aeu asociación española de urología

fiu fundación para la investigación en urología

LXXXIV Congreso Nacional de Urología

BILBAO - 12 a 15 de Junio - 2019

Curso de Adiestramiento

Enucleación Endoscópica de la Próstata

HoLEP

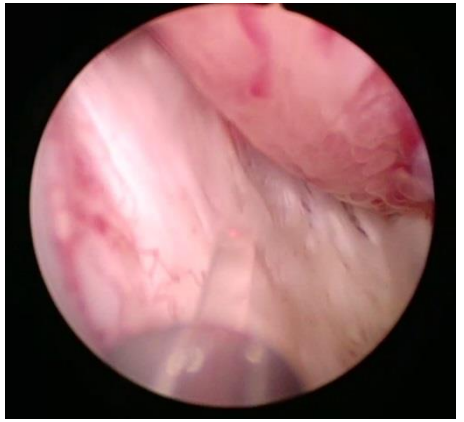
Dr. Sergio Fdez-Pello. Hospital Universitario de Cabueñes (Gijón)

Bilbao 2019

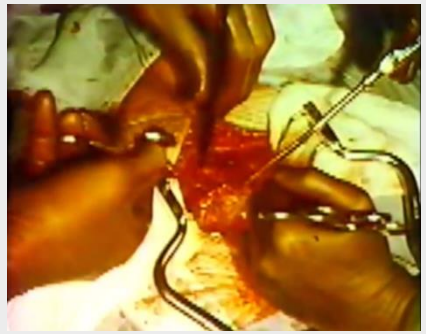
Conflictos de Interés
Dr. Fdez-Pello

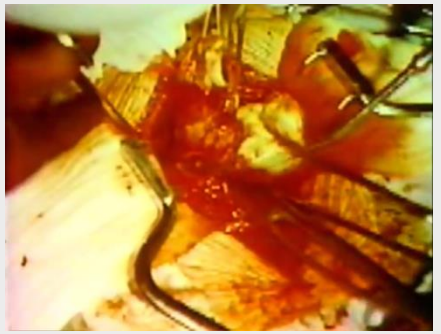
No conflictos de interés de tipo comercial

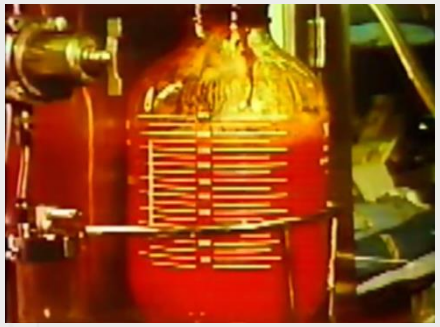
Conflicto de interés Personal: uso habitual de HoLEP en mi práctica habitual



Justificación del Curso





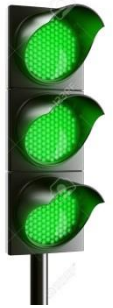
Adenomectomía Abierta

Reducción de STUI 63-86%

Mejoría QoL 60-87%

Incremento Qmax 375% (+16-20 ml/s)

Reducción del RPM 86-98%



Complications and Early Postoperative Outcome After Open Prostatectomy in Patients With Benign Prostatic Enlargement: Results of a Prospective Multicenter Study

Christian Gratzke,* Boris Schlenker, Michael Seitz, Alexander Karl, Peter Hermanek, Nicholas Lack, Christian G. Stief and Oliver Reich

0022-5347/07/1774-1419/0
THE JOURNAL OF UROLOGY®

Adenomectomía Abierta

Mortalidad 0.25%

Transfusión 14%

Incontinencia urinaria 10%

Estenosis/Esclerosis 6%

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THE JOURNAL OF UROLOGY®

Justificación del Curso

Management of Non-Neurogenic Male Lower Urinary Tract Symptoms (LUTS), incl. Benign Prostatic Obstruction (BPO)

S. Gravas (Chair), J.N. Cornu, M. Gacci, C. Gratzke, T.R.W. Herrmann, C. Mamoulakis, M. Rieken, M.J. Speakman, K.A.O. Tikkinen
Guidelines Associates: M. Karavitakis, I. Kyriazis, S. Malde, V. Sakalis, R. Umbach

European Association of Urology

Summary of evidence	LE
Open prostatectomy is an effective and durable procedure for the treatment of LUTS/BPO but it is the most invasive surgical method.	1b
Endoscopic enucleation of the prostate is an effective minimally invasive option for treating moderate-to-severe LUTS secondary to BPO in patients with large prostates.	1
Endoscopic enucleation of the prostate achieves similar short- and mid-term efficacy to OP.	1
Endoscopic enucleation of the prostate has a more favourable peri-operative safety profile compared with OP.	1
Open prostatectomy or EEP such as holmium laser or bipolar enucleation of the prostate are the first choice of surgical treatment in men with a substantially enlarged prostate and moderate-to-severe LUTS.	1

Recommendations	Strength rating
Offer endoscopic enucleation of the prostate or open prostatectomy to treat moderate-to-severe LUTS in men with prostate size > 80 mL.	Strong
Offer open prostatectomy in the absence of endoscopic enucleation to treat moderate-to-severe LUTS in men with prostate size > 80 mL.	Strong

