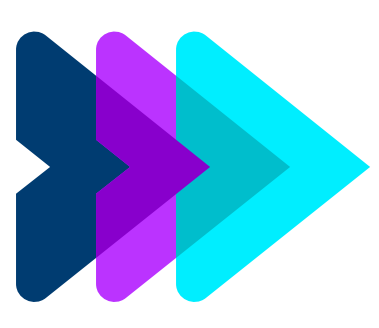


Publication summary

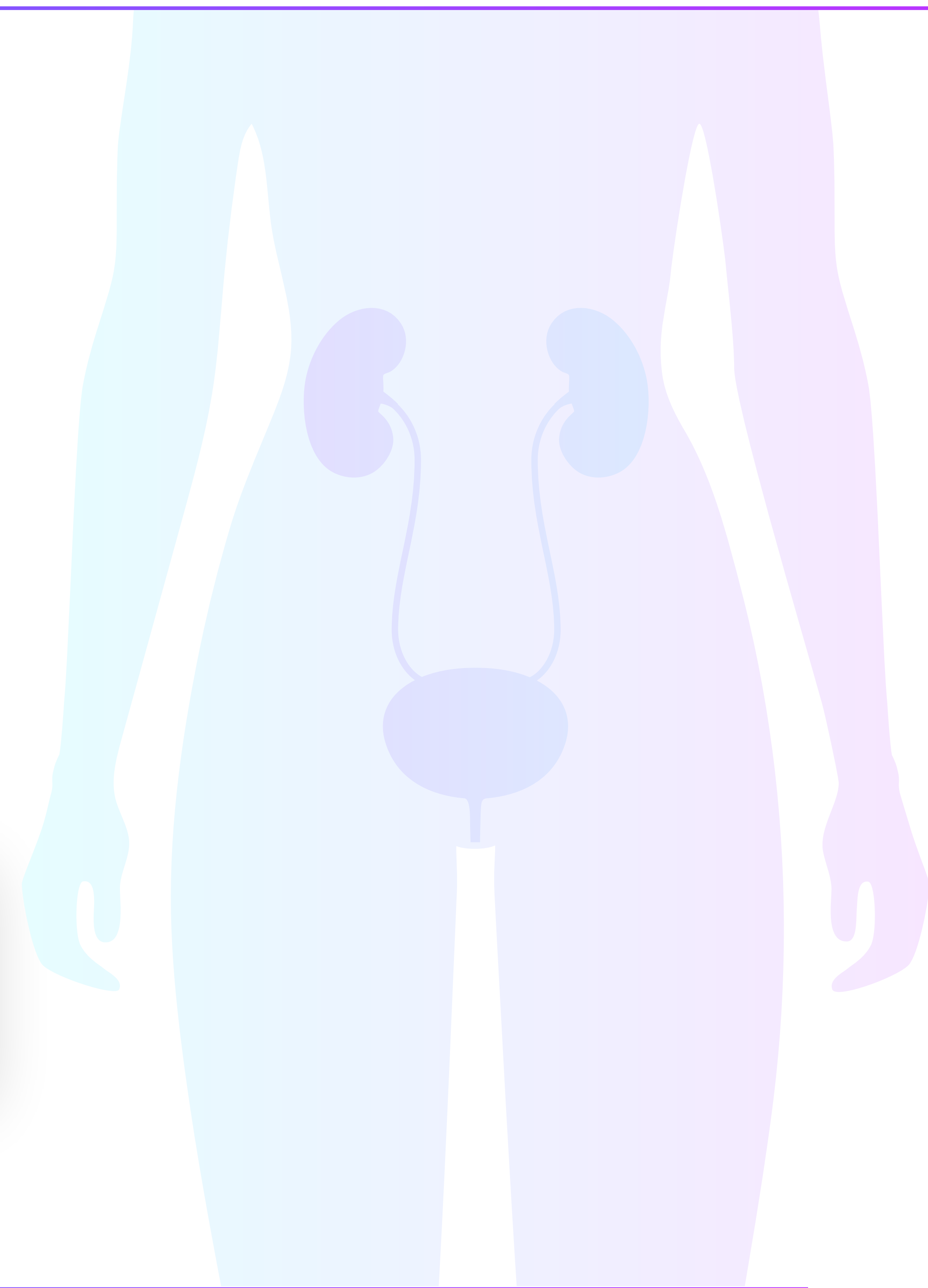


Expert consensus on high intrarenal pressure during ureteroscopy: A pan-European Delphi panel

