Central European Journal of Urology

REVIEW PAPER

EPIDEMIOLOGY

Understanding the role of surveys in modern urology: an insight into survey trends over the decades

Carlotta Nedbal[1,2], Steffi Kar Kei Yuen[3], Pietro Tramanzoli[1], Martina Maggi[4], Carlo Giulioni[5], Virgilio De Stefano[1], Rossella Nicoletti[6], Maria Pia Pavia[7], Giacomo Maria Pirola[8], Ee Jean Lim[9], Chu Ann Chai[10], Wei Zheng So[11], Andrea Benedetto Galosi[1], Bhaskar Kumar Somani[2], Daniele Castellani[1], Vineet Gauhar[12]

[1]*Urology Unit, Azienda Ospedaliero-Universitaria delle Marche, Marche Polytechnic University, Ancona, Italy*
[2]*Department of Urology, University Hospital Southampton NHS Trust, Southampton, United Kingdom*
[3]*Department of Surgery, SH Ho Urology Centre, The Chinese University of Hong Kong, Hong Kong, China*
[4]*Department of Maternal Infant and Urological Sciences, Sapienza University of Rome, Rome, Italy*
[5]*Urology Unit, Villa Igea, Ancona, Italy*
[6]*Department of Experimental and Clinical Biomedical Science, University of Florence, Italy*
[7]*Urology Unit, Murri Hospital, Fermo, Italy*
[8]*Urology Department, San Giuseppe Hospital, IRCCS Multimedica, Milan, Italy*
[9]*Department of Urology, Singapore General Hospital, Singapore*
[10]*Urology Unit, Department of Surgery, University of Malaya*
[11]*Department of Urology, National University Hospital, Singapore*
[12]*Ng teng Fong General Hospital, Department of Urology, NUHS, Singapore*

Citation: Nedbal C, Kar Kei Yuen S, Tramanzoli P, et al. Understanding the role of surveys in modern urology: an insight into survey trends over the decades. Cent European J Urol. 2024; 77: 547-565.

Article history
Submitted: Apr. 3, 2024
Accepted: May 8, 2024
Published online: Sep. 30, 2024

Corresponding author
Carlotta Nedbal
Urology Unit,
Azienda Ospedaliero-Universitaria delle Marche,
Marche Polytechnic University,
Ancona, Italy
carlottanedbal@gmail.com

Introduction To provide a comprehensive review of survey trends in urology, aiming to provide insight into changes in publication in the new millennium. Surveys in healthcare allow for a better understanding of the knowledge, attitudes, and practice patterns as well as gaps in healthcare systems.

Material and methods A comprehensive review of all "surveys in urology answered by urologists" was performed through the PubMed and Scopus databases, according to the SPICE framework. Included surveys were divided according to the subject: "Uro-oncology", "Urolithiasis", "Mental health" "Resident training", and "Miscellaneous". Publications were then divided into 2 main periods: Period-1 (2000–2011) and Period-2 (2012–2023).

Results A total of 361 surveys have been published since 2000, with a significant overall increasing trend in the recent decade ($p < 0.001$). A significantly increasing focus is seen for publications on resident training (n = 86; +660%; $p = 0.003$), mental health (n = 31; +650%; $p = 0.001$), urolithiasis (n = 40; +371%; $p = 0.002$), and uro-oncology (n = 94; +230%, $p \leq 0.001$). In subanalysis, the largest increase in publications was noted for surveys on radical prostatectomy (+175%, $p = 0.024$), surgical treatment of urolithiasis (+320%, $p = 0.040$), quality of resident education (+483%, $p < 0.001$), and personal satisfaction with resident training (+500%, $p = 0.005$).

Conclusions Over the decades, surveys have served as an effective interactive tool for urologists to engage and investigate different aspects of practice and training across sub-specialties. In modern times, better evaluation tools integrated with AI will provide a bigger platform for urologists to use surveys as part of their armamentarium to address and evaluate not only clinical practices but also emotional challenges, training needs, and inequalities that hinder progress in urology.

Key Words: survey ‹› urologists ‹› questionnaires ‹› validation ‹› disparities ‹› trends

INTRODUCTION

Surveys in healthcare allow for an understanding of the knowledge, attitudes, and practice patterns as well as gaps that could help improve practices in healthcare systems. This, when applied to urology, could help identify, validate, and provide insight into parameters known and hypothesised that could improve and strategise surgical and training experience. In this study, we aim to provide a comprehensive review of surveys in urology over the decades to identify salient features and assess changes in the publication and utility of urological surveys in the new millennium.

MATERIAL AND METHODS

Evidence acquisition

Literature search

A literature search was performed on 7 November 2023 using PubMed and Scopus. The following terms and Boolean operators were used: ("urology" OR "urological") AND ("surveys" OR "questionnaires" OR "assessment") AND ("role" OR "utility" OR "impact" OR "contribution").

Selection criteria

The SPICE (Setting, Perspective, Intervention, Comparison, Evaluation) framework was used to frame and answer the question: S: urology practice; P: senior or training urologists; I: surveys; C: none; E: repercussions on clinical practice, training and well-being of responders.

Study screening and selection

Studies were accepted based on SPICE eligibility criteria. Only English papers were accepted. Papers dealing with non-urologists, other healthcare professionals, or patients as respondents were excluded. All retrieved studies were screened by independent authors through Covidence Systematic Review Management® (Veritas Health Innovation, Melbourne, Australia). Discrepancies were solved by a third author. The full text of the screened papers was selected if found pertinent to the purpose of this review.

Evidence synthesis

Literature screening

The literature search found 21,015 papers. Automated detection of duplicates removed 863 papers, leaving 20,152 for screening. 19,246 papers were further excluded during screening against title and abstract, as irrelevant to the purpose of this review. Of the 906 studies deemed eligible for full-text screening, another 545 were further excluded. Finally, 361 papers were accepted and included (Appendix). The flow diagram of the literature search is shown in Figure 1.

Study characteristics

The included papers were organised and labelled according to year of publication and subject of interest (Table 1). Eight papers were published before the year 2000 (1985–1999), and they were excluded by statistical analysis to simplify the organisation and evaluation of trends.

Ninety-nine surveys investigated on "uro-oncology", while 40 surveys questioned different aspects of management of "urolithiasis", and they were labelled accordingly. Surveys investigating aspects of "mental health" among urologists totalled 32. Eighty-seven surveys addressed training in urology. For each group, subgroups were labelled according to the area of interest (i.e. prostate cancer, kidney cancer, and alike for uro-oncology).

Publications were then divided into 2 main periods: period 1 (2000–2011) and period 2 (2012–2023), with

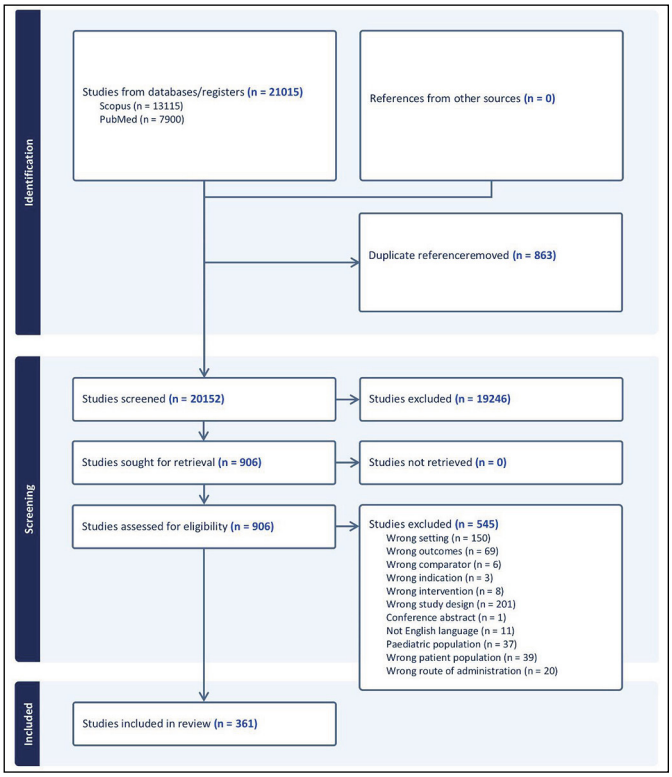

Figure 1. *Flow diagram for literature search and screening.*

the exception of "Mental health", that was divided into period 1 (2004–2013) and period 2 (2014–2023) due the lack of publications between 2000 and 2003.

Statistical analysis

All publications over the years were collected in a preformed Excel sheet (Excel 2021, Microsoft Office Professional Plus 2021, Microsoft Corporation). XLSTAT (XLSTAT statistical software for Microsoft Excel, Lumivero) was used for statistical analysis. Extracted data were analysed through calculation of the difference (Δ) among periods, and the independent t test was used to evaluate differences in publications among periods and topics. To rule out significant changes in the trend of publication, the Mann-Kendall trend test was performed. Statistical significance was set at $p < 0.05$.

RESULTS

The retrieved articles were published since 2000. The included articles covered a spectrum of domains, namely 40 on urolithiasis, 94 on uro-oncology, 86 on resident training, 31 on mental health, and 102 on miscellaneous topics (Table 1). The Mann-Kendall trend test showed an increasing trend in publications over the past 23 years ($p < 0.001$). Table 2 summarises the results of the trend analysis.

Table 1. *Distribution of published surveys in the different domains of urology*

	Total	Before 2000	From 2000	Notes on number of papers published after 2000
Urolithiasis	41	1	40	Medical management: 8; surgical treatment: 26; OR safety: 6
Uro-oncology	97	3	94	Bladder cancer: 18; kidney cancer: 12; prostate cancer: 51; other (penile cancer, upper tract cancer, other): 13
Resident training	87	1	86	Quality of education: 41; satisfaction: 21; wellbeing: 7; other: 17
Mental Health	32	1	31	Disparities: 17; life choices: 6; wellbeing: 8
Miscellaneous	104	3	102	Subjects are: infections; ureteric strictures; andrology; prostatic hyperplasia; transplants; incontinence; costs of practice; role of laparoscopy/robotic surgery etc.
Total	361	9	353	

Across the years, a significant rise was noted in the number of publications regarding resident training (+660%, $p = 0.003$), mental health (+650%, $p = 0.001$), urolithiasis (+371%, $p = 0.002$), and uro-oncology (+230%, $p \leq 0.001$) (Figure 2).

Publications on surveys related to uro-oncology represented the largest part, accounting for 26.6% over the past 23 years. There were 51 articles on prostate cancer, followed by 18 on bladder cancer, 13 on upper tract urothelial carcinoma and penile cancer, and 12 on kidney cancer. Amongst publications regarding prostate cancer, there were non-significant increases regarding diagnosis of prostate cancer (+225%, $p = 0.090$) and advanced stage prostate cancer (+150%, $p = 0.193$); whilst there were significant increases regarding active surveillance (AS) ($p = 0.041$) and radical prostatectomy (+175%, $p = 0.024$).

Surveys on resident training account for the second largest portion, at 24.4%. Publications over the past 23 years focused mostly on quality of resident education ($n = 41$), satisfaction with resident training ($n = 21$), and well-being of residents ($n = 7$). Among these, the statistically significant increasing

Table 2. *Statistical analysis of changing trend of surveys in the different areas. Significant results from trend analysis are marked in bold*

	Increase	Independent T-Test p-value (95% CI)	Mann-Kendal trend test
Overall number of papers	+312%	**<0.001** (–26.147; –9.686)	**<0.001**
UROLITHIASIS	+371%	**0.002** (0.901; 3.432)	**0.004**
Medical management	+200%	0.207 (–0.865; 0.198)	0.276
Surgical treatment	+320%	**0.040** (–2.599; –0.068)	0.079
OR safety	n/a	**0.003** (0.187; 0.813)	0.026
RESIDENT TRAINING	+660%	**0.003** (–8.898; –2.102)	**<0.001**
Quality of education	+483%	**<0.001** (–3.640; –1.194)	**<0.001**
Satisfaction	+500%	**0.005** (–2.082; –0.418)	**0.001**
Wellbeing	+500%	0.103 (–0.925; 0.091)	**0.009**
MENTAL HEALTH	+650%	**0.001** (–3.823; –1.177)	**<0.001**
Disparities	+650%	**0.002** (–2.070; –0.530)	**0.001**
Life choices	n/a	**0.014** (–1.065; –0.135)	**0.019**
Well-being	+600%	0.074 (–1.264; 0.064)	**0.009**
URO-ONCOLOGY	+230%	**<0.001** (2.013; 5.653)	**<0.001**
Bladder cancer	+160%	0.099 (–0.137; 1.471)	**0.028**
Cystectomy	n/a	**0.028** (0.039; 0.628)	**0.005**
NMIBC	+50%	0.610 (–0.501; 0.834)	0.222
Kidney cancer	+350%	**0.012** (0.144; 1.022)	**0.050**
Renal biopsy	+200%	0.294 (–0.155; 0.488)	0.416
Partial nephrectomy	+400%	0.127 (–0.103; 0.769)	0.137
Prostate cancer	+250%	**0.001** (0.992; 3.175)	**<0.001**
Diagnosis	+225%	0.090 (–0.127; 1.627)	0.072
Active surveillance	n/a	**0.041** (0.022; 0.978)	**0.049**
Prostatectomy	+175%	**0.024** (0.086; 1.080)	0.085
Advanced disease	+150%	0.193 (–0.136; 0.636)	0.127

CI – confidence interval; NMIBC – non-muscle invasive bladder cancer; OR – operating room