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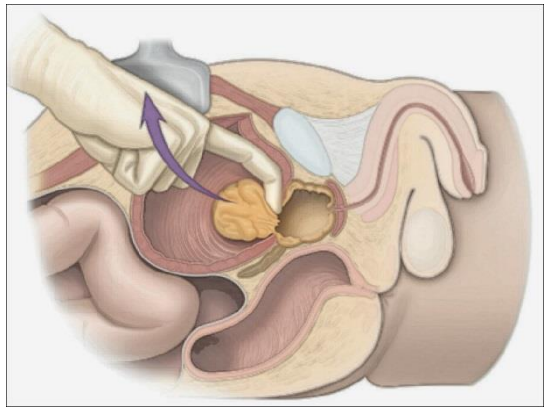
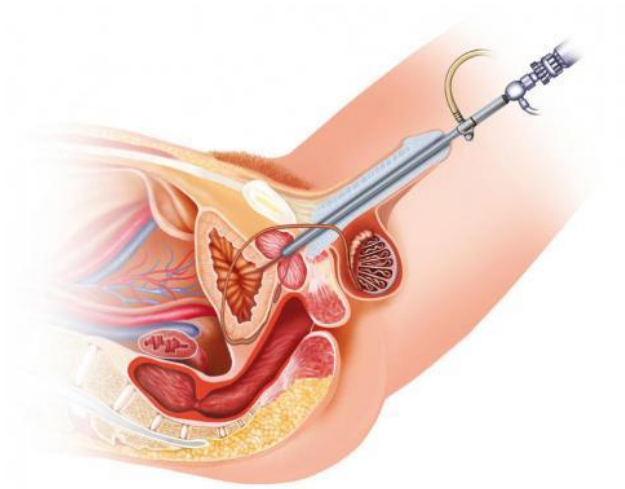
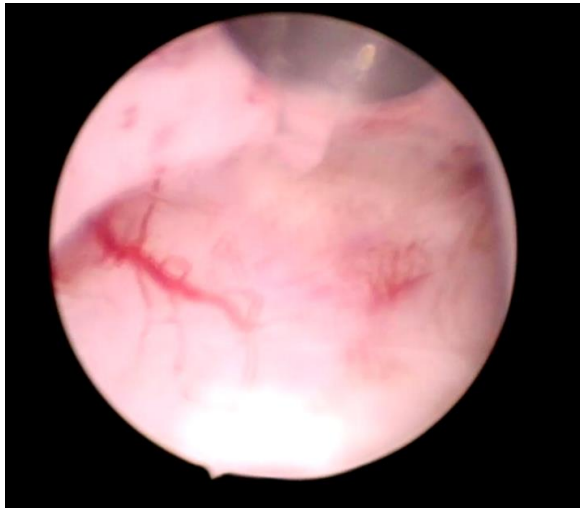
¿Qué es EEP?
(Enucleación Endoscópica Prostática)







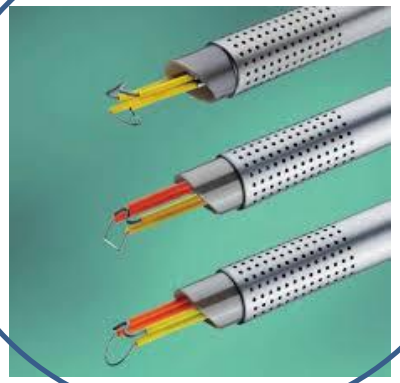
¿Qué es EEP?
(Enucleación Endoscópica Prostática)

Título: Transurethral enucleation of benign prostatic hyperplasia
Autor: Hiraoka, Y ; Lin, T ; Tsuboi, N ; Nakagami, Y
Materias: Prostatectomy -- Methods; Prostatic Hyperplasia -- Surgery
Es parte de: Nihon Ika Daigaku zasshi, April 1986, Vol.53(2), pp.212-5
Idioma: Inglés
Identificador: **ISSN:** 0048-0444 ; **PMID:** 2423551 Version:1
Fuente: MEDLINE/PubMed (U.S. National Library of Medicine)
Tipo: Artículo

Título: Transurethral Enucleation of Benign Prostatic Hyperplasia
Autor: Hiraoka, Yasunori ; Akimoto, Masao
Materias: Prostatectomy -- Methods; Prostatic Hyperplasia – Surgery
Es parte de: The Journal of Urology, November 1989, Vol.142(5), pp.1247-1250
Descripción: A prostatic detaching blade for a new endoscopic method has been devised for transurethral resection of the prostate along the cleavage plane at the surgical capsule. After partial resection of the adenoma with the loop the remaining adenoma, except for a portion at the bladder neck, is detached from the surgical capsule under direct vision with the detaching blade. The remaining adenoma then is removed by the electric loop down to the detached surgical capsule. This method of resection has been performed in 200 patients with improvement of symptoms in all. Detachment of the adenoma along the surgical capsule always is possible, thereby defining the depth of resection and minimizing the risk of capsular perforation compared to standard transurethral prostatectomy (J. Urol., 142: 1247-1250, 1989)
Idioma: Inglés
Identificador: **ISSN:** 0022-5347 ; **DOI:** 10.1016/S0022-5347(17)39047-X