Somani B.¹, Davis N.², Emiliani E.³, Gökce M.I.⁴, Jung H.U.⁵, Keller E.X.⁶, Miernik A.⁷, Proietti S.⁸, Turney B.⁹, Wiseman O.¹⁰, Bosworth Smith A.¹¹, Caterino M.¹¹, Saunders R.¹¹, Boulmani M.¹², Traxer O.¹³

Background

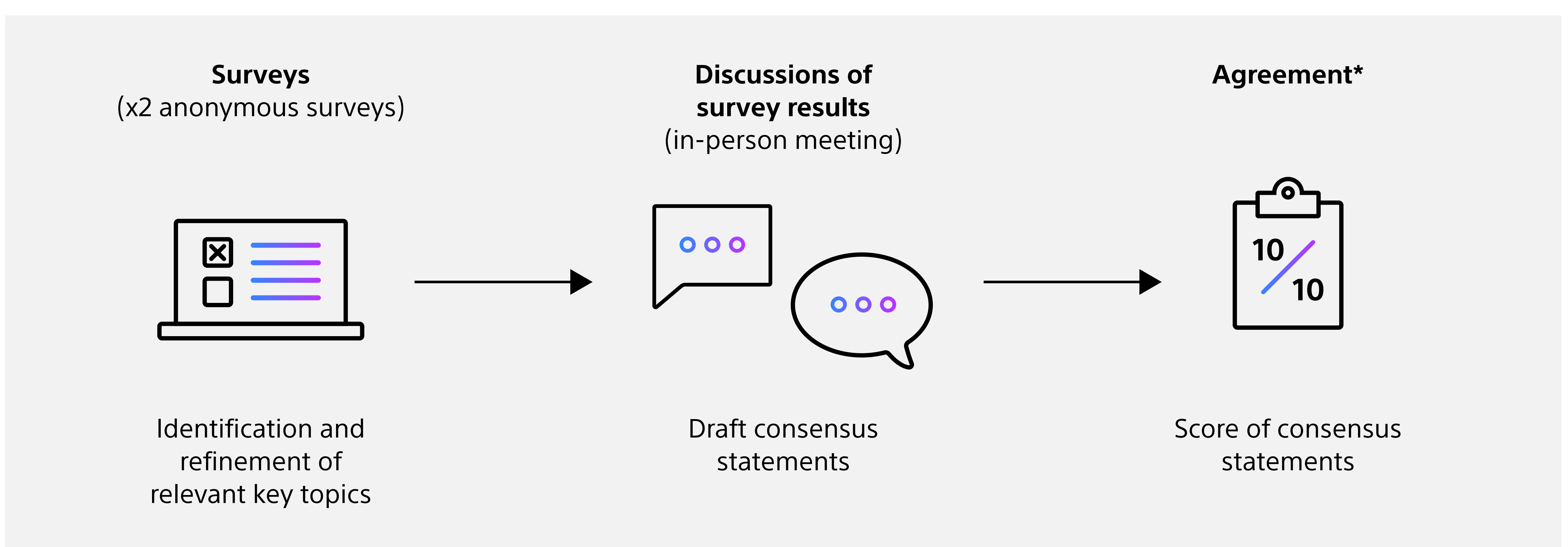
- ▶ During ureteroscopy, surgeons need to maintain a balance between proper surgical visualisation, procedural times, and patient safety.
- ▶ Fluid irrigation during flexible ureteroscopy is necessary to improve visibility and distention of the upper urinary tract.
- ▶ There is, however, only limited clarity on what defines high intrarenal pressure, its possible risks, and how to monitor and manage it.



A Delphi panel of **11 physicians** was conducted to help in identifying patient groups who are **most at risk of developing post-op complications** due to high intrarenal pressures.

Materials and Methods

A mixed-methods Delphi panel was conducted.



Note: The Delphi technique is an iterative, multistage process in which the opinions of a set panel of experts are synthesised into consensus statements through a series of increasingly specific questionnaires and feedback.