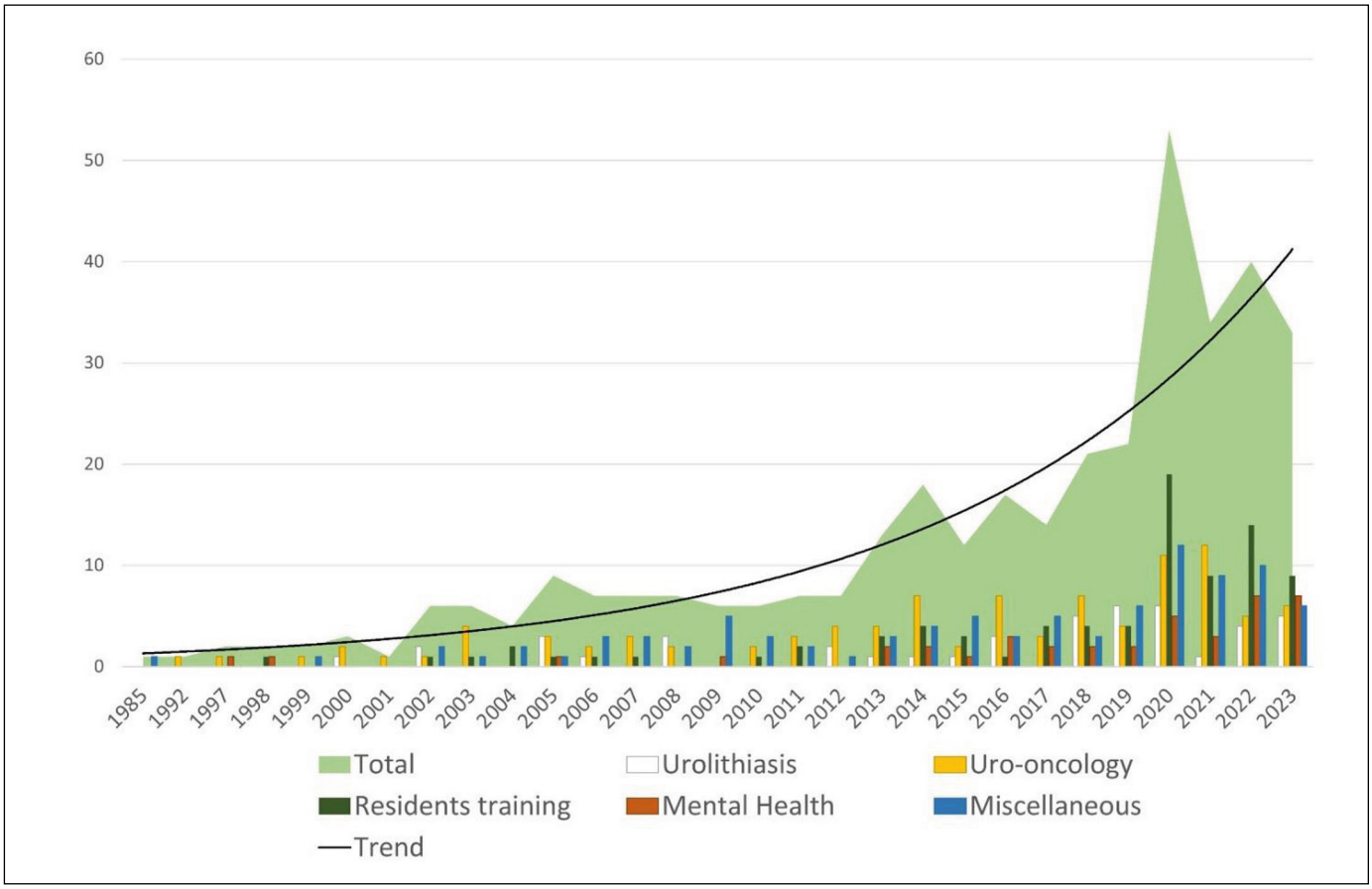

Figure 2. *Increasing trend of publication of surveys in the years, with representation of the different topics.*

trends in publications on quality of resident education (+483%, p <0.001) and satisfactory of resident training (+500%, p = 0.005) were demonstrated by the Mann-Kendall trend test.

Papers reporting on surveys related to urolithiasis and its subsets account for 11.3% of the included studies, comprising 8 articles on surveys related to medical management of urolithiasis, 26 on surgical treatment of urolithiasis, and 6 on operative room safety. There was a significant increase in the number of publications on surveys related to operative room safety (p = 0.003) and surgical treatment of urolithiasis (+320%, p = 0.040), whilst those on medical management of urolithiasis was not statistically significant (p = 0.207).

The largest increase in publications is related to surveys on mental health of urologists (650%, p = 0.001). Of the 31 articles, 17 were surveys on gender disparity, 8 on well-being, and 6 on life choices of urologists. Moreover, the 102 included publications (28.9%) encompassed survey topics such as urinary tract infections, ureteric stricture, andrology, lower urinary tract symptoms, benign prostatic enlargement, functional urology, renal transplants, cost of practices, and the role of laparoscopic and robotic surgery.

DISCUSSION

Trends of surveys in endourology

Endourology as a subspecialty is one of the fastest growing fields in recent years partly attributed to increasing advancements in technology, better awareness, training, and a deeper understanding of the pros and cons of surgical and non-surgical interventions. The most commonly debated topic is urolithiasis management, which has radically changed over the last 20 years, as shown by the radical shift in its guidelines [1]. As is known, this has allowed us the opportunity to move ahead in creating a tailored and personalised approach because it is well known that one size does not fit all.

The first surveys regarding urolithiasis compared practitioners' preferences for stone treatment, noting differences between metropolitan or countryside hospitals, geographic location, surgical experience, and percentage of managed-care patients in a urol-

ogist's practice regarding treatment of large renal stones or ureteral stones [2]. Another investigated field was the ideal treatment of renal colic, discussing the pros and cons of different analgesic drugs, an aspect recently researched in another survey across the whole of Europe. Local educational attitudes and awareness towards radioprotection and use of fluoroscopy were also investigated: this topic has particular importance for all endourologists but is often not considered enough in residency programs nor recognised by hospital administrations [3]. Percutaneous nephrolithotomy, with the different practice patterns, trends, and technologies, was the next main focus [4]. Lastly, stone analysis, endoscopic recognition of stone composition, and some debatable fields of urolithiasis management were included.

With the increasing burden of benign prostate hyperplasia (BPH), intervention technology surveys aimed at how different sizes and shapes of prostate could be intervened, in the perceptions of both patients and clinicians, and some surveys demonstrated that the opinions were generally concordant, while other had discording results [5]. These surveys underline that there are unexplored potential areas of focus such as patient-urologist communication. Insights into the surveys reveal that BPH worries patients symptomatically and psychologically at all stages. This again highlights the need to consider proactively using PROMS [6] as an investigational or interventional tool. As a surgical tool, survey trends have shown a definitive move from resection to enucleation as well as the defining of, and barriers to, the adoption of minimally invasive surgical therapies (MIST) and enucleation procedures.

The rising role of surveys in uro-oncology

The management of uro-oncology patients adheres to structured guidelines and multidisciplinary team decisions [7]. Nevertheless, in the field of oncology, patient management is in a constant progression and evolution. There has been a notable upswing trend with a 230% surge in onco-surveys since 2000. This is particularly pronounced in the fields of bladder, prostate, and renal cancer. Again, this reflects how precision medicine in the modern era of evidence-based medicine drives innovation and technical advancements, which need awareness and acceptability that are achievable via surveys, as informative broadcasting and interactive tools.

Our review highlights that in most of the cross-sectional surveys non-muscle invasive (NMIBC) and locally advanced bladder cancer are the 2 main focus points with surveys questioning all aspects from treatment options, selection bias and inconsistencies, variable practices regionally and internationally, as well as the loopholes in being compliant to guidelines. The quality of routine techniques employed during trans-urethral resection of bladder tumours, such as white light cystoscopy, is being challenged, with attempts to fill the current gaps in its utility [8]. Several surveys have also primarily focused on addressing the lack of consensus or variations in postoperative recovery practices and optimal follow-up after cystectomy. Others have investigated the role of enhanced recovery (ERAS) protocols for post-cystectomy patients [9], underscoring the variations of practices among urologists. The absence of uniformity in post-cystectomy surveillance and the lack of adherence to a predetermined follow-up schedule resulting from these analyses also need to be highlighted, raising awareness on the importance of consistent follow-up [10].

Within the realms of prostate cancer, it is noteworthy to observe the changes in trends of defining low-risk prostate cancer patients who can be offered AS. When the concept of AS was in its early phases, many urologists seemed to be in support of this approach, but there was a lack of established consensus regarding optimal intervals of follow-up biopsies [11]. Over the years, the trend in surveys on AS has demonstrably gone into greater detail – exploring specific markers that are now readily employed and may be predictors of re-classification (PSA doubling time, biopsy methods, number of positive cores on biopsy, magnetic resonance imaging findings). Apart from management principles, diagnostic advances in prostatic biopsy methods – from magnetic resonance imaging (MRI)-guided fusion biopsies to saturation biopsies are also actively surveyed on a regular basis, reaffirming the continued support in the routine use of image-guided prostatic biopsy. The growing evidence for PSMA-PET radioligand-based imaging as an adjunct in prostate cancer staging has also seen its cross-sectional impact [12].

Regarding renal tumours, the sustained concept of nephron-sparing surgery, and aspect of minimally invasive renal surgery has also consistently been surveyed. Survey trends explore the intricacies of optimising pre-surgical planning, and the role of mixed reality simulation has also been specifically questioned pertaining to its relevance for real-life anatomical precision during surgery [13]. To better replicate the operative process, a radiologically assisted generation of 3D models for pre-operative planning prior to partial nephrectomy have been tested and assessed with regards to its impact

on the actual surgery as well. Artificial intelligence (AI) and its role in streamlining minimally invasive nephrectomies has gained centre stage in modern surveys.

Surveys investigating disparities among urologists

The proportion of women in medicine and surgery has increased steadily over the last few decades. However, there is a significant contrast when it comes to the number of female surgeons, including those in urology [14]. This issue has been addressed by several surveys over the last 10 years, demonstrating how this topic has gained much attention among the academic urological community. As shown in our study, the increase has been exponential in the last decade, with most of the surveys published since 2015. There is a definite and concrete focus towards identifying and minimising gender disparity in urology.

Typically, these articles were published by teams from countries that historically pay more attention to these issues: the USA, Germany, the UK, Canada, and Australia. Interestingly we see that, although the proportion of female urologists has increased in the last decade, relatively few women have leadership positions [15]. There is still huge gender imbalance in urology meetings, where males dominate the attendance and participation. The reasons behind this disparity could be multifactorial, with some suggested reasons being family responsibilities, part-time work, insufficient mentorship, or sheer gender bias [16]. Despite coming a long way in smoothing gender disparities, there is still room to encourage the recruitment of women in urology and to support them in their careers. As emerges from the analysed surveys in our review, support for maternity leave, mentorship, and prioritisation for women's urology leadership initiatives need more momentum and initiation of more women to take on a career in urology, and this may ease the gender disparity.

The role of well-being as reported by urologist-based surveys

Increasing interest in evaluating psychological and physical aspects among urologists, with particular awareness shown by the United States towards mental-health, was notabley highlighted in recent surveys [17]. Since 2013, there has been a steady trend regarding the number of published papers, and an exponential increase by 36.4% in recent years highlights the importance of this subject.

Some authors [18] specifically addressed urologists' mental health, analysing phenomena that can negatively affect both their professional and personal lives, such as depression, anxiety, stress, burnout, and impostor phenomenon. Burnout – an occupational syndrome resulting from persistent work-related stress – has become a hot topic since data revealed an increase among urologists from 41% in 2011 to 64% in 2014, with urology gaining a notoriously bad reputation in the list of medical specialities with the highest rates of burn-out in a Medscape survey [19]. In line with this evidence, a high rate of burnout was reported among urology trainees as well, with a pivotal role played by a lack of proper and formal mentorship, access to mental health services, and of course personality traits. More recently, due to the acceleration and intensification of work processes and digitalisation, the relationships between technostress, burnout, work engagement, and job satisfaction have been explored among urologists working in inpatient clinics [17]. Impostor phenomenon, a condition where the individual fails to believe that their achievements are deserved and continuously questions their skills and abilities, was also investigated with surveys because it sadly appears to be more and more frequent among young urologists [20].

Other studies evaluated more practical challenges that are potentially able to affect urologists' performance and skills, and as a detrimental consequence, compromise surgical patients' outcomes. Potential distractions in the urology operating room and physical health among robotic surgeons in terms of prevalence of musculoskeletal disorders due to posture discomfort were described as potentially impacting daily surgical activity. More recently, the impact of several stressors on the perceived demands of surgeons during endourologic procedures was assessed [21]. Psychological aspects and career choice among urologists were also the subject of surveys, with analysis of variables affecting young urologists' productivity and academic career choice, including the impact of sexual health education and mentorship on future specialty and subspecialty selection.

Impact of COVID-19 on residency programs

The COVID-19 pandemic has significantly impacted various societal domains, with profound effects on medical education and training, especially for residents and fellows in surgical fields. The pandemic necessitated substantial modifications in education and training methodologies, leading to far-reaching implications for resident well-being [22].

The crisis has not only affected clinical activities but also demonstrated to have detrimental effects on scientific, academic, and educational pursuits. Senior urologists have experienced reduced attendance at professional meetings, and in South Wales, trainees perceived potential impacts on cancer diagnostics and overall training proficiency.

Studies have also shown that residents, particularly in Italy, experienced a significant reduction or complete cessation in training exposure during the COVID-19 lockdown period. This reduction was faced worldwide, affecting regions like South America, where academic training was affected in a substantial proportion of trainees. Many residency programs implemented restrictions for residents with high-risk comorbidities or in-person interactions with COVID-19 patients. In 2020, the median projected detriment to urological training scored 6.0 on a 0 to 10 scale, indicating a pronounced impact as foreseen by senior residents [23]. The uncertainties associated with the pandemic, changes in training protocols, and potential impacts on future job opportunities contributed to increased stress and anxiety among residents. This, in turn, led to various health and lifestyle alterations, including weight gain, decreased physical activity, increased alcohol and cigarette consumption, and experiences of sadness or depression.

Despite these challenges, there were some positive aspects. The Copenhagen Burnout Inventory scores indicated a significant reduction in the risk of burnout across various dimensions (personal, professional, and relational). Residents in Europe, the United States, and India reported a good to excellent quality of life during the pandemic, finding time to engage in research projects and theoretical knowledge acquisition [24]. The pandemic compelled residents to support resilience and adaptability skills. Pre-recorded videos and interactive webinars emerged as effective modalities for smart learning, especially for guidelines and surgical videos [25]. The use of platforms like YouTube and the American Urological Association for video content became prevalent.

