

# RIRS en alta carga litiásica

**Dra. Laura González Pérez**  
**Adjunta Urología HUC**



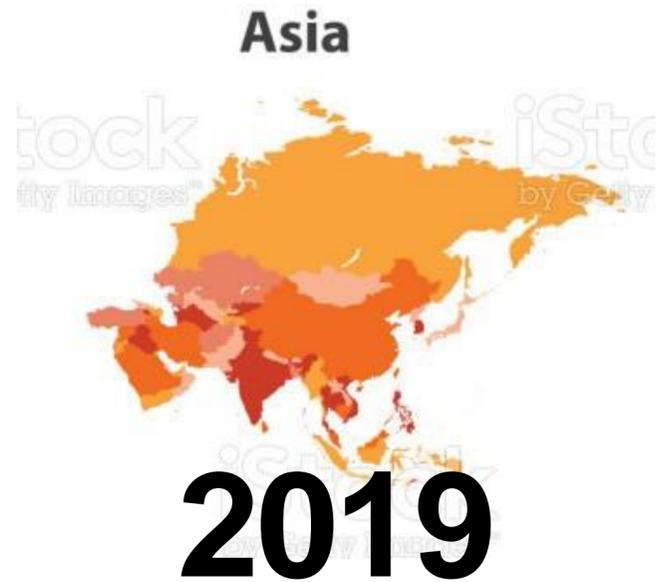
**28**  
Congreso  
**Sociedad Canaria  
de Urología**

# Litiasis de alta carga



**Litiasis mayores a 2cm**

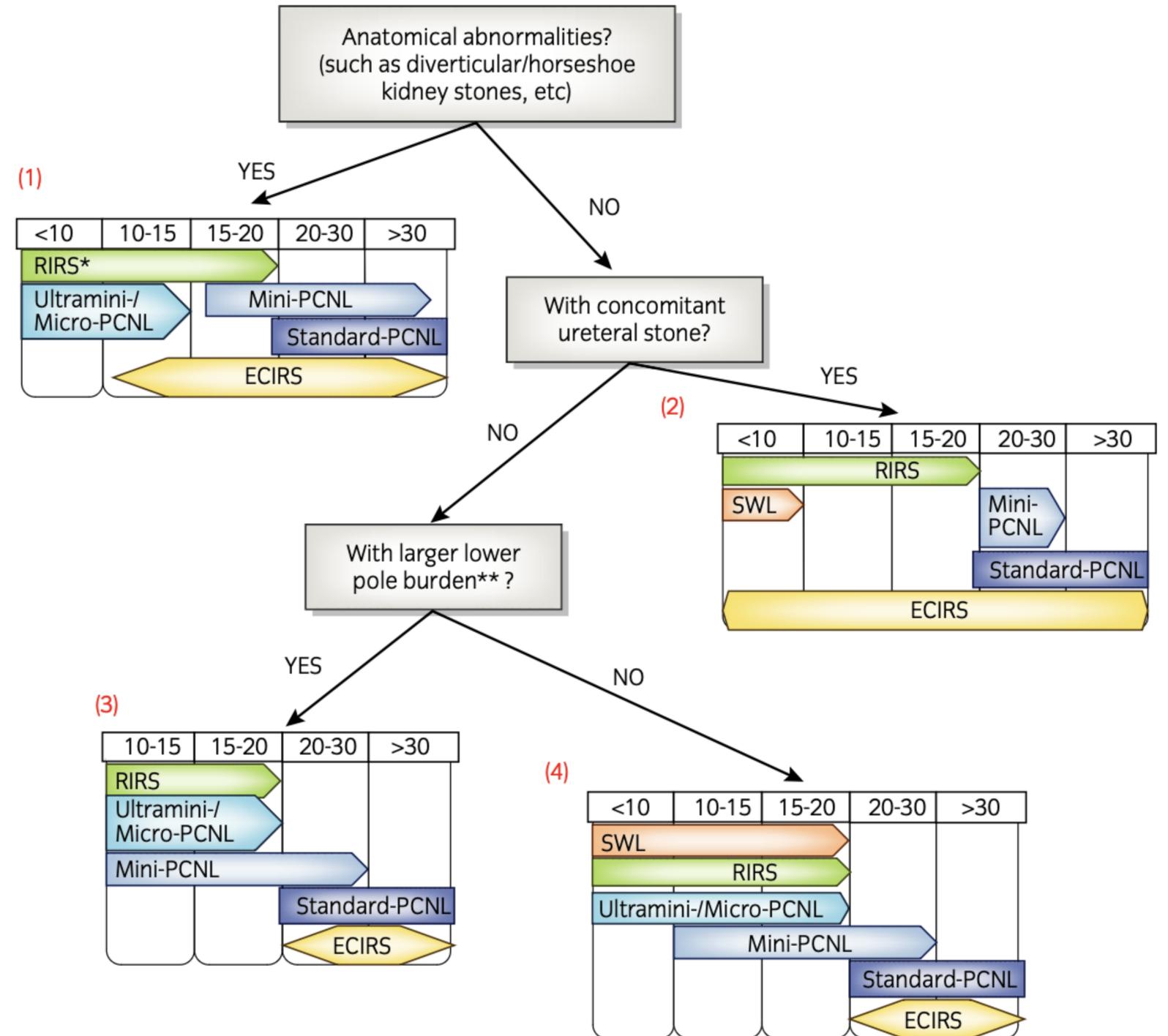
# RIRS en alta carga litiásica



## Guideline

### The Urological Association of Asia clinical guideline for urinary stone disease

Kazumi Taguchi,<sup>1</sup> Sung Yong Cho,<sup>2,3</sup> Anthony CF Ng,<sup>4</sup> Manint Usawachintachit,<sup>5</sup> Yung-Khan Tan,<sup>6</sup> Yao Liang Deng,<sup>7</sup> Cheng-Huang Shen,<sup>8</sup> Prem Gyawali,<sup>9</sup> Husain Alenezi,<sup>10</sup> Abbas Basiri,<sup>11</sup> Sopheap Bou,<sup>12</sup> Tarmono Djodjodemedjo,<sup>13</sup> Kemal Sarica,<sup>14</sup> Lei Shi,<sup>15</sup> Praveen Singam,<sup>16</sup> Shrawan Kumar Singh<sup>17</sup> and Takahiro Yasui<sup>1</sup>



# RIRS en alta carga litiásica



North America



## Surgical Management of Stones: AUA/Endourology Society Guideline (2016)

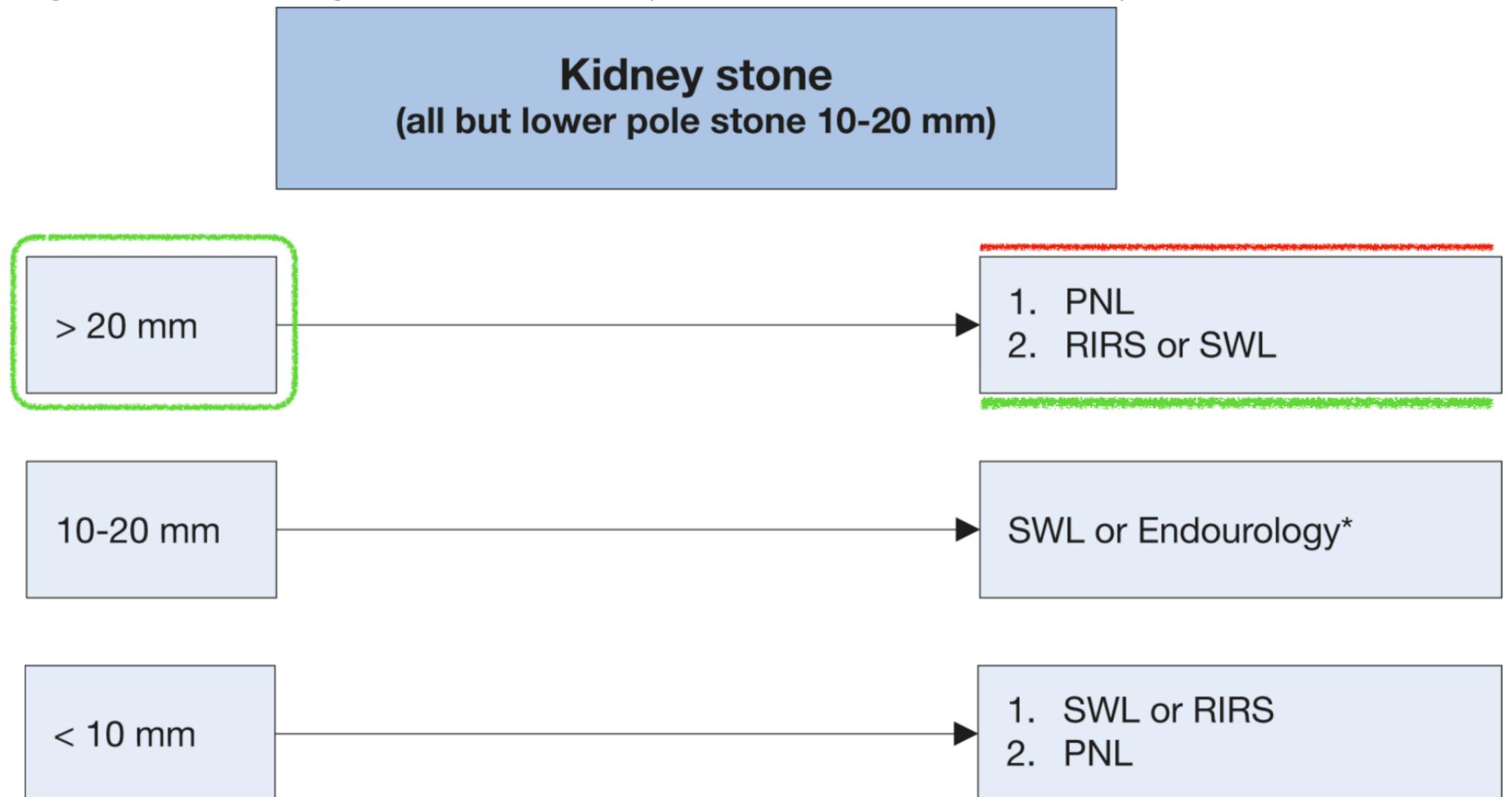
### GUIDELINE STATEMENT 22

In symptomatic patients with a total renal stone burden  $>20$  mm, clinicians should offer PCNL as first-line therapy.  
(Index Patient 8) *Strong Recommendation; Evidence Level Grade C*

DISCUSSION

# RIRS en alta carga litiásica

EAU Guidelines 2023



# RIRS en alta carga litiásica

## Reference

228. Wendt-Nordahl, G., et al. Do new generation flexible ureterorenoscopes offer a higher treatment success than their predecessors? Urol Res, 2011. 39: 185.