Somani B, Davis N, Emiliani E, Gökce M.I, Jung H.U, Keller E.X, Miernik A, Proietti S, Turney B, Wiseman O, and Traxer O, are all urologists, identified as leading authors from a literature review of ureteroscopy and IRP.

*The study was granted a waiver by the HML Institutional Review Board (IRB number 2193).

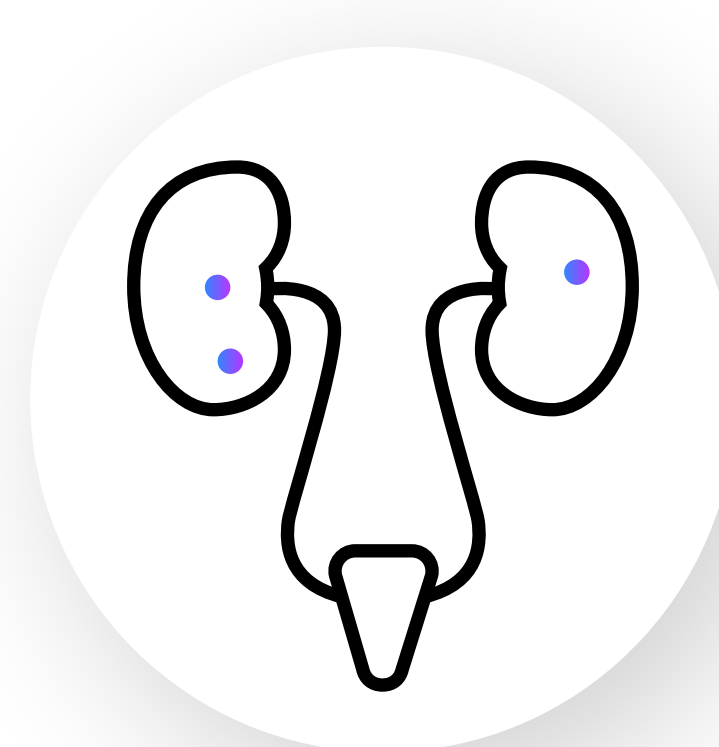
Results

The panel consisted of:



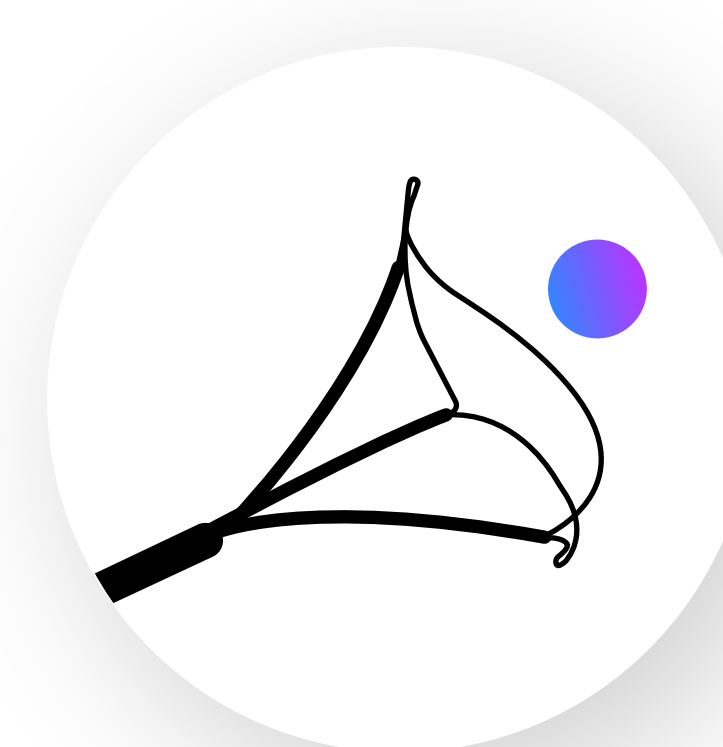
11

experts with a median of...



40

diagnoses of urolithiasis/nephrolithiasis and...