Efforts were made to introduce innovative training models, such as the Urology Intern Boot Camp and augmented reality training for prostate biopsy. Tele-mentoring gained popularity as a favoured solution among trainees and specialists, with virtual education being perceived as more accessible than in-person teaching [26]. While virtual platforms showed potential, controversies arose: some respondents disagreed that online education models contribute to stress and anxiety, while others believed they could facilitate new collaborations. However, concerns were raised about the lack of guidance on the professional use of social media and the limitations of tele-mentoring, including information flow distortions and legal risks.

Resident attitudes, especially regarding digitalisation and the use of the internet and social media, have been a focus of scientific studies, which reported a high usage of the internet, apps, and social media among urology residents. However, there was a lack of guidance on the professional use of social media, particularly among senior trainees [27].

In conclusion, the COVID-19 pandemic has brought significant challenges to urology residency programs, impacting training, well-being, and future opportunities. While virtual platforms and innovative training models have been introduced to mitigate this impact, concerns and controversies persist. The evolving landscape of urology education requires ongoing attention to address the diverse needs and challenges faced by residents.

Resident-reported quality of training

Not all topics are uniformly addressed in urology training programs across different schools. Surveys revealed that certain topics like erectile dysfunction, urological trauma, and paediatric urology are under-represented [28]. Moreover, at the end of residency, trainees feel comfortable with emergencies, general urological procedures, and research/audit management but unprepared for educational and leadership/management functions.

Andrology constitutes a significant component of the urology specialisation training program, but its prioritisation varies across educational institutions. Residents' comfort with the physical examination, an essential skill, differed between age groups, with older doctors relying more on routine digital rectal examinations and younger ones on PSA screening [29]. In endourology, an evaluation of radiation safety practices of residents at their workplace revealed a lack of compliance with safety measures. Concerns were raised about the lack of formal learning about fluoroscopic radiation safety. Competency in interpreting genitourinary imaging is crucial for urologists, but this is poorly addressed during training. Residents were least comfortable interpreting Doppler ultrasound but more comfortable with non-contrast computed tomography scans and retrograde pyelography [30].

Surveys evaluating residents' experiences on various training-related topics have grown exponentially, with a focus on satisfaction, perceived usefulness, practice patterns, and educational aspirations.

CONCLUSIONS

Surveys have been demonstrated as effective and useful tools to investigate different aspects of urological practice. Through reviews, current practice patterns and urologists' treatment preferences can be investigated, to better adjust and shape the future of urology. An important role is also played in terms of well-being improvement, with the capacity of surveys to highlight distress situations and trigger positive actions. The utility of surveys during and after the pandemic shows how resilient the urological community is in adapting newer training and educational methods. With better tools to evaluate questionnaires, and by using AI, surveys are definitely going to become part of the urologist's armamentarium to address and evaluate not only clinical practices, but also emotional challenges, training needs, and inequalities that hinder progress in urology.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

FUNDING

This research received no external funding.

ETHICS APPROVAL STATEMENT

The ethical approval was not required.

APPENDIX 1

Full list of included papers

- Abdelshehid CS, Eichel L, Lee D, et al. Current trends in urologic laparoscopic surgery. J Endourol. 2005; 19: 15-20.
- Abdessater M, Rouprêt M, Misrai V, et al. [COVID19 pandemic impacts on anxiety of French urologist in training: Outcomes from a national survey]. Prog Urol. 2020; 30: 448-455 [Article in French].
- Aksoy C, Reimold P, Borgmann H, et al. Impact of the COVID-19 pandemic on urology residency training programs in Germany. Aktuelle Urol. 2022; 53: 317-324.
- Alathel A, Bjazevic J, Chew BH, Pace KT, Razvi H. The New/Novel Oral Anticoagulants and Their Impact on Patients Being Considered for Shockwave Lithotripsy: The Findings of an International Survey of the Endourological Society. J Endourol. 2019; 33: 319-324.
- Albisinni S, Limani K, Hawaux E, Peltier A, Van Velthoven R. Evaluation of the single-knot running vesicourethral anastomosis 10 years after its introduction: Results from an international survey. J Laparoendosc Adv Surg Tech A. 2014; 24: 640-646.
- Alkhamees MA, Almutairi SA, Aljuhayman AM, et al. Evaluation of the urology residency training program in Saudi Arabia: A cross-sectional study. Urol Ann. 2021; 13: 367-373.
- Almannie R, Alturki A, Alsufyani A, Alkhamis W, Binsaleh S, Alyami F. Exposure of urology residents to the management of urethral strictures in Saudi Arabia: Should the program for postgraduates be customized? Res Rep Urol. 2020; 12: 367-372
- Almannie RM, Alkhamis WH, Alshabibi AI. Management of urethral strictures: A nationwide survey of urologists in the Kingdom of Saudi Arabia. Urol Ann. 2018; 10: 363-368.
- Alzahrani MA, Shareef M, Abunohaiah I, et al. Impostor phenomenon among urologists in Saudi Arabia. J Mens Health. 2023; 19: 113-118.
- Amparore D, Claps F, Cacciamani GE, et al. Impact of the COVID-19 pandemic on urology residency training in Italy. Minerva Urol Nefrol. 2020; 72: 505-509.
- Andonian S, Triaca V, Yates J, Babayan R. How Often is Digital Rectal Examination Performed? Is it Still Taught to Medical Students? Urol Pract. 2020; 7: 115-121
- Asanad K, Nusbaum D, Fuchs G, Rodman JCS, Samplaski MK. The impact of male infertility faculty on urology residency training. Andrologia. 2022; 54: e14457.
- Ates F, Zor M, Yılmaz O, et al. Management behaviors of the urology practitioners to the small lower calyceal stones: the results of a web-based survey. Urolithiasis. 2016; 44: 277-281.
- Atiemo H, Bresler L, Rhee A, Semins MJ, Memo R. Business and Practice Readiness of Early Career Urologists: An Unmet Need. Urol Pract. 2020; 7: 1091114.
- Azhar R, Subahi M, Badr H, et al. Influence of social media on urologic knowledge acquisition among young urologists in Saudi Arabia. Urol Ann. 2022; 14: 218-221.
- Azhar RA, Mobaraki AA, Badr HM, Nedal N, Nassir AM. Current status of robot-assisted urologic surgery in Saudi Arabia: Trends and opinions from an Internet-based survey. Urol Ann. 2018; 10: 263-269.
- Azhar RA. The influence of 3D renal reconstruction on surgical planning for complex renal tumors: An interactive case-based survey. Int Braz J Urol. 2023; 49: 372-382.
- Bachir BG, Aprikian AG, Kassouf W. Are Canadian urology residency programs fulfilling the Royal College expectations? A survey of graduated chief residents. Can Urol Assoc J. 2014; 8: 109-115.
- Bail C, Harth V, Mache S. Digitalization in Urology-A Multimethod Study of the Relationships between Physicians' Technostress, Burnout, Work Engagement and Job Satisfaction. Healthcare (Basel). 2023; 11: 2255
- Bakker WJ, Roos MM, Meijer RP, Burgmans JPJ. Influence of previous laparo-endoscopic inguinal hernia repair on performing radical prostatectomy: a nationwide survey among urological surgeons. Surg Endosc. 2021; 35: 2583-2591.
- Banakhar MA, Salman SMB, Al-Shaiji TF, et al. Effect of COVID-19-related lockdown on functional urology practice and patient care in Gulf Cooperation Council region. Urol Ann. 2022; 14: 53-59.
- Bandi G, Best SL, Nakada SY. Current practice patterns in the management of upper urinary tract calculi in the north central United States. J Endourol. 2008; 22: 631-635.
- Barham DW, Chen IK, Reeves A, et al. Surgeon variations in the perioperative evaluation

of penile prosthesis patients. Int J Impot Res. 2023; 35: 152-156.

- Barry MJ, Fowler F.J. Jr, Bin L, Oesterling JE, Holtgrewe HL. A nationwide survey of practicing urologists: Current management of benign prostatic hyperplasia and clinically localized prostate cancer. J Urol. 1997; 158: 488-492.
- Barwari K, De La Rosette JJ, Laguna MP. The penetration of renal mass biopsy in daily practice: A survey among urologists. J Endourol. 2012; 26: 737-747.
- Basu S, Biyani CS, Puri R, Prescott S. Intravesical Bacillus Calmette-Guerin (BCG) – A Survey of Practice Patterns of Urologists Across Britain and Ireland. UroOncology. 2003; 3: 115-119.
- Batagello CA, Vicentini FC, Marchini GS, et al. Current trends of percutaneous nephrolithotomy in a developing country. International Braz J Urol. 2018; 44: 304-313.
- Bekker M, Beck J, Putter H, et al. The place of female sexual dysfunction in the urological practice: Results of a Dutch survey. J Sex Med. 2009; 6: 2979-2987.
- Betschart P, Zumstein V, Jichlinski P, et al. Spoilt for Choice: A Survey of Current Practices of Surgical Urinary Stone Treatment and Adherence to Evidence-Based Guidelines among Swiss Urologists. Urol Int. 2019; 103: 357-363.
- Binsaleh S, Habous M, Madbouly K. Knowledge, attitudes, and practice patterns of recurrent urinary stones prevention in Saudi Arabia. Urolithiasis. 2016; 44: 135-143.
- Bjazevic J, McGregor T. Current Perspectives of Urology Involvement in Renal Transplantation: A Survey of Canadian Senior Residents. Urol Pract. 2015; 2: 275-280.
- Bjurlin MA, Goble SM, Hollowell CMP. Smoking cessation assistance for patients with bladder cancer: A national survey of American urologists. J Urol. 2010; 184: 1901-1906.
- Blecher GA, Vukina J, Ralph DJ. Penile dimensions: What are surgeons measuring? Int J Impot Res. 2019; 31: 444-450.
- Boehm K, Siegel FP, Schneidewind L, et al. Antibiotic Prophylaxis in Prostate Biopsies: Contemporary Practice Patterns in Germany. Front Surg. 2018; 5: 2.
- Borges CF, Reggio E, Vicentini FC, Reis LO, Carnelli GR, Fregonesi A. How are we protecting ourselves from radiation exposure? A nationwide survey. Int Urol Nephrol. 2015; 47: 271-274.
- Borgmann H, Bründl J, Huber J, et al. Prerequisites, skills and productivity of young academic urologists in Germany. Urologe. 2017; 56: 1603-1610.
- Borkowetz A, Leitsmann M, Baunacke M, et al. Acceptance and status of digitalization in clinics and practices: Current assessment in German urology. Urologie. 2022; 61: 1365-1372.
- Borkowetz A, Linxweiler J, Fussek S, Wullich B, Saar M. The Role of PSMA PET Imaging in Prostate Cancer Theranostics: A Nationwide Survey. Urol Int. 2022; 106: 1126-1135.
- Bortnick E, Stock J, Simma-Chiang V. Mentorship in Urology Residency Programs in the United States. Urology. 2020; 136: 58-62.
- Bouhadana D, Elbaz S, Di Ioia R, et al. Evaluating the perceptions of Canadian urology residents and program directors regarding the current training in genitourinary imaging. Can Urol Assoc J. 2023; doi:10.5489/cuaj.8430.
- Bouregba A, Lebret T. Prostate cancer, the urologist, the patient, and treatment. Ann Urol (Paris). 2007; 41 (suppl. 3): S87-S91.
- Bowen DK, Chi AC, Bachrach L, Flury SC. Practice Expectations Compared to Reality for Women in Urology: A National Survey. Urol Pract. 2015; 2: 281-286.
- Bradbury CL, King DK, Middleton RG. Female urologists: A growing population. J Urol. 1997; 157: 1854-1856.
- Braun KP, Shaar M, Gumz A, et al. The association of job satisfaction with self-reported burnout among urologists with migration background working at German hospitals: Results of the EUTAKD study. Urologe. 2021; 60: 1313-1322.
- Breda A, Stepanian SV, Lam JS, et al. Use of Haemostatic Agents and Glues during Laparoscopic Partial Nephrectomy: A Multi-Institutional Survey from the United States and Europe of 1347 Cases. Eur Urol. 2007; 52: 798-803.
- Bristow B, Aldehaim M, Bonin K, et al. Patterns of Care Related to Post-Operative Radiotherapy for Patients with Prostate Cancer among Canadian Radiation Oncologists and Urologists. J Cancer Educ. 2018; 33: 1195-1200.
- Brown B, Egger S, Young J, et al. Changing attitudes towards management of men with locally advanced prostate cancer following radical prostatectomy: A follow-up survey of Australia-based urologists. J Med Imaging Radiat Oncol. 2016; 60: 744-755.
- Brown B, Young J, Kneebone AB, Brooks AJ, Dominello A, Haines M. Knowledge, attitudes and beliefs towards management of men with locally advanced prostate cancer following radical prostatectomy: An Australian survey of urologists. BJU Int. 2016; 117: 35-44.
- Brzoszczyk B, Milecki T, Jarzemski P, Antczak A, Antoniewicz A, Kołodziej A. Urology resident training in laparoscopic surgery – results of the first national survey in Poland. Wideochirurgia I Inne Techniki Maloinwazyjne. 2019; 14: 433-441.
- Bullock TL, Brandes SB. Adult Anterior Urethral Strictures: A National Practice Patterns Survey of Board Certified Urologists in the United States. J Urol. 2007; 177: 685-690.
- Bultijnck R, Surcel C, Ploussard G, et al. Practice Patterns Compared with Evidence-based Strategies for the Management of Androgen Deprivation Therapy–Induced Side Effects in Prostate Cancer Patients: Results of a European Web-based Survey. Eur Urol Focus. 2016; 2: 514-521.
- Cabello-Benavente R, González-Enguita C. Residency in urology and training in kidney transplantation. Results of a national survey. Actas Urol Esp (Eng Ed). 2015; 39: 303-309.
- Cacciamani G, Artibani W, Briganti A, N'Dow J. Adherence to the European Association of Urology Guidelines: A National Survey among Italian Urologists. Urol Int. 2018; 100: 139-145.
- Calleja Hermosa P, Campos-Juanatey F, García-Baquero R, Ponce de Leon Roca J, Martínez-Salamanca JI. The impact of COVID-19 pandemic on reconstructive urologic surgery and andrology Spanish units' practice during the state of alarm in 2020: National survey. Actas Urol Esp (Engl Ed). 2022; 46: 640-645.
- Campi R, Amparore D, Checcucci E, et al. Exploring the Residents' Perspective on Smart learning Modalities and Contents for Virtual Urology Education: Lesson Learned During the COVID-19 Pandemic. Actas Urol Esp (Engl Ed). 2021; 45: 39-48.
- Campos-Juanatey F, Fes-Ascanio E, Adamowicz J, et al. Contemporary Management of Male Anterior Urethral Strictures by Reconstructive Urology Experts-Results from an International

Survey among ESGURS Members. J Clin Med. 2022; 11: 2353.

