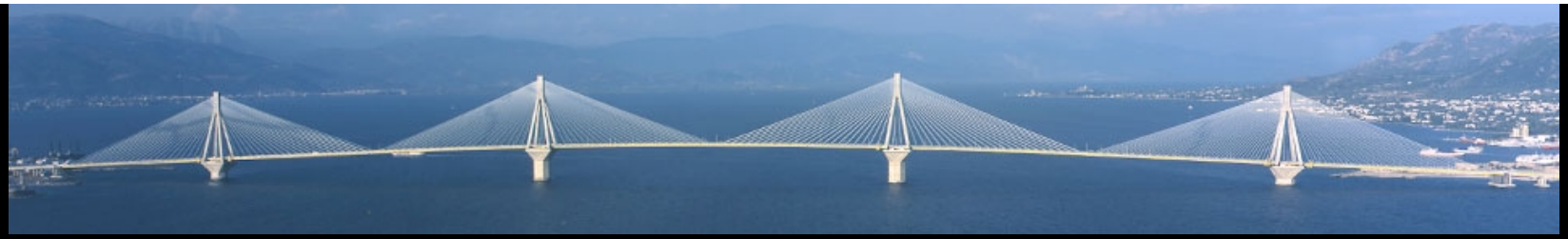
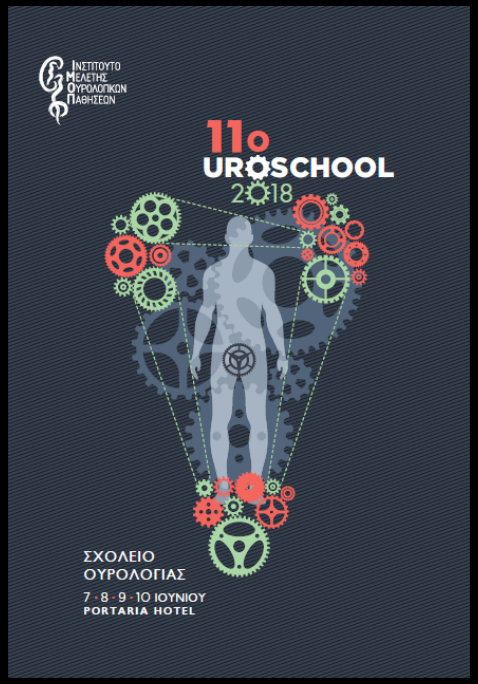


Οι σημαντικότερες δημοσιεύσεις της χρονιάς:

Νέες τεχνολογίες

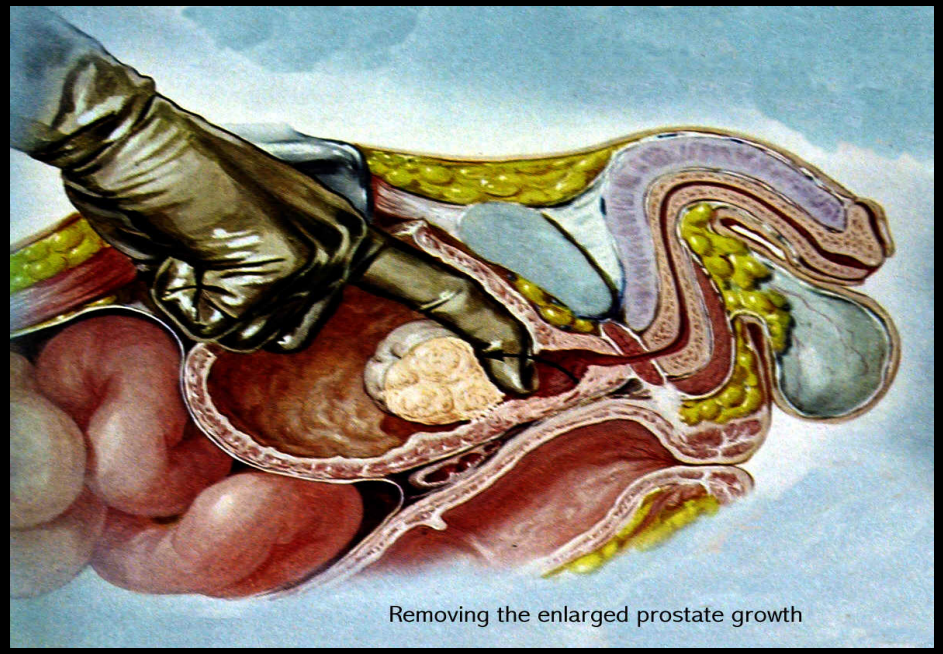


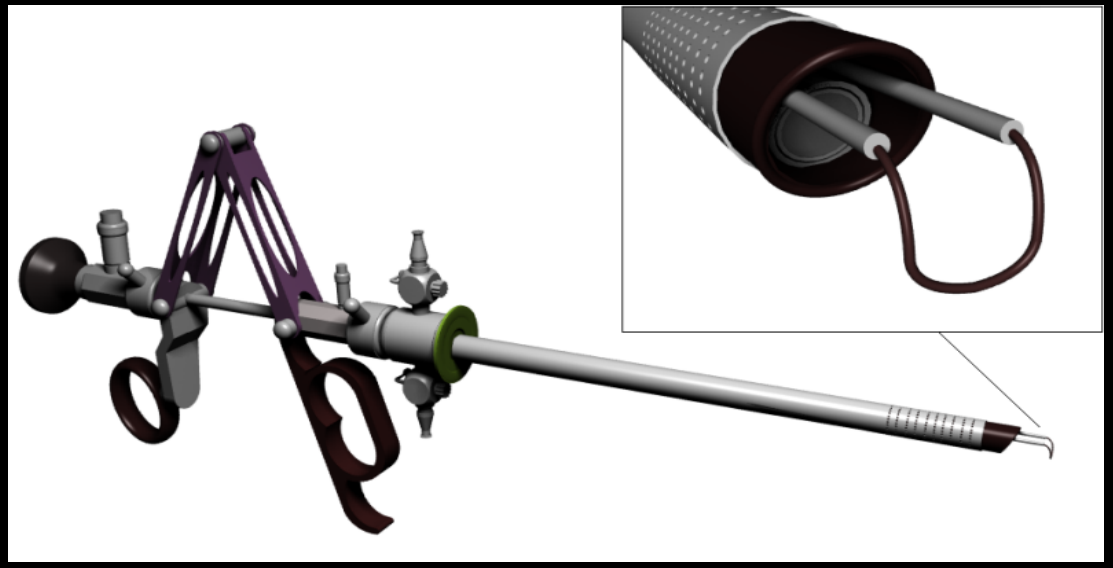
Παναγιώτης Καλληδώνης
Επικ. Καθηγητής Ουρολογίας
Πανεπιστήμιο Πατρών

Σύγκρουση συμφερόντων

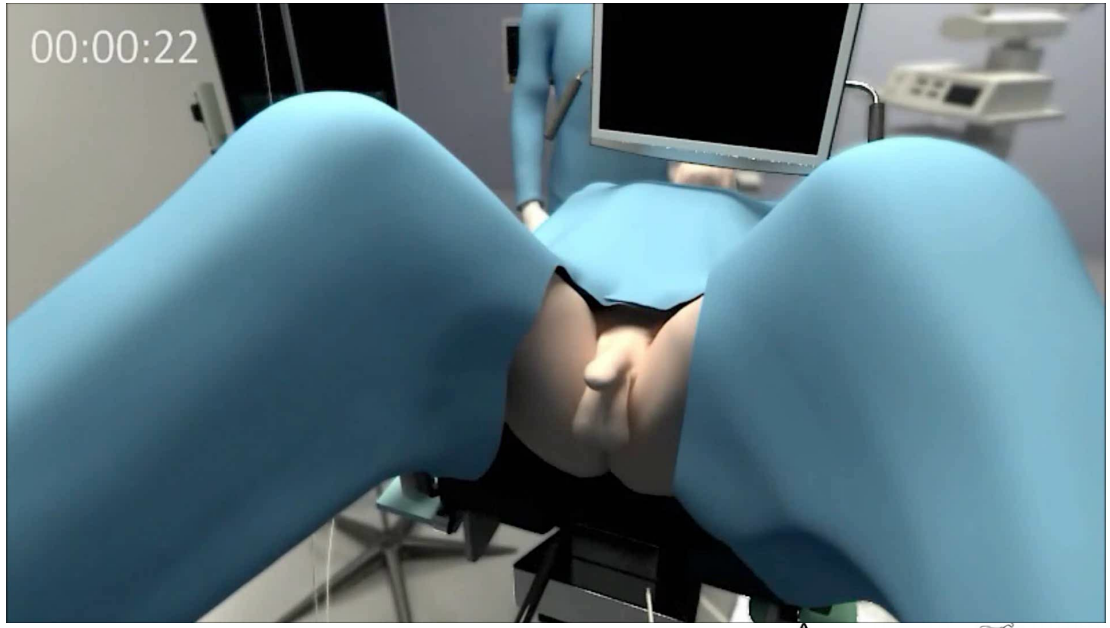
Δεν έχω κάποια σύγκρουση συμφερόντων

Υπερπλασία προστάτη





Aquabeam: Αδενωματεκτομή του προστάτη με τη χρήση πίδακα νερού (water-jet hydrodissection) με ρομποτική καθοδήγηση



PROCEPT BioRobotics

Image-Guided Robot-Assisted Prostate Ablation Using Water Jet-Hydrodissection: Initial Study of a Novel Technology for Benign Prostatic Hyperplasia

- Σε ζώα (σκύλους): έλεγχος ασφάλειας

- Κλινική αξιολόγηση

Η μελέτη WATER (**W**aterjet **A**blation **T**herapy for **E**ndoscopic **R**esection of prostate tissue) προοπτική τυχαιοποιημένη μελέτη για την αποτελεσματικότητα του AQUABEAM .

WATER: A Double-Blind, Randomized, Controlled Trial of Aquablation® vs Transurethral Resection of the Prostate in Benign Prostatic Hyperplasia

Peter Gilling,* Neil Barber, Mohamed Bidair, Paul Anderson,* Mark Sutton, Tev Aho, Eugene Kramolowsky, Andrew Thomas, Barrett Cowan, Ronald P. Kaufman, Jr., Andrew Trainer, Andrew Arther, Gopal Badlani, Mark Plante, Mihir Desai,* Leo Doumanian, Alexis E. Te,* Mark DeGuenther* and Claus Roehrborn†

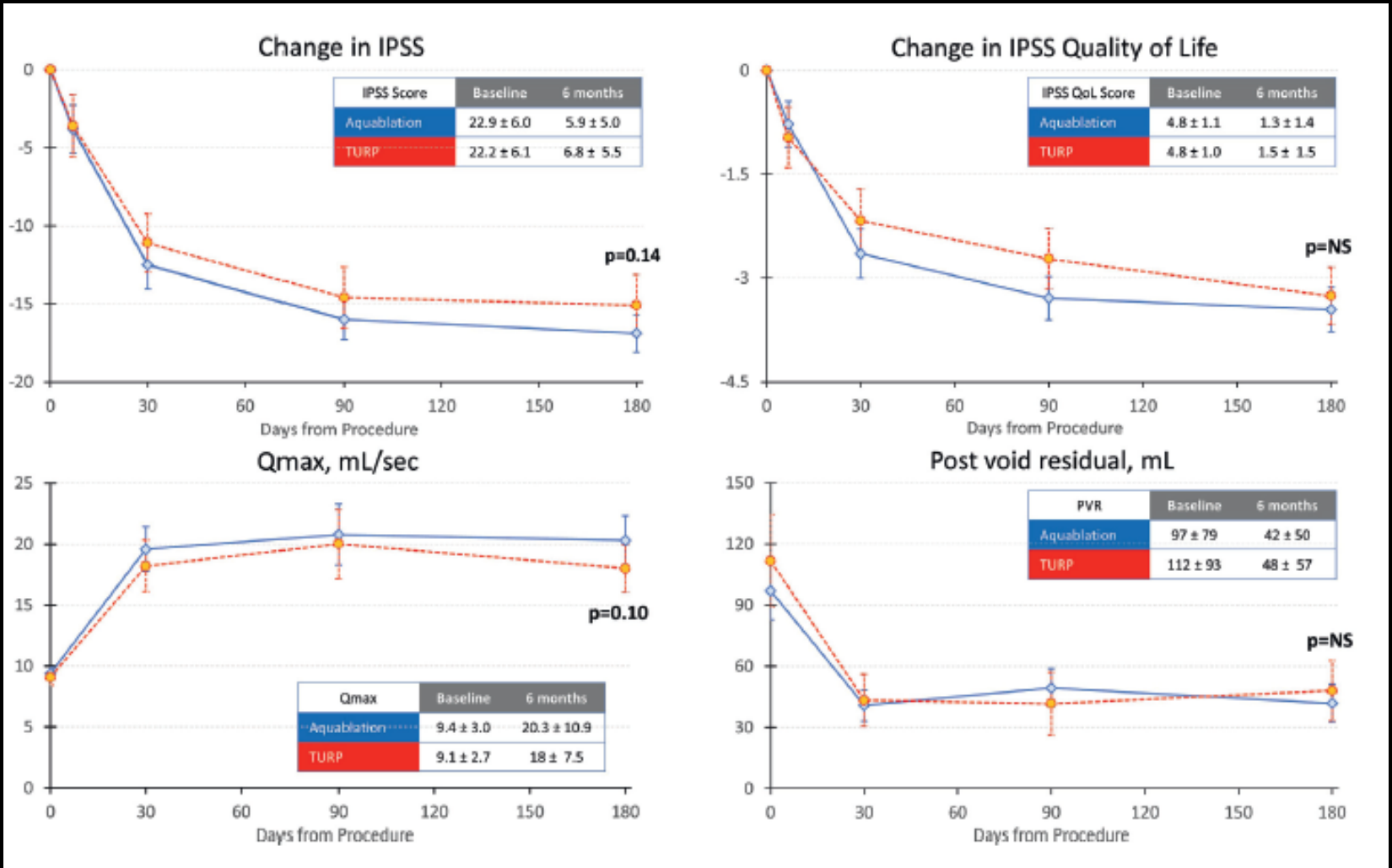
THE JOURNAL OF UROLOGY® Vol. 199, 1252-1261, May 2018