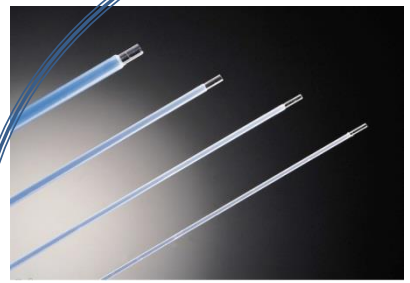
Fuentes de Energía EEP

Energía Bipolar

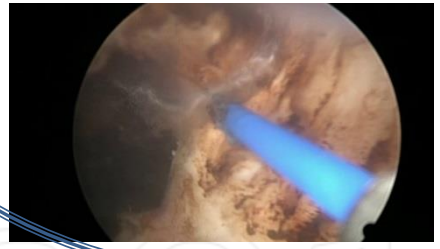


Energía Láser

Holmio

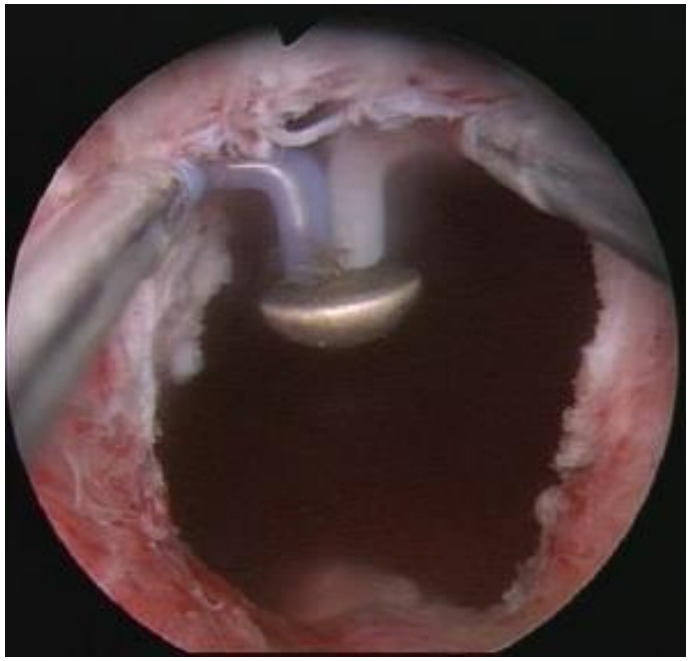


Verde



Tulio

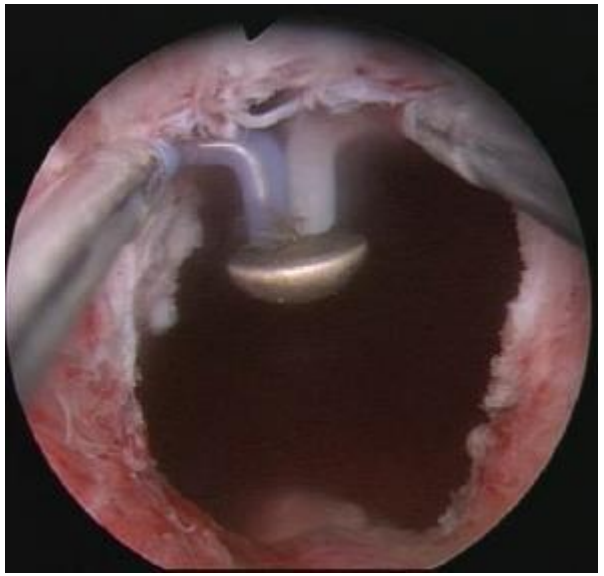
Enucleación Bipolar



Bipolar plasma enucleation of the prostate vs open prostatectomy in large benign prostatic hyperplasia cases – a medium term, prospective, randomized comparison

Bogdan Geavlete, Florin Stanescu, Catalin Iacoboaie and Petrisor Geavlete

Department of Urology, 'Saint John' Emergency Clinical Hospital, Bucharest, Romania



Preoperative parameters	BPEP ($N = 70$)	OP ($N = 70$)	P
Prostate volume (mL)	132.6 (80–280)	129.7 (80–275)	NS*, 0.595
IPSS	25.3 (20–34)	25.6 (20–35)	NS†, 0.693
QoL	4.7 (2–6)	4.6 (3–6)	NS*, 0.524
Q_{max} (mL/s)	5.9 (2.6–9.8)	5.7 (2.5–9.7)	NS†, 0.619
PVR (mL)	164 (23–765)	168 (20–752)	NS*, 0.775
Haemoglobin level (g/dL)	14.3 (10.3–16.1)	14.2 (10.2–15.9)	NS*, 0.211
PSA level (ng/dL)	8.5 (0.72–27.9)	8.4 (0.68–28.4)	NS*, 0.135

Peri-operative features	BPEP ($N = 70$)	OP ($N = 70$)	P
Operation duration (min)	91.4 (32–195)	87.5 (39–141)	NS*, 0.664
Resected tissue weight (g)	108.3 (58–241)	115.4 (63–253)	NS*, 0.116
Postoperative haematuria	2.9% (2/70)	12.9% (9/70)	S‡, 0.035
Haemoglobin drop (g/dL)	1.7 (0.3–3.2)	3.1 (0.6–5.8)	S†, <0.0001
Blood transfusion	1.4%(1/70)	8.6% (6/70)	SSL‡, 0.059
Catheterization period (days)	1.5 (1–4)	5.8 (4–10)	S*, <0.0001
Hospital stay (days)	2.1 (1.5–5)	6.9 (5–11)	S*, <0.0001

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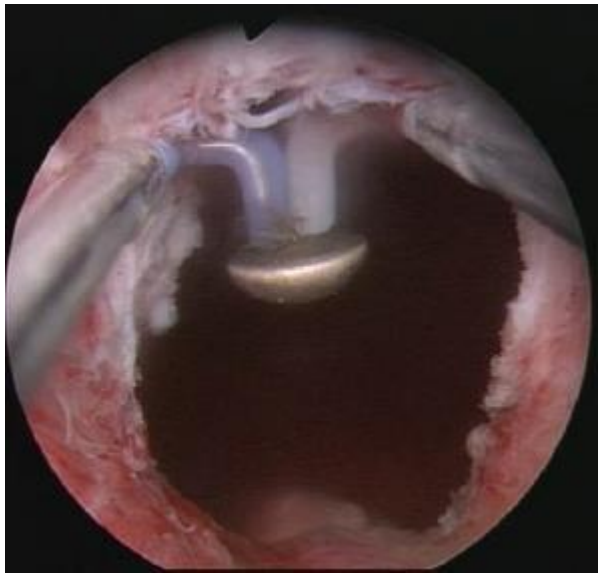