## Reference

236. Binbay, M., et al. Is there a difference in outcomes between digital and fiberoptic flexible ureterorenoscopy procedures? J Endourol, 2010. 24: 1929.

## Reference

237. Geraghty, R., et al. Evidence for Ureterorenoscopy and Laser Fragmentation (URSL) for Large Renal Stones in the Modern Era. Curr Urol Rep, 2015. 16: 54.

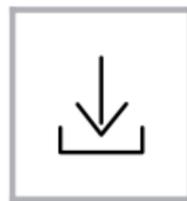
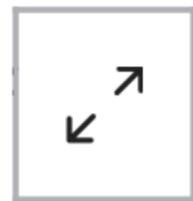
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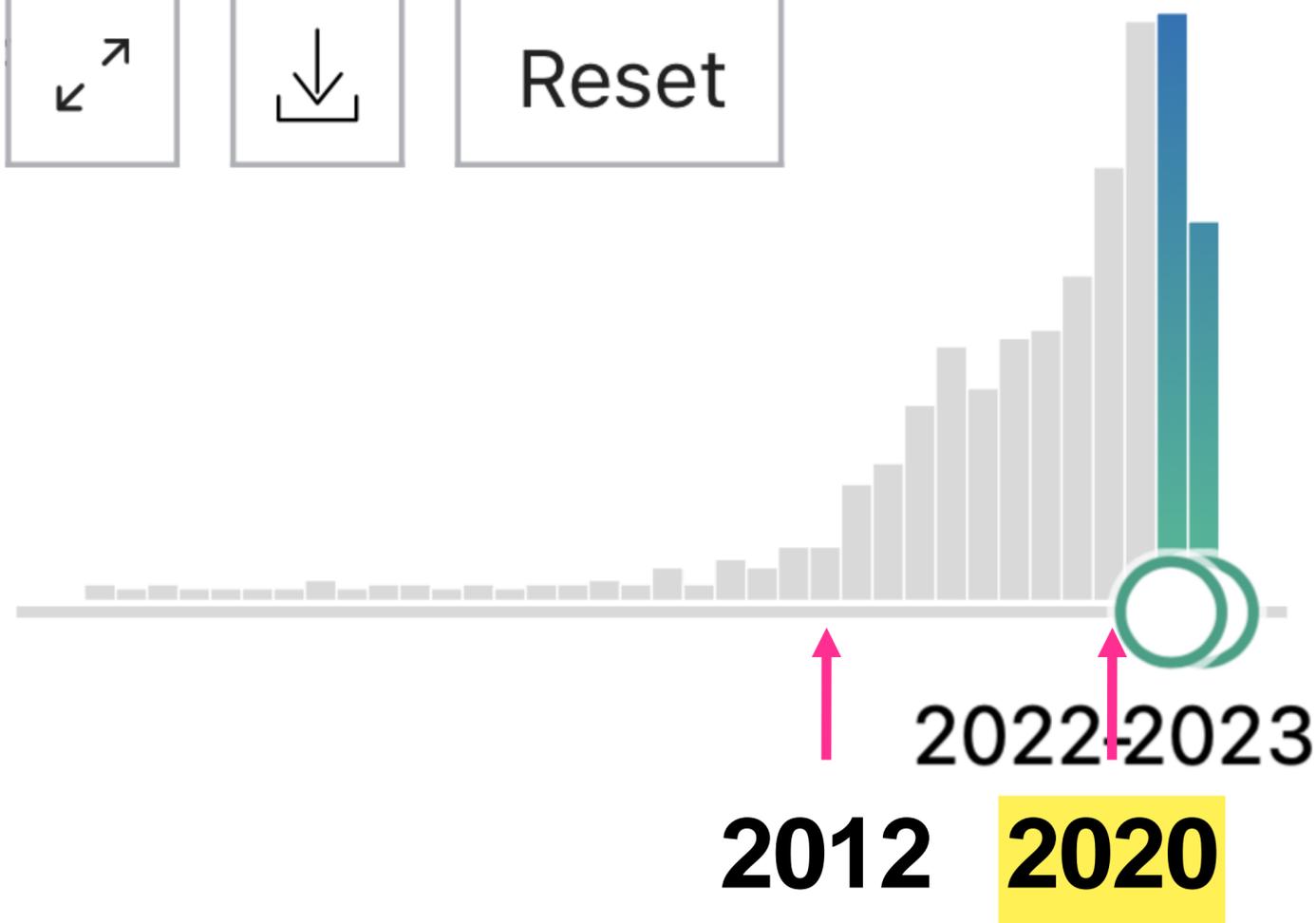
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# RIRS

## RESULTS BY YEAR



Reset



# RIRS en alta carga litiásica

NIH National Library of Medicine  
National Center for Biotechnology Information

PubMed®

rirs large stones

Advanced Create alert Create RSS

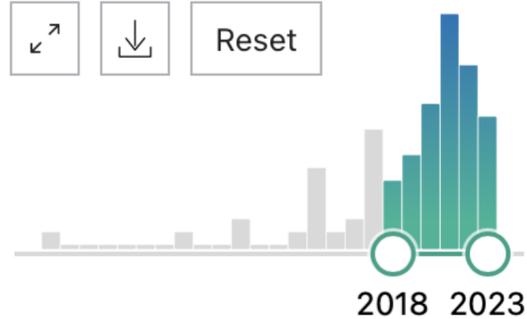
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MY NCBI FILTERS

53 results

RESULTS BY YEAR

Reset



TEXT AVAILABILITY

Filters applied: in the last 5 y

- Future of kidney : PCNL and big stones
- 1 Nagele U, Tokas T, Tr (T.R.U.S.T.)-Group. World J Urol. 2020 Dec; PMID: 31628511

NIH National Library of Medicine  
National Center for Biotechnology Information

PubMed®

rirs large stones

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Save Email Send to

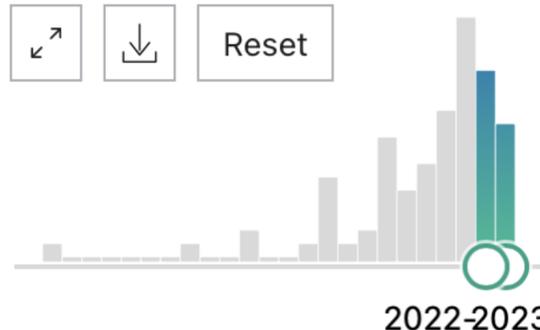
Sort by: Best match

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11 results

RESULTS BY YEAR

Reset



TEXT AVAILABILITY

Filters applied: in the last 1 year. Clear all

- Renal Extracorporeal Lithotripsy.
- 1 Manzoor H, Saikali SW. 2023 Jul 25. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan. PMID: 32809722 **Free Books & Documents.**
- Share Renal **stones** pose a significant burden on the health care system. The prevalence of renal stones has increased from 3.8% in 1970 to 8.8% in 2010 in the United States, with annual health care costs of USD 3.8 billion. ...Extracorporeal shockwave lithotripsy (ESWL) is ...

# RIRS en alta carga litiásica

Review

> BJU Int. 2023 Feb;131(2):153-164. doi: 10.1111/bju.15836. Epub 2022 Jul 12.

## International Alliance of Urolithiasis guideline on retrograde intrarenal surgery

Guohua Zeng<sup>1</sup>, Olivier Traxer<sup>2</sup>, Wen Zhong<sup>1</sup>, Palle Ooster<sup>3</sup>, Margaret S Pearle<sup>4</sup>,



The screenshot shows a LinkedIn profile for Guohua Zeng. At the top, there is a navigation bar with a back arrow, a search icon, and a menu icon. Below this is a header section with two profile pictures: one of Guohua Zeng and another of a man in a suit. To the right of the second profile picture is a button that says "Siguiendo". Below the header, the name "Guohua Zeng" and the handle "@zeng\_guohua" are displayed. The bio reads: "Professor in Urology, Consultant Urologist, Endourologist, Co-president of International Alliance of Urolithiasis". The location is listed as "Guangzhou, China" and the join date as "Se unió en abril de 2019". At the bottom, it shows "39 Siguiendo" and "779 Seguidores". There is also a logo for the "European Association of Urology (EAU)" and the name "Kemal Saric..." partially visible.

### Indicaciones de RIRS:

1. Litiasis renal o ureter proximal de litiasis < a 2cm
2. Mayores a 2cm cuando la NLP esta contraindicada

**RIRS EN MONOTERAPIA:** puede requerir varios procedimientos por etapas para tratar litiasis de alta carga  
Ref: 2008-2015

# RIRS en alta carga litiásica

Review > BJU Int. 2023 Feb;131(2):153-164. doi: 10.1111/bju.15836. Epub 2022 Jul 12.

## International Alliance of Urolithiasis guideline on retrograde intrarenal surgery

Guohua Zeng<sup>1</sup>, Olivier Traxer<sup>2</sup>, Wen Zhong<sup>1</sup>, Palle Ooster<sup>3</sup>, Margaret S Pearle<sup>4</sup>,

**RIRS EN MONOTERAPIA:** puede requerir varios procedimientos por etapas para tratar litiasis de alta carga  
Ref: 2008-2015

Artículo	N	Media litiasis	Fibra	Nº procedim.	SFR	Tiempo qx	Complicaciones
2008, Breda A.	15	22mm	200	2.3	93,3% (<1mm)		20 %
2013, Cohen J.	164	29 mm (20-70)		1,6 (por litiasis)	87% (≤ 4mm)		4,8 %
2015, Geraghty, R	651 (12 artículos) Rev. Sistemática	27mm (20-33)		1.45	91 %	96 min	8,6% (4,5%CD ≥3)
2015, Zeng g	53 (monorrenos) RIRS vs mNLP			1 solo procedimiento	RIRS: 43,4% mNLP: 71,7%		Clavien ≥3: - RIRS 3,77% - mNLP: 1,86%

# RIRS en alta carga litiásica

## Factores que determinan la toma de desiciones

1. Tamaño de la litiasis.
2. Localización de la litiasis.
3. Complicaciones
4. Costes
5. Preferencias del paciente

# RIRS en alta carga litiásica

## Factores que determinan la toma de desiciones

1. Tamaño de la litiasis.

SFR

2. Localización de la litiasis.

3. Complicaciones

4. Costes

5. Preferencias del paciente

# 1. TAMAÑO LITIASIS. RIRS

2015, UK  
Revisión sistemática

Curr Urol Rep (2015) 16: 54  
DOI 10.1007/s11934-015-0529-3



N: 651 pac.