- Capogrosso P, Di Mauro M, Fode M, et al. Low-intensity extracorporeal shockwave therapy among urologist practitioners: how the opinion of urologists changed between 2016 and 2019. Int J Impot Res. 2020; 33: 839-843.
- Carrion DM, Rodriguez-Socarrás ME, Mantica G, et al. Current status of urology surgical training in Europe: an ESRU–ESU–ESUT collaborative study. World J Urol. 2020; 38: 239-246.
- Chan ESY, Yee CH, Hou SM, Ng CF. Current management practice for bladder cancer in Hong Kong: A hospital-based cross-sectional survey. Hong Kong Medical Journal. 2014; 20: 229-233.
- Checcucci E, Amparore D, Pecoraro A, et al. 3D mixed reality holograms for preoperative surgical planning of nephron-sparing surgery: evaluation of surgeons' perception. Minerva Urol Nephrol. 2021; 73: 367-375.
- Cheriyan A, Kumar S. Impact of COVID-19 on urology residency in India- Results of a nationwide survey. Indian J Urol. 2020; 36: 243-245.
- Childs MA, Rangel LJ, Lingeman JE, Krambeck AE. Factors influencing urologist treatment preference in surgical management of stone disease. Urology. 2012; 79: 996-1003.
- Claps F, Amparore D, Esperto F, et al. Smart learning for urology residents during the COVID-19 pandemic and beyond: Insights from a nationwide survey in Italy. Minerva Urol Nefrol. 2020; 72: 647-649.
- Cleaveland P, Parnham A, Tang V, Ali Z, Brown S. Higher specialist urology trainees' opinions on preparation for the consultant role. J Clin Urol. 2015; 8: 342-346.
- Cocci A, Patruno G, Gandaglia G, et al. Urology Residency Training in Italy: Results of the First National Survey. Eur Urol Focus. 2018; 4: 280-287.
- Cohen Castel O, Alperin M, Ungar L, Kravtsov I, Amiel GE, Karkabi K. Urologists' attitudes regarding information sharing with prostate cancer patients-is there a common ground for collaboration with family physicians? Journal of Cancer Education. 2011; 26: 315-321.
- Connelly ZM, Abou Ghayda R, Paneque T, et al. Online surgical education adopted among urology residency programs in response to COVID-19: A pilot study. Actas Urol Esp (Eng Ed). 2022; 46: 536-543.
- Connor J, Zheng Y, Houle K, Cox L. Adopting Telehealth During The COVID-19 Era: The Urologist's Perspective. Urology. 2021; 156: 289-95.
- Costa-Matos A, Toledo LGM, Fornari A, Fernandes Silva JA, Gomes CM. Functional urology: Practice patterns and training aspirations among urologists in Brazil. Neurourol Urodyn. 2022; 41: 1890-1897.
- Crawford ED. The role of the urologist in treating patients with hormone-refractory prostate cancer. Rev Urol. 2003; 5 Suppl 2 (Suppl 2): S48-S52.
- Cullen IM, Dowling CM, Thornhill JA, Grainger R. Emergency management of acute urinary retention: Results from an all-Ireland urologist practice survey. Ir J Med Sci. 2013; 182: 207-211.
- da Silva Gaspar SR, Fernandes M, Castro A, Oliveira T, Santos Dias J, Palma dos Reis J. Active surveillance protocol in prostate cancer in Portugal. Actas Urol Esp. 2022; 46: 329-39.
- Dahm P, Poolman RW, Bhandari M, et al. Perceptions and competence in evidence-based medicine: a survey of the American Urological Association Membership. J Urol. 2009; 181: 767-777.
- Dai JC, Brisbane WG, Chang HC, Hsi RS, Harper JD. Anaphylactoid Reactions After Instillation of Contrast Material Into the Urinary Tract: A Survey of Contemporary Practice Patterns and Review of the Literature. Urology. 2018; 122: 58-63.
- Danacioglu YO, Soytas M, Polat S, et al. A nationwide survey on the impact of COVID-19 pandemic on minimal invasive surgery in urology practice. Int J Clin Pract. 2021; 75: e14309.
- de la Rosette J, Laguna P, Álvarez-Maestro M, et al. Cross-continental comparison of safety and protection measures amongst urologists during COVID-19. Int J Urol. 2020; 27: 981-989.
- Degraeve A, Lejeune S, Muilwijk T, et al. When residents work less, they feel better: Lessons learned from an unprecedent context of lockdown. Prog Urol. 2020; 30: 1060-1066.
- Demirtaş A, Eren E, Sönmez G, et al. Turkish urologists' preferences regarding antibiotic prophylaxis for transrectal prostate biopsy. Turk J Urol. 2020; 46: 213-218.
- Descazeaud A, Rubin MA, Allory Y, et al. What information are urologists extracting from prostate needle biopsy reports and what do they need for clinical management of prostate cancer? Eur Urol. 2005; 48: 911-915.
- Dev P, Thyavihally BY, Waigankar SS, Agarwal V, Pednekar AP, Shah A. The value of webinars during COVID-19 pandemic: A questionnaire-based survey. Indian J Urol. 2022; 38: 204-209.
- Ding M, Wang Y, Braga L, Matsumoto ED. Survey of Canadian urology residency programs: Perception of virtual education during the COVID-19 pandemic and beyond. Can Urol Assoc J. 2022; 16: 273-278.
- Djavan B, Nickel JC, de la Rosette J, Abrams P. The urologist view of BPH progression: results of an international survey. Eur Urol. 2002; 41: 490-496.
- Dobé TR, Califano G, von Rundstedt FC, et al. Postoperative Chemotherapy Bladder Instillation After Radical Nephroureterectomy: Results of a European Survey from the Young Academic Urologist Urothelial Cancer Group. Eur Urol Open Sci. 2020; 22: 45-50.
- Dogan S, Hennig M, Frank T, et al. Acceptance of Adjuvant and Neoadjuvant Chemotherapy in Muscle-Invasive Bladder Cancer in Germany: A Survey of Current Practice. Urol Int. 2018; 101: 25-30.
- Domes T, Vellani S, Couture F, et al. The current landscape of urological undergraduate education in Canada. Can Urol Assoc J. 2020; 14: 1-15.
- Dubin JM, Greer AB, Patel P, et al. Global survey evaluating drawbacks of social media usage for practising urologists. BJU Int. 2020; 126: 7-8.
- Dubin JM, Greer AB, Patel P, et al. Global Survey of the Roles and Attitudes Toward Social Media Platforms Amongst Urology Trainees. Urology. 2021; 147: 64-67.
- Duchene DA, Rosso F, Clayman R, McDougall EM, Winfield HN. Current minimally invasive practice patterns among postgraduate urologists. J Endourol. 2011; 25: 1797-1804.
- Duchene DA, Winfield HN, Cadeddu JA, et al. Multi-institutional Survey of Laparoscopic Ureterolysis for Retroperitoneal Fibrosis. Urology. 2007; 69: 1017-1021.
- Elkoushy MA, Luz MA, Benidir T, Aldousari S, Aprikian AG, Andonian S. Clavien classification in urology: Is there concordance among post-graduate trainees and attending urologists? Can Urol Assoc J. 2013; 7: 179-184.

- Ellis SD, Hwang S, Morrow E, et al. Perceived barriers to the adoption of active surveillance in low-risk prostate cancer: a qualitative analysis of community and academic urologists. BMC Cancer. 2021; 21: 649.
- Emberton M, Marberger M, De La Rosette J. Understanding patient and physician perceptions of benign prostatic hyperplasia in Europe: The Prostate Research on Behaviour and Education (PROBE) Survey. Int J Clin Pract. 2008; 62: 18-26.
- Engeler DS, Schmid S, Schmid HP. The ideal analgesic treatment for acute renal colic-Theory and practice. Scand J Urol Nephrol. 2008; 42: 137-142.
- Farber NJ, Chuchvara N, Modi PK, Sterling J, Elsamra SE. Urologists' estimations of the cost of commonly used disposable devices. Can Urol Assoc J. 2019; 26: 9660-9663.
- Farber NJ, Neylan CJ, Srivastava A, et al. The Urology Match Process and the Limited Value of Post-Interview Communication for Program Directors. Urology. 2019; 128: 23-30.
- Fazio LM, Dagnone AJ, Blew BDM, Honey RJD, Pace KT. The laparoscopic experience of recently trained Canadian urologists. Can J Urol. 2006; 13: 3047-3052.
- Fendereski K, Hebert KJ, Matta R, Myers JB. Variation in Provider Practice Patterns and the Perceived Need for a Shared Decision-making Tool for Neurogenic Lower Urinary Tract Dysfunction. Urology. 2023; 174: 185-190.
- Feneley MR, Feneley RC. The contribution of research to urological training in the United Kingdom. Br J Urol. 1998; 81: 193-198.
- Ferguson GG, Bullock TL, Anderson RE, Blalock RE, Brandes SB. Minimally invasive methods for bulbar urethral strictures: A survey of members of the American urological association. Urology. 2011; 78: 701-706.
- Fiard G, Capon G, Rizk J, et al. [The place of simulation in the curriculum of French urologists-in-training: A study by the French Association of Urologists-in-training (AFUF)]. Prog Urol. 2014; 24: 390-396 [Article in French].
- Ficarra V, Wiklund PN, Rochat CH, et al. The European Association of Urology Robotic Urology Section (ERUS) survey of robot-assisted radical prostatectomy (RARP). BJU Int. 2013; 111: 596-603.
- Finch W, Payne S, Joyce A, Burgess NA. Defining working patterns for UK consultant urologists: Results of a national census. J Clin Urol. 2013; 6: 414-421.
- Fine SW, Trpkov K, Amin MB, et al. Practice patterns related to prostate cancer grading: results of a 2019 Genitourinary Pathology Society clinician survey. Urol Oncol. 2021; 39: 295.e1-295.e8.
- Fleshner N, Rakovitch E, Klotz L. Differences between urologists in the United States and Canada in the approach to prostate cancer. J Urol. 2000; 163: 1461-1466.
- Forss M, Bolsunovskyi K, Lee Y, et al. Practice Variation in the Management of Adult Hydroceles: A Multinational Survey. Eur Urol Open Sci. 2023; 58: 1-7.
- Friedman AA, Ghani KR, Peabody JO, Jackson A, Trinh QD, Elder JS. Radiation safety knowledge and practices among urology residents and fellows: Results of a nationwide survey. J Surg Educ. 2013; 70: 224-231.
- Friedman AA, Rosen L, Palmer LS. Parental Status among Successful Applicants to Urology Residency. Urol Pract. 2017; 4: 412-417.
- Fuoco M, Leveridge MJ. Early adopters or laggards? Attitudes toward and use of social media among urologists. BJU Int. 2015; 115: 491-497.
- Gabrielson AT, Tanidir Y, Castellani D, et al. A Global Survey of Ergonomics Practice Patterns and Rates of Musculoskeletal Pain among Urologists Performing Retrograde Intrarenal Surgery. J Endourol. 2022; 36: 1168-1176.
- Garg T, Meeks WD, Coward RM, Merrill SB, Huang WC, Burnett AL. Demographic and Practice Trends of Rural Urologists in the U.S.: Implications for Workforce Policy. Urol Pract. 2022; 9: 481-490.
- Gariscsak P, Gray G, Steele S, Elterman D, Doiron RC. Urologist-perceived barriers and perspectives on the underuse of sacral neuromodulation for overactive bladder in Canada. Can Urol Assoc J. 2023; 17: E165-E171.
- Gas J, Dominique I, Mathieu R, et al. [Radical prostatectomy for prostate cancer, perioperative management by French urologists in 2018]. Prog Urol. 2020; 30: 541-546 [Article in French].
- Gazel E, Kaya E, Yalçın S, et al. The role of laparoscopic experience on the learning curve of HoLEP surgery: A questionnaire-based study. Turk J Urol. 2020; 46: 129-133.
- Gee WF, Holtgrewe HL, Albertsen PC, et al. Subspecialization, recruitment and retirement trends of American urologists. J Urol. 1998; 159: 509-511.
- Gerber GS, Stockton BR. Laparoscopic partial nephrectomy. J Endourol. 2005; 19: 21-24.
- Giberti C, Gallo F, Francini L, Signori A, Testa M. Musculoskeletal disorders among robotic surgeons: a questionnaire analysis. Arch Ital Urol Androl. 2014; 86: 95-98.
- Goldman C, Pradere B, Mete M, et al. A Multinational Study of The Impact of Covid-19 On Urologic Surgery Residency and Wellbeing. Urology. 2022; 166: 87-94.
- Gomes CM, Favorito LA, Henriques JVT, et al. Impact of COVID-19 on clinical practice, income, health and lifestyle behavior of Brazilian urologists. Int Braz J Urol. 2020; 46: 1042-1071.
- Gorin MA, Eldefrawy A, Ekwenna O, Soloway MS. Active surveillance for low-risk prostate cancer: Knowledge, acceptance and practice among urologists. Prostate Cancer Prostatic Dis. 2012; 15: 177-181.
- Gravas S, Ahmad M, Hernández-Porras A, et al. Impact of COVID-19 on medical education: introducing homo digitalis. World J Urol. 2021; 39: 1997-2003.
- Gravas S, Fournier G, Oya M, et al. Prioritising Urological Surgery in the COVID-19 Era: A Global Reflection on Guidelines. Eur Urol Focus. 2020; 6: 1104-1110.
- Groeben C, Baunacke M, Borkowetz A, et al. Decision aids for patients are widely accepted by German urologists: A survey among members of the German Society of Urology (DGU) and the Federation of German Urologists (BDU). Urologe. 2016; 55: 784-791.
- Gudaru K, Gonzalez Padilla DA, Castellani D, et al. A global knowledge, attitudes and practices survey on anatomical endoscopic enucleation of prostate for benign prostatic hyperplasia among urologists. Andrologia. 2020; 52: e137-e137.
- Gupta N, Kucirka L, Semerjian A, Pierorazio PM, Loeb S, Bivalacqua TJ. Practice Patterns Regarding Female Reproductive Organ-Sparing and Nerve-Sparing Radical Cystectomy Among Urologic Oncologists in the United States. Clin Genitourin Cancer. 2023; 21: e236-e241.
- Gupta N, Kucirka LM, Semerjian A, Wainger J, Pierorazio PM, Herati AS, et al. Comparing Provider-Led Sexual Health Counseling of Male and Female Patients

Undergoing Radical Cystectomy. J Sex Med. 2020; 17: 949-956.

