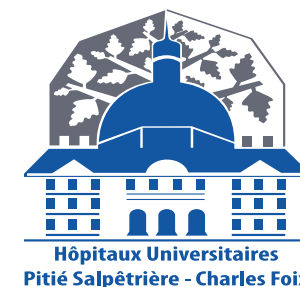


# Comparaison des résultats fonctionnels à long terme entre la voie robot-assistée et la voie ouverte pour l'implantation d'un sphincter urinaire artificiel périprostatique chez les hommes atteints d'incontinence urinaire d'effort neurogène

E. Lambert, E. Chartier-Kastler, C. Vaessen, A. Beaugerie, J. Cotte,  
M. Rouprêt, P. Mozer, J. Parra, T. Seisen, L. Lenfant\*

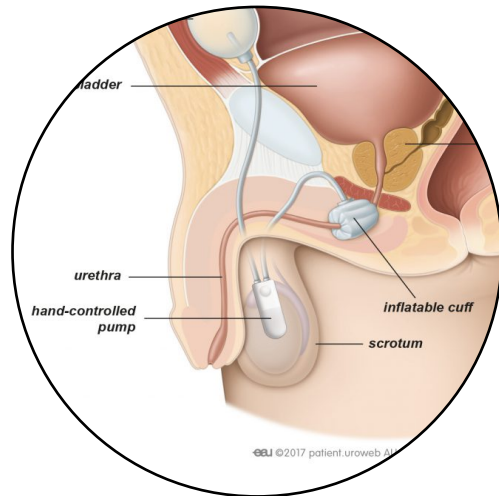
Service d'Urologie – Hôpital de la Pitié-Salpêtrière  
Sorbonne Université



# Introduction

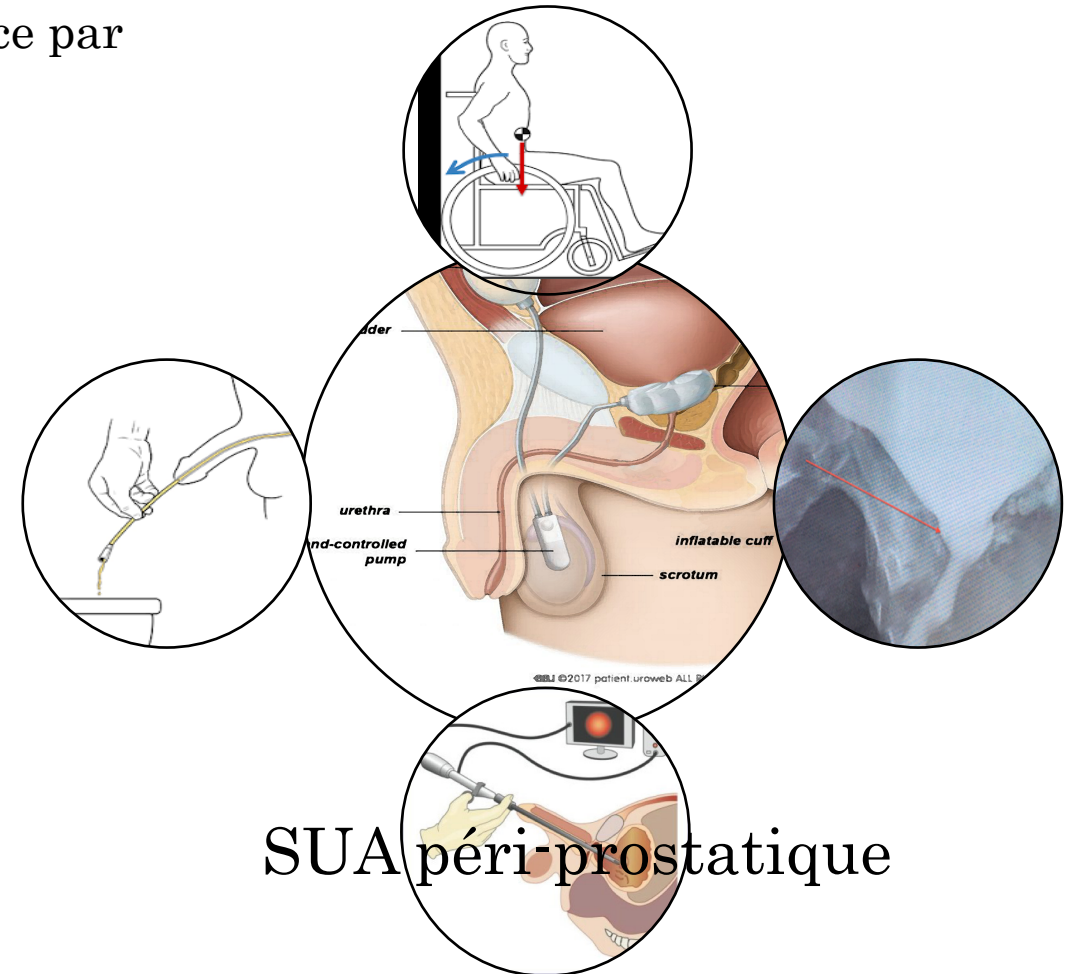
- Intervention plus complexe que la voie péri-bulbaire