ON EDITORS)

In this review, URSL had an average SFR of 91 % (range 77 to 97.5 %) with an average of 1.45 (range 1.11 to 1.82) procedures per patient. There was an overall complication rate of

## Fragmentation (URSL)

**Table 3** Subgroup analysis of mean number of procedures. The >3 cm group had significantly more procedures than the 2 to 3 cm group

Author	2 to 3 cm Mean no. of procedures	>3 cm Mean no. of procedures	<i>p</i> value
Riley	1.60	1.83	
Bader	1.40	1.86	
Takazawa	1.15	1.86	
Breda	1.40	No data	
<b>Total</b>	<b>1.39</b>	<b>1.85</b>	<b>0.01</b>

	>3 cm No. of patients	<i>p</i> value
SFR after Rx (%)	SFR after Rx (%)	
87.0	7	42.9
90.0	12	91.7
90.0	14	92.9
98.0	19	89.5
100.0	7	67.0
93.0	No data	No data
<b>93.0</b>	<b>59</b>	<b>76.8</b>
		<b>0.001</b>

# 1. TAMAÑO LITIASIS. mNLP vs RIRS

135

CENTRAL EUROPEAN JOURNAL OF UROLOGY

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ORIGINAL PAPER

UROLITHIASIS

## Treatment of 2–4 cm kidney stones: multicentre experience. Comparison of safety, efficacy, and costs of percutaneous nephrolithotomy and retrograde intrarenal surgery

Nicolò Fiorello<sup>1</sup>, Andrea Di Benedetto<sup>2</sup>, Andrea Mogorovich<sup>2</sup>, Daniele Summonti<sup>2</sup>, Massimo Aquilini<sup>1</sup>, Giuseppe Silvestri<sup>1</sup>, Chiara Gilli<sup>3</sup>, Gregorio Romei<sup>3</sup>, Michele Santarsieri<sup>3</sup>, Francesca Manassero<sup>3</sup>, Giorgio Pomara<sup>3</sup>, Sandro Benvenuti<sup>2</sup>, Carlo Alberto Sepich<sup>1</sup>

<sup>1</sup>Department of Urology, San Luca Hospital, Lucca, Italy

<sup>2</sup>Department of Urology, Versilia Hospital, Camaiore, Italy

<sup>3</sup>Department of Urology 2, Cisanello Hospital, Pisa, Italy

**Citation:** Fiorello N, Di Benedetto A, Mogorovich A, et al. Treatment of 2–4 cm kidney stones: multicentre experience. Comparison of safety, efficacy, and costs of percutaneous nephrolithotomy and retrograde intrarenal surgery. Cent European J Urol. 2023; 76: 135-140.

**Abril 2023, Italia**

**N: 130 pac.**

# 1. TAMAÑO LITIASIS

## mNLP vs RIRS

Treatment of 2–4 cm kidney stones: multicentre experience. Comparison of safety, efficacy, and costs of percutaneous nephrolithotomy and retrograde intrarenal surgery

**Table 1.** Retrograde intrarenal surgery (RIRS) and percutaneous nephrolithotomy (PCNL) are compared in group 1 (2–3 cm stones). The median value is considered in the duration box and for days of hospitalization. The stone-free rate (SFR) is shown in the last box

	Number of procedures	Duration [minutes]	Intraoperative complications	Clavien-Dindo 1	Clavien-Dindo 2	Clavien-Dindo 3	Days of hospitalization	SFR [%]
PCNL	20	135	2	2	3	1	5	92
RIRS	45	90	0	3	0	0	2	78

**p>0.005**

**Table 2.** Retrograde intrarenal surgery (RIRS) and percutaneous nephrolithotomy (PCNL) are compared in group 2 (stones >3 cm). The median value is considered in the duration box and for days of hospitalization. The stone-free rate (SFR) is shown in the last box

	Number of procedures	Duration [minutes]	Intraoperative complications	Clavien-Dindo 1	Clavien-Dindo 2	Clavien-Dindo 3	Days of hospitalization	SFR [%]
PCNL	47	145	1	2	1	1	5	81
RIRS	18	115	0	2	0	0	2	21

**p>0.000**

# 1. TAMAÑO LITIASIS. **sNLP, mNLP vs RIRS**

Review > Urolithiasis. 2023 Jun 8;51(1):87. doi: 10.1007/s00240-023-01459-x.

N: 2917 ( 10 estudios)	sNLP	mNLP	RIRS
SFR	<b><u>86 %</u></b>	<b><u>86 %</u></b>	79 %
COMPLICACIONES	32 %	16 %	<b>11 %</b>
DIAS HOSPITALIZACIÓN	3,9	2,96	<b>1,56</b>

**CONCLUSIÓN:**  
NLP como el tratamiento más efectivo  
NLP mas días de hospitalización y más complicaciones

# RIRS en alta carga litiásica

## Factores que determinan la toma de desiciones

1. Tamaño de la litiasis.

2. Localización de la litiasis SFR

3. Complicaciones

4. Costes

5. Preferencias del paciente

## 2. LOCALIZACIÓN. **LITIASIS EN CALIZ INFERIOR**

**NLP: sigue siendo el gold estándar \*\***

> [Urolithiasis](#). 2022 Apr;50(2):199-203. doi: 10.1007/s00240-021-01297-9. Epub 2022 Jan 20.

**Retrograde intrarenal surgery in lateral position for lower pole stone: an initial experience from Single Academic Hospital**

Linjie Peng <sup>1 2 3</sup>, Zexian Zheng <sup>1 2 3</sup>, Jiandong Xu <sup>1 2 3</sup>, Wen Zhong <sup>4 5 6</sup>

- 1. Caída de fragmentos al cáliz inferior (81.0%).**
- 2. Complicaciones: 1 solo paciente con fiebre (4.8%)**
- 3. Días de hospitalización: 1.1 ± 0.3**
- 4. SFR al mes fue de 85.7%.**

\*\* Tsai SH, et al. Comparison of the efficacy and safety of shockwave lithotripsy, retrograde intrarenal surgery, percutaneous nephrolithotomy, and minimally invasive percutaneous nephrolithotomy for lower-pole renal stones: A systematic review and network meta-analysis. *Medicine (Baltimore)*. 2020 Mar;99(10):e19403.

# RIRS en alta carga litiásica

## Factores que determinan la toma de desiciones

1. Tamaño de la litiasis.
2. Localización de la litiasis.
3. **Complicaciones**
4. **Costes**
5. Preferencias del paciente

# 3/4. COMPLICACIONES y COSTES. RIRS

Review > BJU Int. 2023 Feb;131(2):153-164. doi: 10.1111/bju.15836. Epub 2022 Jul 12.

## International Alliance of Urolithiasis guideline on retrograde intrarenal surgery

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**5-20%**

# 3/4. COMPLICACIONES y COSTES. RIRS

Curr Urol Rep (2015) 16: 54  
DOI 10.1007/s11934-015-0529-3



MINIMALLY INVASIVE SURGERY (V BIRD AND M DESAI, SECTION EDITORS)

## Evidence for Ureterorenoscopy and Laser for Large Renal Stones in the Modern Era

Robert Geraghty<sup>1</sup> · Omar Abourmarzouk<sup>2</sup> · Bhavan Rai<sup>3</sup> · Chandra Sha  
Nicholas J. Rukin<sup>5</sup> · Bhaskar K. Somani<sup>1</sup>

**Table 4** Major complications (Clavien  $\geq$ III) period 1 and period 2

Complications	1990–April 2011 (period 1)	May 2011–April 2014 (period 2)
Clavien $\geq$ III	Number of cases	
Haematuria and clot retention/ subcapsular haematoma	7	0
Steinstrasse	5	0
Ureteral perforation	5	2
Sepsis/pyelonephritis	3	1
Cerebrovascular accident (CVA)	1	0
Prostatitis	1	0
Total	22	3
Total (%)	5.01	1.48
<i>p</i> value		0.004

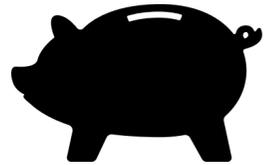
# 3/4. COMPLICACIONES y COSTES. mNLP vs RIRS

## COMPLICACIONES POSTQX

1. Mayor complicaciones en NLP ( $p = 0.011$ )
2. Mayor estancia hospitalaria: RIRS: 2 días/ NLP 5 días

## COSTES

<u>RIRS</u> 2 días hospi	<u>NLP</u> 5 días hospi
3119 euros	8556 euros
312.000 euros 100 RIRS	856.000 euros 100 NLP



## CONCLUSIÓN:

- RIRS Seguro y costoefectivo para litiasis de 2-3cm.

## ¿RIRS EN DOS TIEMPOS?

- MENOR COSTE. ¿SFR?
- MENOR COMPLICACIONES
- MENOS TIEMPO DE HOSPITALIZACIÓN

# RIRS en alta carga litiásica. RESUMEN

RIRS alta carga litiasica	TIEMPO QX	COMPLICACIONES	DIAS DE HOSPITALIZACIÓN	Número procedimientos para SFR
2008, Breda A.		20 %		2,3
2013, Cohen J.		4,8 %		1,6
2015, Geraghty, R	96 min	8,6% (4,5%CD ≥3)		1,85
2015, Zeng g		<b>Clavien ≥3: 3,77%</b>		
2021, Güler Y	60 min		2	
2021, Cagatay M.	70 min	8,9 %	1	
2022, Kamal M.	95 min			
2023, Fiorello N	115 min	6,7% <b>Clavien ≥ 3: 0%</b>	2	
2023, Fentahun A		11 %	1,56	
<b>TOTAL</b>	<b>MEDIA 87,2</b>	<b>MEDIA 10% MEDIANA 8,75%</b>	<b>MEDIA 1,89</b>	<b>MEDIA 1,25</b>

# RIRS en alta carga litiásica

1

## Factores que determinan la toma de decisiones

SFR NLP > RIRS

1. Tamaño de la litiasis.
2. Localización de la litiasis
3. Complicaciones
4. Costes
- 5. Preferencias del paciente**



2

RIRS alta carga litiasica	TIEMPO QX	COMPLICACIONES	DIAS DE HOSPITALIZACIÓN	Número procedimientos para SFR
TOTAL	MEDIA 87,2	MEDIA 10% MEDIANA 8,75%	MEDIA 1,89	MEDIA 1,25

CORTO

BAJO

CORTO

POCOS

# RIRS en alta carga litiásica

## Tips and trips



# RIRS en alta carga litiásica

Review > BJU Int. 2023 Feb;131(2):153-164. doi: 10.1111/bju.15836. Epub 2022 Jul 12.

## International Alliance of Urolithiasis guideline on retrograde intrarenal surgery

Guohua Zeng<sup>1</sup>, Olivier Traxer<sup>2</sup>, Wen Zhong<sup>1</sup>, Palle Osther<sup>3</sup>, Margaret S Pearle<sup>4</sup>,

Doble J  
preoperatorio

Mejora el éxito de paso de vaina ureteral  
Disminuye el riesgo de lesiones ureterales



LE: 1 ; GR: A

Alfabloqueante  
preoperatorio

Mejora el éxito de paso de vaina ureteral (3-7 días)  
Disminuye el riesgo de lesiones ureterales



LE: 2 ; GR: A

**En pacientes sin Doble J previo**

Antibiótico

UC previo a RIRS es necesario.