- Gurayah AA, Mohamed AI, Rahman F, et al. The Revolving Door of Residency: Predictors of Residency Attrition for Urology Matriculants Between 2001 and 2016. Urology. 2023; 177: 21-28.
- Güven S, Sönmez MG, Somani BK, et al. Current management of renal colic across Europe and its compliance to the European Association of Urology Guidelines on Urolithiasis: a survey from the European Section of Uro-technology, European Section of Urolithiasis, Young Academic Urologists study groups. Cent European J Urol. 2022; 75: 182-190.
- Hamann HC, Levine J, Badkhshan S, Danforth TL. Cross-sectional Survey-based Study of Underrepresented Minorities in Urology Academic Leadership Roles. Urology. 2022; 162: 144-150.
- Hameed BZ, Tanidir Y, Naik N, et al. Will "Hybrid" Meetings Replace Face-To-Face Meetings Post COVID-19 Era? Perceptions and Views From The Urological Community. Urology. 2021; 156: 52-57.
- Handa N, Vo AX, Guo J, Keeter MK, Kielb SJ. The Impact of Stricter Guidelines on Post-Interview Contact, Restricted Interview Topics and Differences by Gender in the Urology Match. Urol Pract. 2021; 8: 143-147.
- Harris AM, Loomis J, Hopkins M, Bylund J. Assessment of Radiation Safety Knowledge among Urology Residents in the United States. J Endourol. 2019; 33: 492-497.
- Heidenreich A, Witjes WPJ, Bjerklund-Johansen TE, Patel A. Therapies used in prostate cancer patients by European urologists: Data on indication with a focus on expectations, perceived barriers and guideline compliance related to the use of bisphosphonates. Urol Int. 2012; 89: 30-38.
- Heinze A, Umari P, Basulto-Martínez M, et al. Impact of COVID-19 on Clinical and Academic Urological Practice: A Survey from European Association of Urology Section of Uro-technology. Eur Urol Open Sci. 2020; 21: 22-28.
- Henderickx MMEL, Hendriks N, Baard J, et al. Is It the Load That Breaks You or the Way You Carry It: How Demanding Is Endourology? J Endourol. 2023; 37: 718-728.
- Herout R, Halawani A, Wong VKF, et al. Innovations in Endourologic Stone Surgery: Contemporary Practice Patterns from a Global Survey. J Endourol. 2023; 37: 753-760.
- Hird AE, St-Laurent MP, Nadeau G, Carr L, Farcas M. Exploring the patterns of practice and satisfaction among female urologists in Canada. Can Urol Assoc J. 2020; 14: 245-251.
- Hoare DT, Doiron RC, Rourke KF. Determining Perioperative Practice Patterns in Urethroplasty: A Survey of Genitourinary Reconstructive Surgeons. Urology. 2021; 156: 263-70.
- Hollowell CMP, Patel R V, Bales GT, Gerber GS. Internet and postal survey of endourologic practice patterns among American urologists. J Urol. 2000; 163: 1779-1782.
- Hughes-Hallett A, Mayer E, Pratt P, Mottrie A, Darzi A, Vale J. A census of robotic urological practice and training: a survey of the robotic section of the European Association of Urology. J Robot Surg. 2014; 8: 349-355.
- Hughes-Hallett A, Mayer EK, Pratt P, Mottrie A, Darzi A, Vale J. The current and future use of imaging in urological robotic surgery: a survey of the European Association of Robotic Urological Surgeons. Int J Med Robot. 2015; 11: 814.
- Hyams ES, Shah O. Malignant Extrinsic Ureteral Obstruction: A Survey of Urologists and Medical Oncologists Regarding Treatment Patterns and Preferences. Urology. 2008; 72: 51-56.
- Ibrahim S, Pietropaolo A, Naik N, et al. Professional roles of female urologists: A webinar-based survey of perceptions and obstacles to career development. Arch Ital Urol Androl. 2021; 93: 455-459.
- Imkamp F, Herrmann TR, Rassweiler J, et al. Laparoscopy in German urology: changing acceptance among urologists. Eur Urol. 2009; 56: 1074-1080.
- Imkamp F, Herrmann TRW, Stolzenburg JU, et al. Development of urologic laparoscopy in Germany, Austria, and Switzerland: a survey among urologists. World J Urol. 2014; 32: 1363-1374.
- Ippoliti S, Orecchia L, Esperto F, et al. Survey on prostate MRI reading and interpretation among urology residents in Italy, Brazil and the UK: a cry for help. Minerva Urol Nefrol. 2023; 75: 297-307.
- Ja HK, Soo WK, Paick JS. Questionnaire survey of urologists' initial treatment practices for acute urinary retention secondary to benign prostatic hyperplasia in Korea. Urol Int. 2006; 76: 314-320.
- Jackson I, Bobbin M, Jordan M, Baker S. A survey of women urology residents regarding career choice and practice challenges. J Womens Health. 2009; 18: 1867-1872.
- Jain AL, Sidana A, Maruf M, et al. Analyzing the current practice patterns and views among urologists regarding focal therapy for prostate cancer. Urol Oncol. 2019; 37: 182.e1-182.e8.
- Johns Putra L, Cheng J, Dowling C, Clarke A. Practice patterns of female urologists in Australia and New Zealand. BJU Int. 2018; 122: 9-14.
- Johnsen N V, Firoozabadi R, Voelzke BB. Treatment Discrepancy for Pelvic Fracture Patients With Urethral Injuries: A Survey of Orthopaedic and Urologic Surgeons. J Orthop Trauma. 2019; 33: e280-2284.
- Joudi FN, Smith BJ, O'Donnell MA, Konety BR. Contemporary management of superficial bladder cancer in the United States: A pattern of care analysis. Urology. 2003; 62: 1083-1088.
- Kamal W, Alhazmy A, Alharthi M, Al Solumany A. Trends of percutaneous nephrolithotomy in Saudi Arabia. Urol Ann. 2020; 12: 352-359.
- Kamel M, Eltahawy EA, Warford R, Thrush CR, Noureldin YA. Simulation-based training in urology residency programmes in the USA: Results of a nationwide survey. Arab J Urol. 2018; 16: 446-452.
- Kappen S, Jürgens V, Freitag MH, Winter A. Attitudes Toward and Use of Prostate-Specific Antigen Testing Among Urologists and General Practitioners in Germany: A Survey. Front Oncol. 2021; 11: 691197.
- Kappen S, Jürgens V, Freitag MH, Winter A. Early detection of prostate cancer using prostate specific antigen testing: An empirical evaluation among general practitioners and urologists. Cancer Manag Res. 2019; 11: 3079-3097.
- Karagöz MA, Bağcioğlu M, Demirbaş A, Özcan S, Taş T, Huri E. Current status of uro-oncology training during urology residency and the need for fellowship programs: An international questionnaire study. Turk J Urol. 2020; 46: 455-459.
- Karagöz MA, Güven S, Tefik T, et al. Attitudes of urologists on metabolic evaluation for urolithiasis: outcomes of a global survey from 57 countries. Urolithiasis. 2022; 50: 711-720.
- Karpman E, Sadeghi-Nejad H, Henry G, Khera M, Morey AF. Current opinions on alternative reservoir placement for inflatable penile prosthesis among members of the sexual medicine society of North America. J Sex Med. 2013; 10: 2115-2120.

- Kato T, Tohi Y, Honda T, et al. A national questionnaire survey of Japanese urologists on treatment perspectives for elderly prostate cancer patients. Int J Urol. 2023; 30: 672-680.
- Katz DJ, Stember DS, Nelson CJ, Mulhall JP. Perioperative Prevention of Penile Prosthesis Infection: Practice Patterns among Surgeons of SMSNA and ISSM. J Sex Med. 2012; 9: 1705-1714.
- Kauer PC, Laguna MP, Alivizatos G, et al. Present practice and treatment strategies in endourological stone management: Results of a survey of the European Society of Uro-technology (ESUT). Eur Urol. 2005; 48: 182-188.
- Khan AA, Shergill IS, Quereshi S, Arya M, Vandal MT, Gujral SS. Percutaneous needle biopsy for indeterminate renal masses: a national survey of UK consultant urologists. BMC Urol. 2007; 7: 10.
- Khan SAA, Chang RTM, Ahmed K, et al. Live surgical education: a perspective from the surgeons who perform it. BJU Int. 2014; 114: 151-158.
- Khavari R, Donalisio da Silva R, Peters CA, Stratton K. Is a "Urology Intern Boot Camp" Needed? Urol Pract. 2022; 9: 606-612.
- Khusid JA, Weinstein CS, Becerra AZ, et al. Well-being and education of urology residents during the COVID-19 pandemic: Results of an American National Survey. Int J Clin Pract. 2020; 74: e13559.
- Kim JE, Khizir L, Srivastava A, Tabakin AL, Singer EA. Survey of Informed Consent Procedures in Urology: Disclosing Resident Participation to Patients. J Clin Ethics. 2023; 34: 190-195.
- Kirkpatrick G, Faber KD, Fromer DL. Transvaginal Mesh Placement and the Instructions for Use: A Survey of North American Urologists. Urol Pract. 2019; 6: 135-139.
- Kiyota H, Onodera S, Ohishi Y, Tsukamoto T, Matsumoto T. Questionnaire survey of Japanese urologists concerning the diagnosis and treatment of chronic prostatitis and chronic pelvic pain syndrome. Int J Urol. 2003; 10: 636-642.
- Krasavtseva YuV, Kiseleva MG, Kasyan GR, Pushkar DYu. Assessment of the psychological status of urologists during the COVID-19 pandemic. Urologiia. 2020; 2020: 5-9 [Article in Russian].
- Krouwel EM, Grondhuis Palacios LA, Putter H, Pelger RCM, Kloens GJ, Elzevier HW. Urology residency training lacks sufficient education and training to treat sexual dysfunction of prostate cancer patients. Tijdschrift voor Urologie. 2016; 6: 72-79.
- Ku JH, Lee LS, Lin TP, et al. Risk stratification and management of non-muscle-invasive bladder cancer: A physician survey in six Asia-Pacific territories. Int J Urol. 2023; 31: 64-71.
- Lagrange F, Fiard G, Larose C, Eschwege P, Hubert J. Role and Training of the Bedside Surgeon in Robotic Surgery: A Survey Among French Urologists-in-Training. Res Rep Urol. 2022; 14: 17-22.
- Laguna MP, Schreuders LC, Rassweiler JJ, et al. Development of laparoscopic surgery and training facilities in Europe: results of a survey of the European Society of Uro-Technology (ESUT). Eur Urol. 2005; 47: 346-351.
- Lama DJ, Kasson M, Hoge C, Guan T, Rao M, Struve T, et al. Current opinion regarding multidisciplinary cancer clinic utilization for the management of prostate cancer. J Clin Imaging Sci. 2021; 11: 29.
- Lamb BW, Vasdev N, Jalil RT, et al. Second-line chemotherapy for advanced bladder cancer: a survey of current UK practice. Urol Oncol. 2014; 32: 52.e11-7.
- Lawrentschuk N, Daljeet N, Ma C, Hersey K, Zlotta A, Fleshner N. Prostate-specific antigen test result interpretation when combined with risk factors for recommendation of biopsy: A survey of urologist's practice patterns. Int Urol Nephrol. 2011; 43: 31-37.
- Le CQ, Lightner DJ, VanderLei L, Segura JW, Gettman MT. The current role of medical simulation in American urological residency training programs: an assessment by program directors. J Urol. 2007; 177: 288-291.
- Lebastchi AH, Khouri RK, McLaren ID, et al. The Urology Applicant: An Analysis of Contemporary Urology Residency Candidates. Urology. 2018; 115: 51-58.
- Lee CL, Anderson JK, Monga M. Residency training in percutaneous renal access: does it affect urological practice? J Urol. 2004; 171: 592-595.
- Lee EK, Baack J, Duchene DA. Survey of practicing urologists: Robotic versus open radical prostatectomy. Can Urol Assoc J. 2010; 17: 5094-5098.
- Lee JY, Lantz AG, McDougall EM, et al. Evaluation of potential distractors in the urology operating room. J Endourol. 2013; 27: 1161-1165.
- Lee SH, Kim JC, Lee KS, et al. The urologist's view of male overactive bladder: Discrepancy between reality and belief in practical setting. Yonsei Med J. 2010; 51: 432-437.
- Lee SW, Kim KS, Chang HS, Ryu DS. Comprehension and practice patterns toward cryptorchidism in Korean urologists. Korean J Urol. 2009; 50: 169-178.
- Leippold T, Preusser S, Engeler D, Inhelder F, Schmid HP. Prostate biopsy in Switzerland: A representative survey on how Swiss urologists do it. Scand J Urol Nephrol. 2008; 42: 18-23.
- Lemack GE, Foster B, Zimmern PE. Urethral dilation in women: A questionnaire-based analysis of practice patterns. Urology. 1999; 54: 37-43.
- Leong JY, Steward JE, Healy KA, Hubosky SG, Bagley DH. Indwelling ureteric stents: Patterns of use and nomenclature. Arab J Urol. 2020; 18: 241-246.
- Levitt M, Nayak AL, Fergusson DA, et al. Post-prostatectomy adjuvant androgen deprivation therapy – Current opinions and practices of Canadian urologists. Urol Oncol. 2022; 40: 57.e9-57.e14.
- Li D, Li X, Peng E, Liao Z, Tang Z. Do Urologists Really Recognize the Association Between Erectile Dysfunction and Cardiovascular Disease? Sex Med. 2020; 8: 195-204.
- Lightner DJ, Terris MK, Tsao AK, Naughton CK, Lohse CM. Status of women in urology: based on a report to the Society of University Urologists. J Urol. 2005; 173: 560-563.
- Lim EJ, Tanidir Y, Ganesan S, et al. Influence of Webinar-Based Learning on Practice of Percutaneous Nephrolithotomy: Outcomes of a Global Survey. J Endourol. 2022; 36: 279-286.
- Lipinski MO, Robert Siemens D, Groome PA. Variations in prostate biopsy practice: A quantitative questionnaire-based study. Can Urol Assoc J. 2013; 7: E732-E739.
- Loeb S, Carrick T, Frey C, Titus T. Increasing Social Media Use in Urology: 2017 American Urological Association Survey. Eur Urol Focus. 2020; 6: 605-608.
- Loloi J, Schuppe K, Reddy RV, et al. A survey of exposure to the use of Xiaflex for the treatment of Peyronie's disease among United States urology residency programs. Int J Impot Res. 2023; 36: 155-159.
- Long X, Qi L, Ou Z, et al. Evolving use of social media among Chinese urologists:

Opportunity or challenge? PLoS One. 2017; 12: e0181895-e0181895.