Sphincter artificiel : Traitement de référence de l'incontinence par insuffisance sphinctérienne neurogène



SUA péri-bulbaire

VS

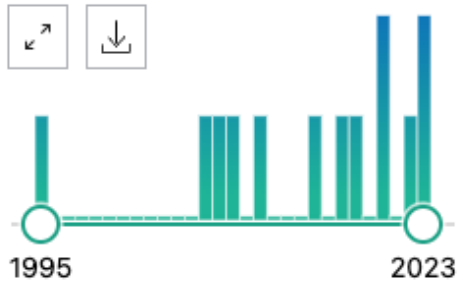


SUA péri-prostatique

# Introduction

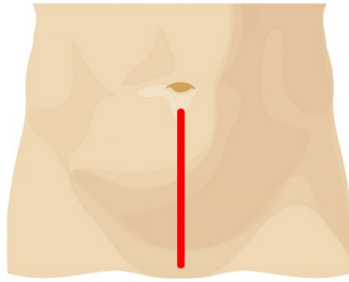
The screenshot shows the PubMed search interface. The search bar contains the text "periprosthetic artificial sphincter". Below the search bar are links for "Advanced", "Create alert", and "Create RSS". To the right of the search bar is a "Search" button and a "User Guide" link. Below the search bar are buttons for "Save", "Email", and "Send to". To the right of these buttons is a "Sort by:" dropdown menu set to "Most recent", and a "Display options" button with a gear icon. Below the search bar is a "MY NCBI FILTERS" link and a red-bordered box containing the text "10 results". To the right of the red-bordered box is a pagination control showing "Page 1 of 1".

## RESULTS BY YEAR



- Indications rares : peu de données
- Développement de la voie mini-invasive robot-assistée
- Aucune donnée de comparaison entre voie ouverte / Robot

# Matériels et méthodes

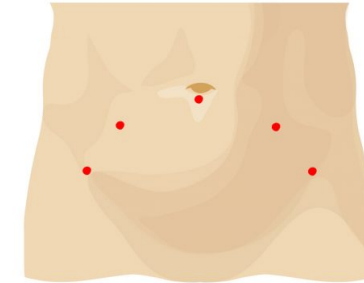


## Voie ouverte

1 chirurgien expert

Inclusion de tous les patient consécutifs  
(N=33)

Changement de voie d'abord  
Transition complète



## Voie robot

1 chirurgien expert + 1 chirurgien robot  
Inclusion de tous les patients consécutifs  
(N=32)

2000

2011

2022



# Matériels et méthodes

---

- Objectifs :
  - Résultats fonctionnels
    - Continence sans protection
  - Complications per- et post-opératoires
- Survie
  - Réintervention
  - Révision
  - Explantation

# Technique Chirurgicale

## Robot-assisted periprostatic artificial urinary sphincter implantation in men with neurogenic stress urinary incontinence

Edward Lambert, Emmanuel Chartier-Kastler, Christophe Vaessen, Aurélien Beaugerie, Juliette Cotte, Morgan Roupret, Pierre Mozer, Jérôme Parra, Louis Lenfant

Video description of the surgical technique and comparison of long-term functional outcomes with the open approach

Hôpital  
Pitié-Salpêtrière  
AP-HP



Department of Urology, University Hospital Pitié-Salpêtrière, Paris, France  
J-ERUS/YAU Academic Urologists Working Group on Robot-Assisted Surgery  
Faculty of Medicine, Sorbonne University, Paris, France