LE: 1 ; GR: A

Vaina ureteral

Reduce la presión intrarrenal  
Disminuye las complicaciones infecciosas



**No considera la RIRS en alta carga Litiásica.**

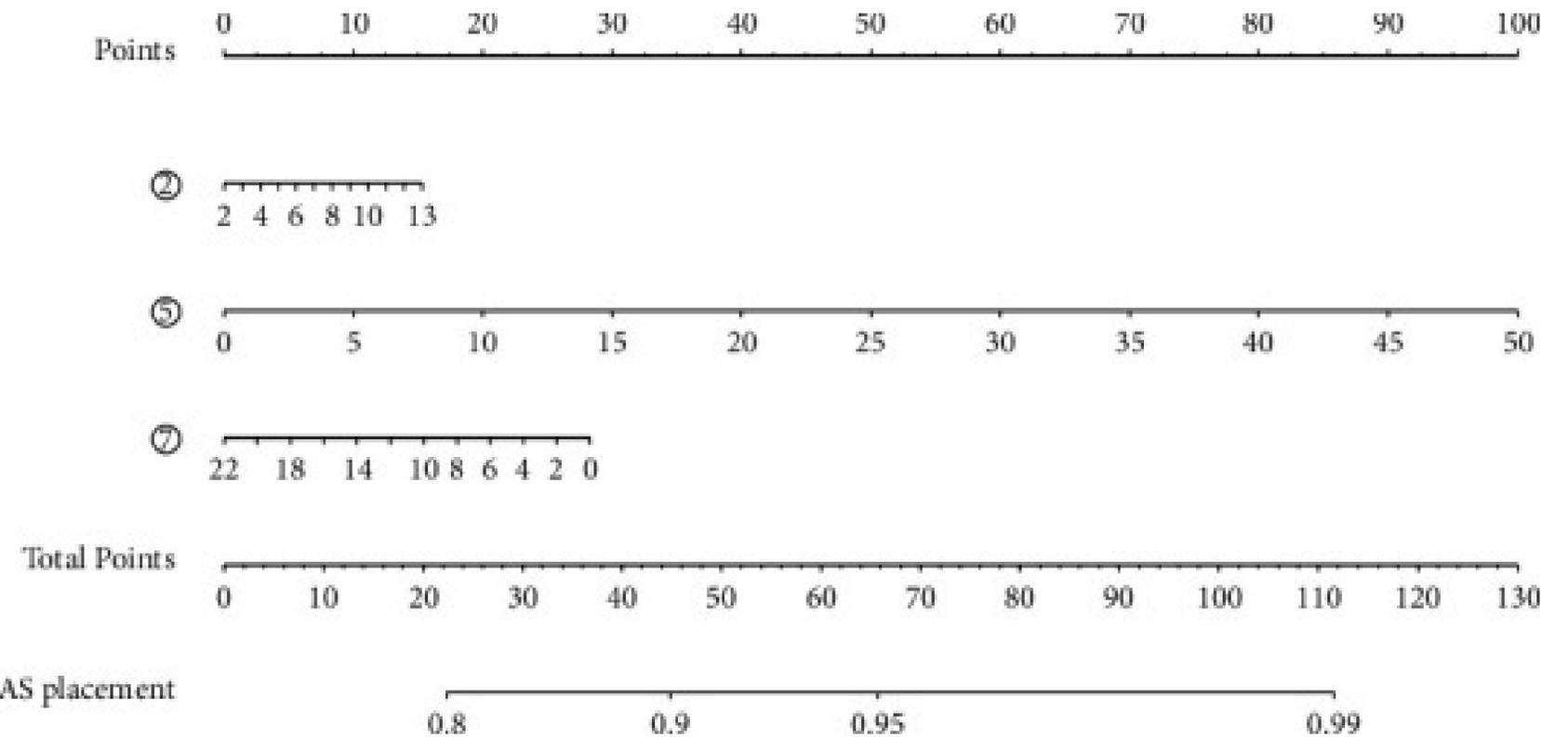
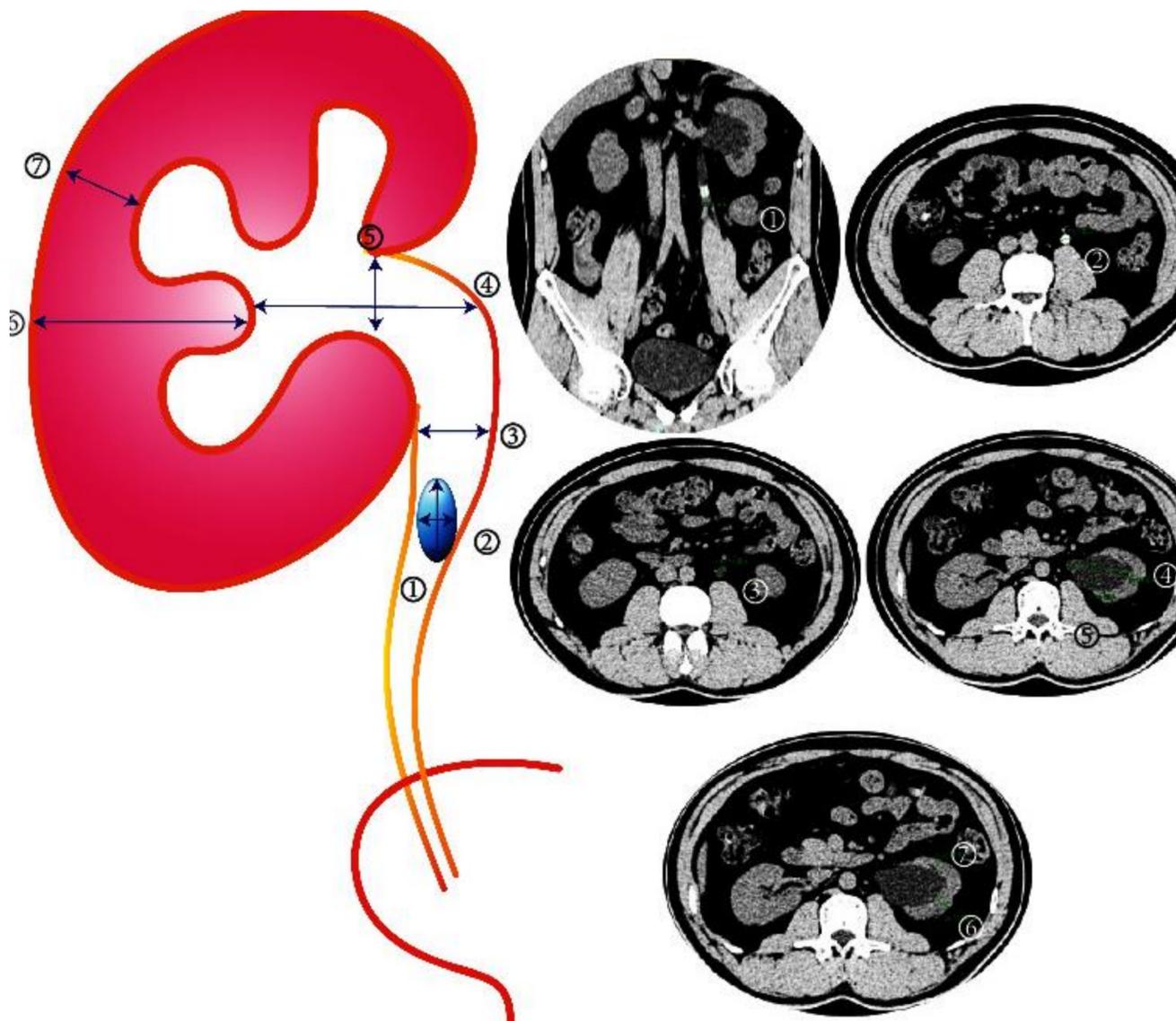
# RIRS en alta carga litiásica

## Vaina ureteral

> Int J Clin Pract. 2022 Nov 2;2022:3343244. doi: 10.1155/2022/3343244. eCollection 2022.

### CT-Based Predictor for the Success of 12/14-Fr Ureteral Access Sheath Placement

Jieping Hu<sup>1</sup>, Yue Yu<sup>1</sup>, Wei Liu<sup>1</sup>, Jialei Zhong<sup>1</sup>, Xiaochen Zhou<sup>1</sup>, Haibo Xi<sup>1</sup>



# RIRS en alta carga litiásica

## Vaina ureteral

[Int J Clin Pract.](#) 2022; 2022: 7518971.

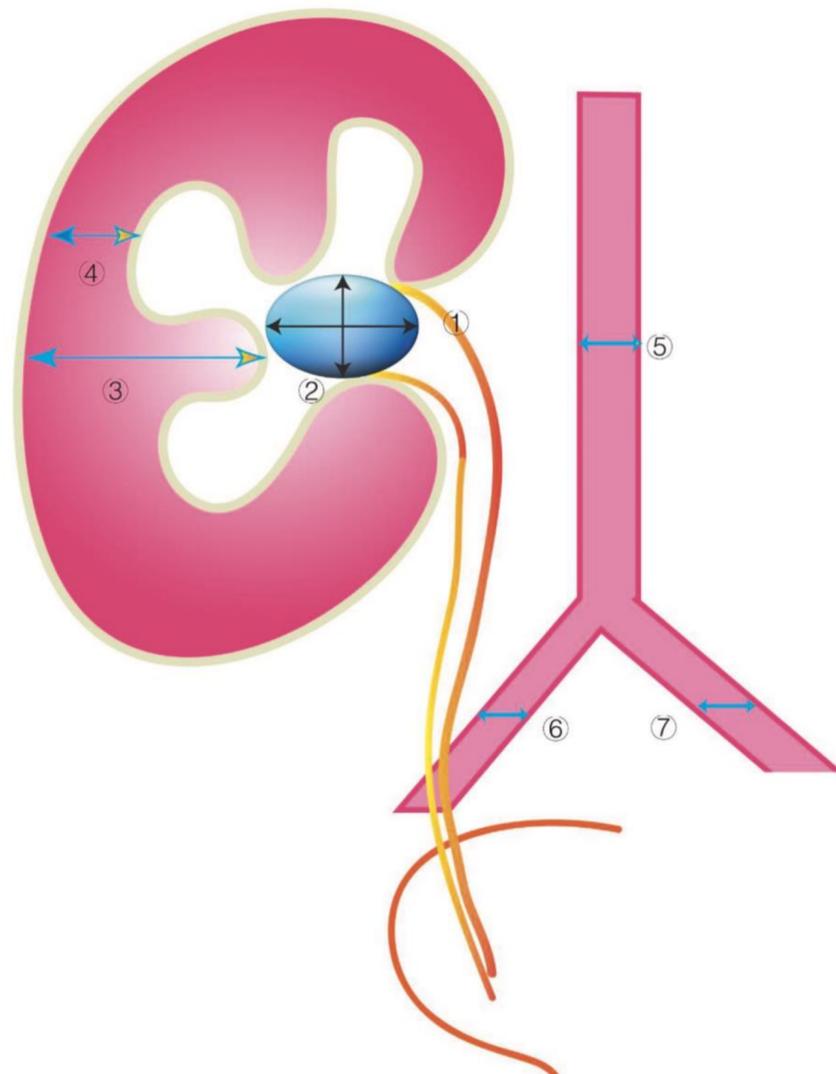
Published online 2022 Sep 5. doi: [10.1155/2022/7518971](https://doi.org/10.1155/2022/7518971)