- Lopera Toro AR, Velásquez Ossa DA, Martínez González CH, Correa Ochoa JJ. Partial nephrectomy in Colombia: Actual state. Urologia Colombiana. 2014; 23: 188-193.
- Magri V, Parazzini F, Chiaffarino F. Survey on the Italian outpatient urologists regarding the management of benign prostatic hyperplasia. Arch Ital Urol Androl. 2006; 78: 11-14.
- Manikandan R, Srirangam SJ, O'Reilly PH, Collins GN. Management of acute urinary retention secondary to benign prostatic hyperplasia in the UK: A national survey. BJU Int. 2004; 93: 84-88.
- Manley BJ, Brockman JA, Raup VT, Fowler KJ, Andriole GL. Prostate MRI: a national survey of Urologist's attitudes and perceptions. Int Braz J Urol. 2016; 42: 464-471.
- Mantica G, Carrion DM, Pang KH, et al. The definition of ideal training of a urology resident from two different perspectives: trainees vs professors. Is there agreement in their idea of good training? Cent European J Urol. 2023; 76: 162-166.
- Mantica G, Pini G, de Marchi D, et al. Intensive simulation training on urological mini-invasive procedures using Thiel-embalmed cadavers: The IAMSurgery experience. Arch Ital Urol Androl. 2020; 92: 93-96.
- Marchalik D, Brems J, Rodriguez A, et al. The Impact of Institutional Factors on Physician Burnout: A National Study of Urology Trainees. Urology. 2019; 131: 27-35.
- Martin LH, Haslam RE, Agnor R, Collins A, Bassale S, Seideman CA. Perceptions of Gender Equity by Urologic Subspecialty. Urology. 2023; 174: 35-41.
- Masterson TA, Galante A, Butaney M, Pastuszak A, Sadeghi-Nejad H, Ramasamy R. Variation in collagenase Clostridium histolyticum practice patterns: a Survey of ISSM Members. Int J Impot Res. 2019; 31: 439-443.
- Mayer EN, Lenherr SM, Hanson HA, Jessop TC, Lowrance WT. Gender Differences in Publication Productivity Among Academic Urologists in the United States. Urology. 2017; 103: 39-46.
- McDonald ML, Buckley J. Antimicrobial Practice Patterns for Urethroplasty: Opportunity for Improved Stewardship. Urology. 2016; 94: 237-245.
- McGuire BB, Matulewicz RS, Zuccarino-Crowe R, Nadler RB, Perry KT. Contemporary Attitudes and Practice Patterns of North American Urologists in Investigating Stone-Forming Patients – A Survey of Endourological Society Members. J Endourol. 2016; 30: 460-464.
- McNicholas T. LUTS, the case is altered. European Urology, Supplements. 2002; 1: 28-35.
- Millman AL, Pace KT, Ordon M, Lee JY. Surgeon-specifi factors affecting treatment decisions among Canadian urologists in the management of pT1a renal tumours. Can Urol Assoc J. 2014; 8: 183-189.
- Mirone V, Creta M, Capece M, et al. Telementoring for communication between residents and faculty physicians: Results from a survey on attitudes and perceptions in an Academic Tertiary Urology Referral Department in Italy. Arch Ital Urol Androl. 2021; 93: 450-454.
- Misrai V, Castagnola C, Descotes JL, Rouprêt M. [Use of social media by French urologists: Results from a study of the National French Urological Association]. Prog Urol. 2015; 25: 428-434.
- Mitsuzuka K, Koga H, Sugimoto M, et al. Current use of active surveillance for localized prostate cancer: A nationwide survey in Japan. Int J Urol. 2015; 22: 754-759.
- Mohammed TO, Ajape AA, Kuranga SA, Olanipekun HB, Ogunfowora TT. Prostate biopsy: a survey of practice among Nigerian urologists. African J Urol. 2021; 27: 1-5.
- Morrison KB, MacNeily AE. Core competencies in surgery: evaluating the goals of urology residency training in Canada. Can J Surg. 2006; 49: 259-266.
- Morrison KB, McLean NJ, MacNeily AE. Assessing the goals of urology residency training: perceptions of practicing urologists in British Columbia. Can J Urol. 2003; 10: 1917-1923.
- Movassaghi M, Garza EA, Badalato GM, Chung DE. Surgical video use and preparation for operative procedures among urology residents and fellows: Results from a national survey. J Clin Urol. 2023; doi: 10.1177/20514158231175301.
- Movassaghi M, Lemack GE, Badalato GM, et al. Understanding the Urology Program Directors Perspective on the Current Resident Selection Process: The Society of Academic Urologists National Survey of Urology Program Directors. J Surg Educ. 2023; 80: 900-906.
- Muthigi A, Sidana A, George AK, et al. Current beliefs and practice patterns among urologists regarding prostate magnetic resonance imaging and magnetic resonance-targeted biopsy. Urol Oncol. 2017; 35: 32.e1-32.e7.
- Naouar S, Binous MY, Braiek S, Kamel RE. Training of Tunisian future urologists: How to improve it? Tunis Med. 2018; 96: 399-404.
- Narang G, Wymer K, Mi L, Wolter C, Humphreys M, Stern K. Personality Traits and Burnout: A Survey of Practicing US Urologists. Urology. 2022; 167: 43-48.
- Necknig U, Wolff I, Bründl J, et al. Gender-Specific Variations in Professional and Personal Aspects among Senior Urology Physicians at German Centers: Results of a Web-Based Survey. Urol Int. 2020; 104: 309-322.
- Nelson AW, Ahmad I, Pickard RS, Leung HY. The new BAUS Section of Academic Urology: A survey of the urological community. Br J Med Surg Urol. 2009; 2: 147-153.
- Neuzillet Y, Colin P, Comperat E, et al. [Observational survey of the French Urological Association Oncology Committee (CCAFU) evaluating the practice of immediate postoperative instillation (IPOP) using mitomycin C for non-muscle invasive bladder cancer (NMIBC) treatment]. Prog Urol. 2016; 26: 181-190 [Article in French].
- Nielsen ME, Smith AB, Pruthi RS, et al. Reported use of intravesical therapy for non-muscle-invasive bladder cancer (NMIBC): Results from the Bladder Cancer Advocacy Network (BCAN) survey. BJU Int. 2012; 110: 967-972.
- Noguchi M, Matsuoka K, Koga H, Kanetake H, Nakagawa M, Naito S. A questionnaire survey of patient preparation and techniques for prostate biopsy among urologists in the Kyushu and Okinawa regions of Japan. Int J Clin Oncol. 2006; 11: 390-395.
- Noureldin YA, Elmohamady B, El-Dakhakhny AS, et al. How did the first year of the COVID-19 pandemic affect urology practice in Arab countries? A cross-sectional study by the Arab Association of Urology research group. Ther Adv Urol. 2022; 14. 17562872221079492.
- O'Connor EM, Nason GJ, Kiely EA. Urological Management of Extramural Malignant Ureteric Obstruction: A Survey of Irish Urologists. Curr Urol. 2017; 11: 21-25.

- O'Leary MP, Baum NH, Blizzard R, et al. 2001 American Urological Association Gallup Survey: Changes in physician practice patterns, satisfaction with urology, and treatment of prostate cancer and erectile dysfunction. J Urol. 2002; 168: 649-652.
- O'Meara S, Croghan S, O'Brien FJ, Davis NF. A Good Craftsperson Knows Their Tools: Understanding of Laser and Ureter Mechanics in Training Urologists. J Lasers Med Sc. 2023; 14: e29.
- Oderda M, Calleris G, Falcone M, et al. How uro-oncology has been affected by COVID-19 emergency? Data from Piedmont/Valle d'Aosta Oncological Network, Italy. Urologia. 2021; 88: 3-8.
- Offermann A, Hupe MC, Joerg V, Sailer V, Kramer MW, Merseburger AS, et al. Reports of prostate needle biopsies – what pathologists provide and urologists want. Urologe. 2020; 59: 461-468.
- Olumolade OO, Rollins PD, Daignault-Newton S, George BC, Kraft KH. Closing the Gap: Evaluation of Gender Disparities in Urology Resident Operative Autonomy and Performance. J Surg Educ. 2022; 79: 524-530.
- Omar M, Desoky EEA, Elmohamady B, El-Shaer A, Noureldin YA. Awareness and implementation of Ionizing radiation safety measures among urology community in Egypt: nationwide survey. African J Urol. 2021; 27: 1-7.
- Osterberg EC, Gaither TW, Awad MA, et al. Current Practice Patterns among Members of the American Urological Association for Male Genitourinary Lichen Sclerosus. Urology. 2016; 92: 127-131.
- Otite U, Parkin J, Waymont B, Inglis JA, Philp NH. Investigation of acute flank pain: how do practices of U.K. and Irish urologists compare with those of transatlantic and continental European colleagues? J Endourol. 2005; 19: 959-963.
- Paesano N, Santomil F, Tobia I. Impact of COVID-19 pandemic on Ibero-American urology residents: Perspective of American Confederation of Urology (CAU). Int Braz J Urol. 2020; 46: 165-169.
- Paffenholz P, Peine A, Fischer N, et al. Impact of the COVID-19 Pandemic on Urologists in Germany. Eur Urol Focus. 2020; 6: 1111-1119.
- Pallauf M, Hempel MC, Hupe MC, et al. Adherence to the EAU Guideline Recommendations for Local Tumor Treatment in Penile Cancer: Results of the European PROspective Penile Cancer Study Group Survey (E-PROPS). Adv Ther. 2020; 37: 4969-4980.
- Pandit SR, Venugopal P, Keshavamurthy R, Chawla A. Challenges and gender-based differences for women in the Indian urological workforce: Results of a survey. Indian J Urol. 2022; 38: 282-286.
- Parikh N, Aro-Lambo M, Vencill JA, et al. Perceived influence of medical school sexual health education on specialty selection in young urologists specializing in sexual dysfunction. Transl Androl Urol. 2023; 12: 1071-1078.
- Pathak US, Balasubramanian A, Beilan JA, et al. Vasoepididymostomy: An insight into current practice patterns. Transl Androl Urol. 2019; 8: 728-735.
- Patiño GA, Carreño GL, Gwinner JGP, Perez J. Status of Reconstructive urology in Colombia: Treatment of Anterior Urethral Stricture, A National Survey. Urologia Colombiana. 2021; 30: 5-14.
- Paulis G, Pisano F, Palmieri A, Cai T, Palumbo F, Giammusso B. Urologists' knowledge base and practice patterns in Peyronie's disease. A national survey of members of the Italian andrology society. Arch Ital Urol Androl. 2021; 93: 348-355
- Payne HA, Bahl A, Kockelbergh R, Troup J. How multidisciplinary teams (MDTs) work in practice in the management of advanced prostate cancer: A survey of oncologists and urologists in the UK. Br J Med Surg Urol. 2011; 4: 68-77.
- Payne SR, Joyce AD. The scope of private practice amongst consultant urologists in the UK and Ireland – a BAUS Workforce survey. J Clin Urol. 2014; 7: 409-417.
- Pelayo-Nieto M, Linden-Castro E, Gómez-Alvarado MO, Bravo-Castro EI, Rodríguez-Covarrubias FT. Has the COVID-19 pandemic impacted the practice of urology in Mexico? Rev Mex Urol. 2020; 80: 1-7.
- Pereira JF, Bower P, Jung E, et al. Ureteral stenting practices following routine ureteroscopy: an international survey. World J Urol. 2019; 37: 2501-2508.
- Pérez BOM, Lozada E, Vicentini FC, Sanchez FJ, Manzo G. Differences in the percutaneous nephrolithotomy practice patterns among Latin American urologists with and without endourology training. International Braz J Urol. 2018; 44: 512-523.
- Peyronnet B, Sanson S, Amarenco G, et al. [Definition of botulinum toxin failure in neurogenic detrusor overactivity: Preliminary results of the DETOX survey]. Prog Urol. 2015; 25: 1219-1224 [Article in French].
- Phan YC, Hadjipavlou M, Abdalla O, Sriprasad S, Rane A. Cost awareness in urology: A nationwide survey. J Clin Urol. 2020; 13: 25-32.
- Pietropaolo A, Bres-Niewada E, Skolarikos A, et al. Worldwide survey of flexible ureteroscopy practice: a survey from European association of urology sections of young academic urologists and uro-technology groups. Cent European J Urol. 2019; 72: 393-397.
- Pietropaolo A, Seoane LM, Abadia AAS, Geraghty R, Kallidonis P, Tailly T, et al. Emergency upper urinary tract decompression: double-J stent or nephrostomy? A European YAU/ESUT/EULIS/BSIR survey among urologists and radiologists. World J Urol. 2022; 40: 1629-1636.
- Pinar U, Freton L, Gondran-Tellier B, et al. [Educational program in onco-urology for young urologists: What are their needs?]. Prog Urol. 2021; 31: 755-761 [article in French].
- Poletajew S, Zapala L, Piotrowicz S, et al. Interobserver variability of Clavien-Dindo scoring in urology. Int J Urol. 2014; 21: 1274-1278.
- Powell TM, Thompsen JP, Virgo KS, et al. Geographic variation in patient surveillance after radical prostatectomy. Ann Surg Oncol. 2000; 7: 339-346.
- Preston MA, Blew BDM, Breau RH, Beiko D, Oake SJ, Watterson JD. Survey of senior resident training in urologic laparoscopy, robotics and endourology surgery in Canada. Can Urol Assoc J. 2010; 4: 42-46.
- Prezotti JA, Henriques JVT, Favorito LA, et al. Impact of COVID-19 on education, health and lifestyle behaviour of Brazilian urology residents. Int Braz J Urol. 2021; 47: 753-776.
- Protani MM, Joshi A, White V, Marco DJT, Neale RE, Coory MD, et al. The role of renal mass biopsy in the management of small renal masses – patterns of use and surgeon opinion. J Clin Urol. 2020; 13: 356-363.
- Puneet K, Tilburt JC, Volk RJ, et al. Do radiation oncologists and urologists endorse decision aids for active surveillance of low-risk prostate cancer: Results from a national survey. Eur J Cancer Care (Engl). 2021; 30: e13301.
- Rabah D, Abumostafa N, Sulaihim A, Arafa M. Survey of urologic laparoscopic

practice patterns in Saudi Arabia. J Endourol. 2010; 24: 1293-1295.

- Rahnama'i MS, Vrijens DMJ, Hajebrahimi S, van Koeveringe GA, Marcelissen TAT. The discrepancy between European Association of Urology (EAU) guidelines and daily practice in the evaluation and management of nocturia: results of a Dutch survey. World J Urol. 2019; 37: 2517-2522.
- Rais-Bahrami S, Moreira DM, Hillelsohn JH, et al. Contemporary perspectives on laparoendoscopic single-site surgery in urologic training and practice. J Endourol. 2013; 27: 727-731.
- Rajwa P, Przydacz M, Zapała P, et al. How has the COVID-19 pandemic impacted Polish urologists? Results from a national survey. Cent European J Urol. 2020; 73: 252-259.
- Randall JH, Whiles BB, Carrera RV, et al. On the rocks: can urologists identify stone composition based on endoscopic images alone? A worldwide survey of urologists. World J Urol. 2023; 41: 575-579.
- Rapp DE, Chanduri K, Infusino G, et al. Internet survey of management trends of urethral strictures. Urol Int. 2008; 80: 281-287.
- Rashid M, Steggall M, Brown G. How has Covid-19 impacted the training of Urology trainees in South Wales? Urologia. 2023; 90: 678-682.
- Rasyid N, Birowo P, Parikesit D, Rahman F. The Impact of the COVID-19 Pandemic on Urology Practice in Indonesia: A Nationwide Survey. Urol J. 2020; 17: 677-679.
- Razdan S, Johannes J, Cox M, Bagley DH. Current practice patterns in urologic management of upper-tract transitional-cell carcinoma. J Endourol. 2005; 19: 366-371.
- Renard-Penna R, Rouvière O, Puech P, et al. Current practice and access to prostate MR imaging in France. Diagn Interv Imaging. 2016; 97: 1125-1129.
- Resorlu B, Silay MS, Onem K, et al. Factors influencing young urologists' productivity and academic career choice. Urologia. 2016; 83: 31-35.
- Richard PO, Martin L, Lavallée LT, et al. Identifying the use and barriers to the adoption of renal tumour biopsy in the management of small renal masses. Can Urol Assoc J. 2018; 12: 260-266.
- Rivas JG, Socarras MR, Patruno G, et al. Perceived Role of Social Media in Urologic Knowledge Acquisition Among Young Urologists: A European Survey. Eur Urol Focus. 2018; 4: 768-773.
- Rodler S, Schütz JM, Styn A, et al. Mapping telemedicine in German private practice urological care: Implications for transitioning beyond the COVID-19 pandemic. Urol Int. 2021; 105: 650-656.
- Rodríguez Socarrás M, Ciappara M, García Sanz M, et al. Current status of young urologists and residents' activity and academic training in Spain. National survey results. Actas Urol Esp (Eng Ed). 2019; 43: 169-175.
- Rodriguez-Alvarez JS, Khooblall P, Brar H, et al. Endoscopic Stone Composition Identification: Is Accuracy Improved by Stone Appearance During Laser Lithotripsy? Urology. 2023; 182: 67-72.
- Rodríguez-Socarrás M, Skjold Kingo P, Uvin P, et al. Lifestyle among urology trainees and young urologist in the context of burn-out syndrome. Actas Urol Esp (Eng Ed). 2020; 44: 19-26.
- Rosen GH, Murray KS, Greene K. Effect of COVID-19 on Urology Residency Training: A Nationwide Survey of Program Directors by the Society of Academic Urologists. J Urol. 2020; 204: 1039-1045.
- Rosenzweig B, Bex A, Dotan ZA, et al. Trends in urologic oncology clinical practice and medical education under COVID-19 pandemic: An international survey of senior clinical and academic urologists. Urol Oncol. 2020; 38: 929.e1-929.e10.
- Ross J, Hickling D, Maciejewski C, Coriaty R, Vigil H. Intravesical botulinum toxin: Practice patterns from a survey of Canadian urologists. Can Urol Assoc J. 2023; 17: E15-E22.
- Rot I, Wassersug RJ, Walker LM. What do urologists think patients need to know when starting on androgen deprivation therapy? The perspective from Canada versus countries with lower gross domestic product. Transl Androl Urol. 2016; 5: 235-247.
- Roumiguié M, Gamé X, Bernhard JC, et al. [Do the urologist in formation have a burnout syndrome? Evaluation by Maslach Burnout Inventory (MBI)]. Prog Urol. 2011; 21: 636-641 [Article in French].
- Saar M, Linxweiler J, Borkowetz A, et al. Current Role of Multiparametric MRI and MRI Targeted Biopsies for Prostate Cancer Diagnosis in Germany: A Nationwide Survey. Urol Int. 2020; 104: 731-740.
- Sacco M, Gandaglia G, Aas K, et al. The Changing Face of cN0M0 Prostate Cancer Being Found With pN+ After Surgery in the Contemporary Era: Results of an International European Survey on Disease Management. Clin Genitourin Cancer. 2023; 21: 416.e1-416.e10.
- Sahin B, Sener TE, Dragos L, Gauhar V, Tanidir Y. Practices and utility of imaging among urological communities for urolithiasis, observations, and inferences from a targeted survey. Urolithiasis. 2023; 51: 97.
- Salami SS, Elsamra SE, Motato H, et al. Performing in the surgical amphitheater of today: perception of urologists conducting live case demonstrations. J Endourol. 2014; 28: 1121-1126.
- Salem J, Borgmann H, Baunacke M, et al. Widespread use of internet, applications, and social media in the professional life of urology residents. Can Urol Assoc J. 2017; 11: E355-E366.
- Salem J, Borgmann H, MacNeily A, et al. New Media for Educating Urology Residents: An Interview Study in Canada and Germany. J Surg Educ. 2017; 74: 495-502.
- Saltzman A, Hebert K, Prats S, et al. Women Urologists: Trends in Mentoring and Career Choices. Urol Pract. 2016; 3: 302-308.
- Saluk J, Ebel J, Rose J, Posid T, Sourial M, Knudsen B. Fellowship training in endourology: Impact on percutaneous nephrolithotomy access patterns. Can Urol Assoc J. 2022; 16: E76-E81.
- Schloegl I, Köhn FM, Dinkel A, et al. Education in sexual medicine – a nationwide study among German urologists/andrologists and urology residents. Andrologia. 2017; 49: 10.1111/and.12611.
- Schoenthaler M, Hein S, Seitz C, et al. The stone surgeon in the mirror: how are German-speaking urologists treating large renal stones today? World J Urol. 2018; 36: 467-473.
- Secin FP, Coelho R, Monzó Gardiner JI, et al. Robotic surgery in public hospitals of Latin-America: a castle of sand? World J Urol. 2018; 36: 595-601.
- Senel S, Sandikci F, Ozercan AY, Gurtan E, Sonmez SZ, Demirel HC. Analysis of the Knowledge and Attitude of Turkish Urology Residents on the Use of Fluoroscopy Working in University Hospitals and Training and Research Hospitals: A National Survey-Based

Comperative Study. Haseki Tip Bulteni. 2022; 60: 120-126.

- Shah J, Manson J, Boyd J. Recruitment in urology: a national survey in the UK. Ann R Coll Surg Engl. 2004; 86: 186-189.
- Shah R, Agarwal A, Kavoussi P, et al. Consensus and Diversity in the Management of Varicocele for Male Infertility: Results of a Global Practice Survey and Comparison with Guidelines and Recommendations. World J Mens Health. 2023; 41: 164-197.
- Sharma G, Krishna M, Pareek T, Bora GS, Mavuduru RS, Mete UK, et al. Current practice patterns in the perioperative management of patients undergoing radical cystectomy: Results from a global survey. Urol Oncol. 2022; 40: 196.e1-196.e9.
- Shay BF, Thomas R, Monga M. Urology practice patterns after residency training in laparoscopy. J Endourol. 2002; 16: 251-256.
- Sheng M, Chu A, Catic A, Hartsell L, Mehta A. Needs and Experiences of United States Female Urology Residents. Urology. 2023; 180: 66-73.
- Shetty S, Bhat S, Choudhary A, et al. Prevalent Practices in Male Anterior Urethral Stricture Management: A Survey. Open Urology and Nephrology Journal. 2022; 15: e1874303X2203240.
- Shvero A, Carmona O, Zilberman DE, Dotan ZA, Haifler M, Kleinmann N. Strategies of Endoscopic Management of Upper Tract Urothelial Carcinoma among Endourologists: A Global Survey. J Pers Med. 2023; 13: 591.
- Sibert L, Rigaud J, Delavierre D, Labat JJ. [Chronic pelvic pain in urology: A nationwide questionnaire survey among French urologists]. Prog Urol. 2010; 20: 836-842 [Article in French].
- Sinha S, Hamid R, Chartier-Kastler EJ, et al. The International Continence Society (ICS) survey on intermittent catheterization and global practices with regard to the reuse of catheters. Continence. 2023; 6: 100597.
- Sinha S, Yande S, Patel A, et al. The Urological Society of India survey on urinary incontinence practice patterns among urologists. Indian J Urol. 2018; 34: 202-210.
- Skenazy J, Ercole B, Lee C, Best S, Fallon E, Monga M. Nephrolithiasis: "Scope," shock or scalpel? J Endourol. 2005; 19: 45-49.
- Sorokin I, Canvasser NE, Irwin B, et al. The Decline of Laparoendoscopic Single-Site Surgery: A Survey of the Endourological Society to Identify Shortcomings and Guidance for Future Directions. J Endourol. 2017; 31: 1049-1055.
- Söylemez H, Altunoluk B, Bozkurt Y, Sancaktutar AA, Penbegül N, Atar M. Radiation exposure – do urologists take it seriously in Turkey? J Urol. 2012; 187: 1301-1305.
- Söylemez H, Sancaktutar AA, Silay MS, et al. Knowledge and attitude of European urology residents about ionizing radiation. Urology. 2013; 81: 30-36.
- Spencer ES, Deal AM, Pruthi NR, et al. Gender Differences in Compensation, Job Satisfaction and Other Practice Patterns in Urology. J Urol. 2016; 195: 450-455.
- Stamatiou K, Magri V, Perletti G, Samara E, Christopoulos G, Trinchieri A. How urologists deal with chronic prostatitis? The preliminary results of a Mediterranean survey. Arch Ital Urol Androl. 2020; 92: 353-356.
- Stanzione A, Creta M, Imbriaco M, et al. Attitudes and perceptions towards multiparametric magnetic resonance imaging of the prostate: A national survey among Italian urologists. Arch Ital Urol Androl. 2020; 92: 291-296.
- Stapleton AMF, Cuncins-Hearn A, Pinnock C. Attitudes to evidence-based practice in urology: Results of a survey. ANZ J Surg. 2001; 71: 297-300.
- Stone NN, Wilson MP, Griffith SH, et al. Remote surgical education using synthetic models combined with an augmented reality headset. Surg Open Sci. 2022; 10: 27-33.
- Struck JP, Hennig MJP, Hupe MC, et al. Discrepancy between German S3 Guideline Recommendations and Daily Urologic Practice in the Management of Nonmuscle Invasive Bladder Cancer: Results of a Binational Survey. Urol Int. 2023; 107: 35-45.
- Sun R, Mohaghegh M, Sidhom K, Burton L, Bansal R, Patel P. Are there predictors of flexible ureteroscopic aptitude among novice trainees? objective assessment using simulation-based trainer. World J Urol. 2022; 40: 823-829.
- Sur RL, Scales CDJ, Preminger GM, Dahm P. Evidence-based medicine: a survey of American Urological Association members. J Urol. 2006; 176: 1127-1134.
- Surcel CI, Sooriakumaran P, Briganti A, et al. Preferences in the management of high-risk prostate cancer among urologists in Europe: results of a web-based survey. BJU Int. 2015; 115: 571-579.
- Sussman RD, Han CJ, Marchalik D, et al. To oophorectomy or not to oophorectomy: Practice patterns among urologists treating bladder cancer. Urol Oncol. 2018; 36: 90.e1-90.e7.
- Tabakin AL, Dave PJ, Srivastava A, Polotti CF, Sterling JA, Elsamra SE. The Feasibility and Efficacy of a Multi-Institutional Urology Boot Camp for Incoming Urology Residents. Urology. 2021; 153: 69-74.
- Tahra A, Dincer M, Onur R. Impact of the COVID-19 Pandemic on Functional Urology Practice: A Nationwide Survey From Turkey. Medeni Med J. 2022; 37: 71-78.
- Tan HJ, Chung AE, Gotz D, Deal AM, Heiling HM, Teal R, et al. Electronic Health Record Use and Perceptions among Urologic Surgeons. Appl Clin Inform. 2022; 14: 279-289.
- Tempest H, Reynard J, Bryant RJ, Hamdy FC, Larré S. Acupuncture in urological practice – A survey of urologists in England. Complement Ther Med. 2011; 19: 27-31.
- Thomas K, Saltzman A, Hebert K, Montgomery M. Work-Life Integration of Female Urologists. Urol Pract. 2018; 5: 143-149.
- Thompson IM, Zeidman EJ. Current urological practice: routine urological examination and early detection of carcinoma of the prostate. J Urol. 1992; 148: 326-330.
- Tirtayasa PMW, Rahardjo HE. A survey on the management of overactive bladder by Indonesian urologists. Medical Journal of Indonesia. 2015; 24: 91-96.
- Tooker GM, Truong H, Pinto PA, Siddiqui MM. National Survey of Patterns Employing Targeted MRI/US Guided Prostate Biopsy in the Diagnosis and Staging of Prostate Cancer. Curr Urol. 2019; 12: 97-103.
- Tops SCM, Koldewijn EL, Somford DM, et al. Prostate biopsy techniques and pre-biopsy prophylactic measures: variation in current practice patterns in the Netherlands. BMC Urol. 2020; 20: 24.
- Tostain J, Coeuret C. [French urologist's opinion on testosterone deficiency syndrome: Afu's andrology committee survey]. Prog Urol. 2008; 18: 601-607 [Article in French].