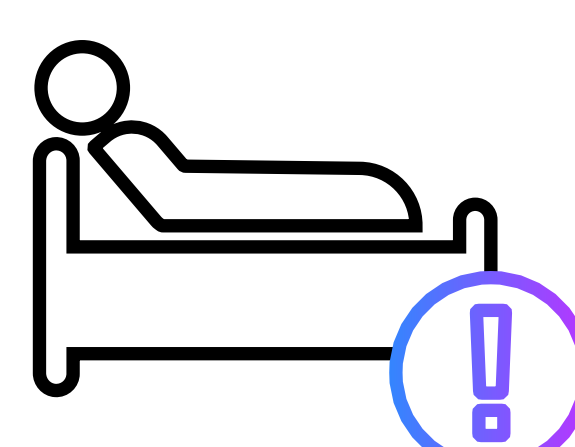
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stone removal procedures per month.

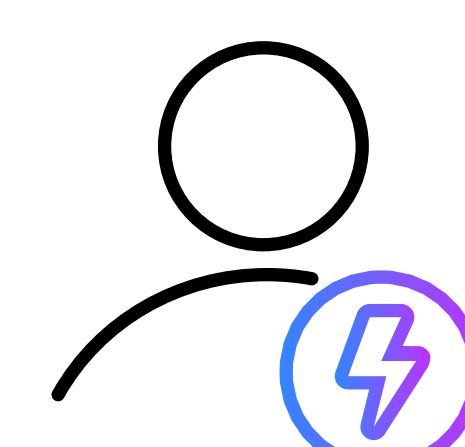
11 consensus statements were voted on, covering topics such as:



The definition of high IRP – opinions initially varied on what constituted a high IRP, with concern noted predominantly at an IRP ≥ 80 cm³ H₂O.



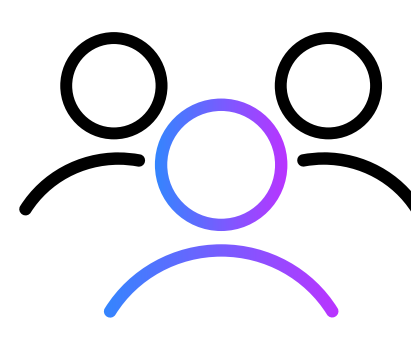
Potential complications associated with high IRP pressures during URS surgery.



Risk factors associated to high IRP in URS surgery and discussion of selective patient groups who will benefit most.

A majority consensus was reached for 9 out of 11 consensus statements:

The higher the IRP, the higher the concern for patient safety



Patients considered to be most at risk of developing post-operative complications following high intrarenal pressures were:

▶ patients at risk of developing recurrent UTIs

▶ female patients

▶ patients with a Charlson Comorbidity Index ≥ 7

▶ patients with a tight ureter

▶ patients with diabetes

▶ patients with a narrow pelvis-ureteric junction

There was no consensus on a threshold for which intervention is required.

Conclusions

- 1 Any IRP above the normal physiological levels is to be considered high.
- 2 High IRP during ureteroscopy is a concern, given its potential correlation with heightened patient complications.
- 3 To minimise the risks, it is important to understand factors that put patients at risk of complications from high IRP.
- 4 Experts are unanimous in their call for additional research to better understand and mitigate these risks and to inform refinements to current clinical practice.

References:

- 1 University Hospital Southampton, Urology, Southampton, United Kingdom.
- 2 Beaumont Hospital, Urology, Dublin, Ireland.
- 3 Fundación Puigvert Autonomous University of Barcelona, Urology, Barcelona, Spain.
- 4 Ankara University School of Medicine, Urology, Ankara, Turkey.
- 5 Hospital Lillebaelt, Urology, Vejle, Denmark.
- 6 University Hospital Zurich, Urology, Zurich, Switzerland.
- 7 University of Freiburg Medical Center, Urology, Freiburg, Germany.
- 8 San Raffaele Hospital, Urology, Milan, Italy.
- 9 University of Oxford, Urology, Oxford, United Kingdom.
- 10 Addenbrookes Hospital, Urology, Cambridge, United Kingdom.
- 11 Coreva Scientific, Health Economics, Koenigswinter, Germany.
- 12 Boston Scientific, Urology and Pelvic Health, Paris, France.
- 13 Lithiase Urinaire Sorbonne Université, Urology, Paris, France.

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