PMCID: PMC9467721

PMID: [36120665](https://pubmed.ncbi.nlm.nih.gov/36120665/)

### Identification of the Risk Factors for the Failure of Ureteral Access Sheath Placement

[Jieping Hu](#), [Yue Yu](#), [Wei Liu](#), [Jialei Zhong](#), [Xiaochen Zhou](#), and [Haibo Xi](#)



### FACTORES DE RIESGO:

1. Varones
2. < 15 días de H<sup>a</sup> litiasis,
3. Ø corto de arteria iliaca común

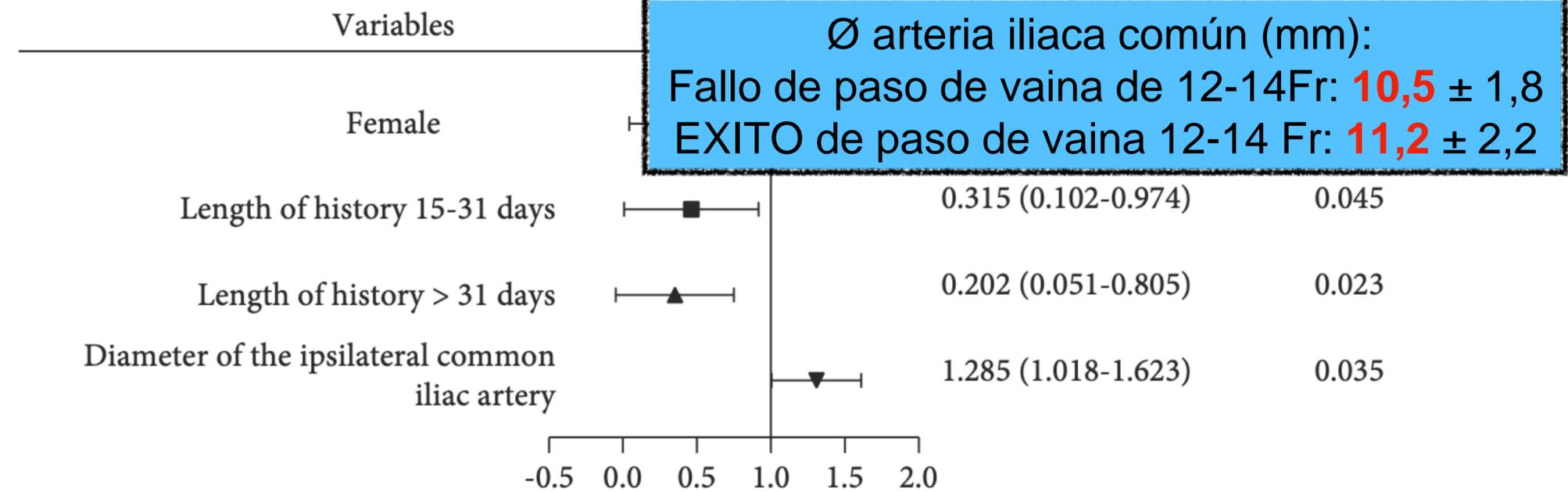


FIGURE 2: Risk factors for the failure of 14F ureteral access sheath (UAS) insertion.

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## International Alliance of Urolithiasis guideline on retrograde intrarenal surgery

Guohua Zeng<sup>1</sup>, Olivier Traxer<sup>2</sup>, Wen Zhong<sup>1</sup>, Palle Ooster<sup>3</sup>, Margaret S Pearle<sup>4</sup>,

Ureterorenoscopia flexible



De un sólo uso:

- Anatomía compleja
- **Litiasis > 2cm**
- Cáliz inferior
- Infundíbulo angulado/estrecho.



# RIRS en alta carga litiásica

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LE: 2 ; GR: A

Dusting

Vs

Fragmentación

Decisión individual

Dusting	Fragmentación
Menor tiempo qx	Precisa extracción de fragmentos con cestilla o sistemas de succión
Mayor complicaciones derivadas de expulsión de fragmentos	Presenta mayor SFR

No diferencias en días de hospitalización ni complicaciones

Láser

Holmium vs Tulum

¿¿ **Efecto térmico** en RIRS alta carga litiasica??

# RIRS en alta carga litiásica

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### IMPORTANTE

Presión intrarrenal

Tiempo operatorio

### COMPLICACIONES INFECCIOSAS

#### FACTORES DE RIESGO

UC previo positivo

Litiasis infectivas

**Alta carga litiasica**

**Irrigación forzada**

**Largo tiempo quirúrgico**

## Tips quirúrgicos

1. Vaina apropiada (10-12; 12-14??) 16 FR???
2. Buen manejo de la irrigación (baja presiones)
3. Disminución de tiempo quirúrgico (<90 minutos)
4. Sistemas de succión

# RIRS en alta carga litiásica

## BAJAS PRESIONES INTRARRENALES

### LithoVue™ Elite Single-Use Digital Flexible Ureteroscope System

with intrarenal pressure monitoring



PRESION IDEAL: 40cmH2O (POR GRAVEDAD)

SIN VAINA: 24-57cmH2O

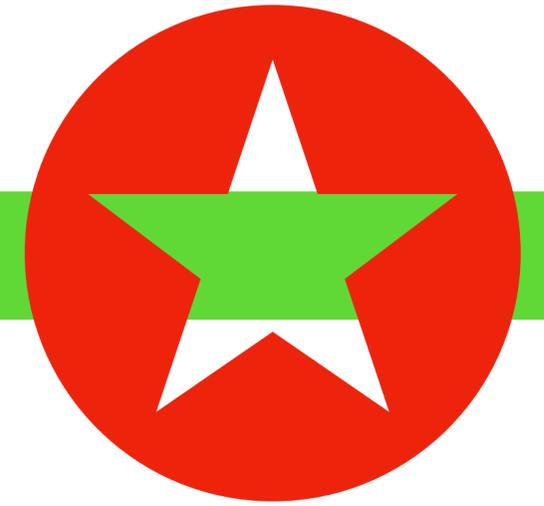
CON VAINA: 14-34cmH2O

PRESION VISION ACEPTABLE: 60cmH2O

Presión durante irrigación forzada: 54-237cmH2O

# RIRS en alta carga litiásica

## SISTEMAS DE SUCCIÓN



**“From Knife  
to Needle  
to Nothing”**

Ralph Clayman

# RIRS en alta carga litiásica

## SISTEMAS DE SUCCIÓN

Review > [J Clin Med. 2023 Apr 11;12\(8\):2815. doi: 10.3390/jcm12082815.](#)

### Optimizing Outcomes in Flexible Ureteroscopy: A Narrative Review of Suction Techniques

Catalina Solano<sup>1 2</sup>, Marie Chicaud<sup>3</sup>, Stessy Kutchukian<sup>4</sup>, Luigi Candela<sup>1 5</sup>,  
Mariela Corrales<sup>1</sup>, Frédéric Panthier<sup>1</sup>, Steeve Doizi<sup>1</sup>, Olivier Traxer<sup>1</sup>

12 ESTUDIOS

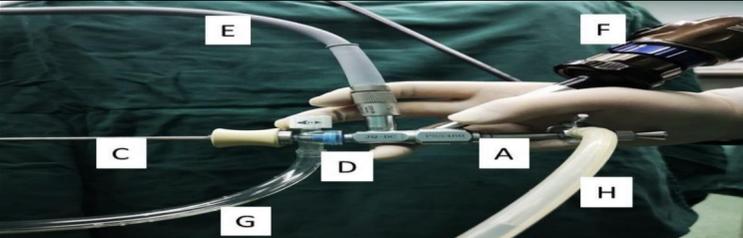
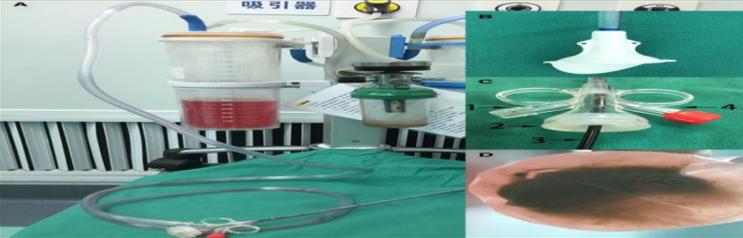
- \* 4 estudios en laboratorio
- \* 8 estudios clínicos

# RIRS en alta carga litiásica

Review > J Clin Med. 2023 Apr 11;12(8):2815. doi: 10.3390/jcm12082815.