- Touijer KA, Ahallal Y, Guillonneau BD. Indications for and anatomical extent of pelvic lymph node dissection for prostate cancer: Practice patterns of uro-oncologists in North America. Urol Oncol. 2013; 31: 1517-1521.e2.
- Tsai DY, Virgo KS, Colberg JW, et al. The age of the urologist affects the postoperative care of prostate carcinoma patients. Cancer. 1999; 86: 1314-1321.
- Tzelves L, Glykas I, Lazarou L, et al. Urology residency training in Greece. Results from the first national resident survey. Actas Urol Esp (Engl Ed). 2021; 45: 537-544.
- Tzelves L, Somani B, Knoll T, et al. Level of knowledge on radiation exposure and compliance to wearing protective equipment: where do endourologists stand? An ESUT/EULIS survey. World J Urol. 2020; 38: 761-768.
- Ulvik O, Ulvik NM. Diversity in urologists' personal preferences in the ureteroscopic management of ureteral calculi in Norway. Scand J Urol. 2013; 47: 126-130.
- Van Oostenbrugge TJ, Kroeze SGC, Bosch JLHR, Van Melick HHE. Follow-up strategies for surgically treated localized renal cell carcinoma (RCC): A questionnaire among Dutch urologists. Tijdschrift voor Urologie. 2013; 3: 130-136.
- Veenboer PW, Ruud Bosch JLH, de Kort LMO. Assessment of bladder and kidney functioning in adult spina bifida patients by Dutch urologists: a survey. Neurourol Urodyn. 2014; 33: 289-295.
- Verhoest G, Salomon L, Barrou B, et al. [National prospective survey on the surgical quality of renal transplants in France. Study conducted by the Association Française d'Urologie transplantation committee]. Prog Urol. 2007; 17: 54-59 [Article in French].
- Violette PD, Vernooij RWM, Aoki Y, et al. An International Survey on the Use of Thromboprophylaxis in Urological Surgery. Eur Urol Focus. 2021; 7: 653-658.
- Vögeli TA, Burchardt M, Sulser T, Fornara P, Rassweiler J. Results of a survey concerning laparoscopic surgery among German urologists. Urologe- Ausgabe A. 2002; 41: 120-122.
- Vögelia TA, Burchardt M, Fornara P, Rassweiler J, Sulser T. Current laparoscopic practice patterns in urology: Results of a survey among urologists in Germany and Switzerland. Eur Urol. 2002; 42: 441-446.
- Wake N, Rude T, Kang SK, et al. 3D printed renal cancer models derived from MRI data: application in pre-surgical planning. Abdom Radiol (NY). 2017; 42: 1501-1509.
- Waldbillig F, Hein S, Grüne B, Suarez-Ibarrola R, et al. Current European Trends in Endoscopic Imaging and Transurethral Resection of Bladder Tumors. J Endourol. 2020; 34: 312-321
- Wang DQ, Huang Q, Huang X, et al. Knowledge of and Compliance With Guidelines in the Management of Non-Muscle-Invasive Bladder Cancer: A Survey of Chinese Urologists. Front Oncol. 2021; 11. 735704.
- Wang DS, Winfield HN. Survey of urological laparoscopic practice patterns in the midwest. J Urol. 2004; 172: 2282-2286.
- Wang M, Liao B, Jian Z, et al. Participation in virtual urology conferences during the COVID-19 pandemic: Cross-sectional survey study. J Med Internet Res. 2021; 23: e24369.
- Wazait HD, Al-Bhueissi SZ, Patel HRH, Nathan MS, Miller RA. Long-term surveillance of bladder tumours: current practice in the United Kingdom and Ireland. Eur Urol. 2003; 43: 485-488.
- Weinberger S, Welte MN, Knipper S, et al. Current perceptions and working time models of female urologists in Germany: results of a large-scale survey. World J Urol. 2023; 3161-3168.
- Welte MN, Knipper S, Siech C, et al. Promoting women in urology using the example of habilitation. Urologie. 2022; 61: 951-958.
- Wertheim ML, Nakada SY, Penniston KL. Current practice patterns of urologists providing nutrition recommendations to patients with kidney stones. J Endourol. 2014; 28: 1127-1131.
- Weynants L, Hervé F, Decalf V, et al. Clean Intermittent Self-Catheterization as a Treatment Modality for Urinary Retention: Perceptions of Urologists. Int Neurourol J. 2017; 21: 189-196.
- Whoriskey M, Amir B, Tennankore K, Cox A. Current Practices in the Surgical Management of Female Stress Urinary Incontinence: A Survey of Canadian Urologists and Gynecologists. Urol Pract. 2017; 4: 239-244.
- Wieringa FP, Bouma H, Eendebak PT, et al. Improved depth perception with three-dimensional auxiliary display and computer generated three-dimensional panoramic overviews in robot-assisted laparoscopy. J Med Imaging (Bellingham). 2014; 1: 015001.
- Wilson N, Lewi H. Survey of Antibiotic Prophylaxis in British Urological Practice. Br J Urol. 1985; 57: 478-482.
- Wiseso FA, Hendri AZ, Brodjonegoro SR. Implementation of Telemedicine in Indonesian Urology Practice During COVID19-Pandemic: A National Survey. Urol J. 2022; 19: 241-245.
- Witjes JA, Melissen DOTM, Kiemeney LALM. Current practice in the management of superficial bladder cancer in the Netherlands and Belgian flanders: A survey. Eur Urol. 2006; 49: 478-484.
- Wittmann D, Faris A, Montie JE, et al. Delayed Urological Cancer Care during the COVID-19 Pandemic: Urologists' Experience. Urol Pract. 2021; 8: 367-373.
- Wong NC, Allard CB, Dason S, Farrugia P, Bhandari M, Davies TO. Management of pelvic fracture-associated urethral injuries: A survey of Canadian urologists. Can Urol Assoc J. 2017; 11: E74-F78.
- Wright HC, Fedrigon D, De S. Learning From Those who Learned: A Survey of Fellowship Trained HoLEP Surgeons and Their Current Practice Patterns. Urology. 2021; 149: 193-198.
- Wroclawski ML, Amaral BS, Kayano PP, et al. Knowledge, attitudes, and practices of active surveillance in prostate cancer among urologists: a real-life survey from Brazil. BMC Urol. 2022; 22: 86
- Xu J, Bock C, Janisse J, et al. Urologists' Perceptions of Active Surveillance and Their Recommendations for Low-risk Prostate Cancer Patients. Urology. 2021; 155: 83-90.
- Zafar N, Miller S, Leburn V, Qureshi KN, Rajan P. Unravelling the prostate-specific antigen controversy: a West of Scotland perspective. Scott Med J. 2014; 59: 126-129.
- Zanetti SP, Talso M, Palmisano F, et al. Comparison among the available stone treatment techniques from the first European Association of Urology Section of Urolithiasis (EULIS) Survey: Do we have a Queen? PLoS One. 2018; 13: e0205159-e0205159.
- Zhu XL, Jiang HH, Jiang MH, et al. Questionnaire Survey on the Current Situation and Experience in Prevention and Control Measures at Urology Clinics During the COVID-19 Epidemic in China. Front Public Health. 2021; 9: 670889.
- Zilberman DE, Lazarovich A, Winkler H, Kleinmann N. Practice patterns of ureteral access sheath during ureteroscopy for nephrolithiasis: A survey among endourologists worldwide. BMC Urol. 2019; 19: 58.

References

1. Zeng G, Traxer O, Zhong W, et al. International Alliance of Urolithiasis guideline on retrograde intrarenal surgery. BJU Int. 2023; 131: 153-164.
2. Bandi G, Best SL, Nakada SY. Current Practice Patterns in the Management of Upper Urinary Tract Calculi in the North Central United States. J Endourol. 2008; 22: 631-636.
3. Tzelves L, Somani B, Knoll T, et al. Level of knowledge on radiation exposure and compliance to wearing protective equipment: where do endourologists stand? An ESUT/EULIS survey. World J Urol. 2020; 38: 761-768.
4. Schoenthaler M, Hein S, Seitz C, et al. The stone surgeon in the mirror: how are German-speaking urologists treating large renal stones today? World J Urol. 2018; 36: 467-473.
5. Emberton M, Marberger M, De La Rosette J. Understanding patient and physician perceptions of benign prostatic hyperplasia in Europe: The Prostate Research on Behaviour and Education (PROBE) Survey. Int J Clin Pract. 2007; 62: 18-26.
6. Ratti MM, Gandaglia G, Sisca ES, et al. A Systematic Review to Evaluate Patient-Reported Outcome Measures (PROMs) for Metastatic Prostate Cancer According to the COnsensus-Based Standard for the Selection of Health Measurement INstruments (COSMIN) Methodology. Cancers (Basel). 2022; 14: 5120.
7. Pillay B, Wootten AC, Crowe H, et al. The impact of multidisciplinary team meetings on patient assessment, management and outcomes in oncology settings: A systematic review of the literature. Cancer Treat Rev. 2016; 42: 56-72.
8. Waldbillig F, Hein S, Grüne B, et al. Current European Trends in Endoscopic Imaging and Transurethral Resection of Bladder Tumors. J Endourol. 2020; 34: 312-321.
9. Albisinni S, Moschini M, Di Trapani E, et al. Current application of the enhanced recovery after surgery protocol for patients undergoing radical cystectomy: lessons learned from European excellence centers. World J Urol. 2022; 40: 1317-1323.
10. Dalbagni G, Bochner BH, Cronin A, Herr HW, Donat SM. A Plea for a Uniform Surveillance Schedule After Radical Cystectomy. J Urol. 2011; 185: 2091-2096.
11. Wroclawski ML, Amaral BS, Kayano PP, et al. Knowledge, attitudes, and practices of active surveillance in prostate cancer among urologists: a real-life survey from Brazil. BMC Urol. 2022; 22: 86.
12. Borkowetz A, Linxweiler J, Fussek S, Wullich B, Saar M; German Prostate Cancer Consortium (DPKK). The Role of PSMA PET Imaging in Prostate Cancer Theranostics: A Nationwide Survey. Urol Int. 2022; 106: 1126-1135.
13. Checcucci E, Amparore D, Pecoraro A, et al. 3D mixed reality holograms for preoperative surgical planning of nephron-sparing surgery: evaluation of surgeons' perception. Minerva Urol Nephrol. 2021; 73: 367-375.
14. Mayer EN, Lenherr SM, Hanson HA, Jessop TC, Lowrance WT. Gender Differences in Publication Productivity Among Academic Urologists in the United States. Urology. 2017; 103: 39-46.
15. Hamann HC, Levine J, Badkhshan S, Danforth TL. Cross-sectional Survey-based Study of Underrepresented Minorities in Urology Academic Leadership Roles. Urology. 2022; 162: 144-150.
16. Weinberger S, Welte M-N, Knipper S, et al. Current perceptions and working time models of female urologists in Germany: results of a large-scale survey. World J Urol. 2023; 41: 3161-3168.
17. Bail C, Harth V, Mache S. Digitalization in Urology – A Multimethod Study of the Relationships between Physicians' Technostress, Burnout, Work Engagement and Job Satisfaction. Healthcare. 2023; 11: 2255.
18. Marchalik D, Brems J, Rodriguez A, et al. The Impact of Institutional Factors on Physician Burnout: A National Study of Urology Trainees. Urology. 2019; 131: 27-35.
19. Grisham S. Medscape Urologist Lifestyle Report 2018: Personal Happiness vs Work Burnout. Medscape 2018; 2018.
20. Alzahrani M, Shareef M, Abunohaiah I, et al. Impostor phenomenon among urologists in Saudi Arabia. J Mens Health 2023; 9: 113-118.
21. Henderickx MMEL, Hendriks N, Baard J, et al. Is It the Load That Breaks You or the Way You Carry It: How Demanding Is Endourology? J Endourol. 2023; 37: 718-728.
22. Heinze A, Umari P, Basulto-Martínez M, et al. Impact of COVID-19 on Clinical and Academic Urological Practice: A Survey from European Association of Urology Section of Uro-technology. Eur Urol Open Sci. 2020; 21: 22-28.
23. Rosen GH, Murray KS, Greene KL, Pruthi RS, Richstone L, Mirza M. Effect of COVID-19 on Urology Residency Training: A Nationwide Survey of Program Directors by the Society of Academic Urologists. J Urol. 2020; 204: 1039-1045.
24. Goldman C, Pradere B, Mete M, et al. A Multinational Study of The Impact of COVID-19 On Urologic Surgery Residency and Wellbeing. Urology. 2022; 166: 87-94.
25. Hameed BZ, Tanidir Y, Naik N, et al. Will "Hybrid" Meetings Replace Face-To-Face Meetings Post COVID-19 Era? Perceptions and Views From The Urological Community. Urology. 2021; 156: 52-57.
26. Ding M, Wang Y, Braga L, Matsumoto ED. Survey of Canadian urology residency programs: Perception of virtual education during the COVID-19 pandemic and beyond. Can Urol Assoc J. 2022; 16: 273-278.
27. Azhar R, Subahi M, Badr H, et al. Influence of social media on urologic knowledge acquisition among young urologists in Saudi Arabia. Urol Ann. 2022; 14: 218-221.
28. Domes T, Vellani S, Couture F, et al. The current landscape of urological undergraduate education in Canada. Can Urol Assoc J. 2020; 14: E549-E554.
29. Andonian S, Triaca V, Yates J, Babayan R. How Often is Digital Rectal Examination Performed? Is it Still Taught to Medical Students? Urol Pract. 2020; 7: 115-121.
30. Bouhadana D, Elbaz S, Di Ioia R, et al. Evaluating the perceptions of Canadian urology residents and program directors regarding the current training in genitourinary imaging. Can Urol Assoc J. 2023; 17: 418-424.