# Résultats

**Table 1 – Preoperative patient characteristics**

Characteristic	Overall (n = 65)	OpAUSi (n = 33)	RApAUSi (n = 32)	p value
<b>Age (yr)</b>	41.0 (28.5–51.5)	34.0 (25.5–43.0)	44.5 (37.5–52.3)	<b>0.030</b>
<b>BMI (kg/m<sup>2</sup>)</b>	26.0 (21.6–28.4)	26.4 (21.1–29.0)	26.0 (22.9–27.5)	0.8
<b>Neurological condition</b>				0.4
Spinal cord injury	45 (69)	22 (67)	23 (72)	
Spina bifida	12 (18)	5 (15)	7 (22)	
Other	2 (3)	0 (0)	2 (6)	
Missing	6 (9)	6 (18)	0 (0)	
<b>Autonomy</b>				0.07
Walking independently	10 (15)	2 (6)	8 (25)	
Wheelchair bound	42 (65)	22 (67)	20 (63)	
Missing	13 (20)	9 (27)	4 (13)	
<b>Preoperative voiding mode</b>				0.4
Abdominal pressure (Credé)	1 (2)	1 (3)	0 (0)	
Indwelling catheter	1 (2)	1 (3)	0 (0)	
Natural voiding	1 (2)	0 (0)	1 (3)	
Self-catheterisation	54 (83)	25 (76)	29 (91)	
Missing data	8 (12)	6 (18)	2 (6)	
<b>Previous continence surgery</b>				0.10
Pro-ACT	12 (18)	3 (9)	9 (28)	
Peribulbar AUS	4 (6)	2 (6)	2 (6)	
Neobladder augmentation	3 (5)	3 (9)	0 (0)	
None	46 (71)	25 (76)	21 (66)	
<b>History of intravesical botulinum toxin injections</b>	14 (22)	4 (12)	10 (31)	0.086
<b>Functional bladder capacity (ml)</b>	500 (400–580)	500 (464–600)	475 (369–530)	0.13
<b>Maximum urethral closure pressure (cmH<sub>2</sub>O)</b>	30 (14–48)	30 (23–39)	29(11–48)	0.6
<b>Antimuscarinic drug usage</b>	21 (32)	6 (18)	15 (46)	0.8

AUS = artificial urinary sphincter; BMI = body mass index; OpAUSi = open periprostatic artificial urinary sphincter implantation; Pro-ACT = adjustable continence therapy for men; RApAUSi = robot-assisted periprostatic artificial urinary sphincter implantation.

Data shown are median (interquartile range) or n (%).



# Résultats

Table 2 – Intraoperative and early postoperative data

Characteristic	Overall (n = 65)	OpAUSi (n = 33)	RApAUSi (n = 32)	p value
<b>Operative time (min)</b>	210 (166–250)	245 (228–300)	170 (150–210)	<b>&lt;0.001</b>
<b>Estimated blood loss (ml)</b>	50 (20–300)	500 (350–700)	20 (0–50)	<b>&lt;0.001</b>
<b>Implanted cuff size (cm)</b>				<b>0.003</b>
6	1 (1.7)	0 (0)	1 (3.2)	
6.5	3 (5.1)	1 (3.6)	2 (6.5)	
7	1 (1.7)	0 (0)	1 (3.2)	
7.5	10 (17)	1 (3.6)	9 (29)	
8	19 (32)	6 (21)	13 (42)	
9	18 (31)	13 (46)	5 (16)	
10	2 (3.4)	2 (7.1)	0 (0)	
11	5 (8.5)	5 (18)	0 (0)	
Missing data	6	5	1	
<b>Median cuff size (cm)</b>	8 (8–9)	9 (8–9)	8 (7–8)	<b>&lt;0.001</b>
<b>Concomitant surgery</b>				
None	46 (71)	17 (52)	29 (91)	<b>0.019</b>
Augmentation enterocystoplasty	11 (17)	9 (27)	2 (6)	
Missing data	8 (12)	7 (21)	1 (3)	
<b>Length of hospital stay (d)</b>	8 (5–11)	11 (10–14)	5 (4–6)	<b>&lt;0.001</b>
<b>Duration of transurethral catheterisation (d)</b>	4 (2–6)	5 (4–10)	3 (2–4)	<b>&lt;0.001</b>
<b>Time to AUS activation (d)</b>	38 (33–49)	37 (33–48)	40 (33–49)	0.7
<b>Postoperative complications—Clavien-Dindo</b>				0.075
None	46 (71)	21 (64)	25 (78)	
1	1 (2)	0 (0)	1 (3)	
2	7 (11)	2 (6)	5 (16)	
3a	5 (8)	5 (15)	0 (0)	
3b	3 (5)	2 (6)	1 (3)	
4	2 (3)	2 (6)	0 (0)	
5	1 (2)	1 (3)	0 (0)	
<b>Severe postoperative complications, Clavien-Dindo <math>\geq 3a</math></b>	11 (17)	10 (30)	1 (3)	<b>0.014</b>
<b>Achievement of complete urinary continence</b>	48 (74)	24 (73)	24 (75)	0.500
<b>Need for surgical revision</b>	18 (28)	14 (42)	4 (13)	<b>0.007</b>
<b>Median time to surgical revision (mo)</b>	45 (16–85)	45 (11–119)	46 (19–69)	0.8
<b>Follow-up (mo)</b>	72 (33–120)	118 (50–183)	56 (25–84)	<b>&lt;0.001</b>

AUS = artificial urinary sphincter; OpAUSi = open periprostatic artificial urinary sphincter implantation; RApAUSi = robot-assisted periprostatic artificial urinary sphincter implantation.

Data shown are median (interquartile range) or n (%).

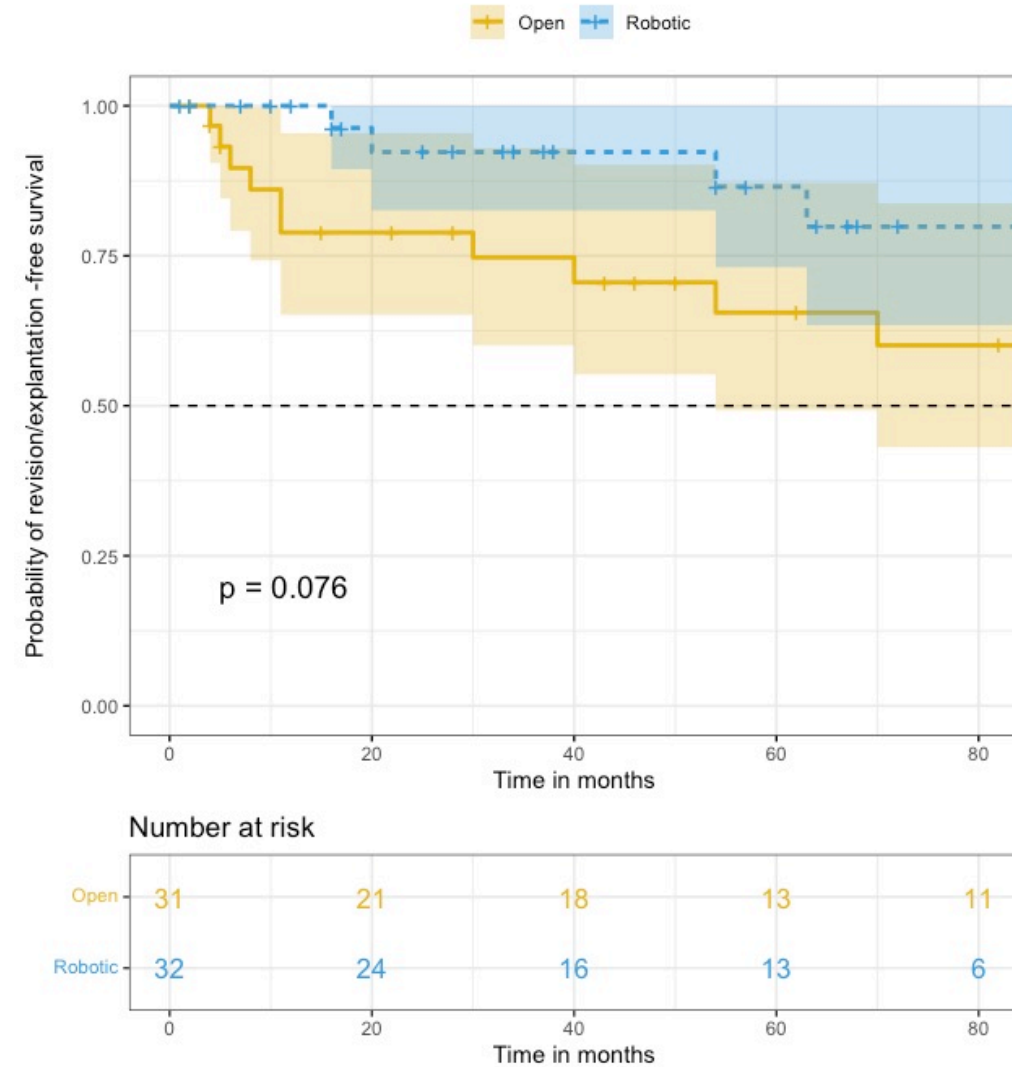
## Voie Robot assistée 🤖 :

- 🕒 Temps opératoire plus court  
170 min vs. 245 min
- 🩸 Pertes sanguines diminuées  
20 ml vs. 500 ml
- 🏠 Séjour hospitalier plus court  
5 jours vs. 11 jours
- 🚑 Clavien > IIIa  
3 % vs. 30 %
- 🚽 Continence urinaire similaire  
75 % vs. 73 %

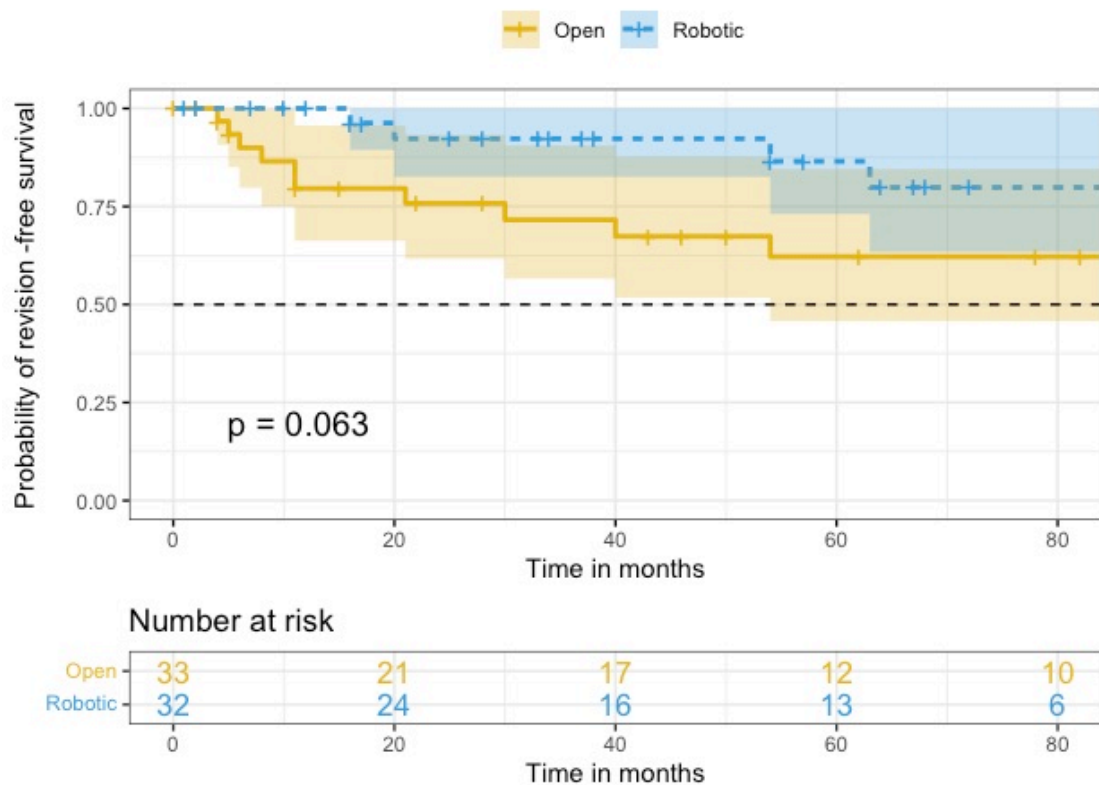


# Résultats - Survie

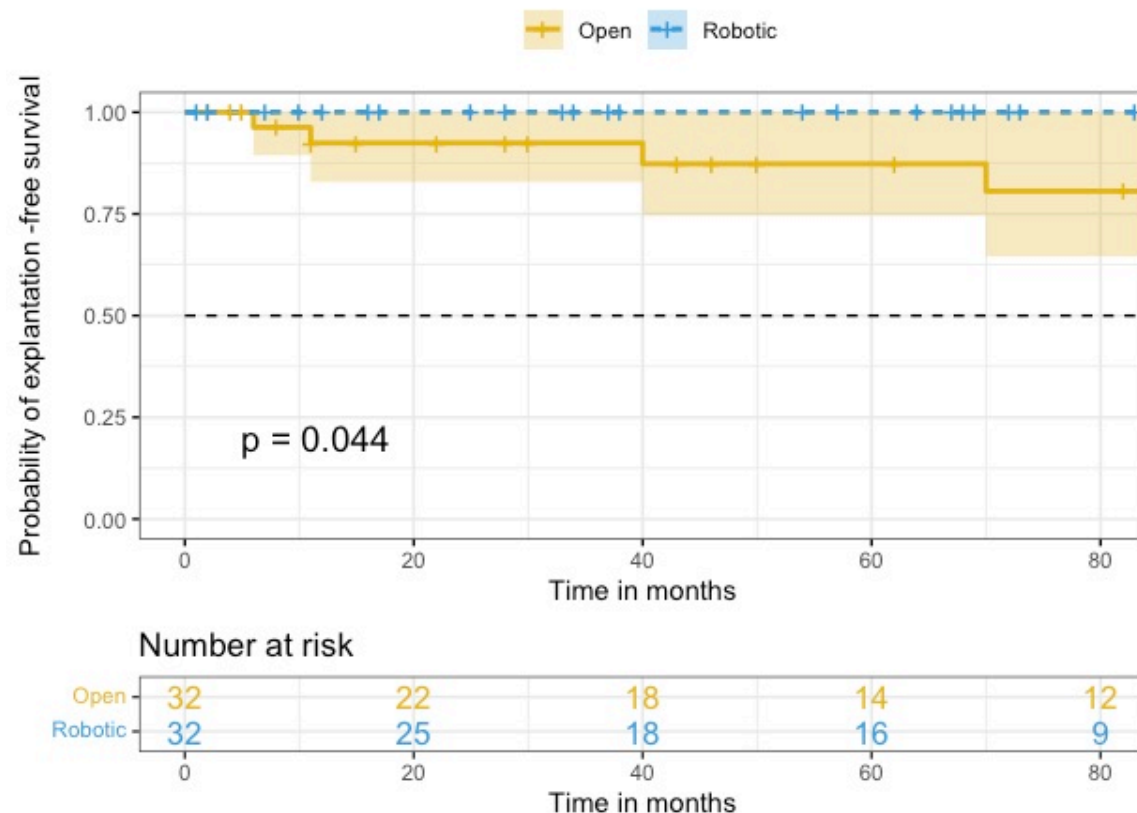
## Ré-intervention



# Résultats - Survie



Révision



Explantation

# Conclusion

- Résultats fonctionnels à long terme similaires
- Taux de réintervention (révision/explantation) similaires
- Bénéfices de la voie robotique:
  - Temps opératoires plus courts
  - Moins de pertes sanguines
  - Moins de complications chirurgicales graves
  - Durée de séjour plus courte



European Urology

Available online 30 October 2023

In Press, Corrected Proof What's this?



Surgery in Motion

**Robot-assisted Periprostatic Artificial Urinary Sphincter Implantation in Men with Neurogenic Stress Urinary Incontinence: Description of the Surgical Technique and Comparison of Long-term Functional Outcomes with the Open Approach**

Edward Lambert<sup>a,b,\*</sup>, Emmanuel Chartier-Kastler<sup>a,c</sup>, Christophe Vaessen<sup>a</sup>, Aurélien Beaugerie<sup>a,c</sup>, Juliette Cotte<sup>a,c</sup>, Morgan Roupret<sup>a,c</sup>, Pierre Mozer<sup>a,c</sup>, Jérôme Parra<sup>a</sup>, Thomas Seisen<sup>a,c</sup>, Louis Lenfant<sup>a,c</sup>, Also on behalf of the Junior ERUS / EAU-YAU Working Group on Robot-Assisted Surgery

<sup>a</sup> Department of Urology, University Hospital Pitié-Salpêtrière, Paris, France; <sup>b</sup> J-ERUS/YAU Academic Urologists Working Group on Robot-Assisted Surgery, Paris, France; <sup>c</sup> Faculty of Medicine Sorbonne University, Paris, France

[10.1016/j.eururo.2023.09.025](https://doi.org/10.1016/j.eururo.2023.09.025)