## Optimizing Outcomes in Flexible Ureteroscopy: A Narrative Review of Suction Techniques

### SISTEMAS DE SUCCIÓN

Artículo	Sistemas de succión	SFR	
Scheneider et al.	Luer Lock jeringa (a través del canal del URSf)	86 %	
Jiang et al.	Dual Lumen URS	94,3 %	
Chen et al.	Flexible vacuum assistant UAS	98,5 %	
Zhu et al.	KYB, China	82,4 %	

# RIRS en alta carga litiásica

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## Optimizing Outcomes in Flexible Ureteroscopy: A Narrative Review of Suction Techniques

### SISTEMAS DE SUCCIÓN

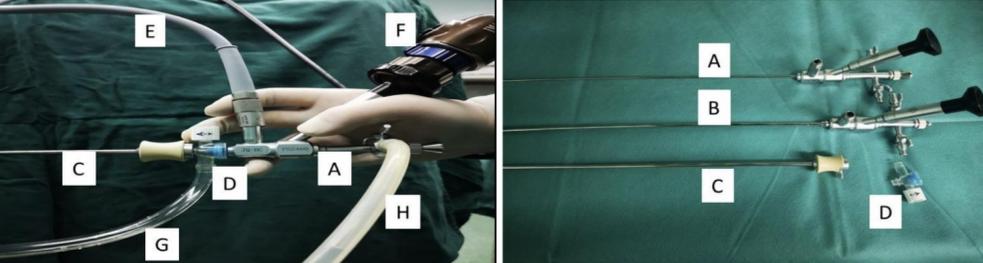
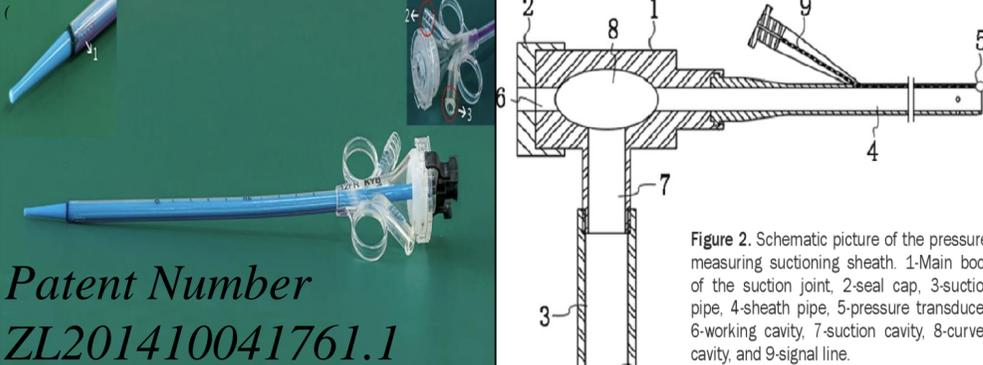
Artículo	Sistemas de succión	Tiempo operatorio (min)	SFR	
Zeng et al.	mUAS 12/14	23,3	97,3-100%	
Deng et al. Huang et al.	Patented irrigation + suctioning + platform + UAS	24,8 ± 15,9	90-95,6 % 87,5-97,4%	
Du et al.	sUAS 12-14 Fr 30-45 cm	25,3 (Vs 47,2 (p = 0.00))	100 %	 <i>Patent Number</i> <i>ZL201410041761.1</i>

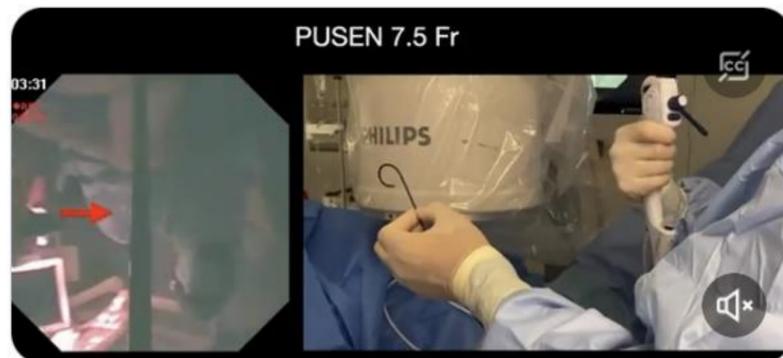
Figure 2. Schematic picture of the pressure-measuring suctioning sheath. 1-Main body of the suction joint, 2-seal cap, 3-suction pipe, 4-sheath pipe, 5-pressure transducer, 6-working cavity, 7-suction cavity, 8-curved cavity, and 9-signal line.

# RIRS en alta carga litiásica

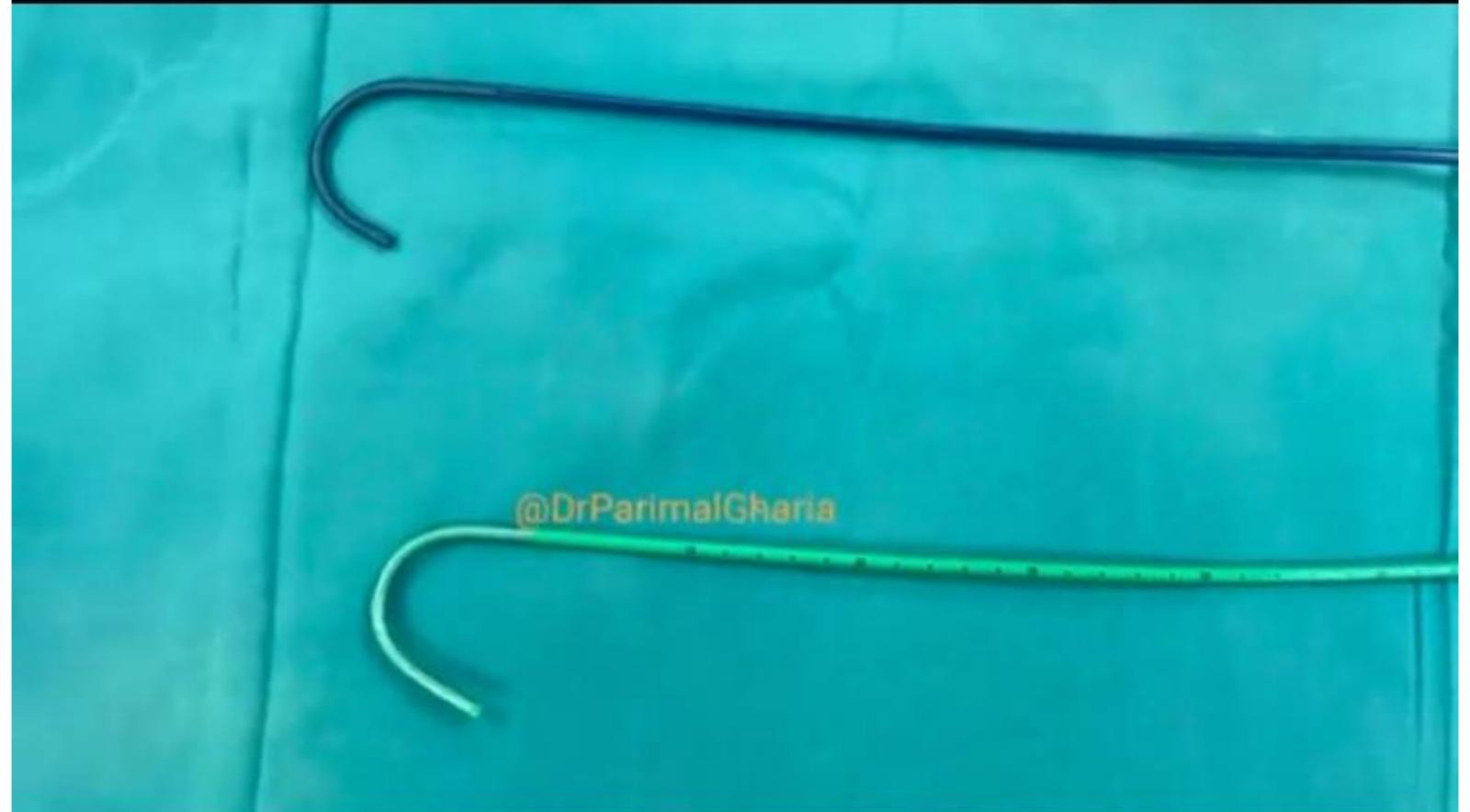
## SISTEMAS DE SUCCIÓN



**Olivier Traxer @OTRAXER · 7h** ...  
**BWALE-35: Yesterday first clinical test of the new Pusen 7,5 Fr digital FURS with suction port. Small diameter, Beautiful view, Good maneuverability & torque. Interesting suction port: needs to be evaluated. But excellent concept: “suction”! Coming soon...**



2 4 54 5005



# RIRS en alta carga litiásica

Review > J Clin Med. 2023 Apr 11;12(8):2815. doi: 10.3390/jcm12082815.

Optimizing Outcomes in Flexible Ureteroscopy: A Narrative Review of Suction Techniques

## SISTEMAS DE SUCCIÓN

Tasa de complicaciones: **BAJA.**

2% Clavien II

0% Clavien  $\geq$  III

Factores asociados a complicaciones:

**Múltiples litiasis: 5,95% vs. una sola litiasis: 0% (p = 0.002)**

**Litiasis > 50mm: 13,64% vs. Otro tamaño: 1,08-5,88% (p = 0,028)**

**Guy score stone: Grado I: 0,59% vs. Grado VI: 14,29% (p = 0.002)**

# RIRS en alta carga litiásica

## EXTRACCION FRAGMENTOS LITIASICOS

[Nat Commun.](#) 2023; 14: 3711.

PMCID: PMC10287666

Published online 2023 Jun 22. doi: [10.1038/s41467-023-38936-1](https://doi.org/10.1038/s41467-023-38936-1)

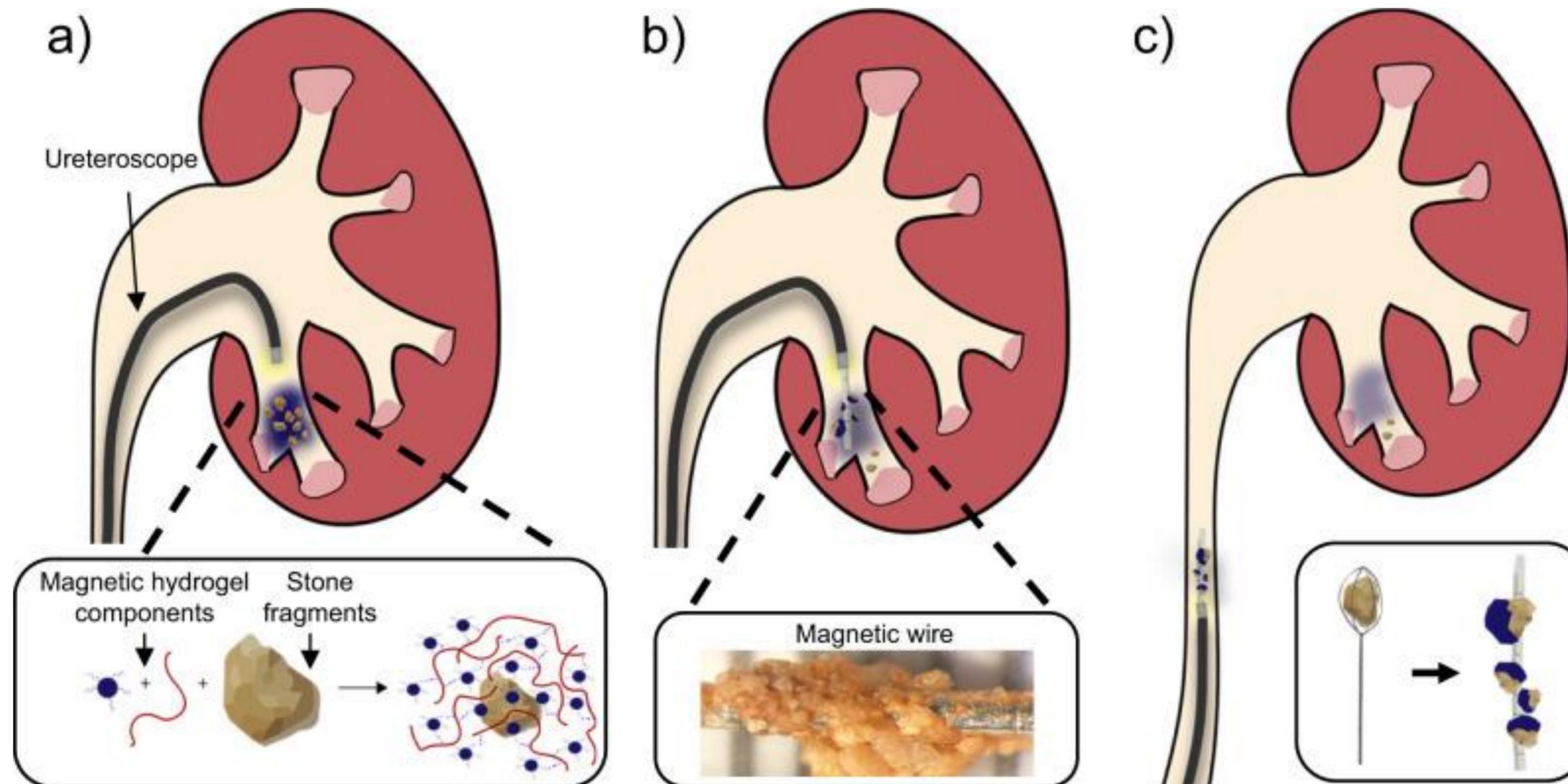
PMID: [37349287](https://pubmed.ncbi.nlm.nih.gov/37349287/)