	BPEP ($N = 64$)	OP ($N = 63$)	P
IPSS			
1 month	5.7 (1–22)	5.9 (0–23)	NS*, 0.436
3 months	4.8 (0–21)	4.7 (0–22)	NS*, 0.981
6 months	4.3 (0–21)	4.4 (1–20)	NS*, 0.902
12 months	4.1 (0–19)	4.3 (0–20)	NS*, 0.703
QoL			
1 month	1.6 (0–5)	1.9 (0–6)	NS*, 0.315
3 months	1.3 (0–6)	1.6 (0–5)	NS*, 0.169
6 months	1.1 (0–5)	1.2 (0–5)	NS*, 0.768
12 months	1.0 (0–5)	1.2 (0–5)	NS*, 0.491
Q_{max} (mL/s)			
1 month	24.1 (9.8–35.6)	24.3 (9.6–37.4)	NS†, 0.810
3 months	25.0 (10.1–38.7)	24.9 (9.5–37.9)	NS†, 0.919
6 months	25.6 (10.3–38.1)	25.2 (10.7–38.6)	NS†, 0.724
12 months	25.4 (9.5–38.3)	25.1 (10.2–37.5)	NS†, 0.780
PVR (mL)			
1 month	42.9 (0–248)	38.6 (0–223)	NS*, 0.395
3 months	31.6 (0–229)	32.8 (0–234)	NS*, 0.638
6 months	27.1 (0–217)	26.7 (0–219)	NS*, 0.664
12 months	21.4 (0–195)	20.9 (0–208)	NS*, 0.870
Prostate volume (mL)			
6 months	22.5 (11–48)	23.2 (12–45)	NS*, 0.518
12 months	21.3 (10–47)	22.3 (10–44)	NS*, 0.956
PSA (ng/mL)			
6 months	0.80 (0.12–5.31)	0.83 (0.14–4.69)	NS*, 0.205
12 months	0.76 (0.10–5.02)	0.78 (0.09–4.85)	NS*, 0.662

Transurethral enucleation and resection of the prostate vs transvesical prostatectomy for prostate volumes >80 mL: a prospective randomized study

Rubiao Ou, Xiangrong Deng, Wenjun Yang, Xinghua Wei, Hui Chen and Keji Xie

Department of Urology, Guangzhou First People's Hospital, Guangzhou Medical University, Guangzhou, Guangdong, China

Variable	TUERP, *n* = 47	TVP, *n* = 45
Age, years	69.8 (10.2)	71.5 (9.5)
Prostate volume, mL	132.2 (36.9	139.5 (36.2)
IPSS	23.2 (5.7)	25.1 (5.4)
QoL score	4.1 (0.4)	4.3 (0.5)
PVR, mL	89.6 (52.7)	81.3 (48.6)
Q_{max}, mL/s	5.9 (2.1)	5.1 (2.3)
PSA, ng/mL	5.9 (0.7)	5.6 (0.8)
Haemoglobin, g/dL	13.2 (2.3)	13.8 (2.0)
Serum sodium, mmol/L	140.0 (7.5)	138.7 (6.3)

Variable	TUERP, *n* = 47	TVP, *n* = 45	*P**
Operation duration, min	100.4 (15.8)	105.6 (17.1)	0.433
Resected adenoma weight, g	98.7 (27.9)	109.8 (30.2)	0.22
Postoperative irrigation time, days	2.4 (0.7)	4.3 (0.8)	<0.05
Catheterization time, days	4.3 (1.2)	7.6 (1.5)	<0.05
Length of hospital stay, days	5.8 (2.1)	9.3 (3.3)	<0.005
Decrease in haemoglobin, g/dL	1.2 (1.0)	2.0 (1.2)	<0.05

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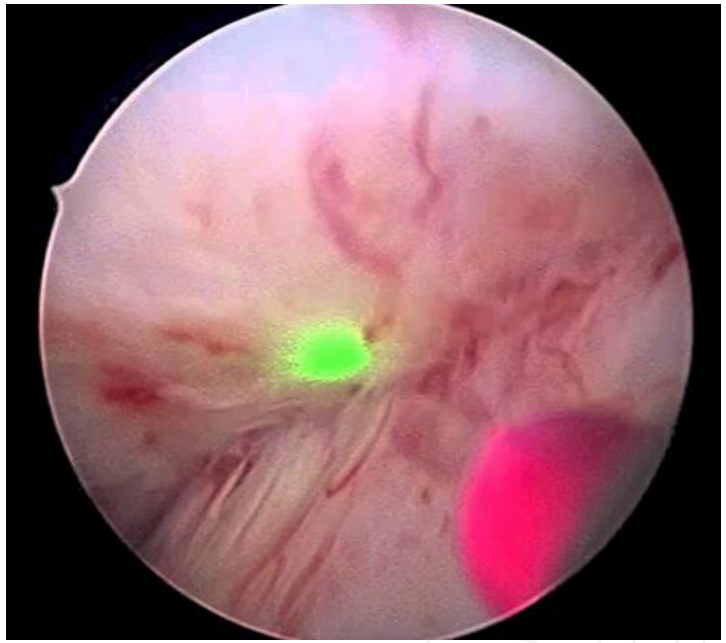
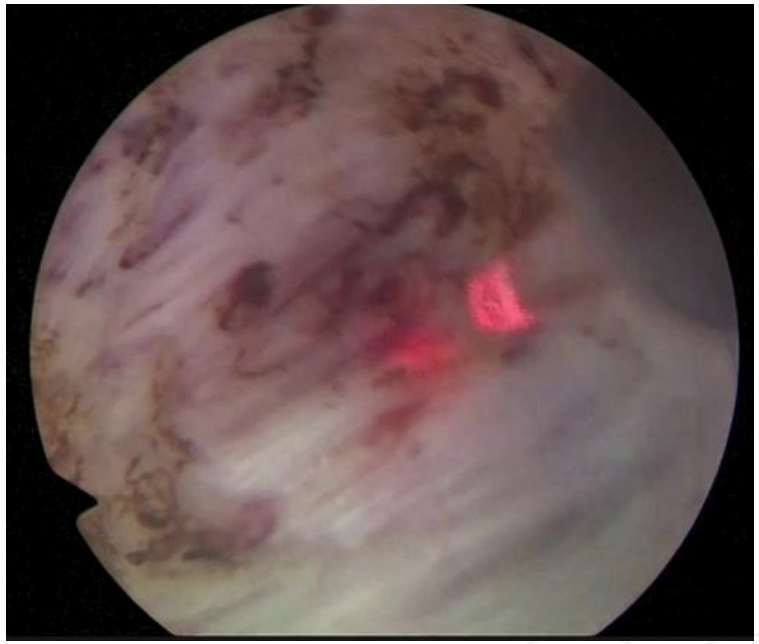
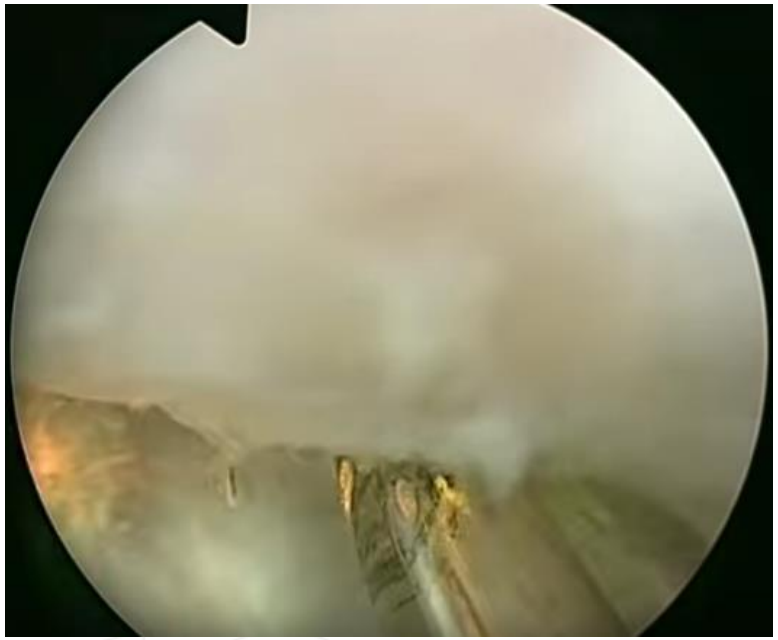
	TUERP, *n* = 47	TVP, *n* = 45
Baseline		
IPSS score	23.2 (5.7)	25.1 (5.4)
Q_{max}, mL/s	5.9 (2.1)	5.1 (2.3)
QoL score	4.1 (0.4)	4.3 (0.5)
PVR, mL	89.6 (52.7)	81.3 (48.6)
3 Months		
IPSS score	9.1 (2.2)	8.8 (1.7)
Q_{max}, mL/s	13.1 (2.3)	15.6 (2.4)
QoL score	1.5 (0.6)	1.6 (0.8)
PVR, mL	25.7 (16.9)	27.5 (10.6)
12 Months		
IPSS	5.6 (1.0)	5.8 (1.2)
Q_{max}, mL/s	15.5 (4.3)	16.9 (4.9)
QoL score	1.3 (0.7)	1.3 (0.5)
PVR, mL	28.3 (13.6)	25.1 (11.2)