Non-inferiority study

Σύγκριση Aquablation® με TURP

- 116 ασθενείς Aquablation
- 65 ασθενείς TURP
- 6 μήνες follow-up
- Primary endpoints: 1. Βελτίωση IPSS στους 6 μήνες
  2. Επιπλοκές Clavien

	Aquablation		TURP		
Mean ± SD TRUS prostate size (ml)*	54.1 ± 16.2		51.8 ± 13.8		0.3062
Mean ± SD PSA (gm/dl)	3.7 ± 3.0		3.3 ± 2.3		0.4260
No. urological history (%):					
Incontinence	10	(8.5)	5	(7.5)	1.0
Retention	14	(12)	8	(11.9)	1.0
Urinary tract infection	20	(17.1)	9	(13.4)	0.6746
Bladder spasm	3	(2.6)	2	(3)	1.0
Decreased ejaculation	52	(44.4)	23	(34.3)	0.2131
Erectile dysfunction	47	(40.2)	30	(44.8)	0.6415
Hematuria	12	(10.3)	7	(10.4)	1.0
Painful urination	11	(9.4)	4	(6)	0.5777
No. lobes present (%):					
Lateral lobe only	50	(42.7)	31	(46.3)	0.7577
Middle lobe only	9	(7.7)	3	(4.5)	
Lateral + middle	55	(47.0)	88	(47.8)	
Lobes touching	96	(82.1)	59	(88.1)	0.8421
No. middle lobe obstruction (%):					
None	23	(19.7)	15	(22.4)	0.9727
Mild	25	(21.4)	15	(22.4)	
Moderate	35	(29.9)	22	(32.8)	
Severe	14	(12.0)	7	(10.4)	
No. bladder neck obstruction (%)	30	(25.6)	24	(35.8)	0.1795


Change in IPSS
IPSS Score | Baseline | 6 months
Aquablation | 22.9 ± 6.0 | 5.9 ± 5.0
TURP | 22.2 ± 6.1 | 6.8 ± 5.5
p=0.14
Days from Procedure
Change in IPSS Quality of Life
IPSS QoL Score | Baseline | 6 months
Aquablation | 4.8 ± 1.1 | 1.3 ± 1.4
TURP | 4.8 ± 1.0 | 1.5 ± 1.5
p=NS
Days from Procedure
Qmax, mL/sec
Qmax | Baseline | 6 months
Aquablation | 9.4 ± 3.0 | 20.3 ± 10.9
TURP | 9.1 ± 2.7 | 18 ± 7.5
p=0.10
Days from Procedure
Post void residual, mL
PVR | Baseline | 6 months
Aquablation | 97 ± 79 | 42 ± 50
TURP | 112 ± 93 | 48 ± 57
p=NS
Days from Procedure

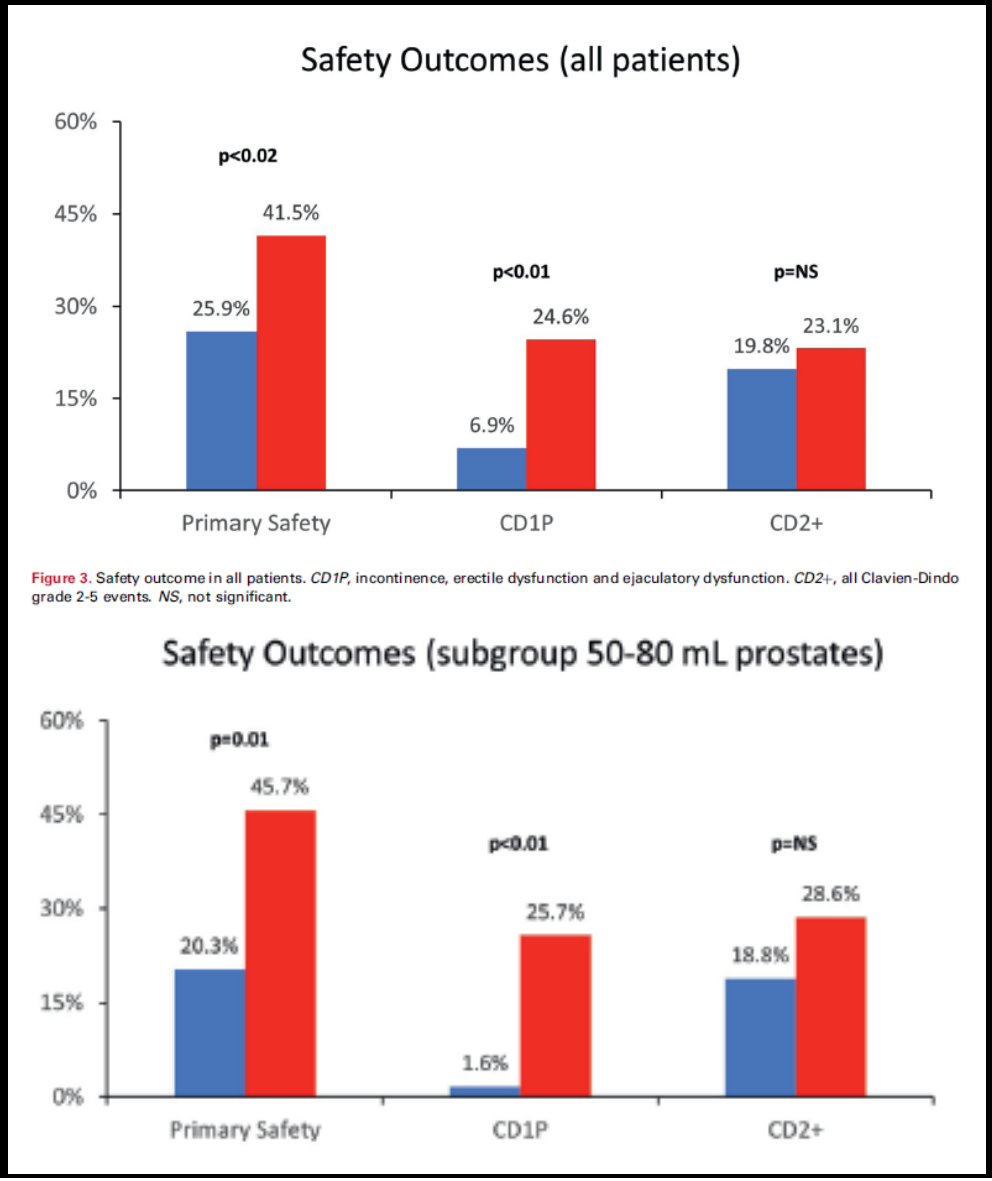
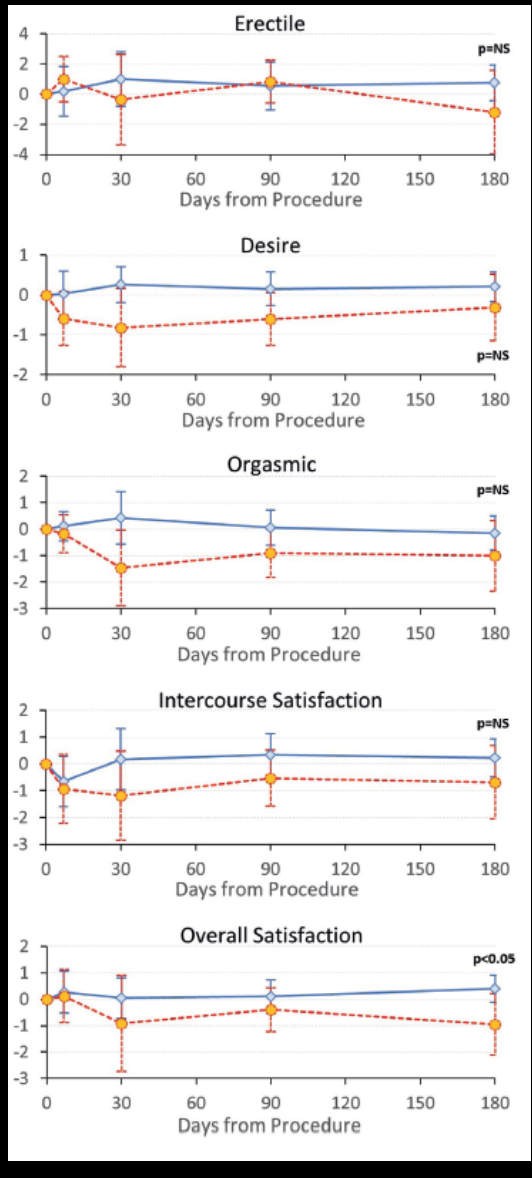
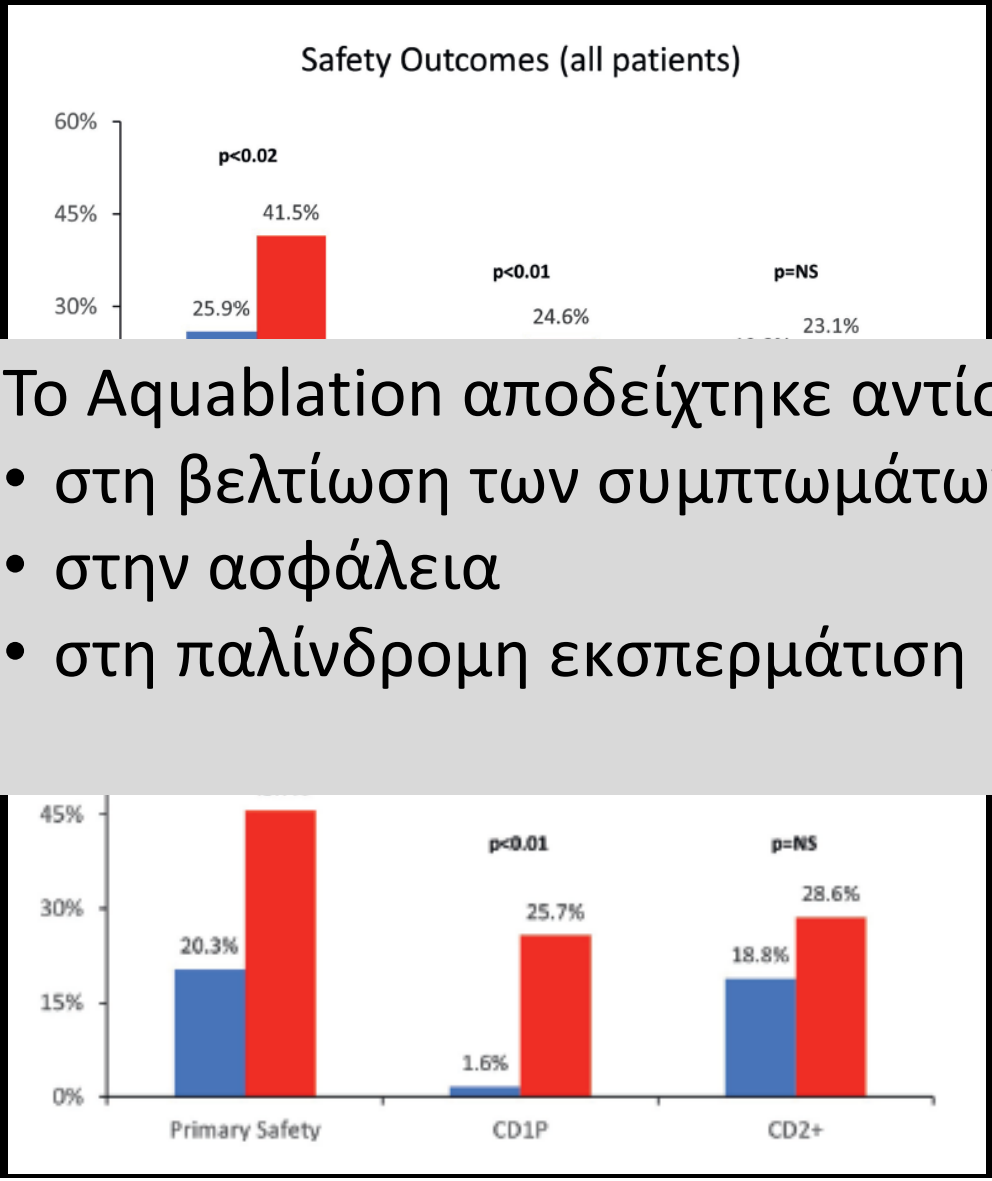
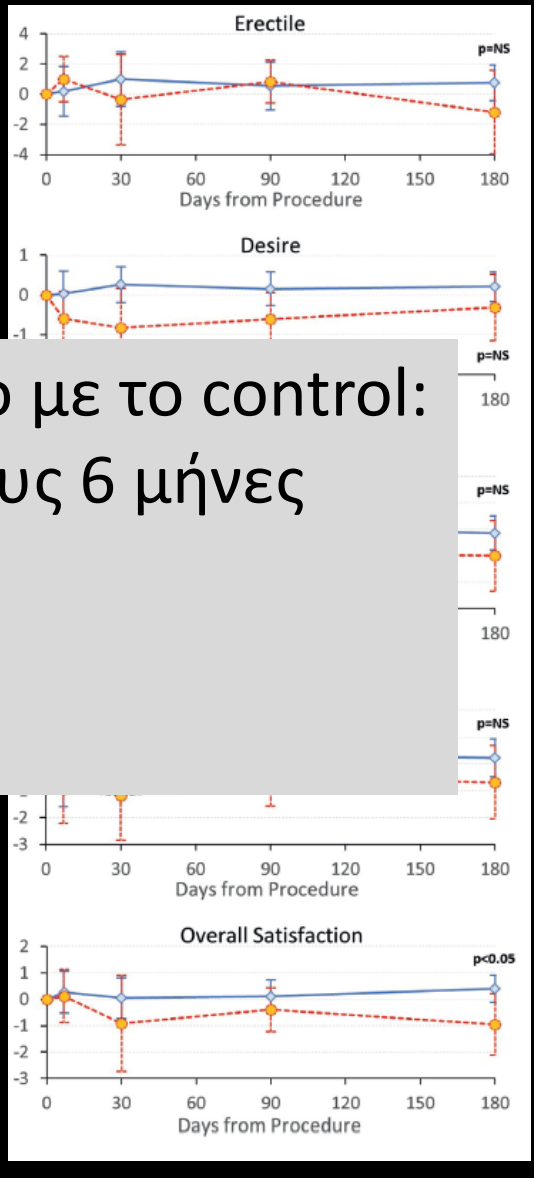


Figure 3. Safety outcome in all patients. *CD1P*, incontinence, erectile dysfunction and ejaculatory dysfunction. *CD2+*, all Clavien-Dindo grade 2-5 events. *NS*, not significant.





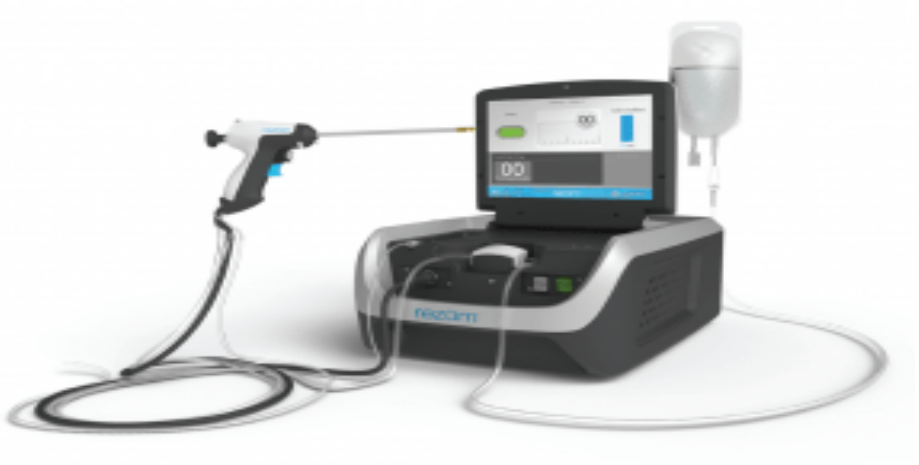


Το Aquablation αποδείχτηκε αντίστοιχο με το control:

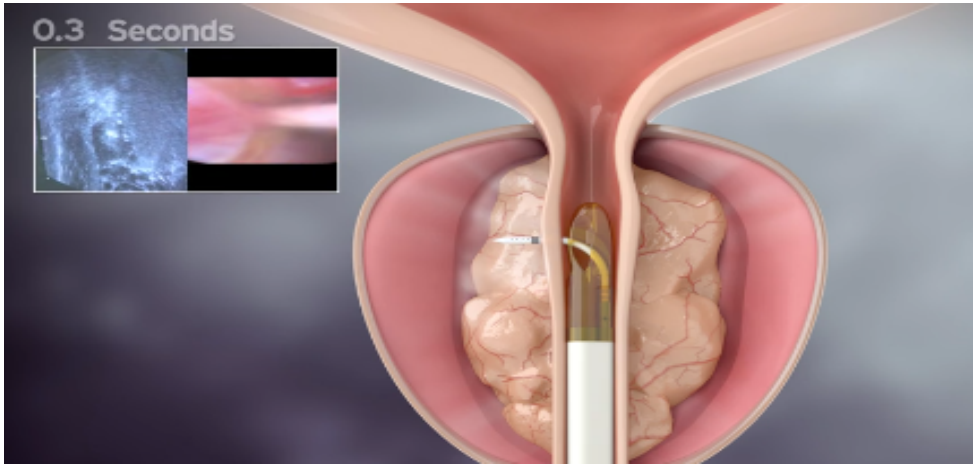
- στη βελτίωση των συμπτωμάτων στους 6 μήνες
- στην ασφάλεια
- στη παλίνδρομη εκσπερμάτιση

Βολή ατμού στην Υπερπλασία προστάτη

rezūm
the new wave in BPH treatment



- Θεραπεία που γίνεται στο ιατρείο
- FDA approved: 2015
- Δεν απαιτεί γενική αναισθησία
- Χειρολαβή που ψεκάζει ατμό στον προστάτη (103°C)
- Ελάχιστος χρόνος καθετηριασμού (2-3d)
- Τα αποτελέσματα είναι εμφανή σε μία εβδομάδα.
- Υποσχόμενα αποτελέσματα
- Διατήρηση της ούρησης και της στυτικής λειτουργίας
- Γρήγορη επάνοδος του ασθενούς



Urology. 2018 Jan;111:1-9. doi: 10.1016/j.urology.2017.10.023. Epub 2017 Nov 6.

Three-Year Outcomes of the Prospective, Randomized Controlled Rezūm System Study: Convective Radiofrequency Thermal Therapy for Treatment of Lower Urinary Tract Symptoms Due to Benign Prostatic Hyperplasia.

McVary KT[1], Roehrborn CG[2].

Τυχαιοποιημένη μελέτη

- 136 ασθενείς αντιμετωπίστηκαν με REZUM
- 61 με άκαμπτη κυστεοσκόπηση
- Όλες οι επεμβάσεις στο ιατρείο ή σε μονάδα ημερήσιας νοσηλείας
- 69% καταστολή με αγωγή per os
- 21% block προστάτη
- 10% καταστολή με ενδοφλέβια αγωγή

	Thermal Treatment Group Mean (SD)	Control Group Mean (SD)	p Value
Age, years	63.0 (7.1)	62.9 (7.0)	0.914
Body mass index (kg/m^2)	28.7 (4.4)	28.1 (5.0)	0.363
Prostate volume (cc)	45.8 (13.0)	44.5 (13.3)	0.525
Prostate specific antigen (ng/ml)	2.1 (1.5)	2.0 (1.6)	0.695
IPSS	22.0 (4.8)	21.9 (4.7)	0.857
Qmax (ml/sec)	9.9 (2.3)	10.4 (2.1)	0.187
PVR (ml)	82.0 (51.5)	85.5 (51.6)	0.658
IPSS QoL score	4.4 (1.1)	4.4 (1.1)	0.800
BPH Impact Index	6.3 (2.8)	6.2 (2.9)	0.817
ICS male score	4.4 (2.8)	4.6 (2.3)	0.764
IIEF-Erectile function domain score	17.2 (10.3)	16.5 (9.8)	0.693
MSQH-EjD: Ejaculatory dysfunction score	7.8 (4.1)	9.0 (3.8)	0.050

McVary et al. J Urol 2016

	Thermal Treatment Group	Control Group	
	Mean (SD)	Mean (SD)	p Value
Ag			
Bo			
Pr			
Pr			
(ng			
IPS			
Qn			
PV			
IPS			
BP			
ICS			
IIE			
do			
MSQH-EjD: Ejaculatory dysfunction score	7.8 (4.1)	9.0 (3.8)	0.050

Outcome Measure	Thermal Therapy ITT Group Mean, SD (No. Responses)				Control ITT Group, SD (No. Responses)				p Value[1]
	Baseline	3 Month	Change	[95% CI]	Baseline	3 Month	Change	[95% CI]	Treatment vs. Control
IPSS	22.0 ± 4.8 (136)	10.8 ± 6.5 (136)	-11.2 ± 7.6	[-12.5, -9.9]	21.9 ± 4.7 (61)	17.5 ± 7.6 (61)	-4.3 ± 6.9	[-6.1, -2.5]	<0.0001
Qmax	9.9 ± 2.3 (136)	16.1 ± 7.3 (133)	6.2 ± 7.1	[5.0, 7.4]	10.4 ± 2.1 (61)	10.8 ± 4.0 (61)	0.5 ± 4.2	[-0.6, 1.5]	<0.0001
PVR	82.0 ± 51.5 (136)	71.8 ± 72.2 (133)	-10.6 ± 68.3	[-22.3, 1.1]	85.5± 51.6 (61)	92.7 ± 77.8 (61)	7.2 ± 77.4	[-12.6, 27]	0.108
IPSS QoL Score	4.4 ± 1.1 (136)	2.3 ± 1.5 (134)	-2.1 ± 1.6	[-2.4, -1.8]	4.4 ± 1.1 (61)	3.5 ± 1.5 (61)	-0.9 ± 1.5	[-1.3, -0. 5]	<0.0001

McVary et al. J Urol 2016

Outcome measure	3 Mos	6 Mos	12 Mos	24 Mos	36 Mos
IPSS*					
N (paired values)	134	129	121	109	97
Baseline	22.0 ± 4.8	22.0 ± 4.8	21.8 ± 4.8	21.4 ± 4.5	21.4 ± 4.6
Follow-up	10.6 ± 6.4	9.8 ± 6.2	10.3 ± 6.7	10.2 ± 6.2	10.4 ± 6.1
Change	-11.3 ± 7.6	-12.0 ± 4.8	-11.6 ± 7.3	-11.2 ± 7.3	-11.0 ± 7.1
% Change	-50	-54	-52	-51	-50
P value (GEE)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
IPSS QoL*					
N (paired values)	134	129	121	109	97
Baseline	4.4 ± 1.1	4.4 ± 1.1	4.4 ± 1.1	4.3 ± 1.0	4.3 ± 1.0
Follow-up	2.3 ± 1.5	2.1 ± 1.5	2.1 ± 1.5	2.1 ± 1.4	2.1 ± 1.3
Change	-2.1 ± 1.6	-2.3 ± 1.6	-2.2 ± 1.6	-2.2 ± 1.5	-2.2 ± 1.6
% Change	-46	-51	-50	-50	-49
P value (GEE)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Outcome measure	3 Mos	6 Mos	12 Mos	24 Mos	36 Mos
Qmax (mL/s)† (voided vol ≥125 mL)					
N (paired values)	125	119	112	99	80
Baseline	10.0 ± 2.2	10.0 ± 2.2	10.0 ± 2.2	10.0 ± 2.2	9.7 ± 2.0
Follow-up	16.4 ± 7.3	15.7 ± 6.3	15.5 ± 6.7	14.7 ± 6.1	13.2 ± 4.8
Change	6.4 ± 7.2	5.7 ± 6.2	5.5 ± 6.4	4.8 ± 6.1	3.5 ± 4.7
% Change	69	62	59	53	39
P value (GEE)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
PVR volume (mL)*					
N (paired values)	133	125	118	106	92
Baseline	82.4 ± 51.8	83.4 ± 51.9	82.5 ± 51.2	84.9 ± 54.0	81.5 ± 53.4
Follow-up	71.8 ± 72.2	75.0 ± 81.8	78.6 ± 79.9	84.6 ± 92.0	55.1 ± 61.9
Change ± SD	-10.6 ± 68.3	-8.4 ± 75.8	-3.9 ± 82.7	-0.3 ± 85.3	-26.4 ± 63.9
% Change	56	78	51	9	-21
P value (GEE)	0.3459	0.3721	0.8943	0.6549	0.0004

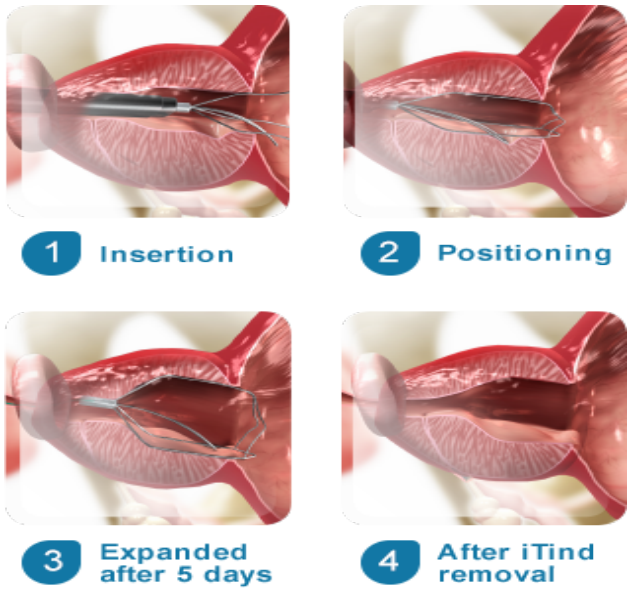
Ανεπιθύμητη ενέργεια	Ποσοστό
Δυσουρία	16.9%
Αιματουρία	11.8%
Συχνοουρία - επιτακτικότητα	5.9%
Ουρολοίμωξη	3.7%

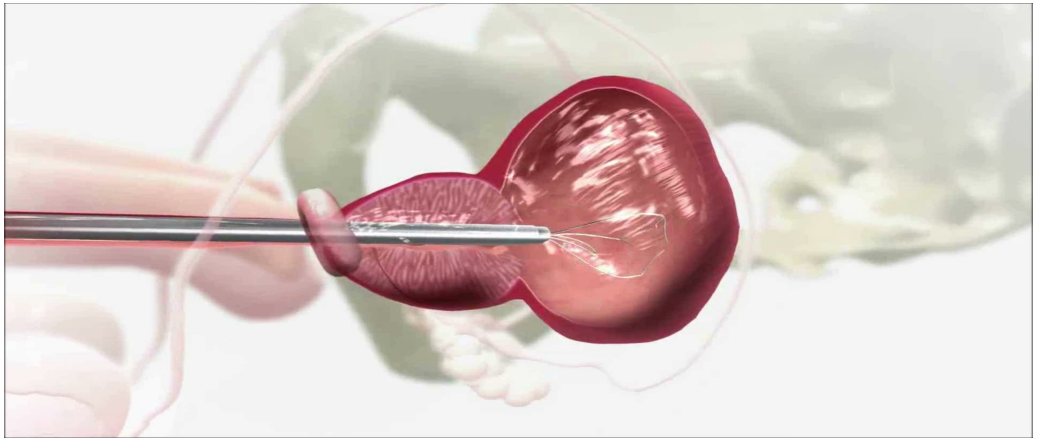
Απουσία απώτερων ανεπιθύμητων ενεργειών - επιπλοκών

Νέα επέμβαση: 4.4% στα 4 έτη

Βελτίωση των ασθενών και αποτελέσματα
που διαρκούν στο χρόνο

TIND Temporary Implantable Nitinol Device





Τοποθέτηση με κυστεοσκόπηση και τοπική αναισθησία

Οι αντηρίδες της ενδοπρόθεσης ασκούν επιμήκως πίεση στην προστατική ουρήθρα και αυχένα της ουροδόχου κύστεως στις θέσεις 12, 5 and 7 o'clock.. Σε μία χρονική περίοδο 5 ημερών, η ισχαιμία, νέκρωση και ουλοποίηση δημιουργούν βαθιά κανάλια που επιτρέπουν την ελεύθερη δίοδο των ούρων.
Η συσκευή αφαιρείται την 5η ημέρα.

TIND

BJU Int. 2015 Aug;116(2):278-87. doi: 10.1111/bju.12982. Epub 2015 Mar 7.

Temporary implantable nitinol device (TIND): a novel, minimally invasive treatment for relief of lower urinary tract symptoms (LUTS) related to benign prostatic hyperplasia (BPH): feasibility, safety and functional results at 1 year of follow-up.

Porpiglia F[1], Fiori C[1], Bertolo R[1], Garrou D[1], Cattaneo G[1], Amparore D[1].

32 ασθενείς, ελαφρά μέθη

-45% IPSS score / +67% Qmax

Επιπλοκές σε 4 ασθενείς

- Επίσχεση x1
- Παροδική ακράτεια x1
- Απόστημα προστάτη x1
- Ουρολοίμωξη x1

a) Demographic characteristic and preoperative data	(n=32)
Age, years	69.4 (8.2)
Body mass index (BMI)	26.1 (4.2)
* ASA score	2 (2-3)
* ECOG score	0 (0-1)
PSA level (ng/ml)	1.3 (1.2)
Prostate volume (cc)	29.5 (7.4)
Maximum peak flow (Q_{max}) (ml/sec)	7.6 (2.2)
* Preoperative IPSS score	19 (14-23)
* Preoperative IPSS QoL index	3 (3-4)
Alpha blockers therapy (%)	32 (100)
Alpha blockers + 5 ARI inhibitors therapy (%)	15 (46)
Patients with sexual activity (%)	19 (59)
* Charlson Comorbities Index	1 (0-2)

Αποτελέσματα που παρέμειναν στο έτος

Δε χορηγήθηκε αγωγή ή έγινε επέμβαση μέχρι το έτος

BJU Int. 2018 Jan 23. doi: 10.1111/bju.14141. [Epub ahead of print]

3-Year follow-up of temporary implantable nitinol device implantation for the treatment of benign prostatic obstruction.

Porpiglia F[1], Fiori C[1], Bertolo R[1], Giordano A[1], Checcucci E[1], Garrou D[1], Cattaneo G[1], De Luca S[1], Amparore D[1].

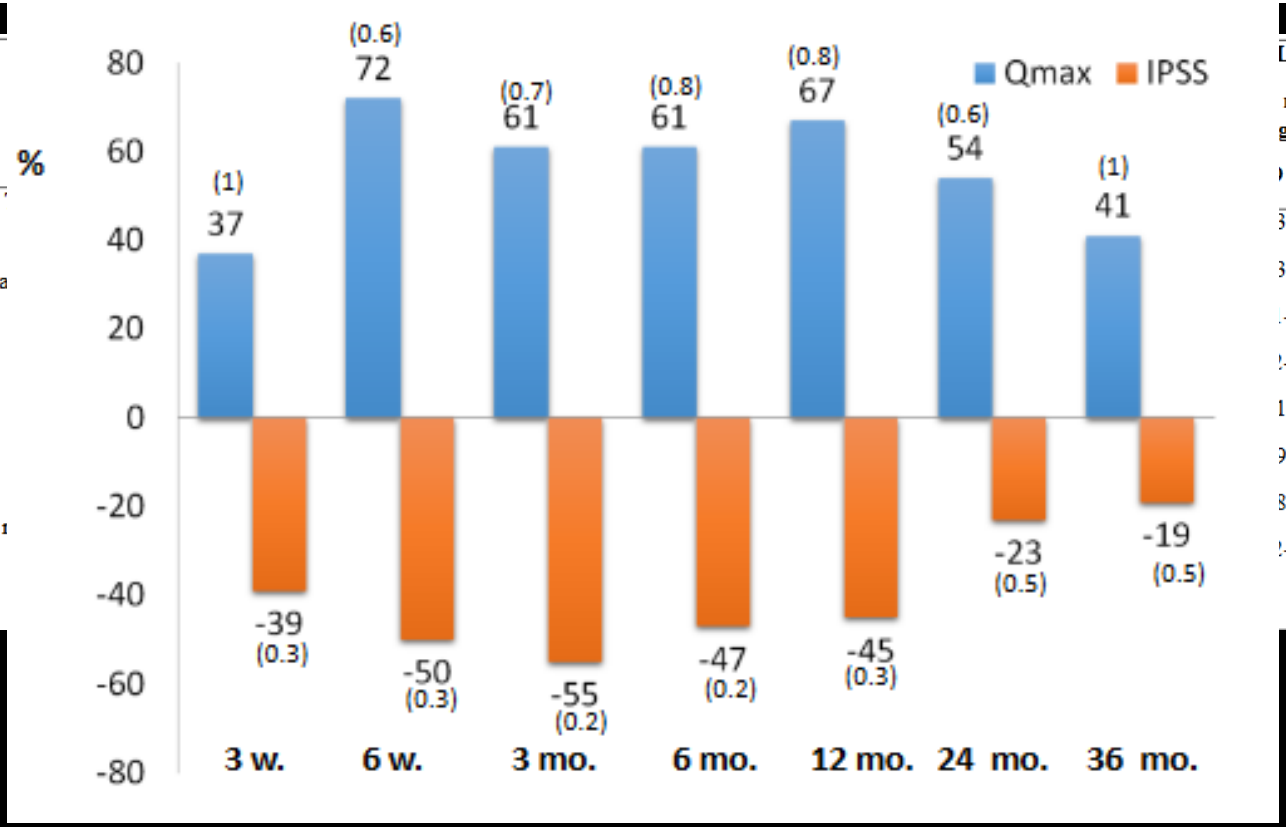
Perioperative data	**(n=32)**
Operative time (from introduction of the TIND system until withdrawal of the delivery system), **minutes**	5.8 (2.5)
No. of patients treated by using light sedation (%)	32 (100)
No. of Intraoperative complications (%)	0 (0)
*VAS score, 6 h after the procedure	2 (2-4)
*Paracetamol use (**1000 mg vials**)	1 (1-1)
*Hospital stay	1 (1-2)
No. of patients readmitted before device removal (%)	0 (0)
Operative time for TIND removal	2 (1)

Demographic/preoperative data	**QoL ≤3 (36 months after surgery) n=22**	**QoL >3 (36 months after surgery) n=9**	**P value**
Age	68.40 (9.5)	70.38 (7.2)	0.309
BMI	26.29 (4.4)	27.32 (3.8)	0.277
Charlson Index*	1 (0-2)	1 (1-2)	0.74
ASA score *	2 (2-3)	2 (2-3)	0.611
Prostate size	29.45 (7.7)	31.19	0.364
Qmax	8.1 (2.2)	7.69	0.900
IPSS *	18 (14-23)	19.85	0.758
QoL *	3 (2-4)	4 (2-4)	0.240

BJU Int. 2018 Jan 23. doi: 10.1111/bju.14141. [Epub ahead of print]

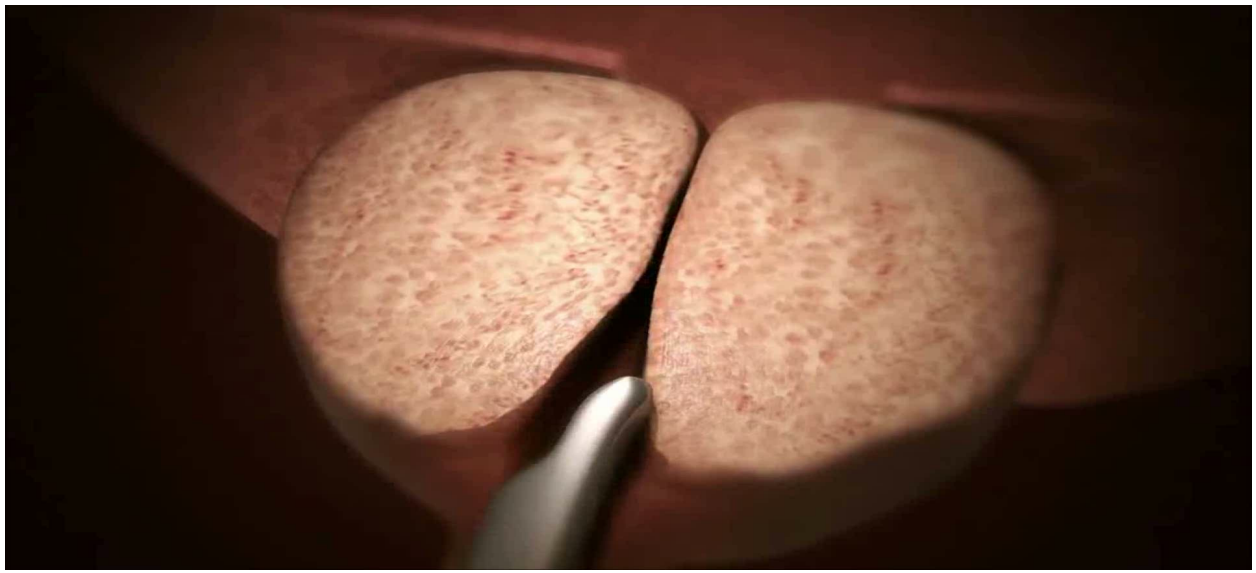
3-Year follow-up of temporary implantable nitinol device implantation for the treatment of benign prostatic obstruction.

Porpiglia F[1], Fiori C[1], Bertolo R[1], Giordano A[1], Checcucci E[1], Garrou D[1], Cattaneo G[1], De Luca S[1], Amparore D[1].



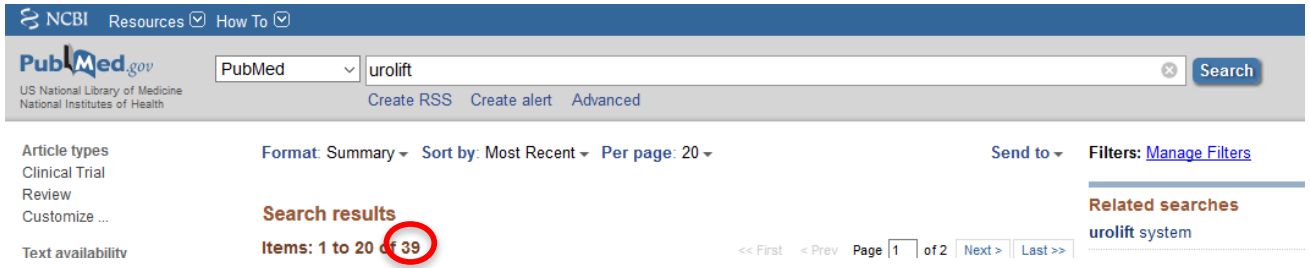
Perioperative data	L >3 months after gery)	P value
Operative time (from introduction of the the delivery system), **minutes**	38 (7.2)	0.309
No. of patients treated by using light seda	32 (3.8)	0.277
No. of Intraoperative complications (%)	-2)	0.74
*VAS score, 6 h after the procedure	-3)	0.611
*Paracetamol use (**1000 mg vials**)	19	0.364
*Hospital stay	9	0.900
No. of patients readmitted before device r	85	0.758
Operative time for TIND removal	-4)	0.240

UroLift
(NeoTract Inc., Pleasanton, CA, USA)



Τεχνολογία που τοποθετεί ρυθμιζόμενα εμφυτεύματα για τη διάνοιξη της προστατικής ουρήθρας με τη μηχανική πίεση των πλαγίων λοβών.

UroLift: Ασφάλεια και αποτελεσματικότητα



BJU Int. 2017 May;119(5):767-775. doi: 10.1111/bju.13714. Epub 2016 Dec 21.

Prostatic urethral lift vs transurethral resection of the prostate: 2-year results of the BPH6 prospective, multicentre, randomized study.

Gratzke C[1], Barber N[2], Speakman MJ[3], Berges R[4], Wetterauer U[5], Greene D[6], Sievert KD[7], Chapple CR[8], Patterson JM[8], Fahrenkrug L[9], Schoenthaler M[5], Sonksen J[9].

Eur Urol. 2015 Apr;67(4):704-13. doi: 10.1016/j.eururo.2014.10.031. Epub 2014 Nov 15.

Prostatic urethral lift improves urinary symptoms and flow while preserving sexual function for men with benign prostatic hyperplasia: a systematic review and meta-analysis.

Perera M[1], Roberts MJ[2], Doi SA[3], Bolton D[4].

Can J Urol. 2017 Jun;24(3):8802-8813.

Five year results of the prospective randomized controlled prostatic urethral L.I.F.T. study.

Roehrborn CG[1], Barkin J, Gange SN, Shore ND, Giddens JL, Bolton DM, Cowan BE, Cantwell AL, McVary KT, Te AE, Gholami SS, Moseley WG, Chin PT, Dowling WT, Freedman SJ, Incze PF, Coffield KS, Herron S, Rashid P, Rukstalis DB.

In September 2015, the National Institute for Health and Care excellence (NICE), released documentation to support the use of urolift in the UK

Appl Health Econ Health Policy. 2016 Jan 30.

Teleflex to pay $1.1B for NeoTract

SEPTEMBER 5, 2017 BY BRAD PERRIELLO — LEAVE A COMMENT

Share

BJU Int. 2017 May;119(5):7

Prostatic urethr
prospective, m

Gratzke C[1], Barber N[2], S
Sonksen J[9].

Teleflex (NYSE:TFX) said today that it agreed to put up $1.1 billion to acquire NeoTract and its UroLift prostate treatment.

The deal calls for an up-front cash payment of $725 million, plus another $375 million in milestone payments pegged to sales numbers through 2020, Wayne, Pa.-based Teleflex said. The deal is expected to close within 30 days.

l function for

Can J Urol. 2017 Jun;24(

Five year resu

Roehrborn CG[1], Bark
Dowling WT, Freedma

The UroLift system for benign prostate hyperplasia uses tiny devices that are inserted into the urethra in a minimally invasive procedure to reopen the lower urinary tract by pushing aside tissue from the enlarged prostate. NeoTract put up sales of roughly $51 million last year, up 178% over 2015, and is expected to post sales of $115 million to $120 million this year.

In Sep[illegible] released documentation to support the use of urolift in the UK

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Five year results of the prospective randomized controlled prostatic urethral L.I.F.T. study.

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- 205 ασθενείς: 140 Urolift και 65 άκαμπτη κυστεοσκόπηση
- Όγκοι προστάτη 30-80cc
- Δεν συμπεριέλαβε ασθενείς με αποφρακτικό μέσο λοβό
- Τοπική αναισθησία
- 4.9 εμφυτεύματα/περιστατικό (συνήθως 4)
- 32% χρειάστηκε καθετηριασμό

TABLE 1. **Adverse events over 5 year course of study**

Time period [months]	**0-3**	**4-12**	**13-24**	**25-36**	**37-48**	**49-60**
Total available subjects	140	139	130	118	108	96
Total subject-months (SM)	413.6	1210.3	1463.8	1324.9	1186.6	1056.3
Related adverse events [total events]	162	15	6	4	2	1
Related adverse events [subjects]	100	12	6	2	2	1
% SM with adverse event per total SM:						
Abdominal pain	0.3%					
Bladder spasm	0.3%	0.09%				
Chills (rigors)				< 0.01%		
Diarrhea	0.2%					
Dizziness	0.2%					
Fever (pyrexia)	0.06%					
Vomiting	0.02%					
Hypotension	0.04%					
Orchitis/epididymo-orchitis	0.3%					
Painful erection	0.2%					
Urinary retention	0.4%					
Urethral stenosis (stricture)	< 0.01%	< 0.01%				
Prostatitis	0.4%	< 0.01%	0.06%			
Urinary tract infection	0.1%	0.03%	0.03%	0.03%		
Pelvic pain	6%	1%				
Hematuria	4%	0.2%	0.3%		0.07%	0.07%
Dysuria	9%	1%	1%	1%		
Urinary urge incontinence	3%	3%	2%	1%	1%	1%
Other	4%	3%	5%	4%	3%	3%

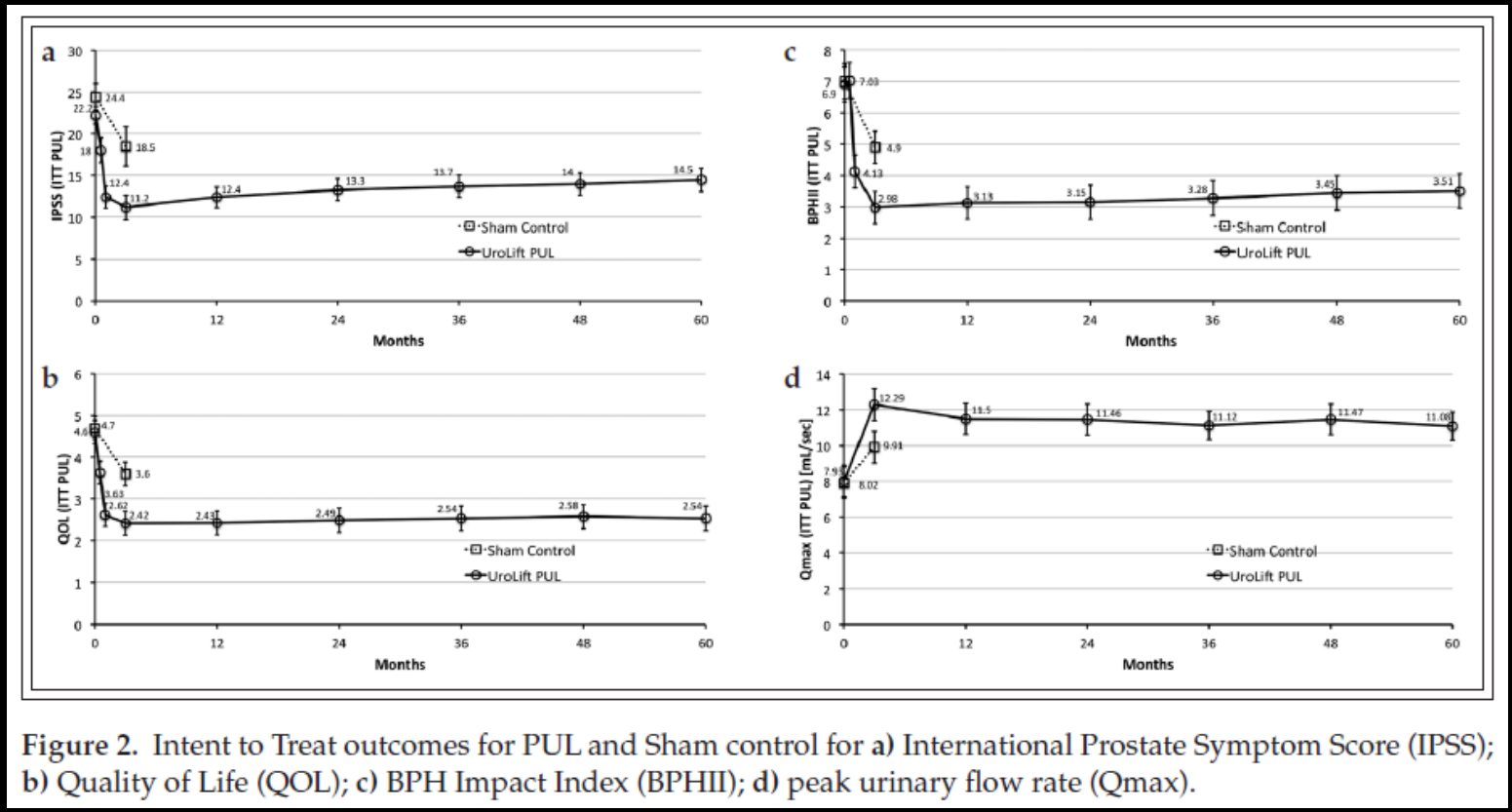


Figure 2. Intent to Treat outcomes for PUL and Sham control for **a)** International Prostate Symptom Score (IPSS); **b)** Quality of Life (QOL); **c)** BPH Impact Index (BPHII); **d)** peak urinary flow rate (Qmax).

- Σταθερά αποτελέσματα στην πενταετία: συμπτώματα, ποιότητα ζωής και μέγιστη ροή
- Νέα επέμβαση 2-3% ανά έτος
- Χωρίς ιατρογενείς διαταραχές της στυτικής λειτουργίας και παλίνδρομη εκσπερμάτιση

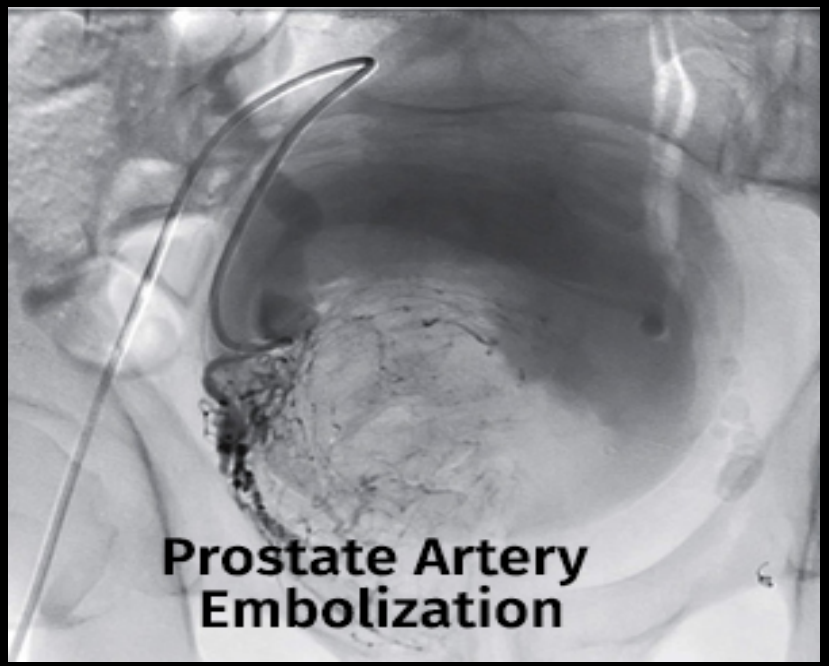
Ας μη το πάρουμε προσωπικά…

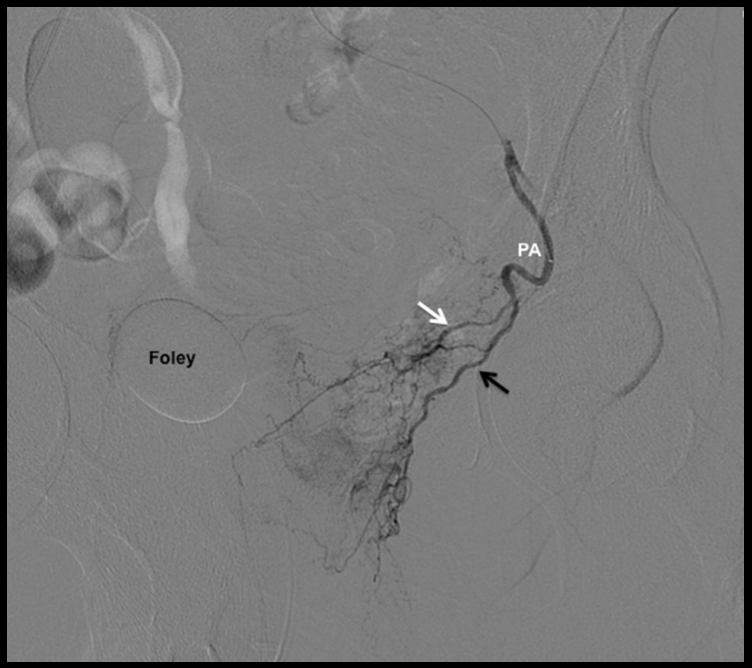
Ουρολόγοι πήραν από τους επεμβατικούς ακτινολόγους:

- ✓Τοποθετηση νεφροστομίας
- ✓Διαδερμική παρακέντηση στη διαδερμ. νεφρολιθοτριψία
- ✓Διαδερμική βιοψία νεφρού

Ήρθε ο καιρός των επεμβατικών ακτινολόγων να αντεπιτεθούν…

Prostate artery embolization (PAE)



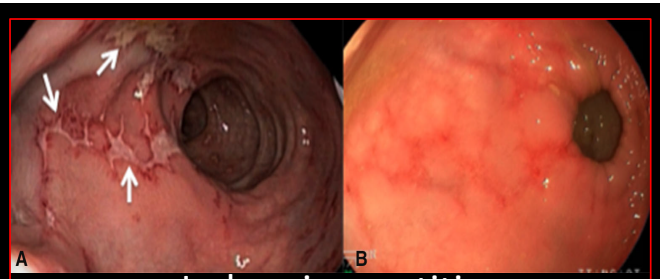


- Χωρίς αναφορές μειζόνων επιπλοκών
- Τοπική αναισθησία

Διπλός μηχανισμός δράσης

1. Στατικός : ισχαιμική νέκρωση
2. Δυναμικός: χαλάρωση των λείων μυϊκών ινών και καταστροφή της νεύρωσης

Προβλήματα του PAE



Ischemic proctitis

- Περιστατικό ισχαιμίας του τοιχώματος της ουροδόχου κύστεως που χρειαστηκε εκτομή του τοιχώματος.
- 20% των ασθενών δεν μπορούν να υποβληθούν στην επέμβαση λόγω αθηροσκληρυνσης ή αρτηριακή ελίκωση.
- Υψηλό ποσοστό αποτυχίας σε ετερόπλευρο εμβολισμό.

Cardiovasc Intervent Radiol. 2017 Aug 21. doi: 10.1007/s00270-017-1774-2. [Epub ahead of print]

Favorable Outcome of Conservative Management of Extensive Bladder Ischemia Complicating Prostatic Artery Embolization.

Moschouris H[1], Stamatiou K[2], Kornezos I[3], Kartsouni V[4], Malagari K[5].

Cardiovasc Intervent Radiol. 2017 Aug 9. doi: 10.1007/s00270-017-1765-3. [Epub ahead of print]

A Review of Adverse Events Related to Prostatic Artery Embolization for Treatment of Bladder Outlet Obstruction Due to BPH.

Moreira AM[1], de Assis AM[2], Carnevale FC[2], Antunes AA[3], Srougi M[3], Cerri GG[4].

J Vasc Interv Radiol. 2014;25(9):1349–51
Eur Radiol. 2013;23(9):2561–72
AJR Am J Roentgenol. 2016;206(2):442–4

BJU Int. 2018 Apr 12. doi: 10.1111/bju.14249. [Epub ahead of print]

Efficacy and safety of prostate artery embolization for benign prostatic hyperplasia: an observational study and propensity-matched comparison with transurethral resection of the prostate (the UK-ROPE study).

Ray AF[1], Powell J[2,3], Speakman MJ[4], Longford NT[5], DasGupta R[6], Bryant T[7], Modi S[7], Dyer J[8], Harris M[8], Carolan-Rees G[1], Hacking N[7].

Non-inferiority study (διαφορά στο IPSS 3)
Συνεργασία BSIR and BAUS
90% power --- 150 ασθενείς ανά ομάδα
PAE vs **mono- or bipolar TURP**, HoLEP
Primary endpoints:
1. Βελτίωση του IPSS στους 12 μήνες για την PAE
2. Επιπλοκές για την PAE

Baseline

Variable	PAE	TURP
Patient age (years)	N = 216 (100%) Mean = 66 (SD = 7.4) Median = 67 Interquartile range (IQR) = 61.0 to 71.0	N = 89 (100%) Mean = 70 (SD = 7.5) Median = 70 IQR = 65.6 to 77.0
Comparison, PAE vs. TURP	Significantly different (p = 0.000, Mann-Whitney U test)	
IPSS (Possible range 0 – 35)	N = 181 (83.8%) Mean = 21.3 (SD = 6.7) Median = 22.00 IQR = 17.0 to 26.0	N = 38 (42.7%) Mean = 21.63 (SD = 5.8) Median = 22.0 IQR = 17.0 to 26.0
Comparison, PAE vs. TURP	Not significantly different (p = 0.926, Mann-Whitney U test)	
IPSS QoL (Possible range 0-6)	N = 189 (87.5%) Mean = 4.6 (SD = 1.1) Median = 5.00 IQR = 4.0 to 5.0	N = 48 (53.9%) Mean = 4.9 (SD = 1.1) Median = 5.00 IQR = 4.0-6.0
Comparison, PAE vs. TURP	Not significantly different (p =0.076, Mann-Whitney U test)	
IIEF (Possible range 5-25)	N = 164 (75.9%) Mean = 14.4 (SD = 7.0 Median = 15.0 IQR = 8.0 to 21.0	N = 36 (40.4%) Mean = 14.4 (SD = 6.7) Median = 15.0 IQR = 7.5 to 19.0
Comparison, PAE vs. TURP	Not significantly different (p = 0.906, Mann-Whitney U test)	
Prostate volume (ml)	N = 209 (96.8%) Mean = 101.2 (SD = 57.1) Median = 89.00 IQR = 59.5 to 125.0	N = 28 (31.5%) Mean = 65.6 (SD = 31.5) Median = 58.5 IQR = 50.0 to 80.0
Comparison, PAE vs. TURP	Significantly different (p = 0.000, Mann-Whitney U test)	
Q_{max} (ml/s)	N = 133 (61.6%) Mean = 8.8 (SD = 4.718) Median = 8.0 IQR = 5.0 to11.0	N = 40 (44.9%) Mean = 10.36 (SD = 6.3) Median = 10.0 IQR = 7.0 to13.0
Comparison, PAE vs. TURP	Not significantly different (p = 0.095, Mann-Whitney U test)	
Residual void volume (ml)	N = 125 (57.9%) Mean = 161.6 (SD = 136.4) Median = 130.0 IQR = 69.5 – 218.5	N = 46 (51.7%) Mean = 263.6 (SD = 202.4) Median = 204.0 IQR = 99.0-403.0
Comparison, PAE vs. TURP	Significantly different (p = 0.004, Mann-Whitney U test)	

12 μήνες

		PAE		TURP	
		n	Mean (Median)	n	Mean (Median)
IPSS	Baseline	181	21.3 (22.0)	38	21.6 (22.0)
	1m	136	10.5 (10.0)	33	11.5 (12.0)
	3m	159	9.6 (8.5)	45	9.8 (5.0)
	6m	133	10.1 (9.0)	31	8.00 (4.0)
	12m	132	10.0 (9.0)	29	7.2 (5.0)
	Difference, baseline to 12m	117	-10.9 (-10.0)	21	-15.2 (-15.0)
IPSS QoL	Baseline	189	4.6 (5.0)	48	4.9 (5.0)
	1m	139	2.3 (2.0)	36	2.4 (2.0)
	3m	160	1.9 (2.0)	46	1.9 (1.0)
	6m	135	2.1 (2.0)	35	1.9 (1.0)
	12m	133	2.00 (2.0)	31	1.5 (1.0)
	Difference, baseline to 12m	126	-2.6 (-3.0)	26	-3.4 (-4.0)
IIEF	Baseline	164	14.4 (15.0)	36	14.4 (15.0)
	1m	106	15.7 (17.5)	15	15.4 (18.0)
	3m	126	16.2 (18.0)	28	15.6 (16.0)
	6m	100	17.0 (19.0)	20	19.2 (20.0)
	12m	102	16.3 (19.0)	20	14.8 (13.5)
	Difference, baseline to 12m	94	1.0 (0.0)	15	-0.2 (0.0)
Q_{max} (ml/s)	Baseline	132	8.8 (8.0)	39	10.4 (10.0)
	3m	115	13.6 (12.0)	21	20.8 (19.0)
	12m	106	14.1 (13.5)	13	22.3 (20.0)
	Difference, baseline to 12m	78	4.4 (3.0)	10	8.6 (7.5)
Prostate volume (ml)	Baseline	209	101.2 (89.0)	28	65.6 (58.5)
	3m	192	72.1 (60.0)	3	58.7 (49.0)
	12m	166	72.8 (58.0)	0	
	Difference, baseline to 12m	165	-28.6 (-25.0)	0	Not measured
Residual void volume (ml)	Baseline	125	161.6 (130.0)	46	263.6 (204.0)
	3m	110	126.2 (97.0)	20	88.8 (56.5)
	12m	101	129.6 (120.0)	13	80.6 (48.0)
	Difference, baseline to 12m	70	-40.4 (-15.0)	12	-78.1 (-48.5)

Στους 12 μήνες

Non-inferiority margin (IPSS points)	Mean difference, PAE-TURP	T-statistic	*p* value	Notes
3.0	-2.386 se = 1.575	0.390	0.697	Reject null hypothesis: no evidence that PAE is non-inferior to TURP
4.0		1.024	0.305	
2.0		-0.245	0.807	

Non-inferiority margin (IPSS QoL points)	Mean difference, PAE-TURP	T-statistic	*p* value	Notes
1.0	-0.480 se = 0.318	1.635	0.102	Reject null hypothesis
1.25*		2.421	0.015	Accept null hypothesis: PAE non-inferior to TURP
0.75		0.849	0.849	Reject null hypothesis

Table 7 Complication and grade for patients treated with PAE

Description	Number of patients	Clavien-Dindo Grade	Treatment
Sepsis	1	II	Antibiotics
Local arterial dissection	4	I	No treatment
Groin Haematoma	3 1	I II	No treatment Transfusion
Penile ulcer (non-target embolisation)	2	I	Analgesics

Table 8 Patient reported complications at any time post-procedure (% of total return rate)

	Haematuria	Haematospermia	Incontinence	Urinary Infection	Retro Ejac
PAE (199 returns)	37 (18.6%)	25 (12.6%)	2 (1.0%)	10 (5.0%)	48 (24.1%)
TURP (61 returns)	39 (63.9%)	1 (1.6%)	2 (3.3%)	1 (1.6%)	29 (47.5%)

Overall reoperation rates for each procedure up to 12 months follow-up

Initial procedure failed	Within 12m	12m +	Total
PAE	11 (5.1%)	32 (14.8%)	43 (19.9%)
TURP	3 (3.4%)	1 (1.1%)	5 (5.6%)

- Αλλάζει η σχέση του Ουρολόγου με την αντιμετώπιση της Υπερπλασίας Προστάτη;
  - Χρήση της μεθόδου σε συνδυασμό με τις Ουρολογικές μεθόδους

Cardiovasc Intervent Radiol
DOI 10.1007/s00270-017-1700-7

CIRSE CrossMark

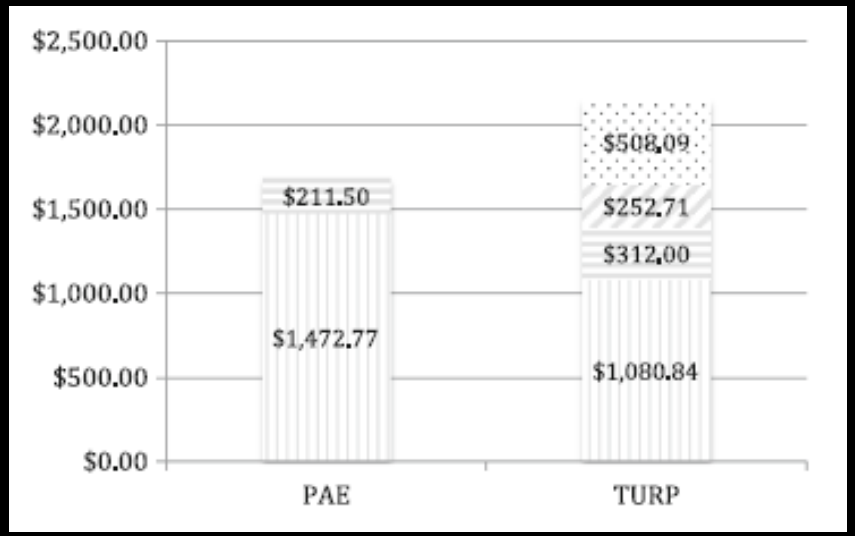
CLINICAL INVESTIGATION

Cost Analysis of Prostate Artery Embolization (PAE) and Transurethral Resection of the Prostate (TURP) in the Treatment of Benign Prostatic Hyperplasia

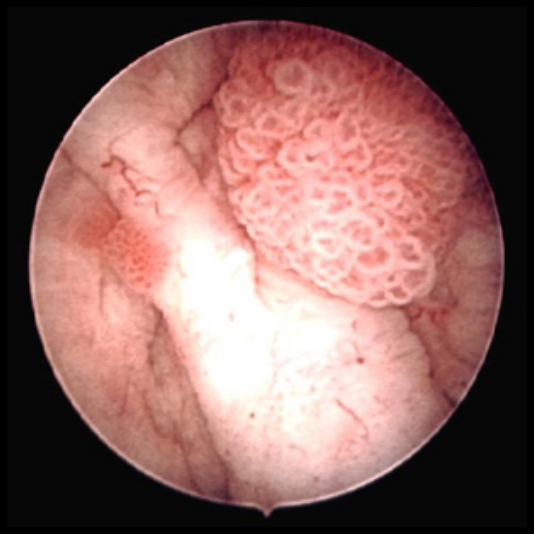
Sandeep Bagla[1,2] · John Smirniotopoulos[3] · Julie Orlando[1] · Rachel Piechowiak[1]

Conclusions

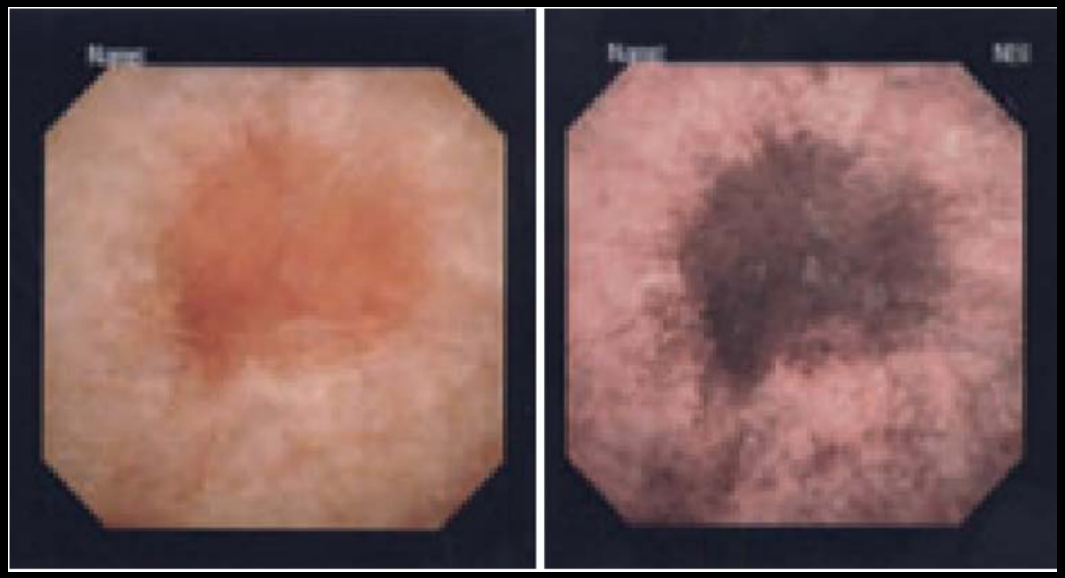
Over the past 40 years, it has been the goal of interventional radiologists to achieve the same results as surgeons, but do so in a less invasive manner. However, as healthcare spending continues to skyrocket, there is an increasing emphasis on developing procedures, which are both less invasive and less costly. In this 'real-world' study, PAE was shown to be less expensive than TURP in terms of direct costs. In the future, a more comprehensive cost comparison could be performed that includes physician professional charges, longitudinal efficacy data, and probability simulations to determine complication-related costs.



Ουροθηλιακός καρκίνος



Narrow-band imaging (NBI)



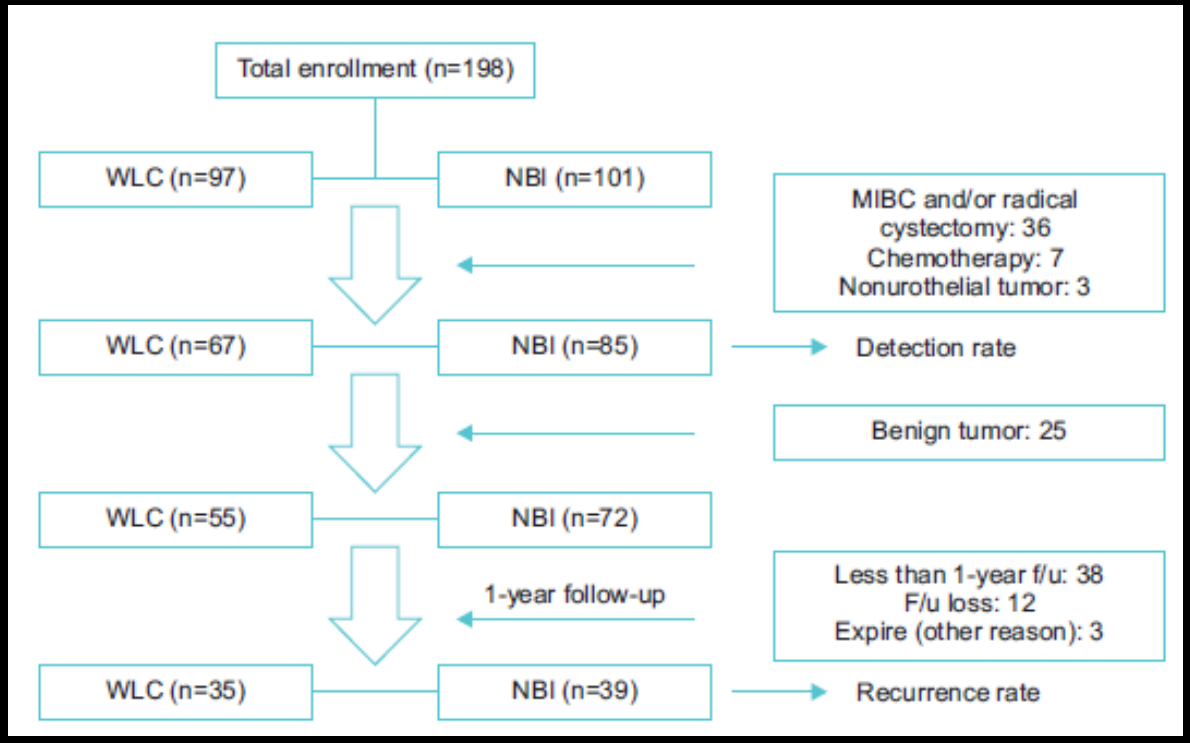
- Φιλτράρει το λευκό φως σε δύο μήκη κύματος (μπλε στα 415 nm και πράσινο στα 540 nm)
- Το μπλε απορροφάται από το επιφανειακό δίκτυο αγγείων και το πράσινο από τα υποεπιθηλιακά αγγεία.

Detection and recurrence rate of transurethral resection of bladder tumors by narrow-band imaging: Prospective, randomized comparison with white light cystoscopy

Investig Clin Urol 2018;59:98-105.

Seung Bin Kim, Sung Goo Yoon, Jonghyun Tae, Jae Yoon Kim, Ji Sung Shim, Sung Gu Kang, Jun Cheon, Jeong Gu Lee, Je Jong Kim, Seok Ho Kang

- 198 ασθενείς που υποβλήθηκαν σε TURBt
- Narrow band imaging (NBI) vs White light cystoscopy (WLC)
- Primary endpoint: ο αριθμός των όγκων που διαγνώστηκαν επιπρόσθετα με NBI
- Secondary endpoint: υποτροπή στο έτος


Total enrollment (n=198)
WLC (n=97)
NBI (n=101)
MIBC and/or radical cystectomy: 36
Chemotherapy: 7
Nonurothelial tumor: 3
WLC (n=67)
NBI (n=85)
Detection rate
Benign tumor: 25
WLC (n=55)
NBI (n=72)
1-year follow-up
Less than 1-year f/u: 38
F/u loss: 12
Expire (other reason): 3
WLC (n=35)
NBI (n=39)
Recurrence rate

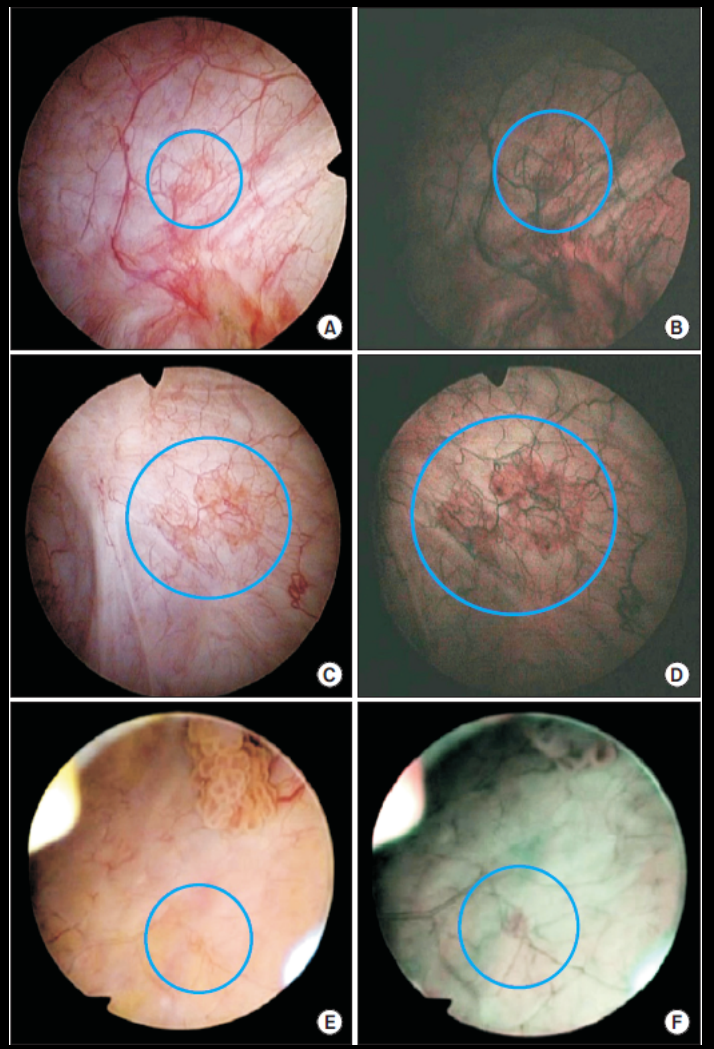

A
B
C
D
E
F

Table 2. Detection rate and 1-year recurrence-free rate

Result	WLC group (n=67)	NBI group (n=85)	Additional	p-value[a]
Pathology (person)				0.414
No tumor	12	13	24	
CIS	2	3	6	
Ta	37	52	5	
T1	16	17	2	
Total	67	85	37	
Detection rate	55 (82.1)	72 (84.7)	13 (35.1)	
Pathology (tumor)				0.504
No tumor	27	27	37	
CIS	11	10	12	
Ta	76	108	11	
T1	27	41	4	
Total	141	186	64	
Detection rate	114 (80.9)	159 (85.5)	27 (42.2)	
1-year recurrence	9	5		
1-year recurrence-free rate	72.2 (9/35)	85.2 (5/39)		0.3

- Επί μία δεκαετία δεν έχει γίνει τυχαιοποιημένη μελέτη

Cellvizio
Confocal endomicroscopy

- Διεγχειρητική μικροσκοπική εκτίμηση ιστών επιτρέπει άμεσα ιστολογικά αποτελέσματα
- Συμβατή με εύκαμπτα εργαλεία (RIRS)
- Πολύ καλή τεκμηρίωση στην ενδοσκοπική γαστρεντερολογία

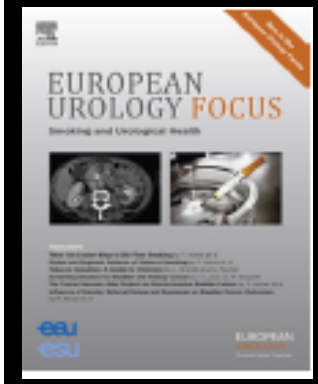
Mauna Kea Technologies

COOK MEDICAL

Correlation Between Confocal Laser Endomicroscopy (Cellvizio®) and Histological Grading of Upper Tract Urothelial Carcinoma: A Step Forward for a Better Selection of Patients Suitable for Conservative Management

EUROPEAN UROLOGY FOCUS XXX (2017) XXX–XXX

Alberto Breda [a,*], *Angelo Territo* [a], *Andrea Guttilla* [a,b], *Francesco Sanguedolce* [a], *Martina Manfredi* [a,c], *Luigi Quaresima* [a], *Jose M. Gaya* [a], *Ferran Algaba* [d], *Joan Palou* [a], *Humberto Villavicencio* [a]



- 14 ασθενείς που υποβλήθηκαν σε εύκαμπτη ουρητηροσκοπήση

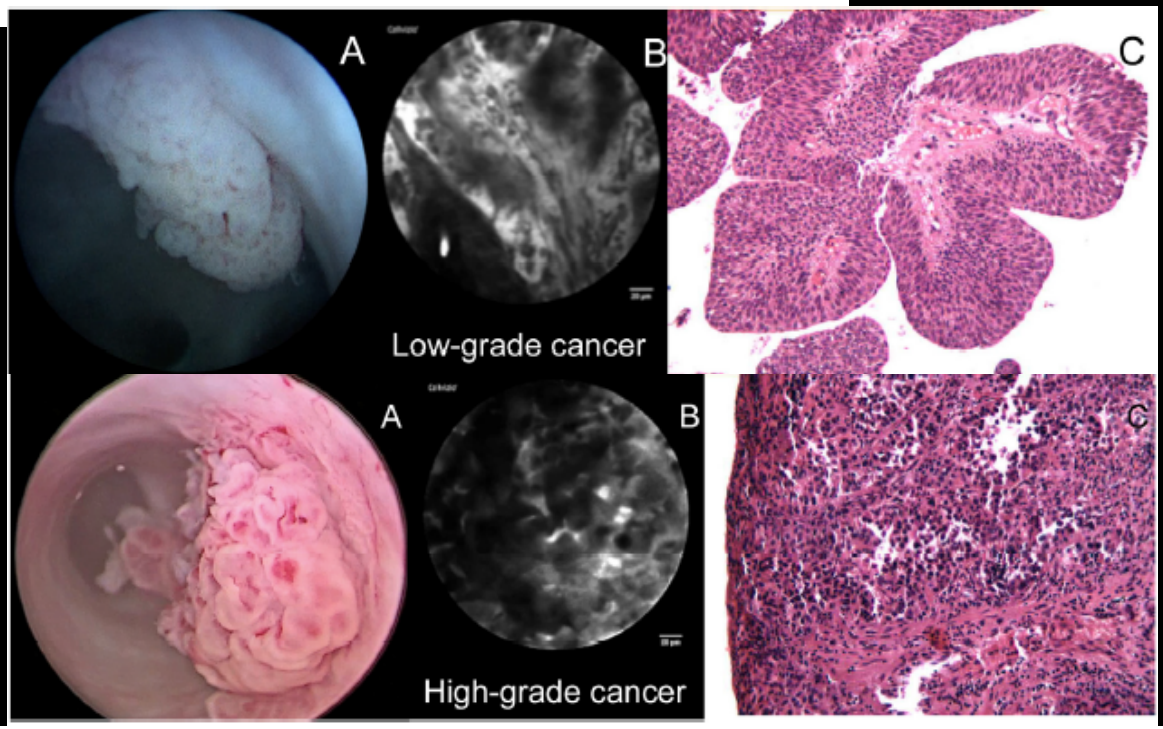
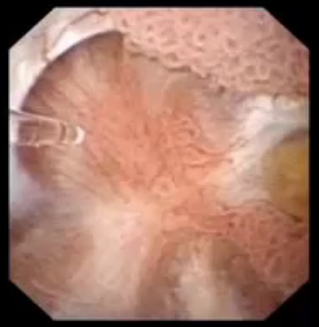


Table 2 – Confocal laser endomicroscopy (CLE) and biopsy findings.

N patient	CLE finding	Biopsy finding	Histology at RNU/segmental ureterectomy
1	CIS	CIS	–
2	Low grade	Low grade	–
3	Low grade	N/A	HG (left RNU)
4	High grade	N/A	HG (right distal ureterectomy)
5	High grade	High grade	HG (right RNU)
6	High grade	High grade	HG (right RNU)
7	High grade	High grade	HG (right RNU)
8	Low grade	High grade	LG (left RNU)
9	Low grade	Low grade	–
10	Low grade	Low grade	–
11	Low grade	Low grade	–
12	High grade	High grade	–
13	Low grade	Low grade	–
14	Low grade	Low grade	–

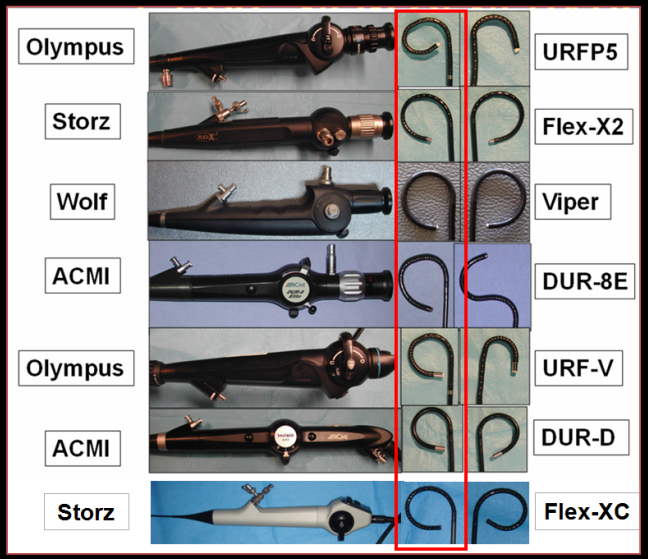
CIS = carcinoma in situ; HG = high grade; LG = low grade; N/A = not available; RNU = radical nephroureterectomy.

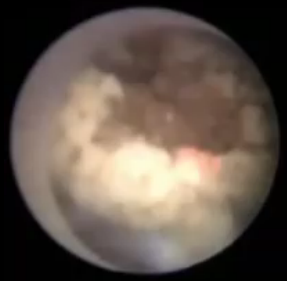


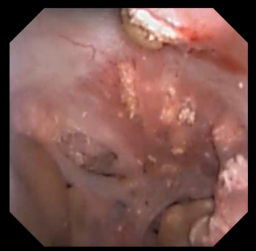
- Τα αποτελέσματα της ενδοσκοπικής βιοψίας στους ουροθηλιακούς όγκους του ανώτερου ουροποιητικού (UTUC) είναι γενικά φτωχά.
- Επι τόπου χαρακτηρισμό του όγκου σε low ή high grade με ακρίβεια
- Πιθανότατα στην αύξηση των συντηρητικών θεραπειών (μεγαλύτερη βεβαιότητα ότι ένας όγκος είναι low grade και μπορεί να αντιμετωπιστεί τοπικά)

Ενδοουρολογία: μια εξειδίκευση στενά συνδεδεμένη με τον τεχνολογικό εξοπλισμό

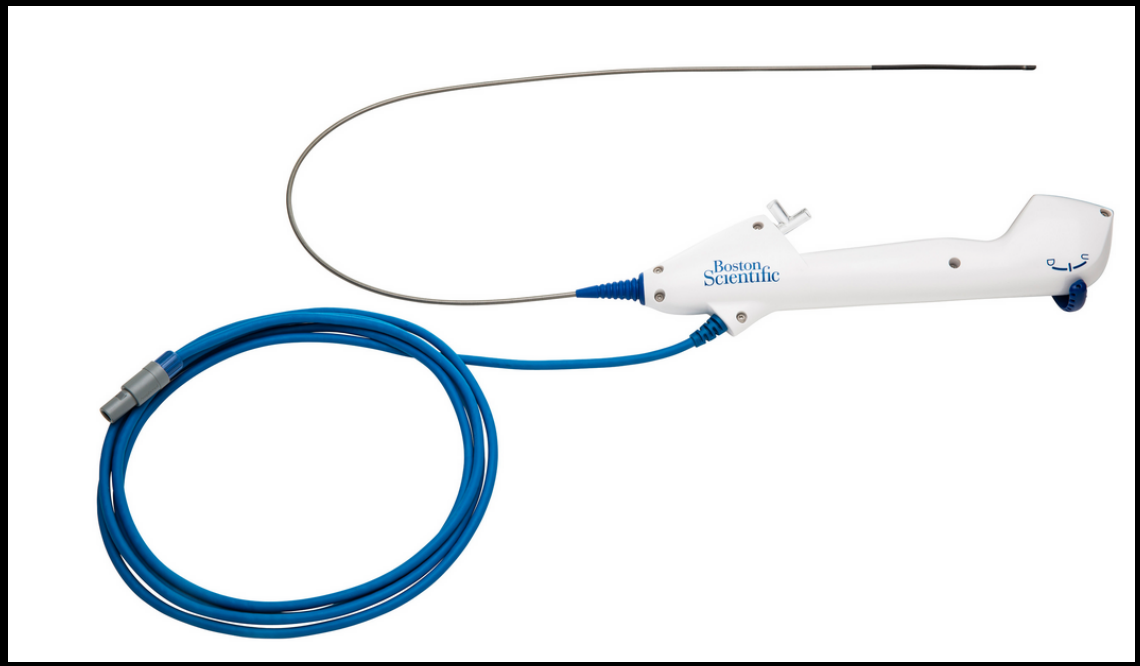
- Μεγάλος ανταγωνισμός από τις εταιρίες
- Εξοπλισμός οικονομικότερος, ανθεκτικότερος και πιο αποτελεσματικός







Lithovue



Μίας χρήσης εύκαμπτο ουρητηροσκόπιο

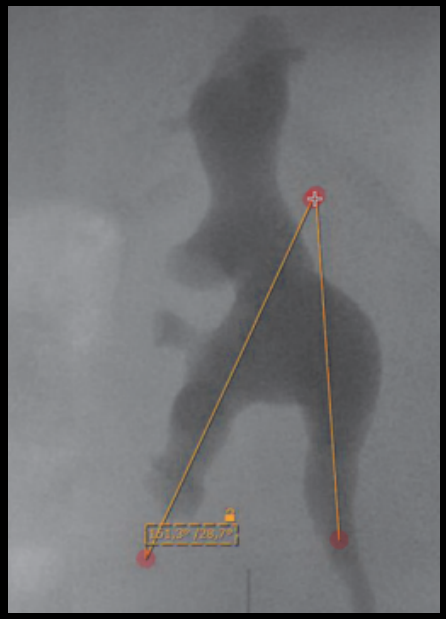
Effective yes, cost effective?

JOURNAL OF ENDOUROLOGY

Retrospective Cost Analysis of a Single-Center Reusable Flexible Ureterorenoscopy Program: A Comparative Cost Simulation of Disposable fURS as an Alternative

TABLE 3. COSTS OF REUSABLE FLEXIBLE URETERORENOSCOPY PROGRAM 2013–2016

	Diagnostic fURS	*fURS for kidney stones*	*Per Case*
fURS cases	102	321	
Repairs	€24,534.54	€77,654.48	€241.58
Reprocessing	€14,586.00	€45,903.00	€143.00
New devices	€50,202.00		€118.68
Total cost	€212,880.02		€503.26



Conclusions: Disposable fURS is a more expensive option for high-volume centers. Based on our case analysis, laser disintegration treatment of multiple, large stones in the lower kidney pole of recurrent stone formers, as well as a steep infundibulopelvic angle (IPA ≤50°), seems to be the main risk factor for fURS damage. For these cases, disposable fURS may be a cost-effective alternative; however, a prospective comparison of economic outcomes between disposable and reusable fURS, together with confirmation of the proposed damage risk factors, is needed.

J Endourol. 2018 Apr;32(4):267-273. doi: 10.1089/end.2017.0523. Epub 2018 Jan 12.

Micro-Costing Analysis Demonstrates Comparable Costs for LithoVue Compared to Reusable Flexible Fiberoptic Ureteroscopes.

Taguchi K[1,2], Usawachintachit M[1,3], Tzou DT[1], Sherer BA[1], Metzler I[1], Isaacson D[1], Stoller ML[1], Chi T[1].

- Το κόστος απόκτησής του Lithovue είναι μεγαλύτερο
- Σημαντικό κόστος σχετιζόμενο με προσωπικό, αναλώσιμα και επισκευές αποφεύγονται
- Το κόστος χρήσης είναι τελικά παρόμοιο

J Urol. 2017 Mar;197(3 Pt 1):730-735. doi: 10.1016/j.juro.2016.09.085. Epub 2016 Sep 28.

The Economic Implications of a Reusable Flexible Digital Ureteroscope: A Cost-Benefit Analysis.

Martin CJ[1], McAdams SB[2], Abdul-Muhsin H[2], Lim VM[2], Nunez-Nateras R[2], Tyson MD[2], Humphreys MR[2].

- Τα ουρητηροσκόπια πολλαπλών χρήσεων χρησιμοποιούνταν για 12.5 περιστατικά (Μ.Ο)
- Το κόστος ανά περιστατικό υπολογίστηκε στα $848 (χωρίς συνυπολογισμό του κόστους κτήσης των ουρητηροσκοπίων)
- Μετά το 99^{ο} περιστατικό, το πολλαπλών χρήσεων συμφέρουν περισσότερο

Urolithiasis. 2018 Jan 22. doi: 10.1007/s00240-018-1042-1. [Epub ahead of print]

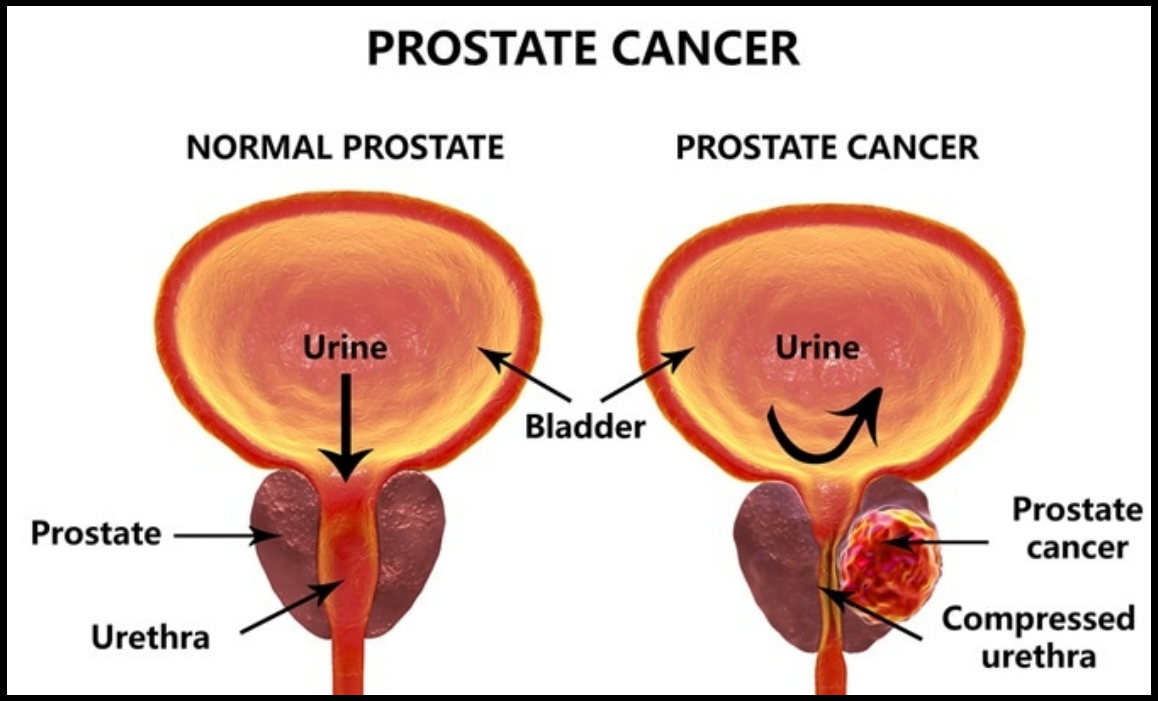
Clinical outcomes and costs of reusable and single-use flexible ureterorenoscopes: a prospective cohort study.

Mager R[1], Kurosch M[2], Höfner T[2], Frees S[2], Haferkamp A[2], Neisius A[2].

	Πολλαπλών χρήσεων	Μίας χρήσεως
Συνολική επιτυχία	81%	87%
Stone free	82%	85%
Χειρουργικός χρόνος	76.2 ± 46.8 min	76.8 ± 40.2 min
Χρόνος έκθεσης στην ακτινοβολία	3.83 ± 3.15 min	3.93 ± 4.43 min
Επιπλοκές	7%	17%
Κόστος αγοράς και επισκευής	$1212-1743 / ανά περιστατικό	$1300-3180 / ανά περιστατικό

use ureterorenoscopy was $1300-$3180 per procedure. The current work provided evidence for equal clinical effectiveness of reusable and single-use flexible ureterorenoscopes. Partially overlapping ranges of costs for single-use and reusable scopes stress the importance to precisely know the expenses and caseload when negotiating purchase prices, repair prices and warranty conditions.

Καρκίνος Προστάτη



Lancet Oncol. 2016 Dec 19. pii: S1470-2045(16)30661-1. doi: 10.1016/S1470-2045(16)30661-1. [Epub ahead of print]

Padeliporfin vascular-targeted photodynamic therapy versus active surveillance in men with low-risk prostate cancer (CLIN1001 PCM301): an open-label, phase 3, randomised controlled trial.

Azzouzi AR[1], Vincendeau S[2], Barret E[3], Cicco A[4], