not of one single chemotherapeutic intravesical instillation immediately after TUR. All patients underwent routine follow-up with WL cystoscopy supplemented with cytology at 3 months or re-TUR in selected cases. The residual tumour rates at fFU (RR-fFU) of patients with NMIBC submitted to either NBI- or WL-TUR were compared. **Results:** Baseline patient and tumour characteristics were comparable between groups. The RR-fFU for WL- and NBI-TUR was 30.5% (36 out of 118 patients) and 15.0% (6 out of 40 patients), respectively (OR: 2.7, one-sided 95% CI: 1.2-6.1; P=0.03).

Conclusion: NBI-TUR decreases residual tumour rate significantly when compared to a matched cohort of WL-TUR.

- 112.** Mamoulakis C, Herrmann TR, Höfner K, Oelke M. **The fish-hook configuration of the distal ureter indicates bladder outlet obstruction due to benign prostatic hyperplasia. World J Urol. 2011;29:199-204.**

Purpose: The aim of this retrospective study was to evaluate in a historical series of patients whether morphological changes of the urinary tract imaged on intravenous urography (IVU) are associated with clinical or urodynamic data. **Methods:** During a 1-year period, every man 45 years or older with lower urinary tract symptoms suggestive of benign prostatic hyperplasia was systematically evaluated with multi-channel computer-urodynamic investigation and IVU. Men with urinary retention, known bladder stones or diverticula, severely impaired renal function, or allergy to iodine contrast media were excluded. Structural alterations of the urinary tract were correlated with clinical and urodynamic data using logistic regression analysis.

Results: Data on 203 consecutive patients were available for analysis. Multivariate analysis demonstrated that the "fish-hook" configuration of the distal ureter (also known as "hockey-stick", or "J-shaped" ureter) was the only sign significantly associated with benign prostatic obstruction (BPO) (odds-ratio 3.64; 95% confidence interval 1.69-7.83; $P < 0.001$). The sensitivity, specificity, positive and negative predictive values of the "fish-hook" ureter configuration sign to detect BPO was 53, 76, 61 and 70%, respectively. Bladder trabeculation, upper urinary tract dilatation, or bladder base elevation were not associated with BPO, detrusor overactivity, detrusor underactivity, bladder low-compliance or any clinical data. **Conclusions:** The "fish-hook" shape of the distal ureter(s) indicates BPO and may be a result of prostate median lobe enlargement.

- 113.** Beemster PW, Barwari K, Mamoulakis C, Wijkstra H, de La Rosette JJ, Laguna MP. **Laparoscopic renal cryoablation using ultrathin 17-gauge cryoprobes: mid-term oncological and functional results. BJU Int. 2011; 108:577-82.**

What's known on the subject? and What does the study add? Laparoscopic Cryoablation of renal masses has a low persistence and recurrence rates at short term follow-up albeit higher than Partial Nephrectomy. Long term results are scarcely reported. It is however a NSS technique suitable for high-risk that preserves renal function. The study provides (1) mid-term oncological outcomes of laparoscopic cryoablation of renal masses stratified by primary pathology (RCC, benign mass or undetermined biopsy) and (2) data on renal function evolution up to one year of follow-up supporting the fact that the only predictor of (moderate)renal insufficiency development after Laparoscopic cryoablation is the eGFR at baseline. **Objective:** To present the functional and oncological mid-term results of laparoscopic cryoablation of renal masses using third generation ultrathin (17-gauge[G]) cryoprobes. **Patients and Methods:** Consecutive patients with small renal masses treated by cryoablation from September 2003 to September 2008 were prospectively evaluated. The cryoablation was performed using multiple third generation 17-G cryoprobes after intraoperative mass biopsy. Data on serum creatinine measurements and cross sectional imaging (computed tomography/magnetic resonance imaging) were regularly collected according to a previously determined protocol. Follow-up was censored in October 2009. Renal function analysis was based on estimated glomerular filtration rate (eGFR) at 1 year compared with baseline. Residual (or persistent tumour) and recurrence were defined as the presence of residual enhancement at first follow-up and 'de novo' enhancement of a non-enhancing cryolesion at any time during follow-up. Survival data were analysed using the Kaplan-Meier method. Best estimates for the overall survival (OS), recurrence-free survival (RFS), cancer-specific survival (CSS) and metastatic-free survival (MFS) were made for patients with renal cell carcinoma (RCC) and for patients with RCC or non-diagnostic biopsy. **Results:** A total of 92 patients (100 tumours; mean size 2.5 ± 0.8 cm) were treated in 95 sessions. The mean follow-up was 30.2 ± 16.6 months (Mean values are $\pm$ SD). Intraoperative biopsy showed RCC in 51 patients (53.7%), benign lesion in 23 patients (24.2%) and was non-diagnostic in 21 patients (22.1%). Three tumour persistences and four radiological recurrences were detected. The estimated mean RFS time and 3-year OS and RFS in patients with RCC exclusively

were 47.8 (95% confidence interval [CI]: 44.1-51.1) months, 86.1% (95% CI: 71.2-93.6) and 91.8% (95% CI: 76.3-97.3), respectively. The figures were slightly higher in the group of patients with RCC or unknown pathology. The actual CSS and MFS rates were 100%. Renal function was preserved in 84.5% of patients with normal preoperative eGFR. Baseline eGFR was the only predictor of renal insufficiency development at 1-year follow-up. **Conclusion:** Laparoscopic cryoablation with multiple ultrathin cryoprobes is oncologically and functionally effective at mid-term follow-up.

114. Heretis I, Mamoulakis C, Papadimitriou V, Sofras F. **Strategic lithotripsy using the Doli S EMSE 220 F-XP for the management of staghorn renal calculi. Int Urol Nephrol. 2011;43:61-5.**

Aim: The presentation of our results using the Dornier lithotripter (Doli) S electromagnetic shockwave emitter (EMSE) 220 F-XP for the strategic management of staghorn renal calculi. **Methods:** Sixteen patients with renal staghorn stones of more than 35mm in maximum length on plain X-rays were treated by shock wave lithotripsy (SWL) monotherapy with the Doli S EMSE 220 F-XP. Double-J ureteral stent was inserted to all prior to the first SWL treatment. Shock wave counts varied from 2,500 to 3,600 with a shock release frequency of 70-80 pulses per minute. The number of sessions varied from 2 to 6. The interval between the SWL sessions was around 1 month. Fragmentation rate of 20-25% of the stone load per session was considered a valid criterion for progressing to further SWL sessions. **Results:** Nine patients became stone free at the end of SWL sessions and two patients had renal stone fragments smaller than 4mm, which were eliminated 6months later. Two patients developed streinstrasse that was managed with ureteroscopy. Auxiliary SWL was also performed on three patients with residual ureteral calculi. The mean follow up period was 12months. The remaining five patients underwent open surgery for incomplete stone fragmentation. No major complications developed during the follow up period. The predominant composition of stones available for analysis was struvite. **Conclusion:** Doli S EMSE 220 F-XP can be a safe and effective treatment option for renal staghorn stones on an outpatient basis.

- 115.** Mamoulakis C, Efthimiou I, Kazoulis S, Christoulakis I, Sofras F. **The modified Clavien classification system: a standardized platform for reporting complications in transurethral resection of the prostate.** *World J Urol.* 2011; 29:205-10.

Purpose: The aim of the study was to evaluate the applicability of the modified Clavien classification system (CCS) in grading perioperative complications of transurethral resection of the prostate (TURP). **Methods:** All patients with benign prostatic hyperplasia submitted to monopolar TURP from January 2006 to February 2008 at a non-academic center were evaluated for complications occurring up to the end of the first postoperative month. All complications were classified according to the modified CCS independently by two urologists, and the final decision was based on consensus. If multiple complications per patient occurred, categorization was done in more than one grade. Results were presented as complication rates per grade. **Results:** Forty-four complications were recorded in 31 out of 198 patients (overall perioperative morbidity rate: 15.7%), and their grading was generally easy, non-time-consuming and straightforward. Most of them were classified as grade I (59.1%) and II (29.5%). Higher grade complications were scarce (grade III: 2.3% and grade IV: 6.8%, respectively) There was one death (grade V: 2.3%) due to acute myocardial infarction (overall mortality rate: 0.5%). Negative outcomes such as mild dysuria during this early postoperative period or retrograde ejaculation were considered sequelae and were not recorded. Nobody was complicated with severe dysuria. There was one re-operation due to residual adenoma (0.5%). **Conclusions:** The modified CCS represents a straightforward and easily applicable tool that may help urologists to classify the complications of TURP in a more objective and detailed way. It may serve as a standardized platform of communication among clinicians allowing for sound comparisons.

- 116.** Zilberman DE, Lipkin ME, de la Rosette JJ, Ferrandino MN, Mamoulakis C, Laguna MP, Preminger GM. **Tubeless percutaneous nephrolithotomy-the new standard of care?** *J Urol.* 2010;184:1261-6.

Purpose: Traditionally the placement of a nephrostomy tube at the conclusion of percutaneous nephrolithotomy is considered the standard of care. However, the need for nephrostomy tube placement has been questioned by numerous authors. We evaluated the literature regarding tubeless percutaneous nephrolithotomy, and determined potential candidates for tubeless percutaneous nephrolithotomy and whether this procedure can be considered the new standard of care for complex stone removal. **Materials and Methods:** A MEDLINE search was conducted between May 1997 and January 2010 to detect studies reporting tubeless percutaneous nephrolithotomy. “Nephrolithiasis”, “percutaneous nephrolithotomy”, “tubeless” and “lithotripsy” were used as medical subject headings (MeSH) key words. Additional citations were identified by reviewing the reference lists of the included articles. All relevant articles were reviewed for indications, outcomes and complications. **Results:** The data obtained from 50 reports document comparable complication rates between tubeless and standard percutaneous nephrolithotomy. Tubeless percutaneous nephrolithotomy demonstrated advantages such as less pain, less debilitation, less costs and a shorter hospital stay. Mean stone-free rates for tubeless percutaneous nephrolithotomy were as high as 89%. **Conclusions:** Tubeless percutaneous nephrolithotomy appears to be safe and efficacious in uneventful procedures, in children, in obese patients, in simultaneous bilateral procedures, in supracostal access and in renal units with coexisting anatomical anomalies. Nephrostomy tube placement should still be considered in certain cases such as those with more than 2 nephrostomy access tracts, those necessitating a second look and those with intraoperative complications such as significant bleeding or collecting system perforation.

117. Rioja J, Tzortzis V, Mamoulakis C, Laguna MP. **Cryotherapy for renal tumors: current status and contemporary developments. Actas Urol Esp. 2010;34:309-17.**

The proportion of renal tumors found incidentally dramatically increased in the past decade. More than half of them were diagnosed in patients over 70 years of age, a population with high associated comorbidity. Nephron-sparing minimally invasive surgical procedures are aimed at treating patients with small renal tumors and

multiple comorbidities. Cryotherapy stands out among all other ablative procedures because of its better mid-term oncological outcome. A non-systematic review of the literature on cryotherapy as a treatment for renal tumors was made, analyzing its indications, actual and future application techniques, results, and complications.

118. Mamoulakis C, Ubbink DT, de la Rosette JJ. Re: Burke et al.: systematic review and meta-analysis of transurethral resection of the prostate versus minimally invasive procedures for the treatment of benign prostatic obstruction (Urology 2010;75:1015-1022). Urology. 2010;75:1235-6.

We read with interest the review by Burke et al. With due respect to the authors, we would like to comment on the section referring to monopolar transurethral resection of the prostate (M-TURP) vs bipolar TURP (B-TURP). We have serious concerns regarding the methodology. The literature search is not up to date and is questionable. The article was submitted (March 2009) 1 year after the literature search end (April 2008). This policy resulted in missing information from 2 interesting metaanalyses published last year. Using similar sources and strategy we included 16 randomized controlled trials (RCTs) based on an updated search up to less than 2 months (February 2009) before submitting a meta-analysis on the topic. The authors identified 17 RCTs. However, they either failed to detect 3 RCTs within their search period (included in our meta-analysis) or excluded them without any apparent reason. We disagree with the oversimplified statement "...minor technical differences...have led to the use of different terminology such as B-TURP, plasma kinetic resection, plasma kinetic vaporization, and TUR in saline." This is an erroneous interpretation of the accompanying reference. We acknowledge that terms are often misused in the literature; however, sensitive works that aim to provide the best available evidence should not adopt such inaccuracies. Transurethral vaporization of the prostate (TUVp) is considered an alternative procedure to TURP according to the European Association of Urology/American Urological Association guidelines. Regardless of the underlying common electrophysical principle (monopolar or bipolar), the energy application on the tissue is different due to the different electrode geometry (resection loop vs roller ball). This is also recognized by manufacturers (<http://www.gyrusacmi.com/pkturp/references.cfm>). Consequently, RCTs on

BTURP, TUVF or vaporessection (monopolar or bipolar) have been typically pooled separately for comparison to M-TURP in meta-analyses. However, the authors pooled RCTs on B-TURP (n=12), B-TUVF (n=3), B-vaporessection (n=1), and B-TURP+B-TUVF (n=1) under the “term” B-TURP, considering thus all techniques identical. This is incorrect and analogous to mixing “apples with oranges.” It is not surprising that the results on the limited number of outcomes addressed are close to ours since the studies improperly selected by a urological point of view are few. This, however, does not justify their approach. The 5 RCTs studying nonstandard B-TURP procedure were excluded from our meta-analysis. Going 1 step further; we recognized that each BTURP system represents a distinct electrophysical entity regarding current flow, due to the different configuration of the passive electrode, which may have significant clinical effects. Consequently, efficacy and, principally, safety should be separately evaluated for each system. For example, TUR in saline (TURis, Olympus, Tokyo, Japan) differs from the PlasmaKinetic system (Gyrus ACMI, Southborough, MA) and it is considered “quasibipolar.” Performing subgroup analyses, we detected an improved safety profile for the PlasmaKinetic system regarding clot retention and blood transfusions. Finally, the authors present results under heterogeneity approaching 100% (catheterization, hospitalization duration) without applying techniques in an attempt to explain it. We do not agree with this policy because the conclusions drawn are misleading for the average reader, who might be unfamiliar with meta-analysis methodology.