Enucleación Láser

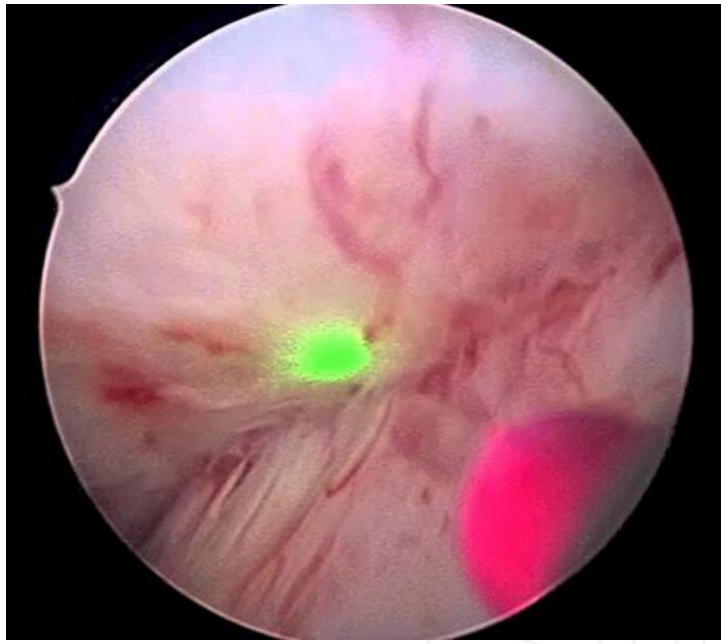




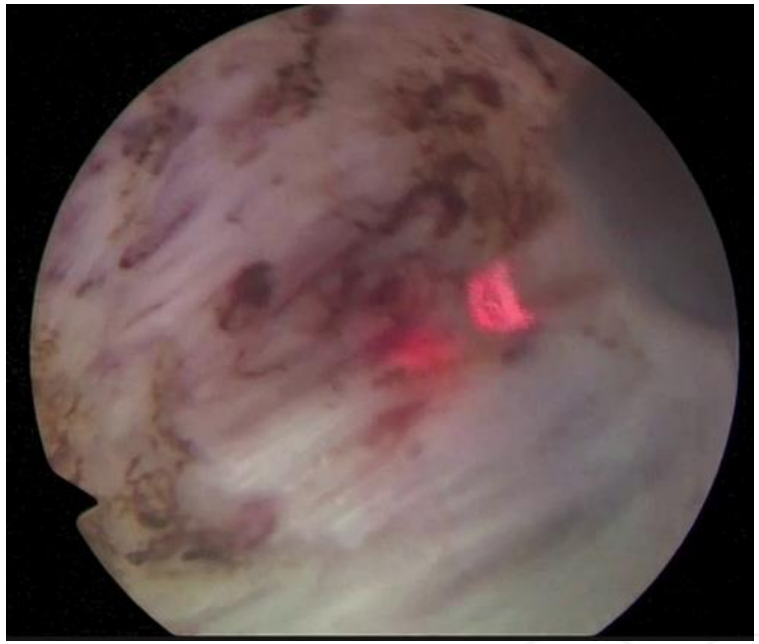


Enucleación Láser

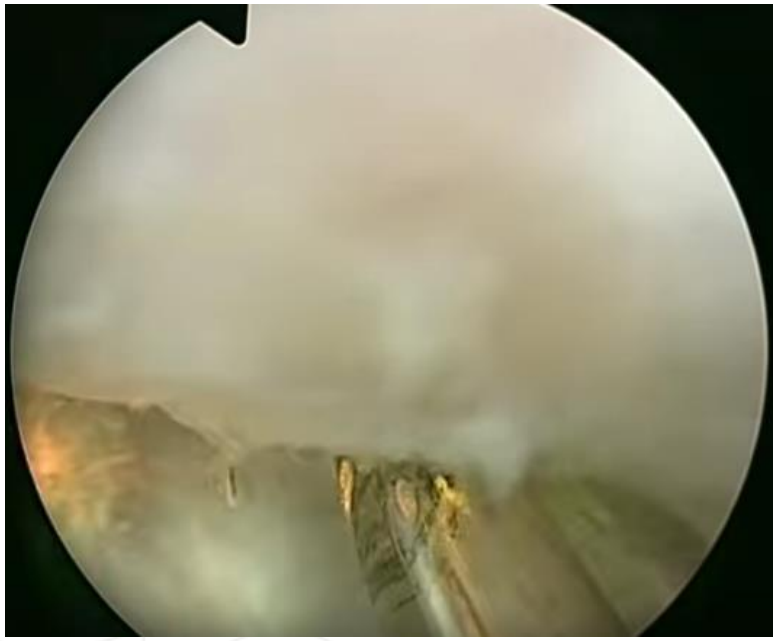
HoLEP



ThuLEP



GreenLEP



Evidencia HoLEP – Grandes Próstatas

To cite this article:

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Journal of Endourology. Apr 1995. ahead of print
http://doi.org/10.1089/end.1995.9.151

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Benign Prostatic Obstruction

Holmium Laser Enucleation of the Prostate versus Open Prostatectomy for Prostates Greater than 100 Grams: 5-Year Follow-Up Results of a Randomised Clinical Trial

Rainer M. Kuntz[a,*], *Karin Lehrich*[a], *Sascha A. Ahyai*[b]

Holmium Laser Enucleation of the Prostate: Long-Term Durability of Clinical Outcomes and Complication Rates During 10 Years of Followup

Hazem M. Elmansy, Ahmed Kotb and Mostafa M. Elhilali*,†

From the Division of Urology, Department of Surgery, Faculty of Medicine, McGill University, Montreal, Quebec, Canada

Evidencia HoLEP
(en grandes próstatas)

Eficacia

Mejoría Qmax ~ adenomectomía
Mejoría IPSS ~ adenomectomía
Re-Cirugía (5%) ~ adenomectomía

Seguridad

Menor tiempo de sonda
Menor estancia hospitalaria
Menor tasa de transfusión

*pacientes anticoagulados
*pacientes con déficit plaquetarios

Evidencia HoLEP – Próstatas Medianas

BJUI
BJU INTERNATIONAL

Long-term results of a randomized trial comparing holmium laser enucleation of the prostate and transurethral resection of the prostate: results at 7 years

Peter J. Gilling, Liam C. Wilson, Colleen J. King, Andre M. Westenberg, Christopher M. Frampton* and Mark R. Fraundorfer

*Department of Urology, Tauranga Hospital, Tauranga, and *Department of Medicine, Christchurch School of Medicine, Christchurch, New Zealand*

Accepted for publication 16 March 2011

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available at www.sciencedirect.com
journal homepage: www.europeanurology.com

eau
European Association of Urology

Benign Prostatic Hyperplasia

Holmium Laser Enucleation versus Transurethral Resection of the Prostate: 3-Year Follow-Up Results of a Randomized Clinical Trial

