

Trattamento Chirurgico dell'IPB: dalla TUR-P alla Chirurgia ambulatoriale

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Stato dell' arte: quando trattare la BOO?

Indicazioni ASSOLUTE:

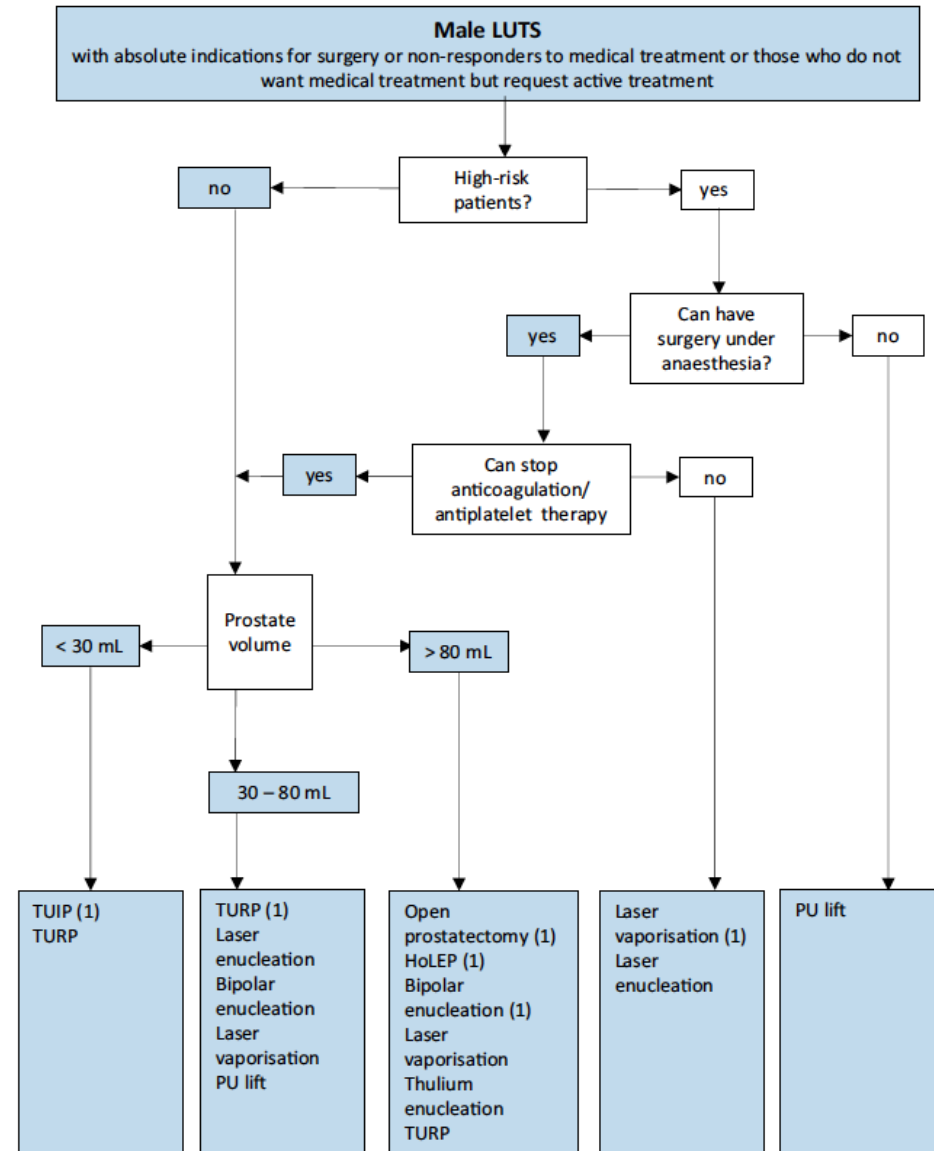
- 2 episodi di ritenzione acuta di urina
- Ritenzione cronica di urina con evidenza di scompenso detrusoriale
- Catetere a permanenza
- Ripetute infezioni delle vie urinarie
- Calcolosi vescicale

Indicazioni RELATIVE:

- insuccesso della terapia medica
- intolleranza alla terapia medica



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RESECTION - MONOPOLAR AND BIPOLAR

Summary of evidence	LE
Bipolar- or M-TURP is the current standard surgical procedure for men with prostate sizes of 30-80 mL and bothersome moderate-to-severe LUTS secondary of BPO.	1a
Bipolar-TURP achieves short-, mid- and long-term results comparable with M-TURP, but B-TURP has a more favourable peri-operative safety profile.	1a

Recommendation	Strength rating
Offer bipolar- or monopolar-transurethral resection of the prostate to surgically treat moderate-to-severe LUTS in men with prostate size of 30-80 mL.	Strong



MINIMALLY INVASIVE TREATMENTS (MISTs): Monopolar/bipolar TURP



STRENGTHS






- Long term efficacy (IPSS, QoL score, Qmax)
- Durable outcomes (follow up of 8-22 y)
- Low rate of re-treatment (2,6% after 16 months follow up)



LIMITS

- Morbidity (11%)
- TUR Syndrome (1,1%)
- Sexual problems/ED
- Urinary retention/clot retention (4,5%)
- Urethral strictures
- Prolonged catheterization
- Bladder neck contracture
- Retrograde ejaculation (< 65%)
- UTI (4,1%)
- Bleeding requiring transfusion (2,9%)
- Anticoagulant/anti-platelet therapies

Outcomes of bipolar TURP compared to monopolar TURP: A comprehensive literature review

Mriganka Mani Sinha¹ , Amelia Pietropaolo¹ , B.M. Zeeshan Hameed² , Vineet Gauhar³ ,
Bhaskar K. Somani¹ 

Cite this article as: Sinha MM, Pietropaolo A, Hameed BMZ, Gauhar V, Somani BK. Outcomes of bipolar TURP compared to monopolar TURP: A comprehensive literature review. *Turk J Urol.* 2022; 48(1): 1-10

Main Points

- Both MTURP and BTURP offer good clinical outcomes.
- MTURP has a greater incidence of hyponatremia and TUR syndrome.
- MTURP has a higher incidence of fall in hematocrit and blood transfusion.
- There is no significant difference between MTURP and BTURP regarding length of stay, urethral stricture, quality of life, and operative duration.
- Findings from this review suggest that BTURP should be adopted as the standard of care.



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ENUCLEATION

VAPORIZATION

VAPORESECTION

FUNCTIONAL OUTCOMES

- No clinically relevant differences in IPSS, QoL score, and Qmax at mild to long term follow up
- No significant differences were demonstrated for urethral stricture, BNC, incidence of incontinence and UTI
- Similar rate of re-treatment (<3%)

TURP

ADVANTAGES

- Better haemostatic efficiency
- Shorter catheterization time
- Shorter hospitalization time
- Less blood loss and transfusion rates
- lower short-term major morbidity rate
- Prostate volume > 80 ml
- Non-discontinuation of anticoagulant/antiplatelet therapies

EAU Guidelines

LASER AL TULLIO

Conclusions		LE
ThuVARP showed equivalent effectivity when compared to TURP in one RCT and one non-randomised prospective controlled trial with small and medium volume glands. Tm:YAG treated patient showed shorter catheterisation time and shorter hospitalisation time. Adverse events were significantly lower than in TURP (intra-operative and post-operative bleeding).		1b
Currently, only one RCT with a short follow-up has compared ThuVEP to HoLEP. Nevertheless, three prospective cohort studies with a follow-up of 18 months demonstrated efficacy for ThuVEP, as well as low perioperative complications and retreatment rates.		1b
Study data are awaited comparing ThuVEP and ThuLEP to HoLEP. HoLEP is the most extensively studied transurethral enucleation technique to date and long-term anatomical data are of particular interest.		4

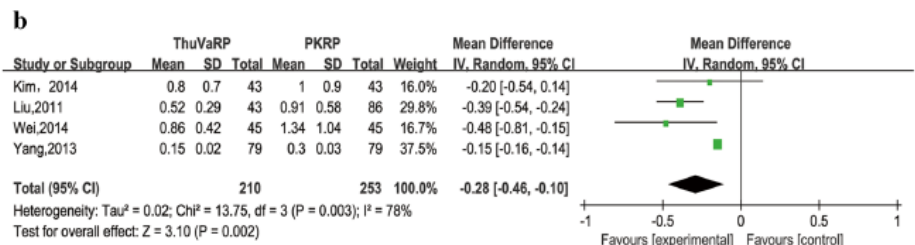
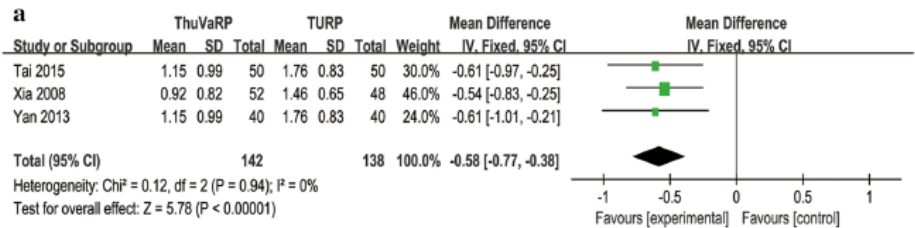
Recommendations	LE	GR
ThuVARP is an alternative to TURP for small- and medium-sized prostates.	1b	A
ThuVARP and ThuVEP are suitable for patients at risk of bleeding or taking anticoagulant medication.	2b	C
ThuVEP can be offered as an alternative to TURP, to HoLEP and OP for large size prostates.	1b, 2b	B



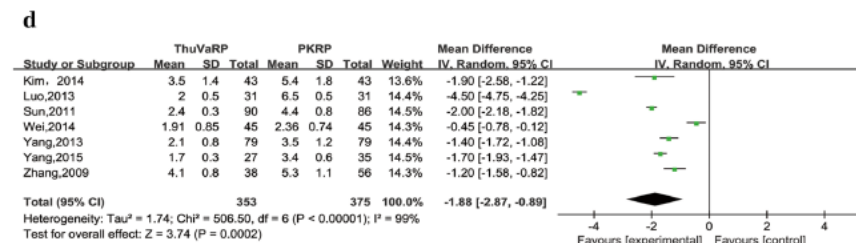
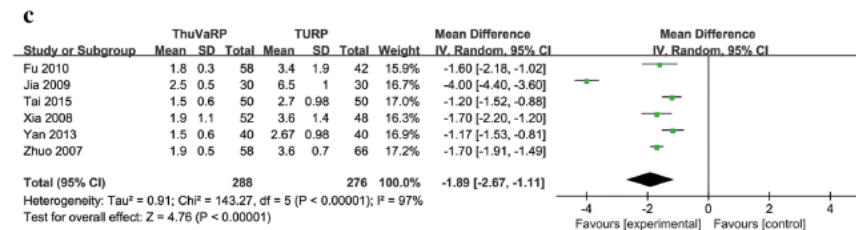
Thulium laser VapoResection of the prostate versus traditional transurethral resection of the prostate or transurethral plasmakinetic resection of prostate for benign prostatic obstruction: a systematic review and meta-analysis

Zheng Deng¹ · Menghao Sun¹ · Yiping Zhu¹ · Jian Zhuo¹ · Fujun Zhao¹ · Shujie Xia¹ · Bangmin Han¹ · Thomas R. W. Herrmann²

Serum Haemoglobin



Catheterization

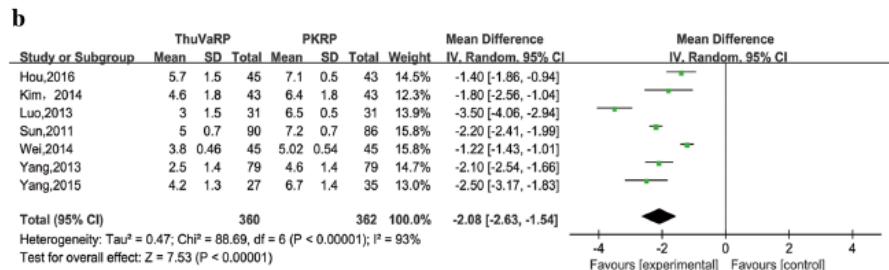
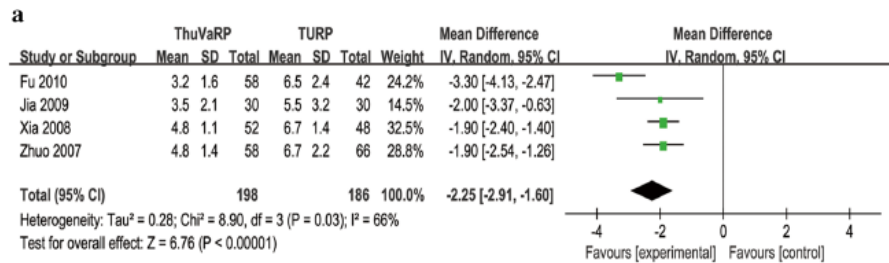




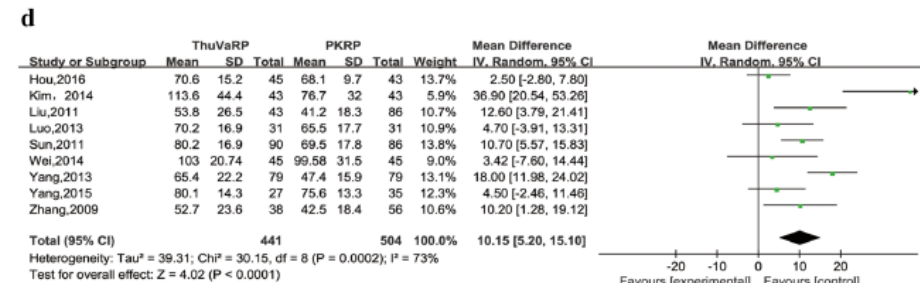
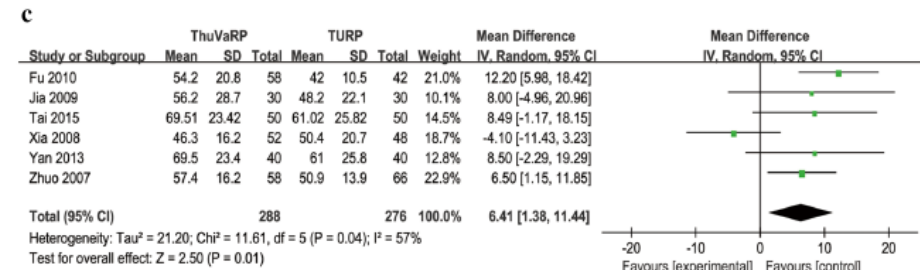
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Hospital stay



OP time



EAU Guidelines


LASER AD OLMIO

Recommendations	LE	GR
HoLAP can be offered to patients with BOO or BPE with small- to medium-sized prostates.	1b	A
HoLRP can be offered to patients with BOO or BPE with small- to medium-sized glands.	1b	A
HoLEP can be offered to any patient with BOO and BPE.	1a	A
HoLEP can be offered to patients in chronic urinary retention.	2b	B
HoLEP can be offered to patients on anticoagulant or antiplatelet medication.	2b	B

BOO = bladder outlet obstruction; BPE = benign prostatic enlargement



HoLEP

- 
- Permette di usare soluzione salina
 - Energia assorbita dall'acqua
 - Stessi miglioramenti di Qmax ed IPSS
 - Minore probabilità di sanguinamento post-operatorio, minore tempo di cateterizzazione e minore tempo di degenza
 - Per volumi > 100 ml outcome sovrapponibili all'adenomectomia
 - *Holep fornisce risultati a breve e lungo termine*
 - *comparabili con la TURP LE 1b GR A*



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HoLEP

- **PRO:**
- Efficacia pari o superiore alla TURP
- Efficacia pari alla OP
- Minor rischio di sanguinamento/trasfusioni
- Degenza più breve
- **CONTRO:**
- Curva di apprendimento lunga e complessa
- Utilizzo del morcellatore
- Incontinenza temporanea da sforzo (come OP)
- Procedura tutto/nulla



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Functional outcomes and complications following B-TURP versus HoLEP for the treatment of benign prostatic hyperplasia: a review of the literature and Meta-analysis



Xiaoqiang Qian, Hailong Liu, Ding Xu, Le Xu, Fang Huang, Wei He, Jun Qi, Yu Zhu & Danfeng Xu

Table 2. Baseline characteristics of the included studies.

Design Treatments	Zhu et al. [21]		Amr et al. [18]		Mischel et al. [19]		Chen Yanbo et al. [20]	
	Retrospective		RCT		RCT		RCT	
	B-TURP	HoLEP	B-TURP	HoLEP	B-TURP	HoLEP	B-TURP	HoLEP
No. of cases	34	22	30	30	20	20	140	140
Age (years)	74.1 ± 6.6	76.2 ± 6.9	61.2 ± 4.2	60.0 ± 4.5	67.0 ± 1.7	68.9 ± 2.0	NA	NA
Prostate volume (ml)	109.0 ± 31.9	117.7 ± 40.3	80.6 ± 17.8	76.5 ± 17.2	51.0 ± 3.9	57.0 ± 5.1	60.3 ± 22.4	56.7 ± 28.4
PSA	NA	NA	4.4 ± 1.25	4.2 ± 1.3	NA	NA	2.35 ± 1.52	2.23 ± 1.27
Q_{max}	7.6 ± 3.1	8.1 ± 1.6	7.0 ± 1.0	7.4 ± 0.9	7.5 ± 0.8	7.4 ± 0.5	7.20 ± 2.18	7.21 ± 2.44
PVR (ml)	129 ± 37.6	115.7 ± 50.9	NA	NA	114.0 ± 23.2	125.0 ± 19.3	131.3 ± 61.8	128.26 ± 62.1
QoL	NA	NA	NA	NA	NA	NA	4.63 ± 0.72	4.50 ± 0.76
IPSS	25.3 ± 5.5	20.7 ± 4.9	22.2 ± 2.3	22.6 ± 2.5	24.4 ± 1.2	25.8 ± 1.3	23.62 ± 3.22	23.27 ± 3.91
IIEF-5	NA	NA	NA	NA	NA	NA	18.34 ± 3.29	18.02 ± 3.37
Follow-up (months)	1, 3		1, 3, 6		1, 3, 6, 24		1, 6, 12, 24	

RCT: randomized controlled trials; B-TURP: bipolar transurethral resection of prostate; HoLEP: holmium laser enucleation; PSA: prostate special antigen; Q_{max} : peak urinary flow rate; PVR: post-void residual volume; QoL: quality of life; IPSS: international prostate symptom score; IIEF-5: International Index of Erectile Function-5; NA: not available.



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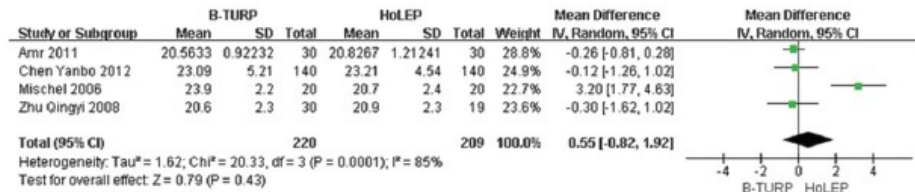
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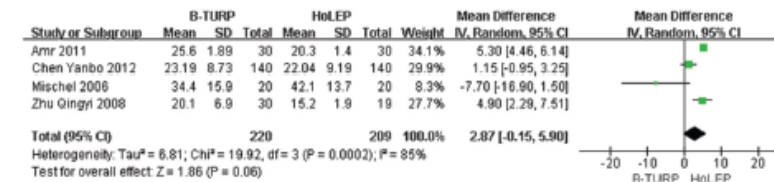
Functional outcomes and complications following B-TURP versus HoLEP for the treatment of benign prostatic hyperplasia: a review of the literature and Meta-analysis



Xiaoqiang Qian, Hailong Liu, Ding Xu, Le Xu, Fang Huang, Wei He, Jun Qi, Yu Zhu & Danfeng Xu



no significant differences for Qmax



no significant differences in PVR



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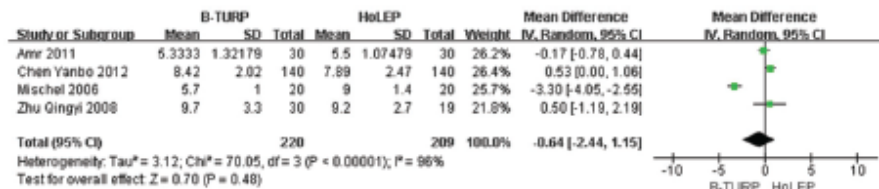
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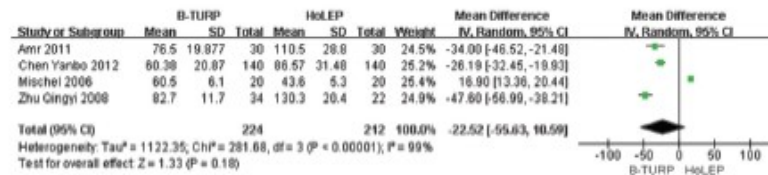
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no significant differences for IPSS



no significant differences in OP time



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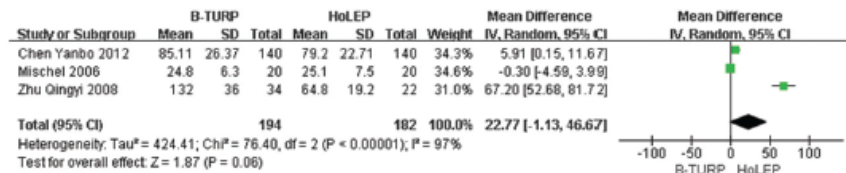
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Functional outcomes and complications following B-TURP versus HoLEP for the treatment of benign prostatic hyperplasia: a review of the literature and Meta-analysis



Xiaoqiang Qian, Hailong Liu, Ding Xu, Le Xu, Fang Huang, Wei He, Jun Qi, Yu Zhu & Danfeng Xu



	B-TURP (n/cases)	HoLEP (n/cases)	p	Favors
Blood transfusion	1/160	0/160	0.18	None
Reoperation	3/160	1/160	0.17	None
Recatheterization	3/160	1/160	0.17	None
Incontinence	6/160	14/160	0.14	None
Urinary tract infection	1/20	1/20	0.14	None

n = the adverse event cases.

no significant differences for catheterization

no statistically significant difference in blood transfusion, reoperation, re-catheterization, incontinence and UTI

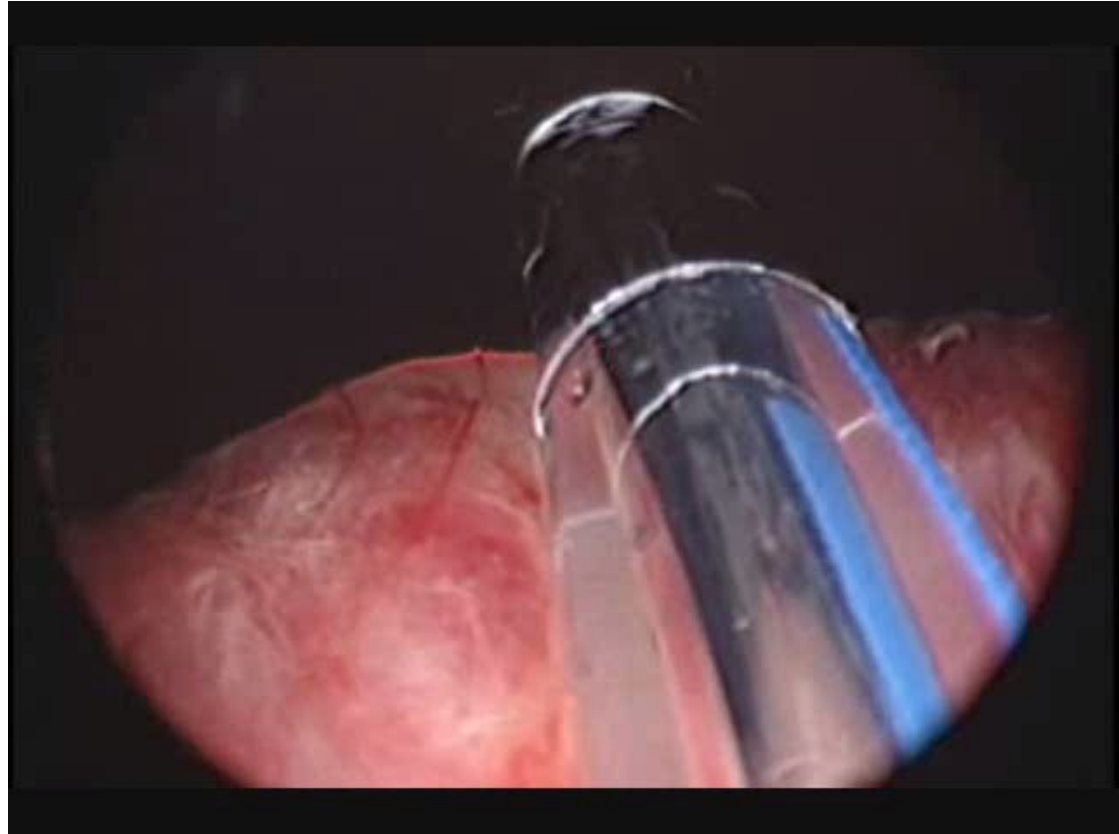


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GREENLIGHT (KTP/LBO)



KTP 80W
(vaporizzazione)



2005

LBO 120W
(vaporizzazione)



2008

LBO 180W
**(vapoenucleazione
enucleazione)**



2011



Green light laser

- ✓ Permette di usare soluzione salina
- ✓ Energia assorbita dall' ossiemoglobina
- ✓ Stessi miglioramenti di Qmax ed IPSS
- ✓ Minore probabilità di sanguinamento post-operatorio, minore tempo di permanenza del catetere e minore tempo di degenza

PVP fornisce risultati a breve e medio termine

comparabili con la TURP LE 1b GR A

In termini di sicurezza intraoperatoria la PVP

è superiore alla TURP e viene preferita a pz in

trattamento con anticoagulanti orali o con

rischio cardiovascolare elevato LE 3 GR B



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Green light laser

PRO:

- Efficacia pari alla TURP
- Tecnica versatile (Vaporizzazione, vaporizzazione anatomica, enucleazione)
- Minor rischio di sanguinamento/trasfusioni
- Degenza più breve
- Pz alto rischio

CONTRO:

- Curva di apprendimento
- Costi



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EAU Guidelines

Green light laser

Recommendations	GR
KTP/LBO PVP is an alternative treatment for patients with BOO and BPE for small and medium glands.	A
KTP/LBO PVP can be offered as an alternative to TURP for patients with refractory urinary retention.	B
KTP/LBO PVP can be offered to patients using anticoagulant medication.	B
KTP/LBO PVP is a safe method for volume reduction in large size prostate glands.	A

BOO = bladder outlet obstruction; BPE = benign prostatic enlargement; KTP = potassium titanyl-phosphate laser; LBO = lithium triborate; PVP = photoselective vaporisation of the prostate; TURP = transurethral resection of the prostate.



Non sospendere la
cardioaspirina



Non sospendere
cardioaspirina e
clopidogrel



Sospendere la ticlopidina
(da riprendere entro 48
ore dopo l'intervento)



Sospendere il Warfarin (da
riprendere entro 48 ore
dopo l'intervento)



Sospendere l'assunzione di
dicumarolo (da riprendere
entro 48 ore dopo
l'intervento)

A Multicenter Randomized Noninferiority Trial Comparing GreenLight-XPS Laser Vaporization of the Prostate and Transurethral Resection of the Prostate for the Treatment of Benign Prostatic Obstruction: Two-yr Outcomes of the GOLIATH Study

James A. Thomas^{a,*}, Andrea Tubaro^b, Neil Barber^c, Frank d'Ancona^d, Gordon Muir^e, Ulrich Witzsch^f, Marc-Oliver Grimm^g, Joan Benejam^h, Jens-Uwe Stolzenburgⁱ, Antony Riddick^j, Sascha Pahernik^k, Herman Roelink^l, Filip Ameye^m, Christian Saussineⁿ, Franck Bruyère^o, Wolfgang Loidl^p, Tim Lerner^q, Nirjan-Kumar Gogoi^r, Richard Hindley^s, Rolf Muschter^t, Andrew Thorpe^u, Nitin Shrotri^v, Stuart Graham^w, Moritz Hamann^x, Kurt Miller^y, Martin Schostak^z, Carlos Capitán^{aa}, Helmut Knispel^{bb}, Alexander Bachmann^{cc,*}



2016

Table 1 – Evaluating noninferiority of GreenLight XPS Laser System^a

Endpoint	Time point	GL-XPS ^b	TURP ^b	Difference [95% CI] ^c
IPSS score	Baseline	21.2 ± 5.9	21.7 ± 6.4	
	6 mo	6.8 ± 5.2	5.6 ± 4.9	1.2 [-0.0, 2.4] ^d
	12 mo	6.9 ± 6.0	5.7 ± 5.3	1.2 [-0.2, 2.6] ^d
	24 mo	6.9 ± 6.0	5.9 ± 6.1	1.0 [-0.5, 2.5] ^d
Q_{max} (ml/s)	Baseline	9.5 ± 3.0	9.9 ± 3.5	
	6 mo	23.3 ± 10.1	24.3 ± 11.4	-1.0 [-3.7, 1.8] ^d
	12 mo	22.9 ± 10.7	24.7 ± 10.1	-1.7 [-4.5, 1.0] ^d
	24 mo	21.6 ± 10.7	22.9 ± 9.3	-1.3 [-4.0, 1.4] ^d
Complication-free	6 mo	87.3%	83.3%	4.0% [-4.6%, 12.6%] ^d
	12 mo	84.7%	80.5%	4.3% [-5.0%, 13.6%] ^d
	24 mo	83.6%	78.9%	4.7% [-5.0%, 14.4%] ^d

CI – confidence interval; GL-XPS – GreenLight XPS Laser System; IPSS – International Prostate Symptom Score; ITT – intention-to-treat; SD – standard deviation; TURP – transurethral resection of prostate.

^a Intention-to-treat analysis was also performed for IPSS and Q_{max} using each of two approaches for the patients who did not receive treatment in the study: excluding the patients (ie, modified ITT) and imputing their endpoint with the baseline observation. The analyses by intention-to-treat and by treatment received were in agreement.

^b Mean ± SD presented for IPSS and Q_{max}; proportion presented for complication-free.

^c Noninferiority margins (GL-XPS minus TURP): 3 for IPSS, -5.0 ml/s for Q_{max}, and -5% for complication-free endpoint.

^d Noninferiority demonstrated.

Table 3 – Over active bladder, urinary incontinence questionnaires, and erectile function

Scale/time point	GL-XPS ^a	TURP ^a	p value
OABq-SF symptoms			
Baseline	44.2 ± 20.5 (134) (43.3, 30.0–56.7)	42.9 ± 20.8 (132) (43.3, 26.7–60.0)	
6 mo	16.6 ± 16.2 (132) (13.3, 6.7–23.3)	11.5 ± 13.1 (129) (6.7, 0.0–16.7)	0.005
12 mo	16.7 ± 18.0 (131) (10.0, 3.3–23.3)	12.7 ± 14.2 (125) (8.0, 0.0–20.0)	0.051
24 mo	15.3 ± 16.7 (126) (10.0, 0.0–23.3)	11.9 ± 13.7 (120) (9.0, 0.0–16.7)	0.09
OABq-SF health			
Baseline	59.0 ± 21.9 (136) (61.5, 44.8–75.4)	62.6 ± 21.7 (131) (64.6, 51.7–78.5)	
6 mo	87.3 ± 15.9 (133) (93.8, 81.7–98.5)	90.9 ± 13.4 (129) (96.7, 89.1–100.0)	0.049
12 mo	87.1 ± 17.7 (131) (93.8, 83.1–100.0)	91.4 ± 12.8 (122) (96.7, 89.2–100.0)	0.03
24 mo	88.5 ± 15.8 (127) (95.4, 83.1–98.5)	91.1 ± 13.7 (120) (95.4, 89.2–100.0)	0.2
ICIQ-UI SF			
Baseline	3.9 ± 4.7 (131) (3.0, 0.0–7.0)	4.4 ± 4.6 (128) (4.0, 0.0–7.0)	
6 mo	3.0 ± 4.1 (132) (0.0, 0.0–5.0)	1.7 ± 2.8 (128) (0.0, 0.0–3.0)	0.004
12 mo	3.3 ± 4.5 (128) (0.0, 0.0–5.0)	2.1 ± 3.3 (122) (0.0, 0.0–4.0)	0.02
24 mo	2.8 ± 4.1 (122) (0.0, 0.0–4.0)	2.0 ± 3.3 (118) (0.0, 0.0–4.0)	0.1
IIEF-5			
Baseline	13.2 ± 7.6 (132) (14.0, 6.5–20.0)	13.7 ± 7.5 (129) (15.0, 7.0–19.0)	
12 mo	12.9 ± 7.5 (129) (14.0, 6.0–19.0)	14.2 ± 8.2 (121) (17.0, 5.0–21.0)	0.2
24 mo	12.9 ± 7.5 (124) (13.5, 6.0–19.0)	13.9 ± 8.2 (119) (15.0, 6.0–21.0)	0.3

Two-yr follow-up data demonstrate that GL-XPS provides a durable surgical option for the treatment of BPO that exhibits similar efficacy and safety outcomes to TURP.

Photoselective Vaporisation of the Prostate Using 80-W and 120-W Laser Versus Transurethral Resection of the Prostate for Benign Prostatic Hyperplasia: A Systematic Review with Meta-Analysis from 2002 to 2012

Isaac A. Thangasamy^a, Venu Chalasani^b, Alexander Bachmann^c, Henry H. Woo^{d,}*

- Shorter catheterisation time and length of hospital stay
- Less blood transfusion and clot retention with PVP
- No difference for urinary retention, infection, unplanned readmission, unplanned reoperation, or TUR syndrome
- No difference in the intermediate term for functional outcomes




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Efficacy and safety profile of GreenLight laser photoselective vaporization of the prostate in ≥ 75 years old patients: results from the Italian GreenLight Laser Study Group

Davide Campobasso^{1,2}  · Simone Morselli^{2,4} · Francesco Greco⁵ · Cosimo De Nunzio⁶ · Paolo Destefanis⁷ · Giuseppe Fasolis⁸ · Francesco Varvallo⁹ · Salvatore Voce⁹ · Giulio Reale⁹ · Tommaso Cai¹⁰ · Rino Ortti¹¹ · Agostino Tuccio¹² · Lorenzo Ruggera¹² · Antonino Laganà¹⁴ · Claudio Dadone¹⁵ · Paolo Gontero⁷ · Gastano De Rienzo¹⁶ · Luigi Pucci¹⁷ · Maurizio Camino¹⁷ · Franco Montefiore¹⁸ · Salvatore Rabito² · Roberto Miano¹⁹ · Luigi Schips²⁰ · Antonio Frattini¹ · Salvatore Micali²¹ · Giovanni Ferrari² · Luca Cindolo^{2,22}

GreenLight laser photoselective vaporization of the prostate is a safe and efficient procedure for all patients, despite their age, with comparable outcomes and an equal safety profile



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ALTERNATIVE ABLATIVE TECHNIQUES

Convective water vapour energy (WAVE) ablation: THE REZUM SYSTEM

- Minimally invasive approaches under local or general anaesthesia
 - No hospitalization
 - Improve symptoms
- Low incidence of sexual side effects
 - Preserve ejaculatory function
 - Repeatable

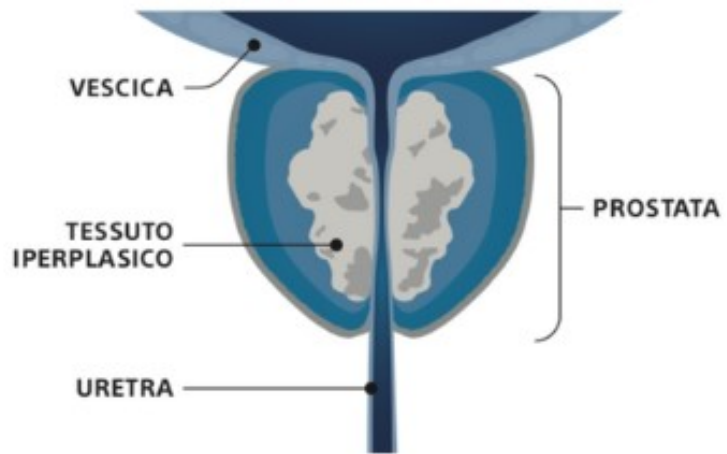


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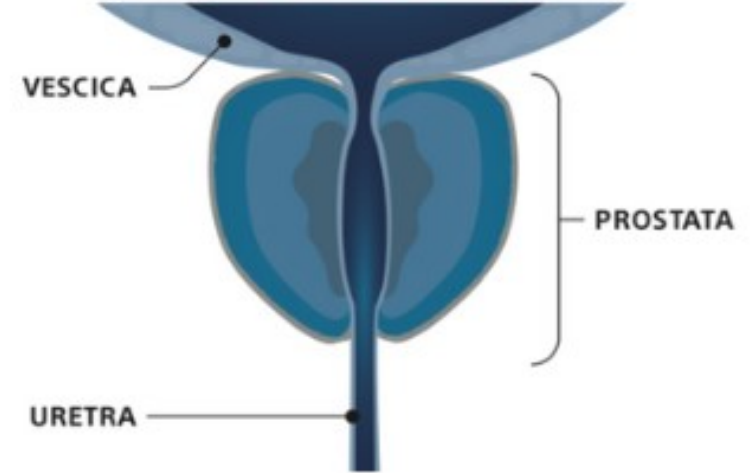
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PRIMA



DOPO

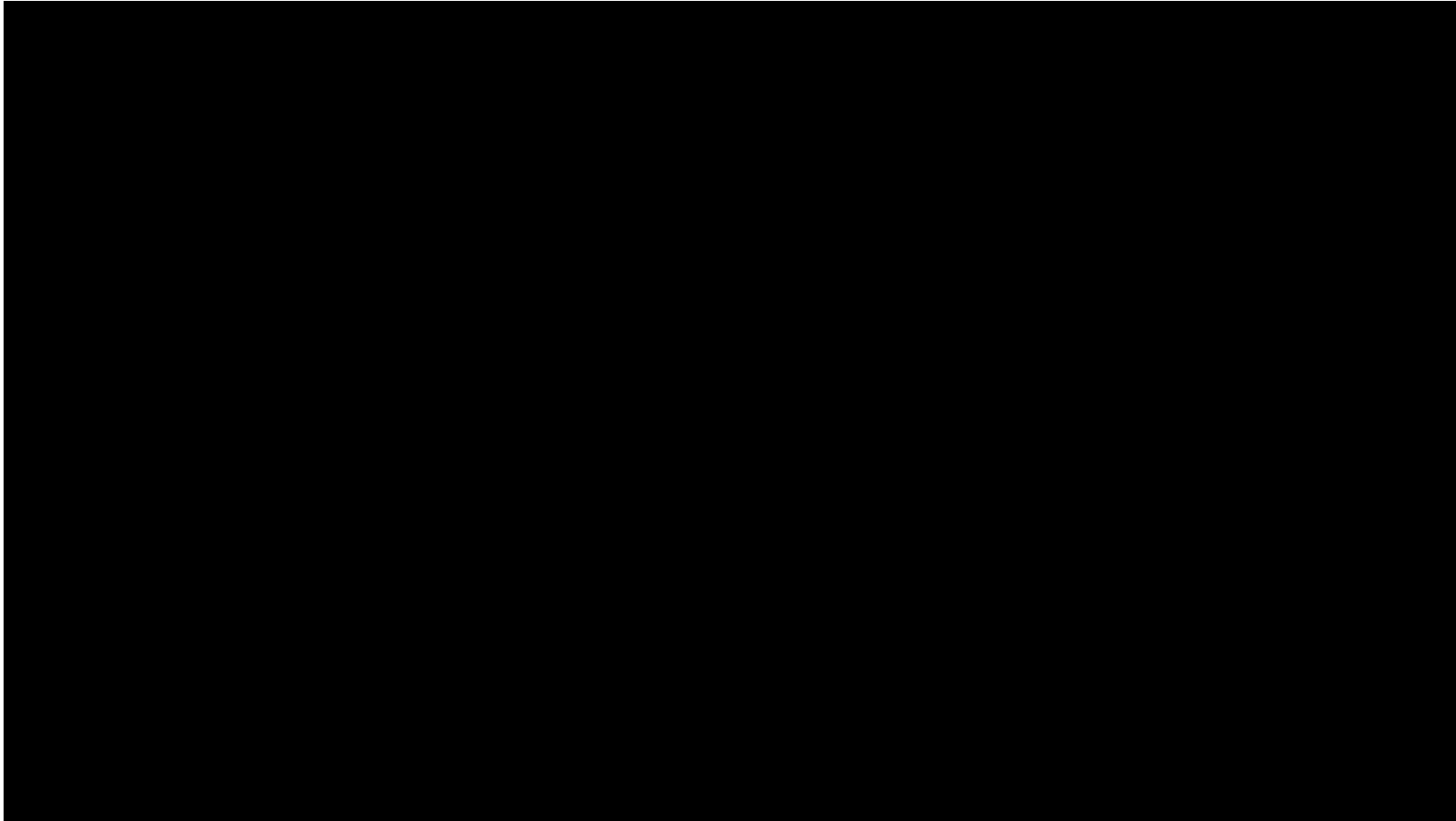


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TERMOTERAPIA CON VAPORE ACQUEO (REZUM)



Randomizzati

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Final 5-Year Outcomes of the Multicenter Randomized Sham-Controlled Trial of a Water Vapor Thermal Therapy for Treatment of Moderate to Severe Lower Urinary Tract Symptoms Secondary to Benign Prostatic Hyperplasia

FIGURES

REFERENCES

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Page: 715-724

McVary KT, Gittelman MC, Goldberg KA, Patel K, Shore ND, Levin RM, Pliskin M, Beahrs JR, Prall D, Kaminetsky J, Cowan BE, Cantrill CH, Mynderse LA, Ulchaker JC, Tadros NN, Gange SN, Roehrborn CG



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Randomizzati

Retreatment Rates at Five Years		Rezūm System
Surgical Retreatment Rate		4.4% 
Initiated Medical Therapy		11.1%

Rezūm System Pivotal Study results confirm sustained symptom relief and quality of life improvements for five years.

IPSS and Qmax Improvements from Baseline	
 135 Subjects 15 Sites	International Prostate Symptom Score (IPSS)  Decrease 10.4_{pts} (48%)
	Qmax (peak urinary flow rate)  Increase 4.3_{pts} (49%)

EUROPEAN GuideLines: Evidences e Recomendations

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

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T.R.W. Herrmann, C. Mamoulakis, M. Rieken,
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5.3.4.3.1 Convective water vapour energy (WAVE) ablation: The Rezum system

Mechanism of action: The Rezum system uses radiofrequency power to create thermal energy in the form of water vapour, which in turn deposits the stored thermal energy when the steam phase shifts to the liquid phase upon cell contact. The steam disperses through the tissue interstices and releases stored thermal energy onto prostatic tissue effecting cell necrosis. The procedure can be performed in an office-based setting. Usually, one to three injections are needed for each lateral lobe and one to two injections may be delivered into the median lobe.

Practical considerations: There are two SRs of the Rezum cohort studies. One concludes that Rezum provides improvement in BPH symptoms that exceeds established minimal clinically important difference thresholds, preserves sexual function, and is associated with low surgical retreatment rates over four years. Therefore, suggesting that it may be a valuable addition to the urological armamentarium to treat LUTS in men with BPH [526]. The other, a Cochrane review reported that the certainty of evidence ranged from moderate to very low, with study limitations and imprecision being the most common reasons for down-grading of the evidence [525]. Randomised controlled trials against a reference technique are needed to confirm the first promising clinical results and to evaluate mid- and long-term efficacy and safety of water vapour energy treatment.



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Scientific Literature: Sexual Function

Randomized Controlled Trial > J Sex Med. 2016 Jun;13(6):924-33.

doi: 10.1016/j.jsxm.2016.03.372. Epub 2016 Apr 27.

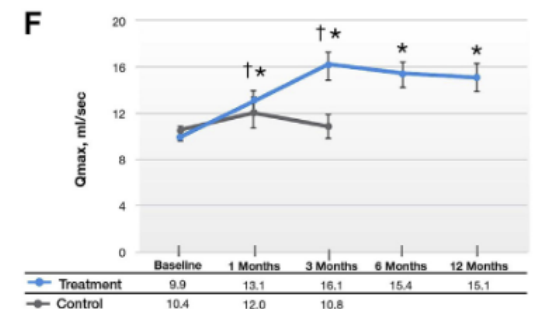
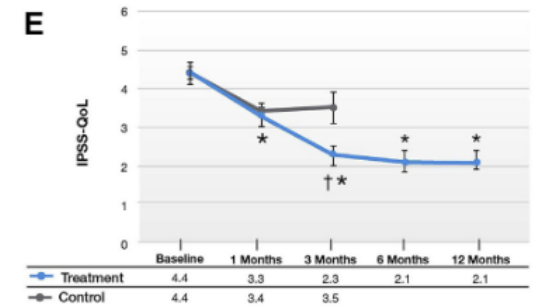
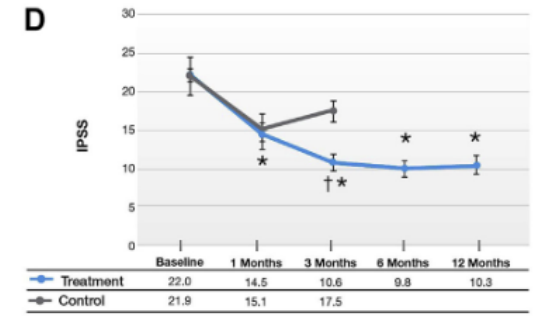
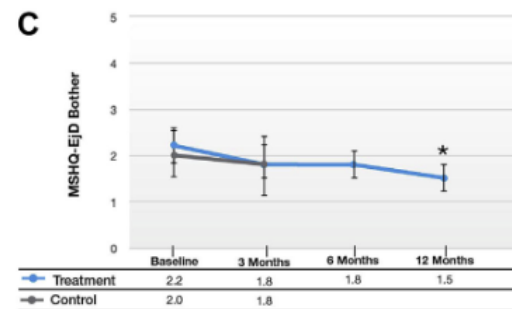
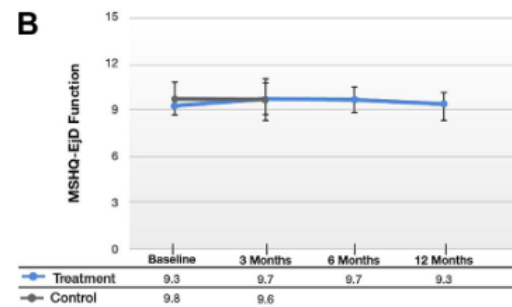
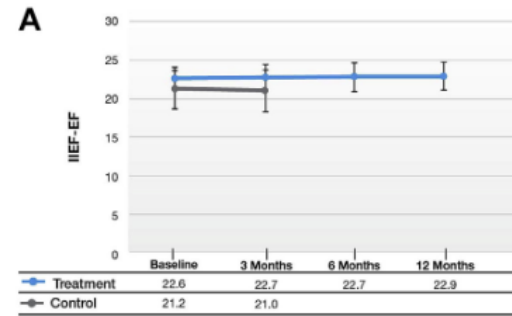
Erectile and Ejaculatory Function Preserved With Convective Water Vapor Energy Treatment of Lower Urinary Tract Symptoms Secondary to Benign Prostatic Hyperplasia: Randomized Controlled Study

Kevin T McVary¹, Steven N Gange², Marc C Gittelman³, Kenneth A Goldberg⁴, Kalpesh Patel⁵, Neal D Shore⁶, Richard M Levin⁷, Michael Rousseau⁸, J Randolph Beahrs⁹, Jed Kaminetsky¹⁰, Barrett E Cowan¹¹, Christopher H Cantrill¹², Lance A Mynderse¹³, James C Ulchaker¹⁴, Thayne R Larson¹⁵, Christopher M Dixon¹⁶, Claus G Roehrborn¹⁷

Randomized Controlled Trial > J Sex Med. 2018 Dec;15(12):1728-1738.

doi: 10.1016/j.jsxm.2018.10.006. Epub 2018 Nov 13.

Is Sexual Function Better Preserved After Water Vapor Thermal Therapy or Medical Therapy for Lower Urinary Tract Symptoms due to Benign Prostatic Hyperplasia?



Scientific Literature: Rezum vs Medical Therapy

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The Journal of Urology

August 2018

THREE-YEAR TREATMENT OUTCOMES OF WATER VAPOR THERMAL THERAPY COMPARED TO DOXAZOSIN, FINASTERIDE AND COMBINATION DRUG THERAPY IN MEN WITH BENIGN PROSTATIC HYPERPLASIA: COHORT DATA FROM THE MTOPS TRIAL

Nikhil Gupta, Tyson Rogers, Bradley Holland, Sevann Helo, Danuta Dynda and Kevin T. McVary



Thermal therapy improved symptom scores by approximately 50% throughout 36 months ($p < 0.0001$). **Symptom improvement was greater than with either drug alone but similar to that of combination drugs** ($p \leq 0.02$ and 0.73 , respectively). The peak flow rate improved 4 to 5 ml per second after thermal therapy and doxazosin, while thermal therapy was superior to finasteride and combination drugs for 24 and 12 months ($p < 0.001$ and < 0.01 , respectively). Observed rates of clinical progression during 3 years corroborate these outcomes with approximately **5 times greater progression for any medical therapy vs. a single thermal therapy procedure**

> [World J Urol. 2021 Jan 3;1-8. doi: 10.1007/s00345-020-03548-7. Online ahead of print.](#)

Rezum therapy for patients with large prostates (≥ 80 g): initial clinical experience and postoperative outcomes

Evan B Garden ¹, Devki Shukla ¹, Krishna T Ravivarapu ¹, Steven A Kaplan ¹, Avinash K Reddy ¹, Alexander C Small ¹, Michael A Palese ²

Affiliations + expand

PMID: 33392646 PMCID: [PMC7779102](#) DOI: [10.1007/s00345-020-03548-7](#)

[Free PMC article](#)



In selected LP patients, **Rezum provided short-term symptomatic relief and improved voiding function comparable to SP patients.** Postoperatively, though alpha-blocker usage decreased significantly, use of other medications did not change, and nearly two-thirds of patients still needed alpha-blockade. Further efforts should explore the possibility of expanding Rezum's inclusion criteria.


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DOI: 10.1002/pros.24201

ORIGINAL ARTICLE

The Prostate WILEY

Rezūm for retention—retrospective review of water vaporization therapy in the management of urinary retention in men with benign prostatic hyperplasia

Daniel Bassily BS¹  | Vincent Wong MD² | John L Phillips MD² |
Mitchell Fraiman MD³ | Ross Bauer MD³ | Christopher M Dixon MD³ |
Nathan C Wong MD²

Latest study on 50 patients (limited cohort) with 1 year of follow up, nearly **80% of the patients are catheter free**. Half of the patients still needs alfa-blockers and 5-ARI. Prostates volume treated were 73cc on average (range 50-103). There is another study from McVary with the same results (about 80% of catheter independence)

CONCLUSION: Could be a safe option in patients unable to undergo a prolonged anesthesia.

Review > Urologe A. 2020 Oct;59(10):1187-1194. doi: 10.1007/s00120-020-01319-1.

[Surgical treatment of benign prostatic obstruction (BPO) in patients under anticoagulation: a review of the bleeding risks of established techniques]

[Article in German]

S Deininger ¹, T Herrmann ², S Schönburg ³, P Törzsök ⁴, T Kunit ⁴, L Lusuardi ⁴

Affiliations + expand

Bleeding is a rare complication after recently established minimally invasive techniques, such as Urolift[®], I-TIND[©] and Rezum[™], the same applies to prostate artery embolization. Aqua-ablation/AquaBeam[®] seems to be unsuitable due to frequent hematuria.

According to current data, transurethral laser vaporization and enucleation of the prostate are the treatment of choice for patients under anticoagulation; however, other transurethral techniques, such as BipoleP have an acceptable risk of bleeding and can be an alternative depending on local resources. **Newer minimally invasive approaches could become more important in the future.**

Letteratura Real life

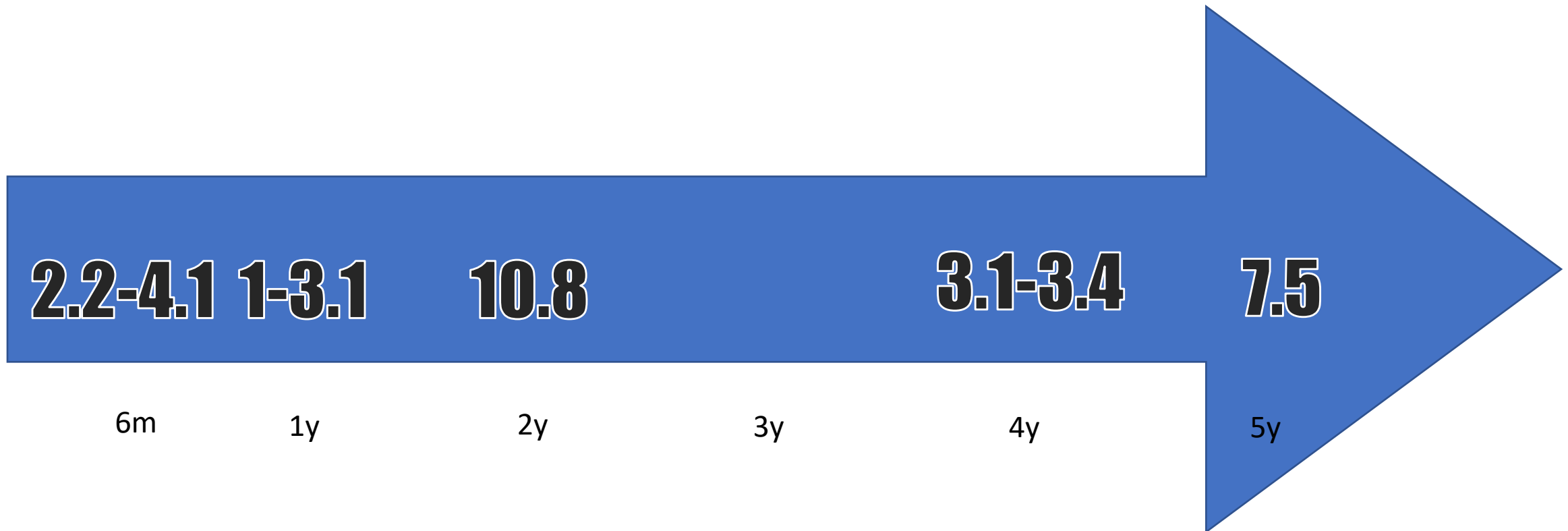
Follow-up : 14 mesi (range: 1-60)

	Preop	12 mesi	Dati non pubblicati 24 mesi
IPSS score	19.6	-48%	-63%
Q _{max}	9.0mL/s	+44%	+87.5%
PVR	238 cc	-57%	-75%
IIEF-5 score	18.5	+36%	+10%

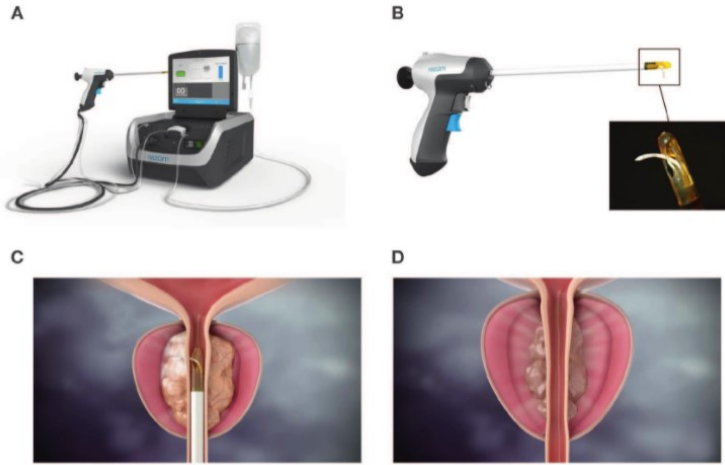
DE NOVO ANEIACULAZIONE: 2.9-10.8%

Babar M, et al. Emerging outcomes of water vapor thermal therapy (Rezum) in a broad range of patients with lower urinary tract symptoms secondary to benign prostatic hyperplasia: A systematic review. Low Urin Tract Symptoms. 2022 Mar 1. doi: 10.1111/luts.12435

Real life : RETREATMENT RATE



Medical retreatment rate ranged between **11.1% and 18.9% at 5 years**



REAL LIFE : QUANTO VAPORE

	Mean prostate volume	Mean number of injections	Ratio (shot/PV gr)
Mollengarden 2018	52.6	5.5	9.5
Babar 2022	60.1	5.97	10.06
Italian Group	56	7	8

In Italia trattiamo meglio o peggio?

- Volume prostatico tra **40-150** ml (no sclerosi del collo) con o senza III lobo
- Forte desiderio di **preservare l'eiaculazione** (uomo tra i 50-70 anni)
- **LUTS moderati/severi** ($Q_{max} > 7$ ml/s; $RPM < 150$ cc)
- **Non desiderio di assumere farmaci a lungo termine** o effetti collaterali non tollerati (eiaculazione retrograda, calo della libido, ginecomastia)
- Pazienti in ritenzione urinaria con catetere a dimora (LUTS gravi)
- Paziente anziano con comorbidità ($ASA > 2$) che non può sospendere anticoagulante

REZUM IN AN OFFICE BASED SETTING?

- EASY AND SAFE
- NO RISK FOR COMPLICATIONS CLAVIEN-DINDO > 1
- NO HOSPITALIZATION
- SHORTER WAITING TIME
- NO RISK FOR NOSOCOMIAL INFECTIONS
- REDUCED COSTS FOR THE PATIENT

*Restiamo a disposizione per domande e/o consulenze,
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GRAZIE PER L'ATTENZIONE