A magnetic hydrogel for the efficient retrieval of kidney stone fragments during ureteroscopy

[T. Jessie Ge](#),<sup>1,2</sup> [Daniel Massana Roquero](#),<sup>1,2</sup> [Grace H. Holton](#),<sup>1</sup> [Kathleen E. Mach](#),<sup>1,2</sup> [Kris Prado](#),<sup>1</sup> [Hubert Lau](#),<sup>2,3</sup>  
[Kristin Jensen](#),<sup>2,3</sup> [Timothy C. Chang](#),<sup>1,2</sup> [Simon Conti](#),<sup>1</sup> [Kunj Sheth](#),<sup>1</sup> [Shan X. Wang](#),<sup>4</sup> and [Joseph C. Liao](#)<sup>✉1,2</sup>

**MagSToNE** utilizes **SPIONs** (superparamagnetic iron oxide nanoparticles) functionalized with **carboxylic acid-containing molecules** to bind to and coat kidney stone fragments

### EXTRACCION FRAGMENTOS LITIASICOS

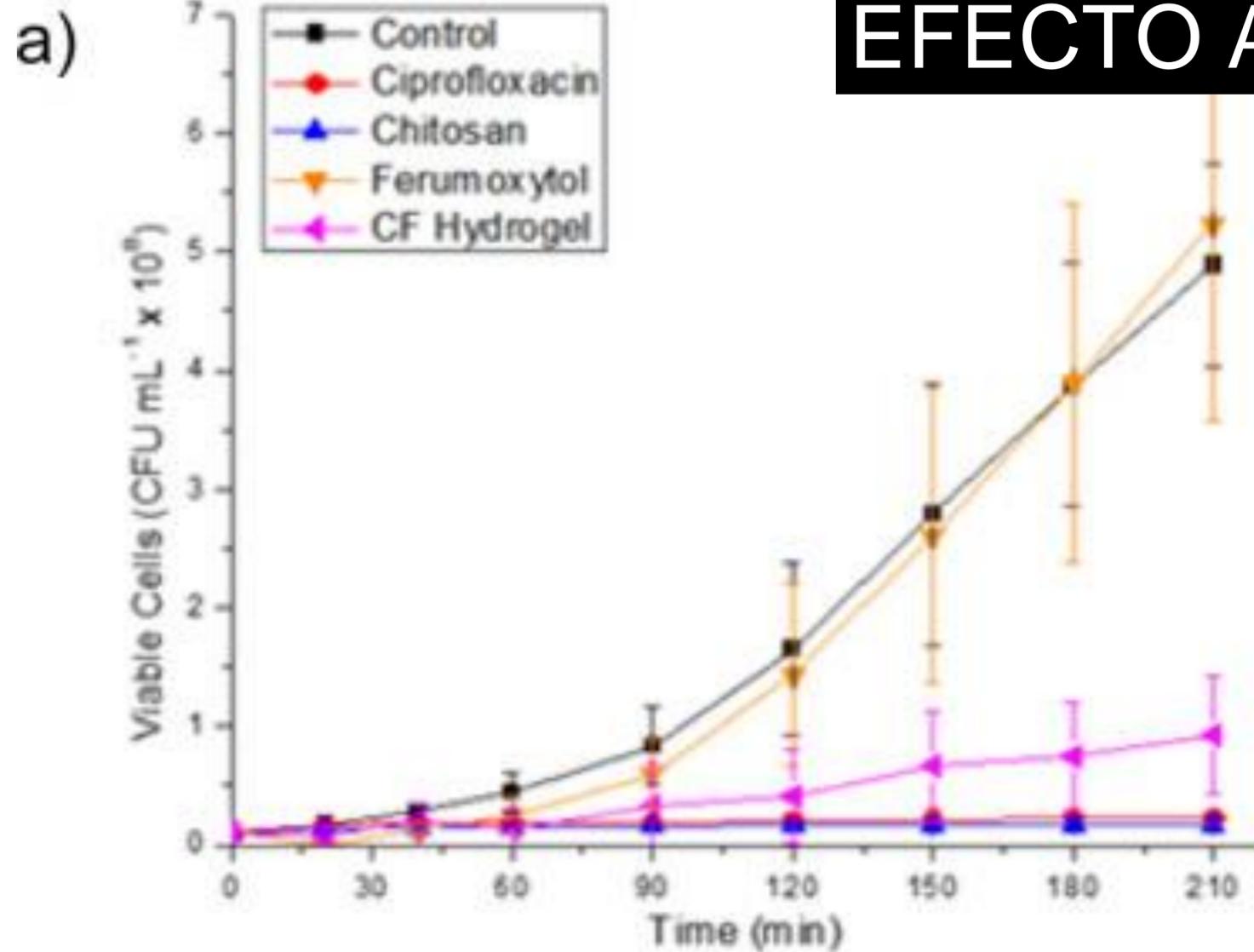


# RIRS en alta carga litiásica

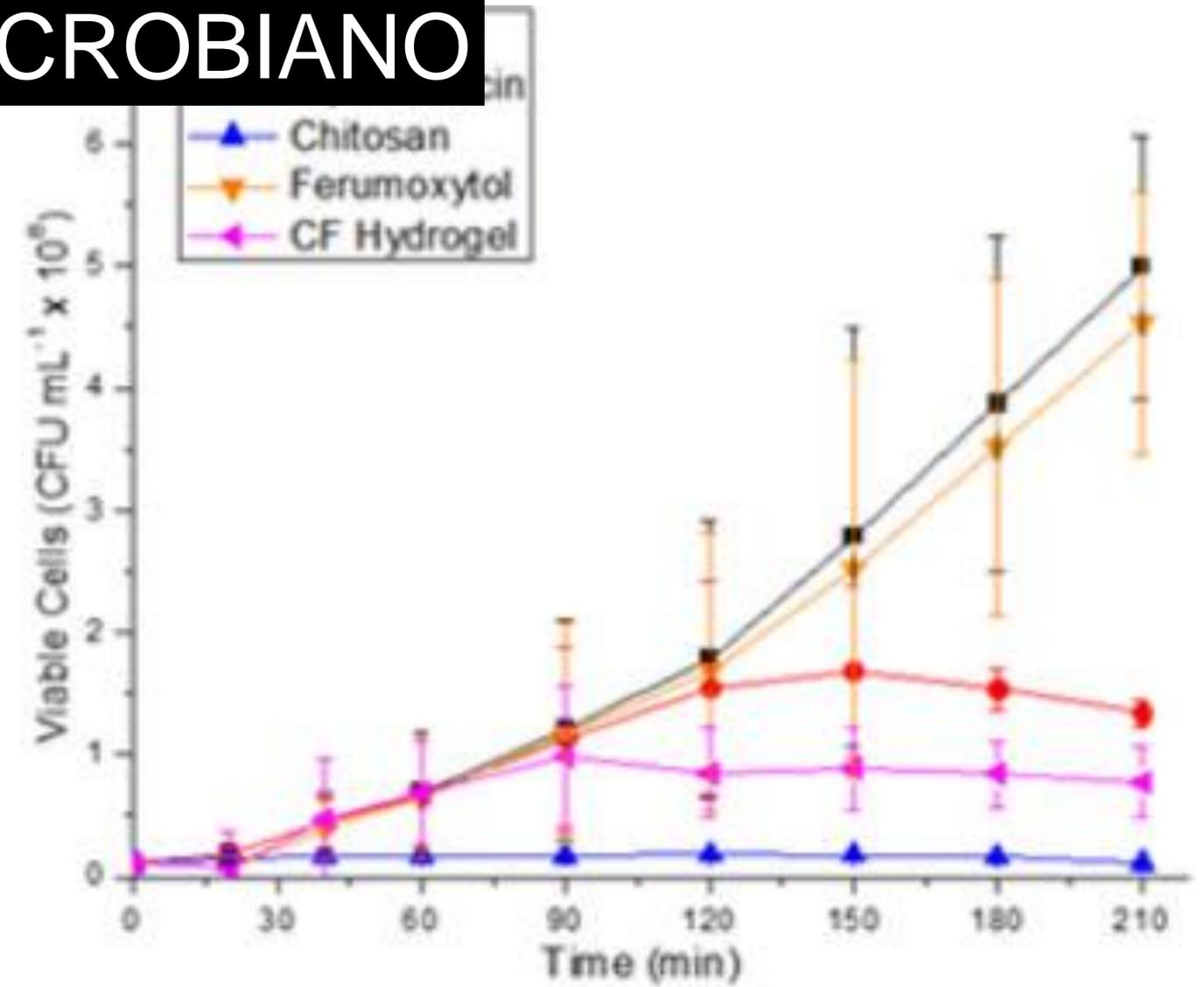
MagSToNE

## EXTRACCION FRAGMENTOS LITIASICOS

### EFEECTO ANTIMICROBIANO



E. Coli



Proteus

CHITOSAN: AMINOPOLISACÁRICO derivado de cascara de crustáceos

# RIRS en alta carga litiásica

Review > BJU Int. 2023 Feb;131(2):153-164. doi: 10.1111/bju.15836. Epub 2022 Jul 12.