119. Meissner A, Mamoulakis C, Laube N. Urinary tract infections and urolithiasis. Urologe A. 2010;49:623-8.

The classic “infection stone” struvite is formed as a result of metabolic activity of urease-positive bacteria from alkaline urine with pH-values above 7.5. Due to improved infection diagnostics and antibiotic therapy, the occurrence of infection-related urinary stones in the western industrialized world decreases, despite the generally increasing prevalence rates of urolithiasis in these societies. Struvite is often associated with other mineral phases. These accessory mineral phases could indicate other, non-infection-related causes of urinary stone formation. Thus, mineral analysis is always recommended. Struvite stones as well as struvite encrustations on

urinary tract implants are characterized by rapid growth. The rapid growth-related embedding of urease-positive bacteria in the crystalline material makes the urinary stone a persistent source of recurrent urinary tract infections. According to the German Society of Urology guidelines on urolithiasis, a patient with the diagnosis “infection stone” should be assigned to the “high-risk” patient group. Complete stone and debris removal, as well as a special metaphylaxis strategy are required to initiate successful stone therapy.

120. Meissner A, Mamoulakis C, de la Rosette JJ, Laguna Pes MP. **Clinical update on testicular microlithiasis. Curr Opin Urol. 2009; 19:615-8.**

Purpose of Review: Testicular microlithiasis becomes a greater interdisciplinary issue among urologists, andrologists, gynecologists dedicated to reproductive medicine, pediatricians, radiologists and pathologists. Proposed management ranges from benign neglect, instructing self-examination over follow-up once, regular biannual follow-up including ultrasonography to bilateral testicular biopsy to rule out possible concomitant unclassified intratubular germ cell neoplasia (ITGCN) or future development of testicular cancer. The aim of this review is to present an overview of the current dilemma and summarize management trends based on the most recent data. **Recent Findings:** Testicular microlithiasis is not a premalignant condition but may accompany ITGCN or testicular cancer. The importance of ruling out ITGCN with testicular biopsy in high-risk men, such as in those with bilateral testicular microlithiasis, infertility, cryptorchidism, atrophic testes or contralateral testicular cancer, has been recently advocated. **Summary:** Despite greater awareness of testicular microlithiasis, a clear definition is currently missing and the etiology is still obscure. This causes confusion in management and follow-up. Self-examination alone or in combination with testicular ultrasonography has been advised. Recently, a single set of biopsies in selected, high-risk groups has been proposed to rule out ITGCN without a need for further investigations apart from self-examination. However, the cost-effectiveness of such a strategy needs to be evaluated.

- 121.** Mamoulakis C, Ubbink DT, de la Rosette JJ. **Bipolar versus monopolar transurethral resection of the prostate: a systematic review and meta-analysis of randomized controlled trials.** *Eur Urol.* 2009; **56**: 798-809.

Context: Incorporation of bipolar technology in transurethral resection (TUR) of the prostate (TURP) potentially offers advantages over monopolar TURP (M-TURP).

Objective: To evaluate the evidence by a meta-analysis, based on randomized controlled trials (RCTs) comparing bipolar TURP (B-TURP) with M-TURP for benign prostatic obstruction. Primary end points included efficacy (maximum flow rate [Q(max)], International Prostate Symptom Score) and safety (adverse events).

Secondary end points included operation time and duration of irrigation, catheterization, and hospitalization. **Evidence acquisition:** Based on a detailed, unrestricted strategy, the literature was searched up to February 19, 2009, using

Medline, Embase, Science Citation Index, and the Cochrane Library to detect all relevant RCTs. Methodological quality assessment of the trials was based on the Dutch Cochrane Collaboration checklist. Meta-analysis was performed using Review

Manager 5.0.**Evidence Synthesis:** Sixteen RCTs (1406 patients) were included.

Overall trial quality was low (eg, allocation concealment and blinding of outcome assessors were poorly reported). No clinically relevant differences in short-term (12-

mo) efficacy were detected (Q(max): weighted mean difference [WMD]: 0.72 ml/s; 95% confidence interval [CI], 0.08-1.35; p=0.03). Data on follow-up of >12 mo are

scarce for B-TURP, precluding long-term efficacy evaluation. Treating 50 patients (95% CI, 33-111) and 20 patients (95% CI, 10-100) with B-TURP results in one

fewer case of TUR syndrome (risk difference [RD]: 2.0%; 95% CI, 0.9-3.0%; p=0.01)

and one fewer case of clot retention (RD: 5.0%; 95% CI, 1.0-10%; p=0.03),

respectively. Operation times, transfusion rates, retention rates after catheter removal,

and urethral complications did not differ significantly. Irrigation and catheterization

duration was significantly longer with M-TURP (WMD: 8.75 h; 95% CI, 6.8-10.7

and WMD: 21.77 h; 95% CI, 19.22-24.32; p<0.00001, respectively). Inferences for

hospitalization duration could not be made. PlasmaKinetic TURP showed an

improved safety profile. Data on TUR in saline (TURis) are not yet mature to permit

safe conclusions. **Conclusions:** No clinically relevant differences in short-term

efficacy exist between the two techniques, but B-TURP is preferable due to a more favorable safety profile (lower TUR syndrome and clot retention rates) and shorter irrigation and catheterization duration. Well-designed multicentric/international RCTs with long-term follow-up and cost analysis are still needed.

122. de la Rosette JJ, Wink MH, Mamoulakis C, Wondergem N, ten Kate FJC, Zwinderman K, de Reijke TM, Wijkstra H. **Optimizing prostate cancer detection: 8 versus 12-core biopsy protocol.** *J Urol.* 2009;182: 1329-36.

Purpose: We compared prostate cancer detection rates achieved using an 8 and 12-core biopsy protocol in a clinical population to determine the significance of additional transition zone sampling on repeat biopsy. **Materials and Methods:** Between September 2004 and September 2007, 269 eligible patients with a clinical suspicion of prostate cancer referred to our department were randomized to an 8-core lateral (group 1) or a 12-core lateral and parasagittal (group 2) transrectal ultrasound guided prostate biopsy protocol. Study inclusion criteria were age dependent increased serum prostate specific antigen (1.25 ng/ml or greater at ages less than 50 years, 1.75 or greater at ages 50 to less than 60 years, 2.25 or greater at ages 60 to less than 70 years and 3.25 or greater at ages 70 years or greater), positive digital rectal examination and/or suspicious transrectal ultrasound. After negative first round biopsy patients underwent 12-core biopsy, including 4 transition zone cores. **Results:** Nine patients were excluded from analysis because of protocol violation or they did not complete the whole biopsy procedure due to discomfort. The cancer detection rate in groups 1 and 2 did not differ significantly (34.1% or 45 of 132 patients and 38.3% or 49 of 128, respectively, $p = 0.48$). Detected cancer median Gleason scores were similar in the groups. Of 109 patients who underwent repeat biopsy prostate cancer was detected in 20 (14.4%), of whom 9 had positive cores from the transition zone and 6 had positive biopsies only from the transition zone. **Conclusions:** There are no statistically significant differences in the prostate cancer detection rate between 8 and 12-core prostate biopsy protocols. Transition zone biopsies contribute to prostate cancer detection in a repeat biopsy protocol.

- 123.** Wezel F, Mamoulakis C, Rioja J, Michel MS, de la Rosette J, Alken P.
Two contemporary series of percutaneous tract dilation for PNL. J Endourol. 2009; 23:1655-61.

Dilation of the tract for percutaneous nephrolithotomy can be performed with three different basic techniques. A retrospective outcome analysis of two techniques-metal telescoping dilation and balloon dilation-in a contemporary series of two European departments shows no significant difference in morbidity related to the dilation procedure. A literature survey that concentrates on publications with a focus on tract dilation shows that balloon dilation is the most frequently performed, but the morbidity reported for the different techniques appears identical. The three standard techniques have been developed more than 20 years ago. Very few new techniques have been added.

- 124.** Laguna MP, Beemster P, Kumar V, Klingler C, Wyler S, Anderson C, Keeley FX, Bachman A, Rioja J, Mamoulakis C, Marberger M, de la Rosette JJ.
Perioperative morbidity of laparoscopic cryoablation of small renal masses with ultrathin probes-a European multicenter experience. Eur Urol. 2009;56:355-61.

Background: Low morbidity has been advocated for cryoablation of small renal masses. **Objectives:** To assess negative perioperative outcomes of laparoscopic renal cryoablation (LRC) with ultrathin cryoprobes and patient, tumour, and operative risk factors for their development. **Design, Setting, And Participants:** Prospective collection of data on LRC in five centres. **Intervention:** LRC. **Measurements:** Preoperative morbidity was assessed clinically and the American Society of Anaesthesiologists (ASA) score was assigned prospectively. Charlson Comorbidity Index (CCI) and Charlson-Age Comorbidity Index (CACI) scores were retrospectively assigned. Negative outcomes were prospectively recorded and defined as any undesired event during the perioperative period, including complications, with the latter classed according to the Clavien system. Patient, tumour, and operative variables were tested in univariate analysis as risk factors for occurrence of negative outcomes. Significant variables ($p<0.05$) were entered in a

step-forward multivariate logistic regression model to identify independent risk factors for one or more perioperative negative outcomes. The confidence interval was settled at 95%. **Results And Limitations:** There were 148 procedures in 144 patients. Median age and tumour size were 70.5 yr (range: 32-87) and 2.6 cm (range: 1.0-5.6), respectively. A laparoscopic approach was used in 145 cases (98%). Median ASA, CCI, and CACI scores were 2 (range: 1-3), 2 (range: 0-7), and 4 (range: 0-11), respectively. Comorbidities were present in 79% of patients. Thirty negative outcomes and 28 complications occurred in 25 (17%) and 23 (15.5%) cases, respectively. Only 20% of all complications were Clavien grade ≥ 3 . Multivariate analysis showed that tumour size in centimetres, the presence of cardiac conditions, and female gender were independent predictors of negative perioperative outcomes occurrence. Receiver operator characteristic curve confirmed the tumour size cut-off of 3.4 cm as an adequate predictor of negative outcomes. **Conclusions:** Perioperative negative outcomes and complications occur in 17% and 15.5%, respectively, of cases treated by LRC with multiple ultrathin needles. Most of the complications are Clavien grade 1 or 2. The presence of cardiac conditions, female gender, and tumour size are independent prognostic factors for the occurrence of a perioperative negative outcome.

125. Tzortzis V, Mitrakas L, Gravas S, Mamoulakis C, Meissner A, Kyriakou D, Melekos MD. **Oral phosphodiesterase type 5 inhibitors alleviate recurrent priapism complicating thalassemia intermedia: a case report. J Sex Med 2009; 6:2068-71.**

Introduction: Recurrent ischemic priapism still remains a serious and difficult to treat complication of certain hematological disorders. Elucidation of the underlying pathophysiologic mechanisms and application of new effective prophylactic treatments are needed. **Aim:** To present the efficacy of phosphodiesterase type 5 inhibitors (PDE5is) as a preventive measure against ischemic priapism recurrences complicating thalassemia intermedia. **Methods:** We report on the case of a 19-year-old Caucasian man with thalassemia intermedia complicated by recurrent episodes of priapism following therapeutic splenectomy. After failure of conventional measures to control recurrences, a trial of long-term PDE5is use was initiated. **Main Outcome**

Measures: PDE5is efficacy based on clinical patient history. **Results:** Within 2 months of PDE5i preventive strategy, priapism recurrences nearly resolved. At 6 months, prophylaxis was discontinued. At 12 months, the patient reported clear improvement and satisfaction, experiencing rare episodes of priapism and a physiologic erectile function. **Conclusions:** PDE5 dysregulation seems to be an underline pathogenetic mechanism of thalassemia intermedia-associated priapism. It appears that PDE5is might have a role in the clinical management of such patients and their preventive efficacy warrants further testing in clinical trials.

126. Gravas S, Mamoulakis C, Rioja J, Tzortzis V, de Reijke T, Wijkstra H, de la Rosette J. **Advances in ultrasound technology in oncologic urology. Urol Clin N Am 2009;36:133-45.**

Continuous innovations and clinical research in ultrasound (US) technology have upgraded the position of US in the imaging armamentarium of urologists. In particular, contrast-enhanced US and sonoelastography seem to be promising in the diagnosis of urologic cancers, implementation of ablative treatments, and monitoring of treatment response. This article focuses on the potential clinical applications of recent advances in US technology in oncologic urology.

127. Tzortzis V, Mamoulakis C, Rioja J, Gravas S, Michel MC, de la Rosette JJ. **Medical expulsive therapy for distal ureteral stones. Drugs 2009;69:677-92.**

Although minimally invasive treatments for ureteral stones are efficacious, they are not free of complications and are associated with high cost. Medical expulsive therapy (MET) has recently emerged as an alternative strategy for the initial management of small distal ureteral stones. A MEDLINE search was undertaken to evaluate all currently available data on efficacy and safety of MET therapy in such patients. The specific mechanism of action on the ureteral smooth muscle and the emerging evidence of the efficacy (defined as either an increase in expulsion rate or a decrease in time to expulsion) and low-risk profile suggest that alpha-adrenergic receptor antagonists (alpha-blockers) and calcium channel antagonists should be the initial medical treatment in patients amenable to conservative therapy. NSAIDs and

anticholinergics have not shown efficacy as single agents or in combination with alpha-blockers or nifedipine. Corticosteroids may provide a small additive effect when combined with either alpha-blockers or nifedipine.