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Evidencia HoLEP (en próstatas medianas)

Eficacia

Mejoría Qmax ~ RTU
Mejoría IPSS > RTU
Mejoría RPM > RTU

Seguridad

Menor tiempo de sonda
Menor estancia hospitalaria
Menor pérdida de sangre
Menor tasa de transfusión

*mayor tiempo quirúrgico
*estenosis (2.6%)
*incontinencia (1.5%)
*re-intervención (4%)

Posición de las Guías Clínicas

European Association of Urology

Recommendation	Strength rating
Offer laser enucleation of the prostate using Ho:YAG laser (HoLEP) to men with moderate-to-severe LUTS as an alternative to transurethral resection of the prostate or open prostatectomy.	Strong

American Urological Association

LASER ENUCLEATION

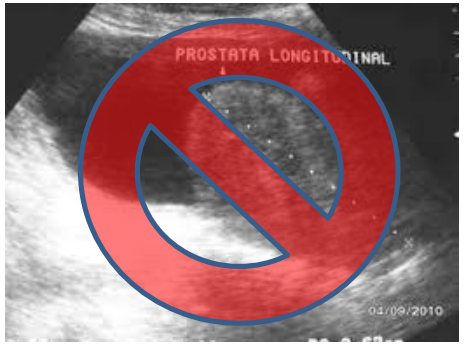
20. Clinicians should consider holmium laser enucleation of the prostate (HoLEP) or thulium laser enucleation of the prostate (ThuLEP), depending on their expertise with either technique, as prostate size-independent suitable options for the treatment of LUTS attributed to BPH. (Moderate Recommendation; Evidence Level: Grade B)

MEDICALLY COMPLICATED PATIENTS

23. HoLEP, PVP, and ThuLEP should be considered in patients who are at higher risk of bleeding, such as those on anti-coagulation drugs. (Expert Opinion)

Evidencia ThuLEP

RCT (Feng L 2016)	ThuLEP vs BiEP	>Thulio hemostasia y tiempo de sonda
RCT (Zhang F 2012)	ThuLEP vs HOLEP *próstatas 45cc	>Thulio hemostasia y tiempo quirúrgico
CS (Netsch C 2014)	ThuLEP *próstatas 50cc	Pacientes con Anticoagulación Oral



Thulium Laser Enucleation Versus Plasmakinetic Enucleation of the Prostate: A Randomized Trial of a Single Center. Feng, Lang ; Zhang, Daoxin ; Tian, Ye ; Song, Jian. Journal of endourology, June 2016, Vol.30(6), pp.665-70

Thulium Laser Versus Holmium Laser Transurethral Enucleation of the Prostate: 18-Month Follow-up Data of a Single Center. Zhang, Fengbo ; Shao, Qiang ; Herrmann, Thomas R.W. ; Tian, Ye ; Zhang, Yuhai. Urology, April 2012, Vol.79(4), pp.869-874

Safety and effectiveness of Thulium VapoEnucleation of the prostate (ThuVEP) in patients on anticoagulant therapy. Netsch C, Stoehrer M, Brüning M, Gabuev A, Bach T, Herrmann TR, Gross AJ. World J Urol. 2014 Feb;32(1):165-72.

Posición de las Guías Clínicas

European Association of Urology

Recommendations	Strength rating
Offer laser enucleation of the prostate using Tm:YAG vapoenucleation (ThuVEP) and Tm:YAG laser assisted anatomical enucleation (ThuLEP) to men with moderate-to-severe LUTS as alternatives to TURP and holmium laser enucleation (HoLEP).	Weak
Offer ThuVEP to patients receiving anticoagulant or antiplatelet therapy.	Weak

American Urological Association

LASER ENUCLEATION

20. Clinicians should consider holmium laser enucleation of the prostate (HoLEP) or thulium laser enucleation of the prostate (ThuLEP), depending on their expertise with either technique, as prostate size-independent suitable options for the treatment of LUTS attributed to BPH. (Moderate Recommendation; Evidence Level: Grade B)

MEDICALLY COMPLICATED PATIENTS

23. HoLEP, PVP, and ThuLEP should be considered in patients who are at higher risk of bleeding, such as those on anti-coagulation drugs. (Expert Opinion)

Evidencia GreenLEP

Ausencia de RCT prospectivos y comparativos con otras técnicas de enucleación (digital o endoscópicas)

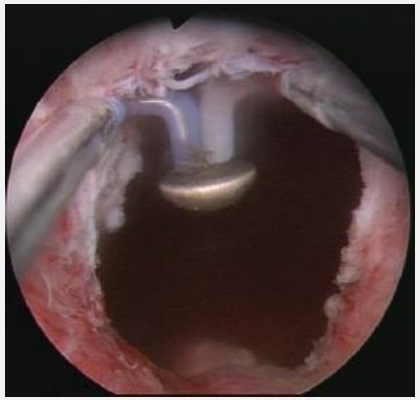
Misrai V 2018	Adenomectomia	GreenLEP
Tiempo quirúrgico	67	60
Días de Sonda	5	2
Días de Hospitalización	7	2
Complicaciones	37.2%	20.6%
Transfusión	8.3%	0.5%
Re-ingresos	7.8%	8.3%

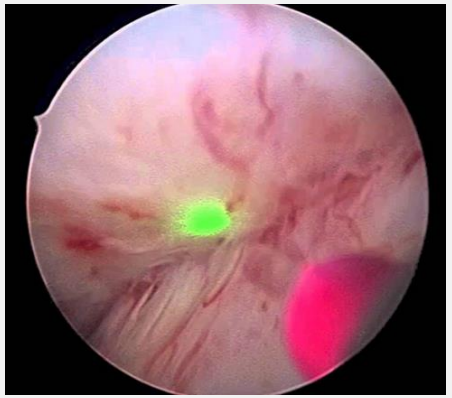
Peyronnet B, Robert G, Comat V, Rouprêt M, Gomez-Sancha F, Cornu JN, Misrai V. Learning curves and perioperative outcomes after endoscopic enucleation of the prostate: a comparison between GreenLight 532-nm and holmium lasers. World J Urol. 2017 Jun;35(6):973-983.

Misraï V, Pasquie M, Bordier B, Elman B, Lhez JM, Guillotreau J, Zorn K. Comparison between open simple prostatectomy and green laser enucleation of the prostate for treating large benign prostatic hyperplasia: a single-centre experience. World J Urol. 2018 May;36(5):793-799.

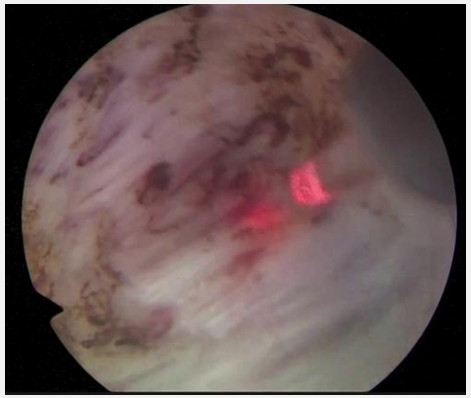
En resumen: Take Home Message

BiEP





HoLEP



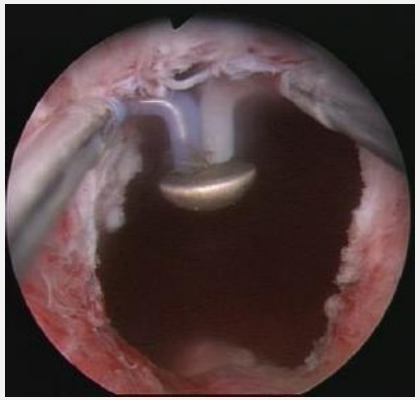
ThuLEP

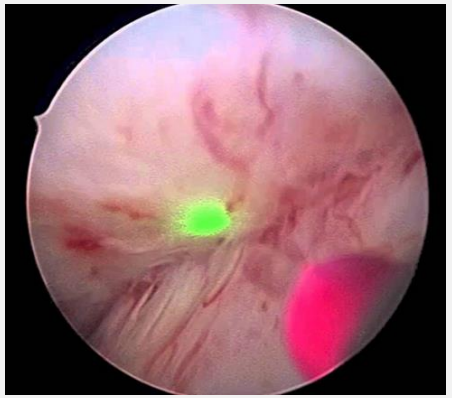
GreenLEP

Recommendations	Strength rating
Offer endoscopic enucleation of the prostate or open prostatectomy to treat moderate-to-severe LUTS in men with prostate size > 80 mL.	Strong
Offer open prostatectomy in the absence of endoscopic enucleation to treat moderate-to-severe LUTS in men with prostate size > 80 mL.	Strong

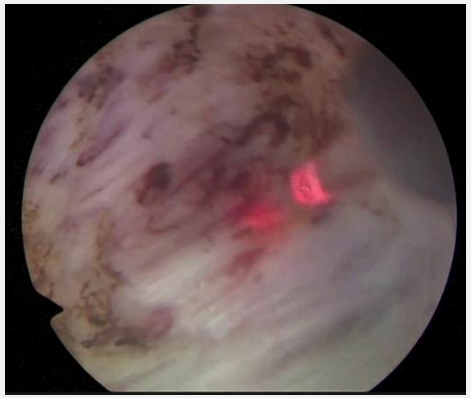
En resumen: Take Home Message

BiEP





HoLEP

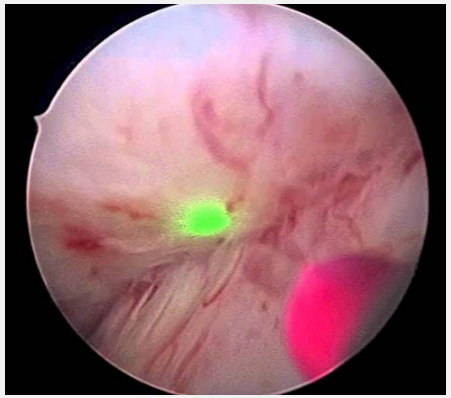


ThuLEP

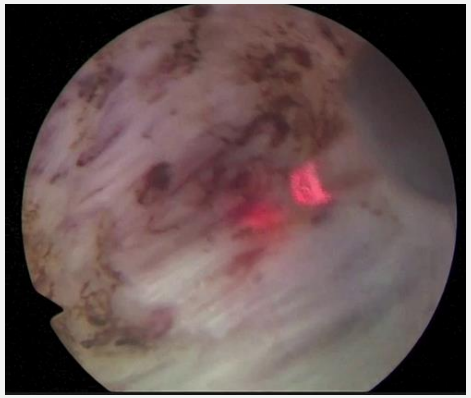
GreenLEP

Recomendación	Nivel Rec.
Ofrece enucleación endoscópica para tratar STUI moderados-severos en próstatas > 80 ml	Fuerte

En resumen: Take Home Message



HoLEP



ThuLEP

European Association of Urology

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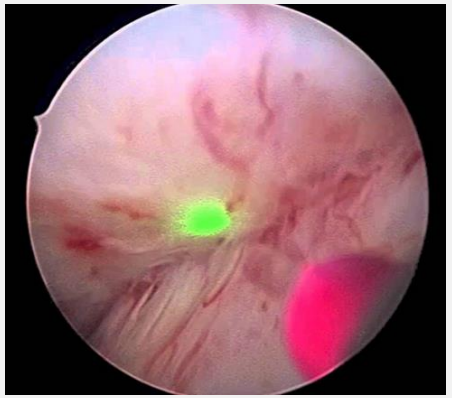
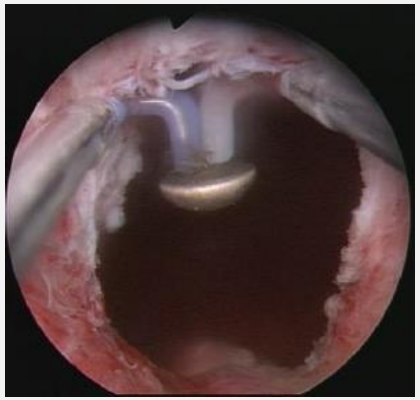
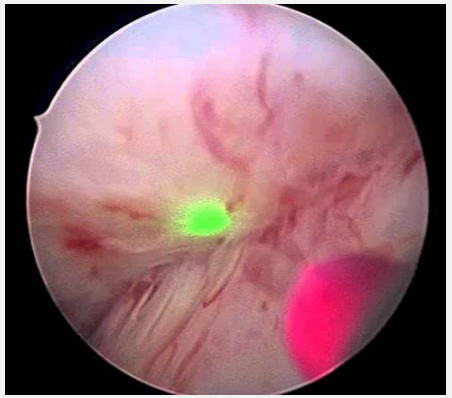
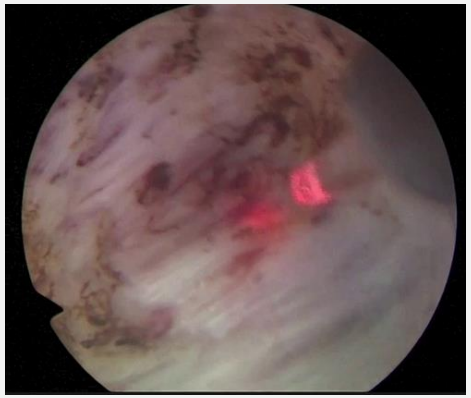
En resumen: Take Home Message



HoLEP

European Association of Urology

En resumen: Take Home Message


BiEP | HoLEP | ThuLEP | GreenLEP

…HoLEP se ha convertivo en el paradigma de la enucleación endoscópica gracias a la evidencia de la literatura proporcionada y a los excelences resultados funcionales. Un mayor nivel de evidencia científica se precisa para poder medir la eficacia de otras técnicas de enucleación alternativas…

Naspro R, Gomez Sancha F, Manica M, Meneghini A, Ahyai S, Aho T, Fiori C, Vavassori I, DA Pozzo LF, Pansadoro V, Montorsi F, Herrmann TR. From "gold standard" resection to reproducible "future standard" endoscopic enucleation of the prostate: what we know about anatomical enucleation. Minerva Urol Nefrol. 2017 Oct;69(5):446-458.

aeu asociación española de urología

fiu fundación para la investigación en urología

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