## International Alliance of Urolithiasis guideline on retrograde intrarenal surgery

Guohua Zeng<sup>1</sup>, Olivier Traxer<sup>2</sup>, Wen Zhong<sup>1</sup>, Palle Ooster<sup>3</sup>, Margaret S Pearle<sup>4</sup>,

Doble J  
postoperatorio

Mejoría el drenaje renal en lesiones uretrales y drenaje de fragmentos residuales.

¿TIEMPO?

No más de 30 días (aumenta el riesgo de sepsis)

\*\* Corrales M, et al. Risk of sepsis in RIRS: a systematic review of the literature. Eur Urol. 2022, 84-91.



# RIRS en alta carga litiásica

**OBESIDAD MORBIDA**

Figura 1. Paciente con IMC 39,5 en decúbito supino, durante colocación de catéter ureteral



Figura 2. Paciente con IMC 40,2 en decúbito prono, preparado para punción



**NADIE ES GORDO DENTRO SU URÉTER**



# RIRS en alta carga litiásica

## CONCLUSION

- RIRS es una técnica costo-efectiva y segura para litiasis de >2 cm.
- Múltiples herramientas preoperatorias para conocer el éxito de la RIRS.
- Avances importantes en los últimos años:
  - URS/vaina con detector de presión intrarrenal.
  - Sistemas de succión y extracción de fragmentos.
- Mejoría de las complicaciones y mejor SFR.

SI



28  
Congreso  
Sociedad Canaria  
de Urología

**MUCHAS GRACIAS**

**Dra. Laura González Pérez  
Adjunta Urología HUC**

# RIRS en alta carga litiásica

## CALLE LITIASICA

F1000R

CASE REPORT

REVISED

retrograde

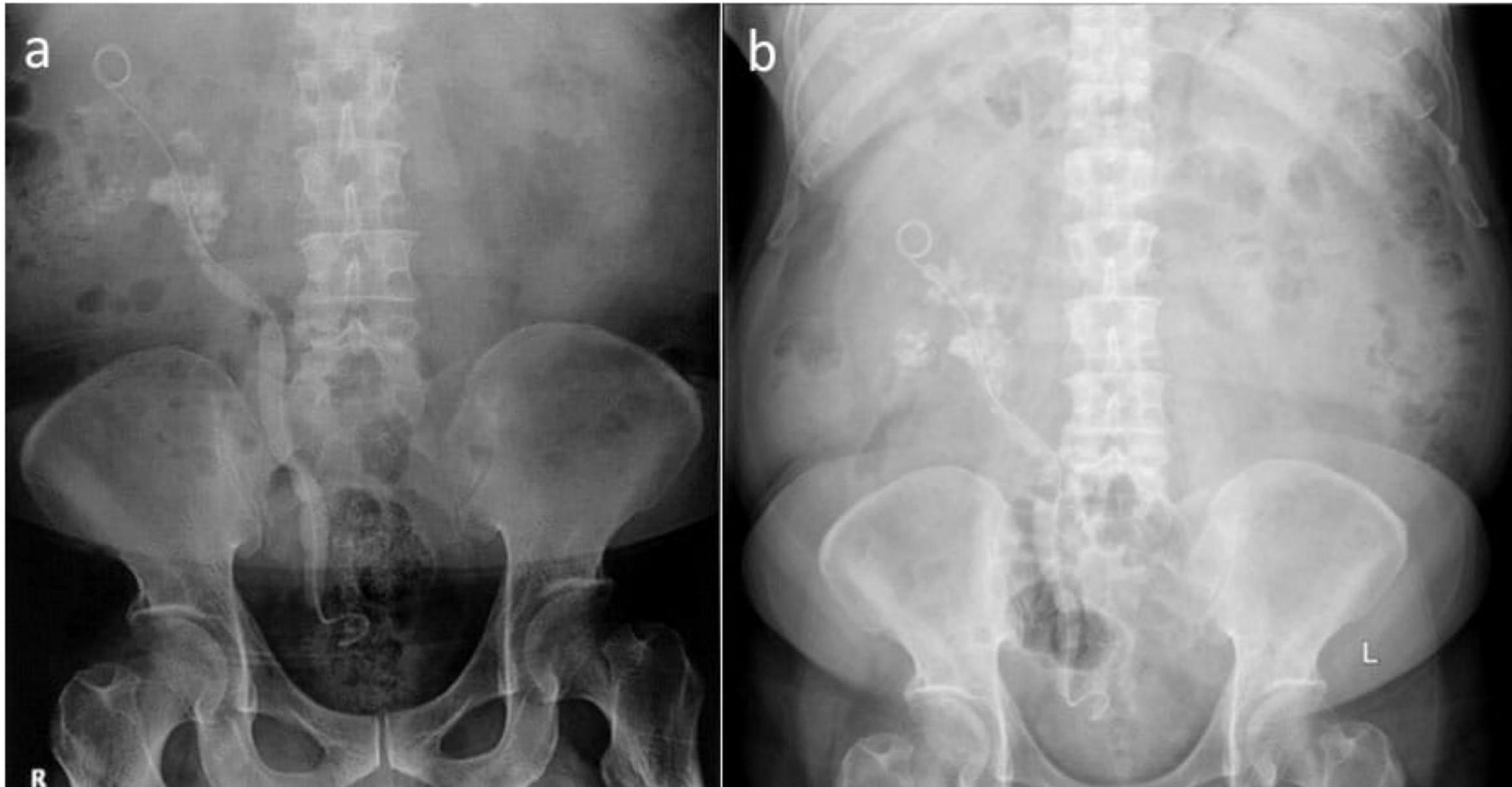
kidney

outcomes

Previously

staghorn

Ponco B



Irography of the pa

**strasse formation.** Immediate (a) and one-month (April 2016) (b) Kidney-Ureter-Bladder imaging follo

# PAST-PRESENT-FUTURE

## ENDO-UROLOGY ? :

“From **Knife to Needle to Nothing**”

Ralph Clayman

Or

“From **Open Surgery to PCNL to RIRS...**”



**Olivier Traxer @OT... · 16/6/21 ...**

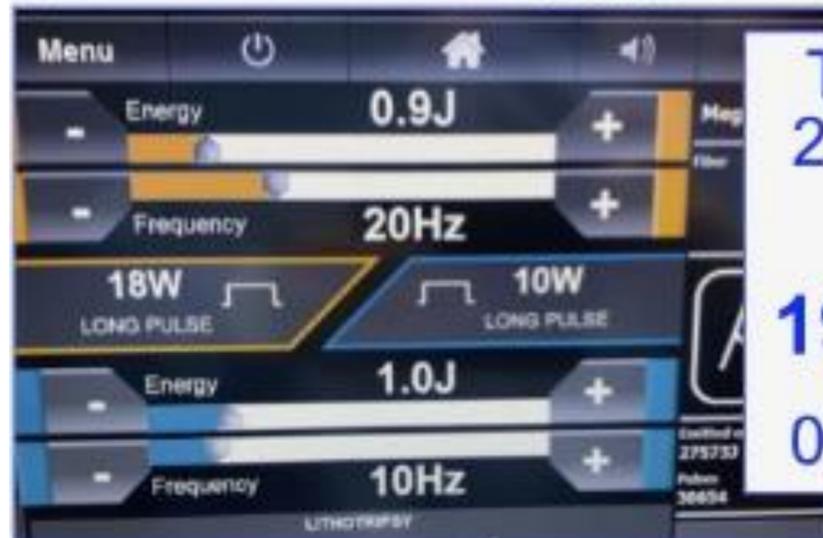
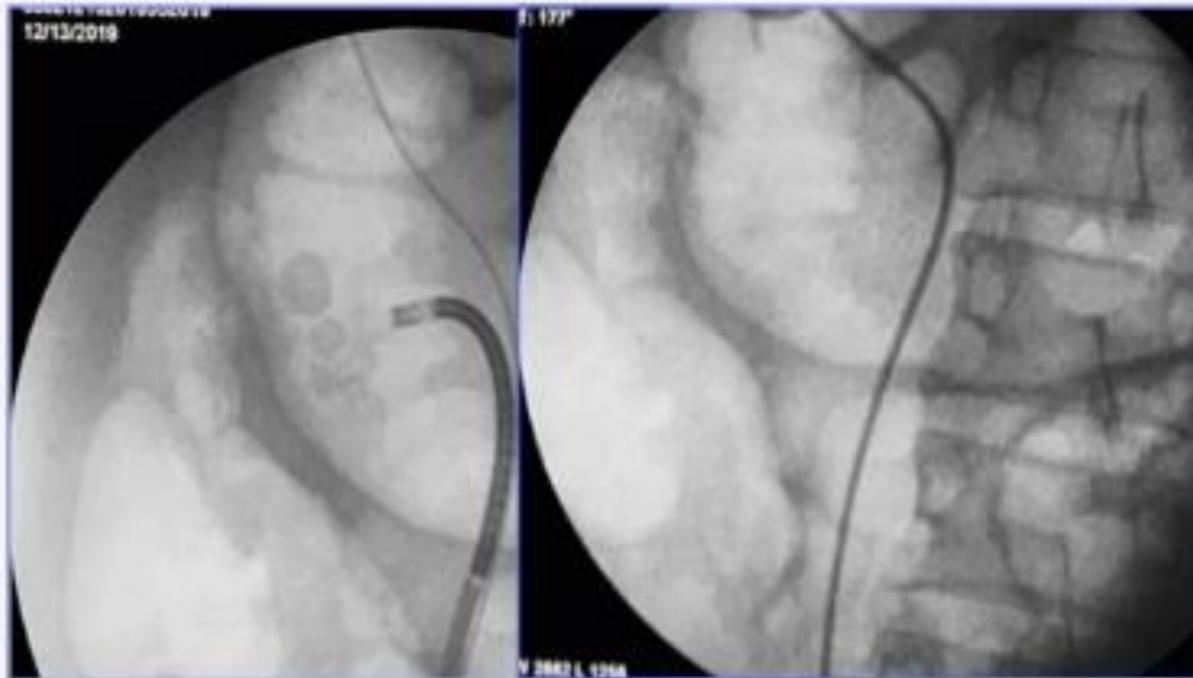
**BN56: « Render unto Caesar... ».**

**When I started my Fellowship**

# Ho:YAG

12x12x11 mm & 7x7x7 &  
7x5x5 & 7x8x7 1400 UH

Vol:  $\approx 1300\text{mm}^3$



Tot Energy :  
25700J in 37  
min

**19,7 J/mm<sup>3</sup>**

0,58mm<sup>3</sup>/sec

# TmFiber

20x20x16 mm & 10x10x8  
1600 UH

Vol:  $\approx 3600\text{mm}^3$



Tot Energy :  
64230J in 65  
min

**17,8 J/mm<sup>3</sup>**

0,92mm<sup>3</sup>/sec