- 128.** Efthimiou I, Mamoulakis C, Papageorgiou G, Kazoulis S, Prevedorou D, Kontogiorgos G, Christoulakis I. **Unilateral malignant leydig cell tumor of testis in a patient with contralateral cryptorchidism. Urol J. 2009 Winter;6(1):60-2.**

Leydig cell tumors (LCTs) are the most common stromal tumors, accounting for 3% of all testicular neoplasms. Approximately, 3% of the LCTs are bilateral. They may be hormonally active, leading to either feminizing or virilizing syndromes. About 10% of them are malignant.(1) The diagnosis of a malignant LCT is not always easy, because no definite histological criteria exist for malignancy. About 20% of the patients present already with metastases, while 40% of them will develop secondary foci within 2 years. Cryptorchidism is a well-established epidemiological risk factor of testicular germ cell cancer; however, data regarding a possible association with sex cordstromal testicular tumors are scarce. Hereby, we present a rare case of unilateral malignant LCT in a patient with a history of contralateral cryptorchidism.

- 129.** Oelke M,¹ Mamoulakis C,¹ Ubbink DT, de la Rosette JJ, Wijkstra H. **Manual versus automatic bladder wall thickness measurements: a method comparison study. World J Urol. 2009;27:747-53.**

Purpose: To compare repeatability and agreement of conventional ultrasound bladder wall thickness (BWT) measurements with automatically obtained BWT measurements by the BVM 6500 device. **Methods:** Adult patients with lower urinary tract symptoms, urinary incontinence, or postvoid residual urine were urodynamically assessed. During two subsequent cystometry sessions the infusion pump was temporarily stopped at 150 and 250 ml bladder filling to measure BWT with conventional ultrasound and the BVM 6500 device. For each method and each bladder filling, repeatability and variation was assessed by the method of Bland and

¹ Equal contribution

Altman. Results: Fifty unselected patients (30 men, 20 women) aged 21–86 years (median 62.5 years) were prospectively evaluated. Invalid BWT measurements were encountered in 2.1–14% of patients when using the BVM 6500 versus 0% with conventional ultrasound (significant only during the second measurement at 150 ml bladder filling). Mean difference in BWT values between the measurements of one technique was -0.1 to $+0.01$ mm. Measurement variation between replicate measurements was smaller for conventional ultrasound and the smallest for 250 ml bladder filling. Mean difference between the two techniques was 0.11 – 0.23 mm and did not differ significantly. The BVM 6500 device was not able to correctly measure BWTs above 4 mm. **Conclusions:** Both BWT measurements are repeatable and agree with each other. However, conventional ultrasound measurements have a smaller measurement variance, can measure BWT in all patients, and BWTs above 4 mm.

130. Mamoulakis C, Trompetter M, de la Rosette J. **Bipolar transurethral resection of the prostate-“the golden standard” reclaims its leading position.** *Curr Opin Urol* 2009;19:26-32.

Purpose of Review: To summarize recent knowledge from experimental studies and randomized clinical trials in benign prostate hyperplasia that compare bipolar with monopolar transurethral resection, with an emphasis on morbidity. **Recent Findings:** Bipolar transurethral resection of the prostate has a urodynamically proven efficacy to relieve bladder outlet obstruction, which seems to be durable in time with low long-term complication rates. The haemostatic capacity of bipolar current is shown to be superior in ex-vivo studies. Postoperative bleeding and blood transfusion rates are similar. Clot retention and transurethral resection syndrome rates are significantly lower in patients treated with bipolar resection. Catheterization time and length of hospital stay are statistically shorter for Gyrus but insignificant for the transurethral resection in a saline system compared with monopolar resection. Urethral stricture rates do not differ significantly between arms. **Summary:** Bipolar shares similar clinical efficacy with monopolar transurethral resection of the prostate, durable in time with low long-term complication rates. It has minimized bleeding risk and eliminated transurethral resection syndrome. The evidence derived from randomized

clinical trials does not support a statistically significant incidence of urethral strictures with bipolar compared with monopolar current.

- 131.** Efthimiou I, Mamoulakis C, Kazoulis S, Xirakis S, Vernadakis S, Christoulakis I. **Urachal carcinoma presenting with chronic mucusuria: a case report. Cases J. 2008 Oct 30;1(1):288.**

Urachal adenocarcinoma is a rare tumor and represents 0.17–0.34% of all bladder tumors. It has an insidious course and variable clinical presentation. We present a case report of a 58 year old white male with an urachal cyst who suffered irritative voiding symptoms and long term mucusuria, since childhood. After surgical removal of the cyst with a partial cystectomy a mucus adenocarcinoma was diagnosed histologically. The patient after a negative for metastatic disease screen underwent a completion radical cystectomy with pelvic lymph node clearance. Clinicians should have a high degree of suspicion for these rare tumors.

- 132.** Chimona T, Proimos E, Mamoulakis C, Tzanakakis M, Skoulakis CE, Papadakis CE. **Multiparametric comparison of cold knife tonsillectomy, radiofrequency excision and thermal welding tonsillectomy in children.¹ Int J Pediatr Otorhinolaryngol 2008;72:1431-6.**

Objective: This is a prospective study evaluating certain intraoperative and postoperative parameters, comparing the relatively new technique of thermal welding tonsillectomy with cold knife tonsillectomy, and radiofrequency excision in pediatric population. **Methods:** Ninety children aged from 5 through 13 years were enrolled a randomized prospective trial comparing cold knife tonsillectomy, radiofrequency excision, and thermal welding tonsillectomy. Indications included recurrent acute tonsillitis and/or obstructive sleep apnea syndrome. All techniques were compared by means of length of surgery time, blood loss, postoperative bleeding and postoperative pain. **Results:** Sixty-eight patients underwent tonsillectomy for obstructive sleep apnea, whereas 22 children underwent tonsillectomy due to recurrent acute tonsillitis. Median values of all variables tested, length of surgery

¹ The candidate contributed also to the statistical analysis

time, blood loss, postoperative bleeding and postoperative pain, were found to differ significantly among the three surgical techniques ($P<0.001$). Particularly, a statistically significant higher median duration ($P<0.001$) and intraoperative blood loss ($P<0.001$), as well as, a statistically significant lower median pain score in each day tested ($P<0.001$) of the cold knife group, compared to each one of the other two groups, were found. Tissue welding and radiofrequency groups did not differ significantly in any aspect tested. **Conclusions:** Both thermal welding and radiofrequency excision techniques have shown comparable results regarding intraoperative blood loss, postoperative hemorrhage, and pain. Compared with cold knife tonsillectomy, welding and radiofrequency excision techniques were associated with less intraoperative blood loss and duration, though cold knife tonsillectomy seems to prevail over the two techniques in terms of the postoperative pain.

133. Efthimiou I, Mamoulakis C, Petraki K, Zorzos I. Renal actinomycosis presenting as a suppurated solitary cyst. Indian J Urol 2008;24:416-8.

We report the case of a middle-aged female with a solitary renal cyst suppurated by *Actinomyces israeli*. The patient was treated successfully by emergency nephrectomy. Based on a detailed negative history of inciting events and predisposing factors for actinomycosis, negative imaging modalities for extra-renal organ implication and no involvement of the surrounding renal parenchyma, the case is considered as primary renal actinomycosis affecting a solitary cyst of the kidney. This is the first such case reported in the international literature.

134. Kostopoulos C, Koutsikos J, Toubanakis C, Moulopoulos LA, Mamoulakis C, Gialafos E, Sfrikakis PP, Zerva Ch, Mavrikakis M, Leondi A. Lung scintigraphy with nonspecific human immunoglobulin G ((99m)Tc-HIG) in the evaluation of pulmonary involvement in connective tissue diseases: correlation with pulmonary function tests (PFTs) and high-resolution computed tomography (HRCT).¹ Eur J Nucl Med Mol Imaging 2008;35:345-51.

¹ The candidate contributed also to the statistical analysis

Purpose: In patients with connective tissue diseases (CTD), the early detection and evaluation of the severity of the pulmonary involvement is mandatory. High-resolution computed tomography (HRCT) and pulmonary function tests (PFTs) are considered to be valuable noninvasive diagnostic modalities. Radiopharmaceuticals have also been used for this purpose. Our aim was the evaluation of technetium-labeled human polyclonal immunoglobulin G (HIG) lung scintigraphy in the early detection and assessment of the severity of the pulmonary involvement in CTD patients. **Methods:** Fifty-two nonsmoking CTD patients were studied by PFTs, HRCT, and HIG. According to PFTs, patients were divided in group A (impaired PFTs-abnormal pulmonary function) and group B (normal pulmonary function). Semiquantitative analysis was done on HIG and HRCT and corresponding scores were obtained. **Results:** Significant difference was found between HIG scores in the two groups (0.6 ± 0.07 vs 0.51 ± 0.08 , $P < 0.001$). There was a statistically significant negative correlation between HIG scores and PFTs results and a positive correlation between HIG and HRCT scores. HIG demonstrated similar clinical performance to HRCT. At the best cut-off levels of their score (0.56 and 7, respectively), HIG had a superior sensitivity (77.5 vs 57.5%) with lower specificity (75 vs 91.7%). The combination of the two methods increased the sensitivity of abnormal findings at the expense of specificity. **Conclusions:** HIG scintigraphy can be used in the early detection and evaluation of the severity of the pulmonary involvement in CTD, whereas, when used in combination with HRCT, the detection of affected patients can be further improved.

- 135.** Koutsikos J, Grigoraki V, Athanasoulis T, Velidaki A, Mamoulakis C, Zomas A, Anagnostopoulos N, Georgiou E, Dimopoulos MA, Zerva C. **Scintigraphy with technetium-99m methoxy-iso-butyl-isonitrile in multiple myeloma patients; correlation with the International Staging System.**¹ *Hell J Nucl Med* 2006;9:177-80.

(99m)Tc-2-methoxyisobutylisonitrile ((99m)Tc-MIBI) scintigraphy has been suggested in multiple myeloma (MM) patients. According to the International

¹ The candidate contributed also to the statistical analysis

Staging System (ISS), serum b2-microglobulin (Sbeta(2)M) and serum albumin (SA) are dominant predictive factors and different cut-off values of these factors can separate patients into various stages of the disease. The purpose of this study was to assess the relationship between ISS staging, by Sbeta(2)M and SA, and the (99m)Tc-MIBI scan findings. Twenty-five MM patients have been studied. Eighteen patients were at stage I, three at stage II and four at stage III of MM. (99m)Tc-MIBI scans were obtained and scored according to intensity (I) and extent (E) of the radiotracer uptake. A summed score (S) for the (99m)Tc-MIBI scan was calculated for each patient. A statistically significant negative correlation between E, I and S uptake scores versus the SA levels ($P=0.004$, 0.049 and 0.018 respectively), as well as a statistically significant positive correlation between E and S scores and the Sbeta(2)M levels ($P=0.012$ and 0.032) were detected. A statistically significant difference between the E and S uptake scores among the MM patients examined for every stage separately was also found ($P=0.007$ and 0.024 respectively). The gradual increase of the E and S scores across the three stages of MM was also significant ($P=0.003$ and 0.021 , respectively), despite the relatively small number of patients in stages II and III. In seven patients who died at the end of the follow-up period all three scores were significantly increased as compared to the scores of the patients who remained alive at that time. In conclusion, this study provides additional evidence that (99m)Tc-MIBI scan not only reflects myeloma disease activity in bone marrow but it is also well correlated with the Sbeta(2)M and SA levels according to ISS.

- 136.** Lycopoulou L, Mamoulakis C, Hantzi E, Demetriadis D, Antypas S, Giannaki M, Bakoula C, Chrousos G, Papassotiriou I. **Serum amyloid A protein levels as a possible aid in the diagnosis of acute appendicitis in children.**¹ **Clin Chem Lab Med 2005;43:49-53.**

Hematological and biochemical tests, including white blood cell count (WBC), C-reactive protein (CRP) and other acute-phase reactants, have been used in the diagnosis of acute appendicitis. However, there is controversy among physicians about the value of this practice in children. The objective of our study was to evaluate

¹ The candidate contributed also to the statistical analysis

serum amyloid A protein (SAA) levels in children with confirmed acute appendicitis and to compare the sensitivity and specificity of this marker of inflammation with those for WBC and CRP. A prospective cohort study of 60 children admitted with abdominal pain to rule out appendicitis was used in the study. Of these, 42 underwent surgery, while 18 children who had spontaneous amelioration within 24 h of admission were not operated on and served as controls. WBC and serum SAA and CRP levels were obtained preoperatively. Serum concentrations of the analytes were determined with particle-enhanced immunonephelometric methods. Patients with acute appendicitis had WBC, SAA and CRP levels higher than those of the control group ($p < 0.001$). There was no appendicitis patient with a normal SAA value, while 21.4% of the patients had CRP values within the normal range. The performance of each test was measured by receiver-operating characteristic curves. Area under the curve (AUC) values were 0.849 for WBC, 0.868 for CRP and 0.964 for SAA. The sensitivity and specificity of these methods were 76% and 75% for $WBC > 10.0 \times 10^9 /L$, 62% and 94% for $CRP > 10 \text{ mg/L}$ and 86% and 83% for $SAA > 45.0 \text{ mg/L}$, respectively. Circulating SAA levels have better discriminatory value than WBC or CRP in the assessment of acute appendicitis in children. Thus, this test appears to be of higher value than the current standards of care in the diagnosis of this condition.

137. Gardikis S, Antypas S, Mamoulakis C, Demetriades D, Dolatzas T, Tsalkidis A, Chatzimicael A, Polychronidis A, Simopoulos C. **Colostomy type in anorectal malformations: 10-years experience. Minerva Pediatr 2004;56:425-9.**

Aim: The aim of this study was to evaluate the influence of colostomy type on morbidity during the treatment of anorectal malformations. **Methods:** Sixty-eight infants (male: female ratio 1.3:1) with anorectal malformations that required colostomy were treated in our clinics during the period 1991-2001. Of these patients, 26 had received a loop colostomy: 14 of these underwent posterior sagittal anorectoplasty (PSARP) at the age of 9-12 months (Group A), and 12 underwent PSARP at the age of 2-4 months (Group B). Forty-two infants received a separated-stomas colostomy and underwent PSARP at the age of 9-12 months (Group C). The incidence of complications among groups was compared using the 2 sided Fisher's

exact test. **Results:** Eight cases from group A were complicated with prolapse of the stomas, perianal wound infection, pull-through dehiscence, and anal fibrotic stricture. The only complication observed in groups B and C was perianal wound infection, which occurred in 1 case from each group. A statistically significant difference was observed in the incidence of complication between groups A and C ($p<0.001$) and between groups A and B ($p=0.014$). The results from groups B and C did not differ significantly ($p=0.398$). When the cases complicated with colostomy prolapse were removed from the statistical analysis, groups A and C still differed significantly ($p=0.001$) but groups A and B did not ($p=0.069$). **Conclusions:** As the incidence of complications increases with time after a loop colostomy, we encourage either an early corrective procedure or the modification into separated-stomas colostomy (SSC) before PSARP is performed for those cases that would involve definitive surgery in late infancy.

138. Mirilas P, Mamoulakis C, De Almeida M. **Puberty does not induce serum antisperm surface antibodies in patients with previously operated cryptorchidism. J Urol 2003;170:2432-5.**

Purpose: We investigated serum antisperm surface antibody (ASA) prevalence at puberty, which is reported to be as high as 38% in the sera of males with cryptorchidism operated on before puberty. Operative technique impact, dartos pouch orchiopexy or testis fixation, was also examined. **Materials and Methods:** We examined a total of 61 pubertal males (Tanner stage 2 or greater) divided into 3 groups. Group 1 consisted of 24 males with cryptorchidism 10 to 17.9 years old who underwent unilateral dartos pouch orchiopexy before puberty (median age 5.85). All of these cases were known to be negative for ASA preoperatively, and 20 before puberty. Group 2 consisted of 22 males with cryptorchidism 12.1 to 17.7 years old operated on previously (median age 10.35) by testicular fixation among other techniques. Group 3 consisted of 15 healthy males 12.2 to 17.3 years old. Prepubertal ASA status was unknown for groups 2 and 3. Operated testis was compared with counterpart before serum collection in group 1 and during operation in group 2. IgG IgM and IgA ASA were studied by the indirect Immunobead (BioRad, Clinisciences S.A., Montrouge, France) test. **Results:** All sera tested were found negative in the 3

groups. Dartos pouch operation, testis fixation or even consecutive operations did not induce ASA production. Alterations in size or consistency were observed in operated testes in 10 patients in group 1, and in 8 patients in group 2. **Conclusions:** Our results suggest that dartos pouch orchiopexy, testicular fixation and/or intrinsic developmental alterations of the cryptorchid testis does not elicit an autoimmune response against sperm surface antigens at puberty.

- 139.** Yamamoto Y, Sofikitis N, Kaponis A, Georgiou J, Yannakis D, Mamoulakis C, Loutradis D, Giannakopoulos X, Mio Y, Miyagawa I. **Use of a highly sensitive quantitative telomerase assay in intracytoplasmic sperm injection programmes for the treatment of 47, XXY non-mosaic Klinefelter men. *Andrologia*. 2002;34:218-26.**

We evaluated the role of the sensitive quantitative telomerase assay (SQTA) in the management of men with non-mosaic Klinefelter's syndrome (KS). Diagnostic testicular biopsy (DTB) was performed in 24 men with KS. A part of the DTB was stained and the remaining fragment was processed for the SQTA. After 3-18 months, a therapeutic testicular biopsy (TTB) was performed in the same testicle and the recovered specimens were processed to identify spermatozoa. Men with a SQTA outcome equal to 0.00 Units microg-1 protein (n = 7) demonstrated therapeutic testicular biopsy material that was negative for spermatogenic cells. In five men with a SQTA outcome of 8.11-38.03 Units microg-1, the most advanced germ cell was the spermatogonium/primary spermatocyte. In the remaining 12 men, the most advanced spermatogenic cell in the TTB was the spermatozoon. In these men, the SQTA outcome was equal to 25.76-92.68 Units microg-1 protein. Using 39.00 Units microg-1 protein as a cut-off value, the accuracy of the SQTA in identifying men positive for spermatozoa was 91.6%. It appears that the SQTA has a role for identifying non-mosaic KS men who have testicular spermatozoa.

- 140.** Mamoulakis C, Antypas S, Stamatiadou A, Demetriadis D, Kanakas N, Loutradis D, Miyagawa I, Yannakis D, Kaponis A, Tzonou A, Giannakopoulos X, Sofikitis N. **Cryptorchidism: seasonal variations in Greece do not support the theory of light. *Andrologia*. 2002;34:194-203.**

To examine seasonal trends of cryptorchidism in Greece, 583 males with true isolated cryptorchidism were analyzed. All 208,912 live-born boys born during the same period were used as a comparison group. Seasonality by month of birth was evaluated using both Edwards' model with adjusted frequencies and exact theta(i), and Walter-Elwood method with exact theta(i). Both tests resulted in consistent findings. The incidence of cryptorchid births in Greece follows a documented cyclic pattern of simple harmonic type with spring being the season of statistical predominance (peak in March with a second, almost equivalent, peak in May). In contrast, in autumn the incidence of cryptorchid births was considerably lower (trough in September). Given the fact that no significant differences in daylight length are found among seasons in Greece, the detection of a significant seasonal variation suggests that factors other than light are involved in the pathogenesis of cryptorchidism. Low environmental temperature is proposed as a causative factor negatively influencing the maternal hCG profiles and the inguinoscrotal phase of testicular descent. This is further supported by: (i) the similarity of our results to those reported by other European countries of different longitude and geographical width and (ii) our data showing significantly smaller maternal hCG profiles at the 26th week of gestation during winter compared with summer.

APPENDICES**Appendix A: Authorship Analysis****Table 1.** Publications in international scientific journals (PubMed Indexed)

No	Journal	Number of publications	Position			IF (ISI 2024)	Total IF (ISI 2024)
			1 st	2 nd	L/C		
1	Acta Clin Croat	1	-	-	1	0.8	0.8
2	Acta Paediatr	1	-	-	-	2.1	2.1
3	Actas Urol Esp	1	-	-	-	1.2	1.2
4	Andrologia	6	4	-	2	2.0	12.0
5	Arab J Urol	1	-	1	-	1.2	1.2
6	Arch Ital Urol Androl	1	-	-	1	1.3	1.3
7	Biomed Rep	1	-	-	-	1.9	1.9
8	BJU Int	6	4	-	4	4.4	26.4
9	BMC Urol	2	-	1	-	1.9	3.8
10	BMJ Case Rep	2	-	-	2	0.5	1.0
11	Can Urol Assoc J	1	-	-	-	2.0	2.0
12	Case Rep Anesthesiol	1	-	-	1	0.0	0.0
13	Case Rep Urol	2	-	-	2	0.0	0.0
14	Cases J	1	-	1	-	0.0	0.0
15	Cells	1	-	-	-	5.2	5.2
16	Cancers (Basel)	1	-	-	1	4.4	4.4
17	Cent European J Urol	1	-	-	-	1.9	1.9
18	Circulation	1	-	-	-	38.6	38.6
19	Clin Chem Lab Med	1	-	1	-	3.7	3.7
20	Clin Interv Aging	1	-	-	-	3.7	3.7
21	Cochrane Database Syst Rev	2	-	1	-	9.4	18.8
22	Cureus	3	-	-	3	0.0	0.0
23	Curr Opin Urol	3	1	1	-	2.2	6.6
24	Curr Pharm Des	1	-	-	-	2.8	2.8

25	Database (Oxford)	1	-	-	-	3.6	3.6
26	Drugs	1	-	1	-	14.4	14.4
27	Environ Res	1	-	-	-	7.7	7.7
28	Eur J Nucl Med Mol Imaging	1	-	-	-	7.6	7.6
29	Eur Urol	14	4	1	4	25.2	352.8
30	Eur Urol Focus	5	-	1	3	5.6	28.0
31	Exp Ther Med	1	1	-	1	2.3	2.3
32	Food Chem Toxicol	5	-	1	-	3.5	17.5
33	Front Reprod Health	1	-	-	-	2.9	2.9
34	Hell J Nucl Med	1	-	-	-	1.0	1.0
35	Hernia	1	-	-	-	2.4	2.4
36	Hippokratia	2	-	-	2	0.4	0.8
37	Hormones (Athens)	1	1	-	1	2.5	2.5
38	Hum Exp Toxicol	1	-	-	1	3.2	3.2
39	Indian J Urol	1	-	1	1	0.9	0.9
40	Insights Imaging	1	-	-	-	4.5	4.5
41	Int J Environ Res Public Health	2	1	-	2	0.0	0.0
42	Int J Mol Med	2	-	-	-	5.8	11.6
43	Int J Oncol	1	-	-	-	4.9	4.9
44	Int J Pediatr Otorhinolaryngol	1	-	-	-	1.3	1.3
45	Int J Urol	1	-	-	-	2.2	2.2
46	Int Urol Nephrol	1	-	1	-	1.9	1.9
47	J Clin Med	4	-	-	1	2.9	11.6
48	J Endourol	4	1	3	1	2.8	11.2
49	J Multidiscip Healthc	2	-	-	-	2.4	8.8
50	J Pers Med	3	-	-	1	3.0	9.0
51	J Sex Med	1	-	-	-	3.3	3.3
52	J Urol	4	-	1	1	6.8	27.2
53	Medicina-Lithuania	1	-	-	-	2.4	2.4
54	Minerva Pediatr	1	-	-	-	1.0	1.0

55	Mol Med Rep	2	-	-	1	3.5	7.0
56	Oncol Lett	1	-	-	1	2.2	2.2
57	Oncol Rep	1	-	-	-	3.9	3.9
58	Patient Prefer Adherence	1	-	-	-	2.0	2.0
59	Pharmacol Ther	1	1	-	1	12.5	12.5
60	Prostate Cancer Prostatic Dis	1	-	-	-	5.8	5.8
61	Reprod Toxicol	1	-	-	-	2.8	2.8
62	Toxicology	2	-	-	1	4.6	9.2
63	Toxicol Appl Pharmacol	1	1	-	1	3.4	3.4
64	Toxicol Rep	2	1	-	1	0.0	0.0
65	Toxics	2	-	-	-	4.1	8.2
66	Turk J Urol	1	1	-	1	1.1	1.1
67	Urol Ann	1	-	-	-	0.8	0.8
68	Urol Clin N Am	1	-	1	-	2.9	2.9
69	Urol J	1	-	1	1	0.9	0.9
70	Urologe A	1	-	1	-	0.0	0.0
71	Urology	4	3	-	4	2.0	8.0
72	World J Urol	9	3	2	2	2.9	26.1
	TOTAL	140	27	21	50		784.7

Table 2. Abstracts published in international scientific journals (PubMed Indexed)

No	Journal	Number of abstracts	Impact Factor (ISI 2022)	Total impact factor (ISI 2022)
1	Andrology	5	4.6	23.0
2	BJU Int	2	3.7	7.4
3	Clin Chem Lab Med	1	6.8	6.8
4	Eur J Nucl Med Mol Imaging	1	9.1	9.1
5	Eur Urol	4	23.4	93.6
6	Eur Urol Suppl	18	10.417	187.506
7	Fertil Steril	1	6.6	6.6

8	Hum Reprod	1	6.0	6.0
9	J Androl	9	2.473	22.257
10	J Endourol	9	2.9	26.1
11	J Sex Med	1	3.5	3.5
12	J Urol	1	6.6	6.6
13	Toxicol Lett	5	3.5	17.5
	TOTAL	58		415.963

Appendix B: Abstracts presented in Greek congresses

1. N. Kapsoritakis, O. Bourogianni, I. Skamagkas, G. Georgiadis, E. Mathioudakis, MC. Nakou, C. Mamoulakis, S. Koukouraki. **Targeting early recurrence: The diagnostic power of 18F PSMA PET/CT in early and very early biochemical recurrent prostate cancer. Insights from an 8 month single center experience.** 17th Panhellenic & 12th Balkan Congress of Nuclear Medicine, 08-11 May 2025, Athens (**Nikos Karkavitsas Award**)
2. X. Μαυρίδης, Μ. Δεικτάκης, Μ. Βενυχάκη, Ε. Δερμιτζάκη, Α. Μπουχαλάκης, Π. Τατουδάκης, Ε. Μαθιουδάκης, Μ.Χ. Νάκου, Γ. Γεωργιάδης, Ι. Σκαμάγκας, Β. Θεοδοσίου, Θ. Τόκας, Γ. Λιαπάκης, Χ. Μαμουλάκης. Το mRNA της ουροκορτίνης (UCN) 1 και UCN 3 υποεκφράζεται στον ουροθηλιακό καρκίνο της ουροδόχου κύστης. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**
3. X. Μαυρίδης, Ο. Μπουρογιάννη, Α. Τσαρουχα, Α. Μπουχαλάκης, Π. Τατουδάκης, Ε. Μαθιουδάκης, Μ.Χ. Νάκου, Γ. Γεωργιάδης, Ι. Σκαμάγκας, Β. Θεοδοσίου, Θ. Τόκας, Σ. Κουκουράκη, Χ. Μαμουλάκης. Καθορισμός του σταδίου N και M στους ασθενείς με προστατικό καρκίνο μετά την εφαρμογή της τομογραφίας εκπομπής ποζιτρονίων (PET) με το ραδιοσημασμένο 18F-ειδικό προστατικό αντιγόνο (PSMA). Η εμπειρία της Κλινικής μας. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**
4. X. Μαυρίδης, Ε. Μαθιουδάκης, Π. Τατουδάκης, Α. Μπουχαλάκης, Μ.Χ. Νάκου, Γ. Γεωργιάδης, Ι. Σκαμάγκας, Β. Θεοδοσίου, Θ. Τόκας, Χ. Μαμουλάκης. Επώδυνες

στύσεις που σχετίζονται με τον ύπνο (SRPEs) σε άντρα με στένωση ουρήθρας και λειτουργική φίμωση. Παρουσίαση περιστατικού. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**

5. X. Μαυρίδης, Μ. Αγγελή, Ε. Μαθιουδάκης, Α. Μπουχαλάκης, Π. Τατουδάκης, Μ.Χ. Νάκου, Γ. Γεωργιάδης, Ι. Σκαμάγκας, Β. Θεοδοσίου, Θ. Τόκας, Χ. Μαμουλάκης. Ουροδυναμικές παράμετροι μεταξύ των ενουρητικών παιδιών σε σχέση με τη βραδινή πολυουρία. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**
6. X. Μαυρίδης, Ε. Μαθιουδάκης, Π. Τατουδάκης, Α. Μπουχαλάκης, Μ.Χ. Νάκου, Γ. Γεωργιάδης, Ι. Σκαμάγκας, Β. Θεοδοσίου, Θ. Τόκας, Χ. Μαμουλάκης. Υποσυστολικός εξωστήρας ως υποκρύπτουσα παθολογία σε γυναίκες με ακράτεια από προσπάθεια. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**
7. X. Μαυρίδης, Α. Μπουχαλάκης, Π. Τατουδάκης, Ε. Μαθιουδάκης, Μ.Χ. Νάκου, Γ. Γεωργιάδης, Ι. Σκαμάγκας, Β. Θεοδοσίου, Θ. Τόκας, Χ. Μαμουλάκης. Βακτηριαμία από *Turicella otitidis* σε άντρα με πολλαπλές νοσηλείες λόγω ουροσήψης. Παρουσίαση περιστατικού. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**
8. X. Μαυρίδης, Α. Μπουχαλάκης, Π. Τατουδάκης, Ε. Μαθιουδάκης, Μ.Χ. Νάκου, Γ. Γεωργιάδης, Ι. Σκαμάγκας, Β. Θεοδοσίου, Θ. Τόκας, Χ. Μαμουλάκης. Μια πολυκεντρική, αναδρομική μελέτη για τη διερεύνηση της προστιθέμενης αξίας της στοχευμένης βιοψίας προστάτη σε ασθενείς χωρίς προηγούμενες παρεμβάσεις. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**
9. X. Μαυρίδης, Β. Ουρανός, Α. Μπουχαλάκης, Α. Στρέλε, Σ. Λιάση, Π. Τατουδάκης, Ε. Μαθιουδάκης, Μ.Χ. Νάκου, Γ. Γεωργιάδης, Ι. Σκαμάγκας, Β. Θεοδοσίου, Θ. Τόκας, Χ. Μαμουλάκης. Επαναταξινόμηση των ασθενών με μορφώματα νεφρού μετά τον υπερηχογραφικό έλεγχο με χρήση σκιαγραφικού CEUS. Αναφορά τεσσάρων περιστατικών. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**

10. Ι. Σκαμάγκας, Γ. Γεωργιάδης, Χ. Μαυρίδης, Α. Μπουχαλάκης, Π. Τατουδάκης, Ε. Μαθιουδάκης, Μ.Χ. Νάκου, Θ. Τόκας, Χ. Μαμουλάκης. Η πανδημία με COVID-19 επηρεάζει το ανοσολογικό σύστημα του ασθενούς και είναι υπό μελέτη η συσχέτισή της με γάγγραινα Fournier. Η εμπειρία της Ουρολογικής Κλινικής του ΠΑΓΝΗ εν μ'εσω της πανδημίας από COVID-19 σε ασθενείς με ταυτόχρονη διάγνωση COVID-19 και γάγγραινας Fournier. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**
11. Ι. Σκαμάγκας, Γ. Γεωργιάδης, Χ. Μαυρίδης, Α. Μπουχαλάκης, Π. Τατουδάκης, Ε. Μαθιουδάκης, Μ.Χ. Νάκου, Θ. Τόκας, Χ. Μαμουλάκης. Αντιμετώπιση εμφυσηματώδους πυελονεφρίτιδας σε ενήλικες συντηρητικά με αντιβιοτική αγωγή χωρίς παρεμβατικές ή άλλες επεμβατικές μεθόδους. Η εμπειρία της Ουρολογικής Κλινικής του ΠΑΓΝΗ. **26^ο Πανελλήνιο Ουρολογικό Συνέδριο, 03-06 Οκτωβρίου 2024, Θεσσαλονίκη**
12. Ι. Σκαμάγκας, Γ. Γεωργιάδης, Χ. Μαυρίδης, Γ. Ροβύθης, Α. Ιωαννίδης, Χ. Μαμουλάκης. **Αναφορά περιστατικού αποστήματος στον προστάτη από Candida Albicans και η αντιμετώπιση του, στην Ουρολογική Κλινική του ΠΑΓΝΗ. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
13. Χ. Μαυρίδης, Γ. Γεωργιάδης, Α. Ιωαννίδης, Γ. Ροβύθης, Ρ. Ζήσης, Ι. Σκαμάγκας, Μ. Καραβιτάκης, Β. Θεοδοσίου, Χ. Μαμουλάκης. **Κοκκιωματώδης ορχίτιδα, ως οξύ όσχεο που μιμείται το σεμίνωμα. Περιγραφή σπάνιας περίπτωσης. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
14. Χ. Μαυρίδης, Γ. Γεωργιάδης, Γ. Ροβύθης, Α. Ιωαννίδης, Ρ. Ζήσης, Ι. Σκαμάγκας, Μ. Καραβιτάκης, Β. Θεοδοσίου, Χ. Μαμουλάκης. **Συγκριτική αναδρομική μελέτη ανίχνευσης καρκίνου προστάτη σε ομάδα ασθενών με PI-RADS 4. Υπερέχει η ταυτόχρονη υπερηχογραφική οβελιαία και εγκάρσια απεικόνιση (triplane) έναντι της κλασικής μεθόδου (endfire). 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
15. Χ. Μαυρίδης, Γ. Γεωργιάδης, Γ. Ροβύθης, Α. Ιωαννίδης, Ρ. Ζήσης, Ι. Σκαμάγκας, Μ. Καραβιτάκης, Β. Θεοδοσίου, Χ. Μαμουλάκης. **Συστηματική αντίδραση που απέβη θανατηφόρα σε ασθενή με καρκίνο ουροδόχου κύστης μετά από**

ενδοκυστικές εγχύσεις BCG. Περιγραφή μοναδικής περίπτωσης. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα

- 16. X. Μαυρίδης, Γ. Γεωργιάδης, Γ. Ροβύθης, Α. Ιωαννίδης, Ρ. Ζήσης, Ι. Σκαμάγκας, Μ. Καραβιτάκης, Β. Θεοδοσίου, Χ. Μαμουλάκης. «Flare up» φαινόμενο σε ασθενή με πρωτοδιαγνωσθέν μεταστατικό καρκίνο του προστάτη μετά από έναρξη αμπιρατερόνης. Περιγραφή σπάνιας περίπτωσης. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 17. Ι. Σκαμάγκας, Χ. Μαυρίδης, Γ. Γεωργιάδης, Γ. Ροβύθης, Α. Ιωαννίδης, Χ. Μαμουλάκης. Υγρές βιοψίες στην εξατομικευμένη διαχείριση του καρκίνου του προστάτη και του νεφρού. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 18. Χ. Μαυρίδης, Γ. Γεωργιάδης, Α. Ιωαννίδης, Γ. Ροβύθης, Ρ. Ζήσης, Μ. Καραβιτάκης, Ι. Σκαμάγκας, Β. Θεοδοσίου, Χ. Μαμουλάκης. Αυτόματη ρήξη νεφρού ως πρώτη εκδήλωση πρωτοπαθούς αντιφωσφολιπιδικού συνδρόμου. Περιγραφή μοναδικής περίπτωσης. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 19. Χ. Μαυρίδης, Γ. Γεωργιάδης, Γ. Ροβύθης, Α. Ιωαννίδης, Ρ. Ζήσης, Β. Θεοδοσίου, Μ. Καραβιτάκης, Ι. Σκαμάγκας, Χ. Μαμουλάκης. Δυσλειτουργία κύστης – εντέρου. Μία σχετικά «άγνωστη» αλλά σημαντική οντότητα στα παιδιά. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 20. Γ. Γεωργιάδης, Ρ. Ζήσης, Χ. Μαυρίδης, Ι. Σκαμάγκας, Γ. Ροβύθης, Α. Ιωαννίδης, Β. Θεοδοσίου, Μ. Καραβιτάκης, Χ. Μαμουλάκης. Η νεφροπροστατευτική δράση των αναστολέων της φωσφοδιεστεράσης τύπου 5 στην οξεία νεφρική βλάβη. Μια συστηματική ανασκόπηση βιβλιογραφίας. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 21. Γ. Γεωργιάδης, Χ. Μαυρίδης, Ι. Σκαμάγκας, Α. Ιωαννίδης, Γ. Ροβύθης, Β. Θεοδοσίου, Μ. Καραβιτάκης, Χ. Μαμουλάκης. Ανάστροφη ενδονεφρική χειρουργική με τη χρήση ενός ψηφιακού εύκαμπτου ουρητηροσκοπίου μίας**

χρήσης σε τριτοβάθμιο ακαδημαϊκό ενδοουρολογικό κέντρο. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα

- 22. Γ. Γεωργιάδης, Χ. Μαυρίδης, Ι. Σκαμάγκας, Γ. Ροβύθης, Α. Ιωαννίδης, Β. Θεοδοσίου, Μ. Καραβιτάκης, Χ. Μαμουλάκης. Η εμπειρία μας στη διαδερμική ενδονεφρική και ενδο-ουρητηρική χειρουργική με τη χρήση ενός ψηφιακού εύκαμπτου κυστεοσκοπίου και ουρητηροσκοπίου μίας χρήσης σε τριτοβάθμιο ακαδημαϊκό ενδοουρολογικό κέντρο. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 23. Ε. Φραγκιαδουλάκη, Γ. Γεωργιάδης, Χ. Μαυρίδης, Ι. Σκαμάγκας, Ν. Νικίτοβιτς, Ι. Τσιαούσσης, Α. Καλογεράκη, Χ. Τσιτσιμπίκου, Α. Τσατσάκης, Χ. Μαμουλάκης. Τα φυσικά αντιοξειδωτικά ρεσβερατρόλη και λυκοπένιο προφυλάσσουν από την εμφάνιση οξείας νεφρικής βλάβης από σκιαγραφικές ουσίες ενισχύοντας τη σύνθεση μονοξειδίου του αζώτου: Αποτελέσματα σε ζωικό μοντέλο. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 24. Ε. Φραγκιαδουλάκη, Γ. Γεωργιάδης, Χ. Μαυρίδης, Ι. Σκαμάγκας, Ν. Νικίτοβιτς, Ι. Τσιαούσσης, Α. Καλογεράκη, Χ. Τσιτσιμπίκου, Α. Τσατσάκης, Χ. Μαμουλάκης. Τα φυσικά αντιοξειδωτικά ρεσβερατρόλη και λυκοπένιο προλαμβάνουν τις κυτταροτοξικές επιδράσεις των ιωδιούχων σκιαγραφικών: Αποτελέσματα ανοσοκυτταροχημικής ανάλυσης σε ζωικό μοντέλο. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 25. Ε. Φραγκιαδουλάκη, Γ. Γεωργιάδης, Χ. Μαυρίδης, Ι. Σκαμάγκας, Ν. Νικίτοβιτς, Ι. Τσιαούσσης, Α. Καλογεράκη, Χ. Τσιτσιμπίκου, Α. Τσατσάκης, Χ. Μαμουλάκης. Τα φυσικά αντιοξειδωτικά Ρεσβερατρόλη και Λυκοπένιο προφυλάσσουν την νεφροπάθεια από σκιαγραφικές ουσίες μειώνοντας το οξειδωτικό στρες: Αποτελέσματα σε ζωικό μοντέλο. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 26. Ι. Σκαμάγκας, Γ. Γεωργιάδης, Χ. Μαυρίδης, Γ. Ροβύθης, Α. Ιωαννίδης, Χ. Μαμουλάκης. Η μετάβαση από το ISO 9001:2015 στο EN 15224:2016 και οι αλλαγές που περιλαμβάνονται στην ουρολογική κλινική του ΠΑΓΝΗ. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**

27. Α. Δρογώσης, Χ. Μαμουλάκης, Μ. Καραμάνου. **Ο διαπρεπής Άραβας ιατρός Αβικέννας (980-1037) και η συμβολή του στην κατασκευή και χρήση του σύγχρονου ουροκαθετήρα. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
28. Α. Καλτσάς, Φ. Δημητριάδης, Α. Ζαχαρίου, Ε. Μάρκου, Ι. Χαμπηλομάτης, Ε. Δούβλη, Σ. Σκούρος, Α. Καραγιάννης, Α. Παπατσώρης, Χ. Μαμουλάκης, Ν. Σοφικίτης. **Η γονιμοποιητική ικανότητα ανδρών με μη αποφρακτική αζωοσπερμία που οφείλεται σε υπογοναδοτροπικό υπογοναδισμό μετά από θεραπεία με γοναδοτροπίνες. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
29. Α. Καλτσάς, Α. Ζαχαρίου, Φ. Δημητριάδης, Ε. Μάρκου, Ι. Χαμπηλομάτης, Ε. Δούβλη, Σ. Σκούρος, Α. Καραγιάννης, Χ. Κουνάβου, Χ. Μαμουλάκης, Ν. Σοφικίτης. **Σύγκριση μικροχειρουργικής βιοψίας όρχεως και κλασικής βιοψίας όρχεως σε άνδρες με μη αποφρακτική αζωοσπερμία και σύνδρομο από κύτταρα Sertoli μόνο. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
30. Α. Καλτσάς, Α. Ζαχαρίου, Φ. Δημητριάδης, Ε. Μάρκου, Ι. Χαμπηλομάτης, Σ. Κούκος, Χ. Κουνάβου, Α. Καραγιάννης, Α. Παπατσώρης, Χ. Μαμουλάκης, Ν. Σοφικίτης. **Οι αιματολογικοί δείκτες φλεγμονής ως προγνωστικοί παράγοντες βελτίωσης παραμέτρων του σπέρματος μετά από αποκατάσταση της κλινικής κίρσοκλής. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
31. Ι. Χαμπηλομάτης, Ε. Δούβλη, Α. Ζαχαρίου, Φ. Δημητριάδης, Σ. Κούκος, Σ. Σκούρος, Μ. Ιωάννου, Α. Καραγιάννης, Χ. Μαμουλάκης, Ν. Σοφικίτης, Α. Καλτσάς. **Επιπολασμός και παράγοντες κινδύνου τυχαίου ευρήματος καρκίνου του προστάτη μετά από διουρηθρική προστατεκτομή. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
32. Α. Ζαχαρίου, Δ. Ζαχαρίου, Ε. Δούβλη, Ι. Χαμπηλομάτης, Α. Παλιούρας, Α. Καλτσάς, Φ. Δημητριάδης, Χ. Μαμουλάκης, Α. Καραγιάννης, Α. Παπατσώρης, Ν. Σοφικίτης. **Η αύξηση της δύναμης των μυών του πυελικού εδάφους βελτιώνει τη**

γυναικεία σεξουαλική λειτουργία και μειώνει τη σεξουαλική δυσφορία. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα

- 33. Α. Ζαχαρίου, Δ. Ζαχαρίου, Ε. Δούβλη, Ι. Χαμπηλομάτης, Α. Παλιούρας, Α. Καλτσάς, Φ. Δημητριάδης, Χ. Μαμουλάκης, Α. Καραγιάννης, Α. Παπατσώρης, Ν. Σοφικίτης. Η ελαττωμένη δύναμη των μυών του πυελικού εδάφους σχετίζεται με την εξασθένηση της κίνησης του ισχίου σε γυναίκες με ακράτεια ούρων κατά την προσπάθεια. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 34. Α. Ζαχαρίου, Ε. Δούβλη, Δ. Ζαχαρίου, Ι. Χαμπηλομάτης, Α. Παλιούρας, Α. Καλτσάς, Φ. Δημητριάδης, Χ. Μαμουλάκης, Α. Καραγιάννης, Α. Παπατσώρης, Ν. Σοφικίτης. Ικανοποίηση ηλικιωμένων γυναικών που υποβάλλονται σε ασκήσεις μυών πυελικού εδάφους σε εξωτερικά ουρολογικά ιατρεία και έχουν τηλεφωνική παρακολούθηση. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 35. Α. Ζαχαρίου, Δ. Ζαχαρίου, Ε. Δούβλη, Ι. Χαμπηλομάτης, Α. Παλιούρας, Α. Καλτσάς, Φ. Δημητριάδης, Χ. Μαμουλάκης, Α. Καραγιάννης, Α. Παπατσώρης, Ν. Σοφικίτης. Η πρωτοπαθής γυναικεία υπογονιμότητα είναι παράγοντας κινδύνου για σεξουαλική δυσλειτουργία. 25^ο Πανελλήνιο Ουρολογικό Συνέδριο, 06-09 Οκτωβρίου 2022, Αθήνα**
- 36. Α. Ζαχαρίου, Β. Σαπουνά, Ι. Γιαννάκης, Α. Καλτσάς, Α. Καραγιάννης, Σ. Ανδρεαδάκης, Φ. Δημητριάδης, Χ. Μαμουλάκης, Ν. Σοφικίτης. Η αυξημένη δύναμη σύσπασης των μυών του πυελικού εδάφους συντελεί στην καλύτερη σεξουαλική λειτουργία των γυναικών. 13^ο Ουρολογικό Συνέδριο Βορείου Ελλάδος, 25-27 Φεβρουαρίου 2022, Θεσσαλονίκη**
- 37. Α. Ζαχαρίου, Β. Σαπουνά, Γ. Γιαννάκης, Α. Καλτσάς, Α. Καραγιάννης, Φ. Δημητριάδης, Χ. Μαμουλάκης, Ν. Σοφικίτης. Αξιολόγηση συμπτωμάτων υπερλειτουργικής ουροδόχου κύστης (ΟΑΒ) σε ασθενείς με post-acute σύνδρομο COVID-19. 13^ο Ουρολογικό Συνέδριο Βορείου Ελλάδος, 25-27 Φεβρουαρίου 2022, Θεσσαλονίκη**

38. Α. Καλτσάς, Φ. Δημητριάδης, Α. Ζαχαρίου, Ε. Μάρκου, Ι. Χαμπηλομάτης, Ε. Δούβλη, Π. Τσουνάπη, Α. Ζηκόπουλος, Σ. Ανδρεαδάκης, Μ. Πασχόπουλος, Χ. Μαμουλάκης, Β. Τάτσης, Π. Τζίμας, Μ. Μήτσης, Α. Takenaka, Ν. Σοφικίτης. **Η επίδραση της μικροχειρουργικής αποκατάστασης κλινικής κορσοκήλης στην γονιμοποιητική ικανότητα ανδρών με σοβαρή ολιγοαζωοσπερμία. 13^ο Ουρολογικό Συνέδριο Βορείου Ελλάδος, 25-27 Φεβρουαρίου 2022, Θεσσαλονίκη**
39. Α. Δρογώσης, Χ. Μαμουλάκης, Μ. Καραμάνου. **Ο διαπρεπής Άραβας χειρουργός Αμπουλκασή 936-1013 και το έργο του περί λιθοτομής. 2^ο Πανελλήνιο Διατμηματικό Συνέδριο ΕΟΕ, 07-09 Οκτωβρίου 2021, Θεσσαλονίκη**
40. Α. Καλτσάς, Φ. Δημητριάδης, Α. Ζαχαρίου, Ι. Χαμπηλομάτης, Ι. Γιαννάκης, Α. Καραγιάννης, Σ. Ανδρεαδάκης, Α. Ζηκόπουλος, Σ. Τσαμπαλάς, Δ. Μπαλτογιάννης, Σ. Σταύρου, Π. Χαμπηλομάτης, Δ. Γιαννάκης, Χ. Μαμουλάκης, Χ. Καλαϊτζής, Δ. Λουτράδης, Ν. Σοφικίτης. **Μη αποφρακτική αζωοσπερμία: Πόσο κοντά είμαστε στη γέννηση ενός παιδιού; 2^ο Πανελλήνιο Διατμηματικό Συνέδριο ΕΟΕ, 07-09 Οκτωβρίου 2021, Θεσσαλονίκη**
41. Α. Καλτσάς, Γ. Σεμίνη, Φ. Δημητριάδης, Α. Ζαχαρίου, Ι. Γιαννάκης, Ι. Χαμπηλομάτης, Α. Καραγιάννης, Α. Παλιούρας, Π. Τσουνάπη, Δ. Λουτράδης, Ι. Βαρκαράκης, Χ. Μαμουλάκης, Α. Takenaka, Ν. Σοφικίτης. **Μικροχειρουργική συλλογή σπερματοζωαρίων από τον σπερματικό πόρο σαν πρώτο βήμα αντιμετώπισης της μη αποφρακτικής αζωοσπερμίας. 2^ο Πανελλήνιο Διατμηματικό Συνέδριο ΕΟΕ, 07-09 Οκτωβρίου 2021, Θεσσαλονίκη**
42. Α. Ζαχαρίου, Μ. Φιλιπώνη, Α. Καλτσάς, Δ. Ζαχαρίου, Α. Παλιούρας, Ι. Χαμπηλομάτης, Ι. Γιαννάκης, Π. Χαμπηλομάτης, Δ. Μπαλτογιάννης, Σ. Τσαμπαλάς, Α. Καραγιάννης, Χ. Μαμουλάκης, Χ. Καλαϊτζής, Ν. Σοφικίτης. **Αξιολόγηση γυναικών που διδάχθηκαν προγράμματα ασκήσεων μυών πυελικού εδάφους πριν 10 χρόνια. 2^ο Πανελλήνιο Διατμηματικό Συνέδριο ΕΟΕ, 07-09 Οκτωβρίου 2021, Θεσσαλονίκη**
43. Α. Ζαχαρίου, Μ. Φιλιπώνη, Α. Καλτσάς, Α. Παλιούρας, Ι. Χαμπηλομάτης, Ι. Γιαννάκης, Π. Χαμπηλομάτης, Δ. Μπαλτογιάννης, Σ. Τσαμπαλάς, Α. Καραγιάννης,

- X. Μαμουλάκης, X. Καλαϊτζής, N. Σοφικίτης. **Η παραμονή γυναικών με ακράτεια ούρων κατά την προσπάθεια σε μακροχρόνια προγράμματα ασκήσεων μυών πυελικού εδάφους βελτιώνει τόσο την ακράτεια ούρων όσο και τη σεξουαλική λειτουργία τους.** 2^ο Πανελλήνιο Διατμηματικό Συνέδριο ΕΟΕ, 07-09 Οκτωβρίου 2021, Θεσσαλονίκη
44. Α. Καλτσάς, Α. Ζαχαρίου, Ε. Μάρκου, Φ. Δημητριάδης, Ι. Γιαννάκης, Ι. Χαμπηλομάτης, Α. Καραγιάννης, Μ. Παναγιώτου, Ε. Ευαγγελάτου, X. Μαμουλάκης, N. Σοφικίτης. **Οι αιματολογικοί δείκτες φλεγμονής ως προγνωστικοί παράγοντες ανεύρεσης σπερματοζωαρίων στον όρχι ασθενών με μη αποφρακτική αζωοσπερμία.** 2^ο Πανελλήνιο Διατμηματικό Συνέδριο ΕΟΕ, 07-09 Οκτωβρίου 2021, Θεσσαλονίκη
45. Α. Καλτσάς, Ι. Χαμπηλομάτης, Ε. Μάρκου, Σ. Τσαμπαλάς, Α. Παπαγεωργίου, Α. Ζαχαρίου, Κ. Ζυκίδου, X. Μαμουλάκης, Φ. Δημητριάδης, N. Σοφικίτης. **Οι αιματολογικοί δείκτες φλεγμονής ως προγνωστικοί παράγοντες αυτόματης αποβολής λίθου ασθενών με κολικό του νεφρού.** 2^ο Πανελλήνιο Διατμηματικό Συνέδριο ΕΟΕ, 07-09 Οκτωβρίου 2021, Θεσσαλονίκη
46. Α. Καλτσάς, Α. Ζαχαρίου, Φ. Δημητριάδης, Ε. Μάρκου, Σ. Σκούρος, Ι. Γιαννάκης, Ι. Χαμπηλομάτης, Α. Ζηκόπουλος, Α. Καραγιάννης, Π. Τσουνάπη, Α. Takenaka, X. Μαμουλάκης, Μ. Πασχόπουλος, N. Σοφικίτης. **Η επίδραση της αποκατάστασης της κλινικής κίρσοκλής στην εμφάνιση σπερματοζωαρίων σε άνδρες με μη αποφρακτική αζωοσπερμία.** 12^ο Πανελλήνιο Συνέδριο Ανδρολογίας, 4-6 Ιουνίου 2021, Αθήνα (Βραβείο αναρτημένης ανακοίνωσης)
47. Ι. Χαμπηλομάτης, Α. Καλτσάς, Σ. Κούκος, Α. Ζαχαρίου, Φ. Δημητριάδης, Ε. Μάρκου, Ι. Γιαννάκης, Α. Ζηκόπουλος, Α. Καραγιάννης, Π. Τσουνάπη, Α. Takenaka, X. Μαμουλάκης, Μ. Πασχόπουλος, Α. Καπόνης, Γ. Αντωνάκης, N. Πατεράκης, N. Σοφικίτης. **Η επίδραση ενός αναστολέα της αρωματάσης στη σεξουαλική λειτουργία ανδρών με μη-μωσαϊκό σύνδρομο Klinefelter.** 12^ο Πανελλήνιο Συνέδριο Ανδρολογίας, 4-6 Ιουνίου 2021, Αθήνα
48. Σ. Κούκος, Α. Καλτσάς, Α. Ζαχαρίου, Φ. Δημητριάδης, Ε. Μάρκου, Ι. Γιαννάκης, Α. Ζηκόπουλος, Α. Καραγιάννης, Π. Τσουνάπη, Α. Takenaka, X. Μαμουλάκης, Μ.

Πασχόπουλος, Ν. Σοφικίτης. **Η επίδραση χαμηλών δόσεων αναστολέων της φωσφοδιεστεράσης – 5 σε ποιοτικές και ποσοτικές παραμέτρους του σπέρματος υπογόνιμων ανδρών.** 12^ο Πανελλήνιο Συνέδριο Ανδρολογίας, 4-6 Ιουνίου 2021, Αθήνα

49. Χ. Μαυρίδης, Γ. Γεωργιάδης, Χ. Μπελαντής, Ι.Ε. Ζήσης, Ι. Σκαμάγκας, Ι. Χαιρέτης, Χ. Μαμουλάκης. **Αποφρακτική ούρηση σε παιδιά χωρίς ανατομικό κώλυμα: Η θέση της ταμσουλοσίνης.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα

50. Ε. Φραγκιαδουλάκη, Ι.Ε. Ζήσης, Γ. Γεωργιάδης, Χ. Μπελαντής, Χ. Μαυρίδης, Ι. Σκαμάγκας, Ι. Χαιρέτης, Ν. Νικίτοβιτς, Ι. Τσιαούσσης, Α. Καλογεράκη, Χ. Τσιτσιμπίκου, Α. Τσατσάκης, Χ. Μαμουλάκης. **Τα φυσικά αντιοξειδωτικά ρεσβερατρόλη και λυκοπένιο προφυλάσσουν από την εμφάνιση οξείας νεφρικής βλάβης από σκιαγραφικές ουσίες: Αποτελέσματα σε ζωικό μοντέλο.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα

51. Ι. Σκαμάγκας, Χ. Μαυρίδης, Γ. Γεωργιάδης, Χ. Μπελαντής, Ι.Ε. Ζήσης, Ι. Χαιρέτης, Γ. Αυγενάκης, Ε. Γιαννίτση, Δ. Πανταρτζή, Μ. Πετροδασκαλάκη, Σ. Συνοδινός, Χ. Μαμουλάκης. **Πρότυπα ποιότητας στην ουρολογία.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα **(2^ο Βραβείο ελεύθερης ανακοίνωσης – 2nd Prize of Oral Presentations)**

52. Α. Ζαχαρίου, Μ. Φιλιπώνη, Χ. Μαμουλάκης, Φ. Δημητριάδης, Σ. Σκούρος, Ι. Γιαννάκης, Α. Καραγιάννης, Π. Τσουνάπη, Α. Takenaka, Ν. Σοφικίτης. **Η υπογονιμότητα της γυναίκας επιδεινώνει τη σεξουαλική λειτουργία του ζευγαριού.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα

53. Χ. Μαυρίδης, Ι. Σκαμάγκας, Ι. Χαιρέτης, Γ. Γεωργιάδης, Χ. Μπελαντής, Ι.Ε. Ζήσης, Χ. Μαμουλάκης. **Αξιολόγηση των μεταβολών της νεφρικής λειτουργίας μετά από εξωσωματική λιθοθρυψία σε ασθενείς με χρόνια νεφρική ανεπάρκεια.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα

54. X. Μαυρίδης, Ι. Σκαμάγκας, Ι. Χαιρέτης, Γ. Γεωργιάδης, Χ. Μπελαντής, Ι.Ε. Ζήσης, Χ. Μαμουλάκης. **Εξωσωματική λιθοτριψία σε λιθίαση ουροδόχου κύστης.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
55. X. Μαυρίδης, Χ. Μπελαντής, Γ. Γεωργιάδης, Ι.Ε. Ζήσης, Ι. Σκαμάγκας, Ι. Χαιρέτης, Χ. Μαμουλάκης. **Διαχείριση ασθενούς με επίσχεση ούρων επί εδάφους διπολικής διαταραχής και ψυχογενούς πολυδιψίας.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
56. X. Μαυρίδης, Χ. Μπελαντής, Γ. Γεωργιάδης, Ι.Ε. Ζήσης, Ι. Σκαμάγκας, Ι. Χαιρέτης, Χ. Μαμουλάκης. **Χειρουργική αντιμετώπιση υδροκήλης με τοπική αναισθησία: ασφάλεια και αποτελεσματικότητα.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
57. X. Μαυρίδης, Γ. Γεωργιάδης, Χ. Μπελαντής, Ι.Ε. Ζήσης, Ι. Σκαμάγκας, Ι. Χαιρέτης, Χ. Μαμουλάκης. **Ουροδυναμικά ευρήματα σε γυναίκες με αναφερόμενη ακράτεια από προσπάθεια.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
58. Α. Ζαχαρίου, Μ. Φιλιπώνη, Χ. Μαμουλάκης, Φ. Δημητριάδης, Σ. Σκούρος, Ι. Γιαννάκης, Α. Καραγιάννης, Π. Τσουνάπη, Α. Takenaka, Ν. Σοφικίτης. **Οι ασκήσεις του πυελικού εδάφους σε γυναίκες με ακράτεια ούρων κατά την προσπάθεια βελτιώνουν τη σεξουαλική ζωή του ζευγαριού.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
59. X. Μαυρίδης, Ι. Χαιρέτης, Γ. Γεωργιάδης, Χ. Μπελαντής, Ι.Ε. Ζήσης, Ιορδάνης Σκαμάγκας, Χ. Μαμουλάκης. **Λειομύωμα ουροδόχου κύστης σε συνδυασμό με μονήρη ινώδη όγκο υπεζωκότα. Περιγραφή μοναδικής περίπτωσης.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
60. Α. Ζαχαρίου, Α. Καλτσάς, Φ. Δημητριάδης, Κ. Μαργαρίτη, Χ. Μαμουλάκης, Δ. Μπαλτογιάννης, Ι. Γιαννάκης, Σ. Τσαμπαλάς, Σ. Σκούρος, Σ. Κούκος, Α. Παλιούρας, Ε. Βλαχοπούλου, Α. Χατζηκωνσταντίνου, Π. Τσουνάπη, Γ. Σεμίνης, Ι. Χαμπηλομάτης, Υ. Mio, Α. Takenaka, Ν. Σοφικίτης. **Οι επιδράσεις της πρωτοπαθούς ορχικής δυσλειτουργίας μετά τη γονιμοποίηση στις**

μικροκινητικές παραμέτρους διαίρεσης του ζυγώτη. 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα (**1^ο Βραβείο αναρτημένης ανακοίνωσης – 1st Prize of Poster Presentations**)

- 61.** G. Georgiadis, C. Belantis, I.E. Zisis, C. Mavridis, I. Skamagkas, I. Heretis, C. Mamoulakis. **Stuttering priapism, a rare and difficult urological emergency.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
- 62.** G. Georgiadis, C. Mavridis, I. Skamagkas, I. Heretis, I.E Zisis, C. Belantis, C. Mamoulakis. **Prone position and full bladder improves shockwave lithotripsy outcome of distal ureteral stones.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
- 63.** G. Georgiadis, C. Mavridis, C. Belantis, I.E Zisis, I. Skamagkas, I. Heretis, C. Mamoulakis. **Percutaneous resection of renal pelvis tumors in an academic endourological center.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
- 64.** G. Georgiadis, I.E. Zisis, C. Mavridis, C. Belantis, I. Skamagkas, I. Heretis, C. Mamoulakis. **Our experience in retrograde intra renal surgery with a single-use digital flexible ureteroscope in a tertiary academic endourological center.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
- 65.** G. Georgiadis, C. Mavridis, I. Skamagkas, I.E. Zisis, C. Belantis, I. Heretis, C. Mamoulakis. **Retrograde intrarenal surgery for treating renal calculi: standardized technique of a tertiary academic endourological center.** 24^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2018, Αθήνα
- 66.** Α. Καλτσάς Σ. Σκούρος, Φ. Δημητριάδης, Π. Τσουνάπη, Α. Ζαχαρίου, Ε. Ματθαίου, Σ. Σταύρου, Γ. Σεμίνη, Α. Καραγιάννης, Χ. Μαμουλάκης, Δ. Μπαλτογιάννης, Ι. Γιαννάκης, Ι. Γεωργίου, Α. Takenaka, Ν. Σοφικίτης. **Η γονιμοποιητική ικανότητα των σπερματοζωαρίων που αναπαράχθηκαν σε ορχικό ιστό πειραματοζώων χάμστερ, ο οποίος μεταμοσχεύθηκε στα πρόσθια άκρα ανοσοκατασταλμένων αρουραίων: Κλινικές εφαρμογές.** 10^ο Πανελλήνιο Συνέδριο Ανδρολογίας, 17-18 Μαρτίου 2017, Αθήνα (**Βραβείο ελεύθερης ανακοίνωσης**)

67. Ε. Ματθαίου, Φ. Δημητριάδης, Π. Τσουνάπη, Α. Ζαχαρίου, Χ. Μαμουλάκης, Α. Καπώνης, Γ. Αντωνάκης, Σ. Σκούρος, Α. Καλτσάς, Α. Γκέκας, Δ. Δαφνής, Ι. Γιακουμάκης, Ι. Γεωργίου, Α. Takenaka, Ν. Σοφικίτης. **Δράσεις αναστολέων της PDE5 στην κινητικότητα επιδιδυμικών σπερματοζωαρίων αρουραίων.** 10^ο Πανελλήνιο Συνέδριο Ανδρολογίας, 17-18 Μαρτίου 2017, Αθήνα
68. Ε. Ματθαίου, Φ. Δημητριάδης, Π. Τσουνάπη, Α. Ζαχαρίου, Χ. Μαμουλάκης, Α. Καπώνης, Γ. Αντωνάκης, Α. Καραγιάννης, Ι. Γιαννάκης, Σ. Σκούρος, Α. Καλτσάς, Α. Γκέκας, Δ. Δαφνής, Ι. Γιακουμάκης, Ι. Γεωργίου, Α. Takenaka, Ν. Σοφικίτης. **Δράσεις μικροσυμπληρωμάτων θρεπτικών συστατικών στη γυναικεία σεξουαλική λειτουργία: Μια τυχαιοποιημένη μελέτη.** 10^ο Πανελλήνιο Συνέδριο Ανδρολογίας, 17-18 Μαρτίου 2017, Αθήνα
69. Α. Ζαχαρίου, Χ. Μαμουλάκης, Σ. Σκούρος, Δ. Μπαλτογιάννης, Δ. Γιαννάκης, Φ. Δημητριάδης, Α. Καραγιάννης, Π. Χαμπηλομάτης, Φ. Τσουμάνης, Σ. Τσαμπαλάς, Ι. Γιακουμάκης, Δ. Δαφνής, Ν. Σοφικίτης. **Η επίδραση του Mirabegron στη σεξουαλική λειτουργία των γυναικών που πάσχουν από σύνδρομο υπερλειτουργικής ουροδόχου κύστης.** 23^ο Πανελλήνιο Ουρολογικό Συνέδριο, 20-23 Οκτωβρίου 2016, Ρόδος
70. Σ. Σκούρος, Φ. Δημητριάδης, Π. Τσουνάπη, Σ. Σταύρου, Π. Γεωργόπουλος, Α. Καλτσάς, Γ. Σεμίνη, Α. Καραγιάννης, Σ. Τσαμπαλάς, Π. Χαμπηλομάτης, Χ. Μαμουλάκης, Δ. Μπαλτογιάννης, Δ. Γιαννάκης, Α. Takenaka, Ν. Σοφικίτης. **Αναπαραγωγική ικανότητα σπερματοζωαρίων που δημιουργήθηκαν σε ορχικό ιστό πειραματόζωων χάμστερ που μεταμοσχεύθηκε στα πρόσθια άκρα αρουραίων με ανεπάρκεια του ανοσοποιητικού συστήματος: Κλινικές εφαρμογές.** 23^ο Πανελλήνιο Ουρολογικό Συνέδριο, 20-23 Οκτωβρίου 2016, Ρόδος
71. Π. Τσουνάπη, Φ. Δημητριάδης, Σ. Σκούρος, Γ. Σεμίνη, Σ. Σταύρου, Ε. Βλαχοπούλου, Α. Καλτσάς, Α. Καραγιάννης, Σ. Τσαμπαλάς, Π. Χαμπηλομάτης, Χ. Μαμουλάκης, Δ. Μπαλτογιάννης, Δ. Γιαννάκης, Α. Takenaka, Ν. Σοφικίτης. **Οι επιπτώσεις των αντιοξειδωτικών ουσιών στην ιστολογία και εκκριτική λειτουργία των σπερματοδόχων κύστεων, καθώς και στη δυνατότητα αναπαραγωγής**

διαβητικών αρουραίων. 23^ο Πανελλήνιο Ουρολογικό Συνέδριο, 20-23 Οκτωβρίου 2016, Ρόδος

72. I. Βολωνάκης, Γ. Σταυρακάκης, Ε. Λουλάκης, Ε. Βαρουξάκης, Κ. Χόνδρος, Μ. Λώνης, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Προγνωστικοί παράγοντες επιτυχίας μετά από εξωσωματική λιθοτριψία.** 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη
73. Κ. Χόνδρος, Ι. Βολωνάκης, Γ. Σταυρακάκης, Ε. Λουλάκης, Ε. Βαρουξάκης, Μ. Λώνης, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Ο ρόλος του PSAD στην πρόβλεψη εξωπροστατικής νόσου μετά από ριζική προστατεκτομή σε ασθενείς με κλινικά εντοπισμένο καρκίνο του προστάτη** ([Link](#)). 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη
74. I. Βολωνάκης, Γ. Σταυρακάκης, Ε. Λουλάκης, Ε. Βαρουξάκης, Κ. Χόνδρος, Μ. Λώνης, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Σύγκριση των αποτελεσμάτων της εξωσωματικής λιθοτριψίας σε πρηνή και ύπτια θέση για λίθους κάτω τριτημορίου ουρητήρα** ([Link](#)). 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη
75. Ε. Λουλάκης, Ι. Βολωνάκης, Γ. Σταυρακάκης, Ε. Βαρουξάκης, Κ. Χόνδρος, Μ. Λώνης, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Σύγκριση της αποτελεσματικότητας της εξωσωματικής λιθοτριψίας και της ημιάκαμπτης ουρητηρολιθοτριψίας στην αντιμετώπιση λίθων μέσου τριτημορίου ουρητήρα** ([Link](#)). 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη
76. Ε. Βαρουξάκης, Ι. Βολωνάκης, Γ. Σταυρακάκης, Ε. Λουλάκης, Κ. Χόνδρος, Μ. Λώνης, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Σύγκριση της αποτελεσματικότητας φυτοθεραπευτικού παράγοντα έναντι ταμσουλοζίνης στην αντιμετώπιση της συμπτωματολογίας κατώτερου ουροποιητικού συστήματος μετά τοποθέτηση ουρητηρικού**

αυτοσυγκρατούμενου καθετήρα. 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη

77. Κ. Χόνδρος, Δ. Κασσωτάκης, Α. Μανιός, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Αποκατάσταση ελλειμμάτων ουρογεννητικής περιοχής: Η εμπειρία μας.** 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη

78. Μ. Λώνης, Ι. Βολωνάκης, Γ. Σταυρακάκης, Ε. Βαρουξάκης, Κ. Χόνδρος, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Εκτίμηση της χρήσης καθετηριασμού του ουρητήρα μετά από μη επιπλεγμένη ουρητηρολιθοτριψία [\(Link\)](#).** 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη

79. Κ. Χόνδρος, Ι. Βολωνάκης, Γ. Σταυρακάκης, Ε. Λουλάκης, Ε. Βαρουξάκης, Μ. Λώνης, Η. Δράκος, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Γιγαντιαίο χρωμόφοβο νεφροκυτταρικό καρκίνωμα [\(Link\)](#).** 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη

80. Κ. Χόνδρος, Α. Λουτσίδα, Χ. Κουτσερίμπας, Ν. Γουλιδάκη, Σ. Μαράκη, Ι. Βολωνάκης, Γ. Σταυρακάκης, Ε. Λουλάκης, Ε. Βαρουξάκης, Μ. Λώνης, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Ευαισθησία και ανθεκτικότητα παθογόνων μικροοργανισμών στην οξεία βακτηριακή προστατίτιδα στην Κρήτη [\(Link\)](#).** 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη

81. Ε. Λουλάκης, Ι. Βολωνάκης, Γ. Σταυρακάκης, Ε. Βαρουξάκης, Κ. Χόνδρος, Μ. Λώνης, Ι. Χαιρέτης, Ε. Μαυρομανωλάκης, Ν. Χόνδρος, Χ. Μαμουλάκης, Φ. Σοφράς. **Η θέση των υπερήχων στην εξωσωματική λιθοτριψία: Σύγκριση με ακτινοσκόπηση στην εστίαση νεφρικών λίθων [\(Link\)](#).** 22^ο Πανελλήνιο Ουρολογικό Συνέδριο, 16-19 Οκτωβρίου 2014, Χερσόνησος, Ηράκλειο, Κρήτη

82. Ι. Γεωργόπουλος, Γ. Σταματιάδης, Χ. Μανωλαράκη, Χ. Μαμουλάκης, Φ. Σοφράς. **Ογκολογικά και λειτουργικά αποτελέσματα μετά από οπισθοθηβική ριζική**

- προστατεκτομή.** 21^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2012, Αθήνα
- 83.** Σ. Γιαννακόπουλος, Ι. Αδαμάκης, Ι. Αναστασίου, Χ. Μαμουλάκης, Α. Σκολαρίκος, Α. Καραγιάννης, Δ. Μητρόπουλος. **Εκπαίδευση στη διαδερμική προσπέλαση του νεφρού σε εξομοιωτή εικονικής πραγματικότητας.** 21^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2012, Αθήνα
- 84.** Ν. Καρπαθάκης, Ι. Χαιρέτης, Δ. Παπαντωνάκης, Χ. Μαμουλάκης, Λ. Βαμβακάς, Φ. Σοφράς. **Αδενοκαρκίνωμα του ουραχού με κύτταρα δίκην «σφραγιστήρος δακτυλίου» (signet ring cells). Παρουσίαση ενός εξαιρετικά σπάνιου περιστατικού.** 21^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2012, Αθήνα
- 85.** Ι. Χαιρέτης, Ι. Γεωργόπουλος, Ν. Χόνδρος, Χ. Μαμουλάκης, Σ. Τσιφετάκης, Δ. Τζωρτζακάκης, Φ. Σοφράς. **Περινεφρικό αιμάτωμα μετά από εξωσωματική λιθοτριψία (ESWL) σε ασθενή με μεταμόσχευση ήπατος.** 21^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2012, Αθήνα
- 86.** Ι. Χαιρέτης, Ι. Βολωνάκης, Χ. Μαμουλάκης, Δ. Παπαντωνάκης, Σ. Τσιφετάκης, Δ. Τζωρτζακάκης, Σ. Τζουλάκης, Φ. Σοφράς. **Τοπική ενέσιμη χορήγηση ξυλοκαΐνης σε ασθενείς με νεφρολιθίαση κατά την εξωσωματική λιθοτριψία.** 21^ο Πανελλήνιο Ουρολογικό Συνέδριο, 11-14 Οκτωβρίου 2012, Αθήνα
- 87.** Ι. Ευθυμίου, Χ. Μαμουλάκης, Σ. Καζούλης, Α. Φιλντίσης, Σ. Ντόλκα, Ι. Χριστουλάκης. **Αποτελεσματικότητα και ασφάλεια της κολπικής ταινίας ελευθέρως τάσης στην ακράτεια ούρων από προσπάθεια.** 2η Επιστημονική Συνάντηση του Τμήματος Ουροδυναμικής, Νευροουρολογίας και Γυναικολογικής Ουρολογίας της ΕΟΕ, Σύγχρονες Τάσεις και Μελλοντικές Προοπτικές, 27-29 Σεπτεμβρίου 2007, Χαλκιδική
- 88.** Ι. Ευθυμίου, Σ. Καζούλης, Χ. Μαμουλάκης, Ε. Χρυσάφης, Α. Φιλντήσης, Ι. Χριστουλάκης. **Η θέση της συντηρητικής αντιμετώπισης του οξέος οσχέου στα παιδιά.** 33^ο Πανελλήνιο Ιατρικό Συνέδριο, 2-5 Μαΐου 2007, Αθήνα

89. Δ. Μαλόβρουβας, Α. Γρηγοράκης, Σ. Καρακαϊδός, Χ. Μαμουλάκης, Κ. Παίδαρος, Ε. Πανταζής, Χ. Σύρμος. **Μελέτη της επίπτωσης και των παραγόντων κινδύνου για την ανάπτυξη βουβωνοκήλης μετά από οπισθοθηβική ριζική προστατεκτομή.** 18^ο Πανελλήνιο Ουρολογικό Συνέδριο, 27 Σεπτεμβρίου-1 Οκτωβρίου 2006, Ρόδος
90. Π. Παπαδανιήλ, Χ. Μαμουλάκης, Σ. Στεφανάκης, Δ. Μαλόβρουβας, Ε. Πανταζής, Δ. Κοζυράκης, Κ. Πετράκη, Χ. Σύρμος. **Συσχέτιση του προεγχειρητικού αριθμού των αιμοπεταλίων πασχόντων από νεφροκυτταρικό καρκίνο με το στάδιο της νόσου.** 18^ο Πανελλήνιο Ουρολογικό Συνέδριο, 27 Σεπτεμβρίου-1 Οκτωβρίου 2006, Ρόδος
91. Ε. Πανταζής, Ι. Ζώρζος, Π. Παπαδανιήλ, Χ. Μαμουλάκης, Ι. Δημοπούλου, Δ. Κοζυράκης, Δ. Μαλόβρουβας, Χ. Σύρμος. **Η διαγνωστική αξία της C-αντιδρώσας πρωτεΐνης και της α1-αντιθρυψίνης ορού στη διαφορική διάγνωση ασθενών με οξύ όσχεο.** 18^ο Πανελλήνιο Ουρολογικό Συνέδριο, 27 Σεπτεμβρίου - 1 Οκτωβρίου 2006, Ρόδος
92. Σ. Στεφανάκης, Δ. Μαλόβρουβας, Δ. Κοζυράκης, Α. Παπαδόπουλος, Χ. Μαμουλάκης, Α. Γρηγοράκης, Κ. Πετράκη, Χ. Σύρμος. **Αποτελέσματα της ριζικής προστατεκτομής σε ασθενείς με τοπικά εκτεταμένη νόσο και σύγκριση με εκείνα σε εντοπισμένη νόσο: εμπειρία 15 ετών.** 18^ο Πανελλήνιο Ουρολογικό Συνέδριο, 27 Σεπτεμβρίου - 1 Οκτωβρίου 2006, Ρόδος
93. Σ. Στεφανάκης, Δ. Μαλόβρουβας, Α. Παπαδόπουλος, Δ. Κοζυράκης, Χ. Μαμουλάκης, Γ. Φαρμάκης, Κ. Πετράκη, Χ. Σύρμος. **Συσχέτιση σταδίου νόσου και μετεγχειρητικού πρωτεύοντος grade σε ασθενείς με καρκίνο του προστάτη και Gleason score 7.** 18^ο Πανελλήνιο Ουρολογικό Συνέδριο, 27 Σεπτεμβρίου - 1 Οκτωβρίου 2006, Ρόδος
94. Δ. Κοντοθανάσης, Π. Παπαδανιήλ, Χ. Μαμουλάκης, Α. Μωκάκος, Γ. Κορακιανίτης, Δ. Μαλόβρουβας, Χ. Σύρμος. **Ενδοφλέβια ουρογραφία και υπερηχογράφημα ανώτερου ουροποιητικού πριν από προστατεκτομή, σε ασθενείς με μόνιμο ουροκαθετήρα. Ο κριτικός αυτοέλεγχος (AUDIT) της κλινικής πρακτικής.** 17^ο Πανελλήνιο Ουρολογικό Συνέδριο, 23-26 Ιουνίου 2004, Αλεξανδρούπολη

95. Δ. Μαλόβρουβας, Δ. Καράντζος, Χ. Μαμουλάκης, Π. Παπαδανιήλ, Κ. Πετράκη, Χ. Σύρμος. **Ενδομητρίωση ουρητήρα ως αίτιο κωλικού: περιγραφή μιας σπάνιας περίπτωσης.** 17^ο Πανελλήνιο Ουρολογικό Συνέδριο, 23-26 Ιουνίου 2004, Αλεξανδρούπολη (παρουσίαση από τον υποψήφιο)
96. Δ. Κοντοθανάσης, Ι. Κασκαρέλης, Χ. Μαμουλάκης, Π. Παπαδανιήλ, Ε. Πανταζής, Δ. Μαλόβρουβας, Χ. Σύρμος. **Συντηρητική αντιμετώπιση ευμεγέθους αγγειομυολιπώματος νεφρού με αρτηριακό εμβολισμό.** 17^ο Πανελλήνιο Ουρολογικό Συνέδριο, 23-26 Ιουνίου 2004, Αλεξανδρούπολη (παρουσίαση από τον υποψήφιο)
97. Ε. Λυκοπούλου, Μ. Βουνάτσου, Ε. Χαντζή, Χ. Μαμουλάκης, Σ. Αντύπας, Δ. Δημητριάδης, Χ. Μπακούλα, Α. Πάγκαλη, Ι. Παπασωτηρίου. **Μειωμένη προγνωστική αξία της προκαλσιτονίνης στην διάγνωση της οξείας σκωληκοειδίτιδας.** 20^ο Εθνικό Συνέδριο Μικροβιολογίας-2^ο Πανελλήνιο Συνέδριο Ιατρικής Βιοπαθολογίας, 13-16 Μαρτίου 2002, Αθήνα
98. Μ. Παπαδάκη, Σ. Μπαρμπαγαδάκη, Χ. Μαμουλάκης, Γ. Χαρμάνης, Μ. Κοπανίδη, Χ. Χατζηγιώργη. **Ο ρόλος της υπερηχοτομογραφίας στη διαφοροδιάγνωση των διαφραγμάτων του σπληνός από τις γραμμοειδείς κακώσεις του οργάνου σε ασθενείς με ιστορικό τραυματισμού.** 24^ο Πανελλήνιο Συνέδριο Ελληνικής Παιδοχειρουργικής Εταιρείας, 27-30 Σεπτεμβρίου 2001, Αθήνα
99. Μ. Παπαδάκη, Σ. Μπαρμπαγαδάκη, Χ. Μαμουλάκης, Σ. Χαρερά, Χ. Χατζηγιώργη, Β. Θεοδωρόπουλος. **Η θέση του υπερηχοτομογραφήματος στη διάγνωση και παρακολούθηση του τραύματος του νεφρού.** 24^ο Πανελλήνιο Συνέδριο Ελληνικής Παιδοχειρουργικής Εταιρείας, 27-30 Σεπτεμβρίου 2001, Αθήνα
100. Χ. Χατζηγιώργη, Μ. Παπαδάκη, Χ. Μαμουλάκης, Σ. Χαρερά, Μ. Ζαρίφη, Β. Θεοδωρόπουλος. **Κακώσεις θώρακα στην παιδική ηλικία: μελέτη με την αξονική τομογραφία.** 24^ο Πανελλήνιο Συνέδριο Ελληνικής Παιδοχειρουργικής Εταιρείας, 27-30 Σεπτεμβρίου 2001, Αθήνα
101. Α. Λυκοπούλου, Χ. Μαμουλάκης, Δ. Δημητριάδης, Ι. Παπασωτηρίου, Θ. Ντόλατζας, Σ. Αντύπας. **Οξεία σκωληκοειδίτιδα στα παιδιά:**

αξιολόγηση νέων βιοχημικών δεικτών στη διάγνωση και τη μετεγχειρητική παρακολούθηση. 24^ο Πανελλήνιο Συνέδριο Ελληνικής Παιδοχειρουργικής Εταιρείας, 27-30 Σεπτεμβρίου 2001, Αθήνα

102. Χ. Μαμουλάκης, Κ. Μπράτσας, Ι. Τσιπνίδης, Α. Στεφανίδης, Φ. Μ. Ανδρουλακάκης. **Προγνωστικές παράμετροι σε ασθενείς με βαλβίδες οπίσθιας ουρήθρας.** 39^ο Πανελλήνιο Παιδιατρικό Συνέδριο, 1-3 Ιουνίου 2001, Χερσόνησος, Κρήτη (παρουσίαση από τον υποψήφιο)

103. Λ. Λυκοπούλου, Ε. Χαντζή, Χ. Μαμουλάκης, Δ. Παπαθανασίου, Α. Ξαϊδάρη, Δ. Δημητριάδης, Σ. Αντύπας, Ι. Παπασωτηρίου. **Συγκριτική αξιολόγηση των επιπέδων του αμυλοειδούς Α του ορού και της C-αντιδρώσας πρωτεΐνης σε παιδιατρικούς ασθενείς με οξεία σκωληκοειδίτιδα.** 39^ο Πανελλήνιο Παιδιατρικό Συνέδριο, 1-3 Ιουνίου 2001, Χερσόνησος, Κρήτη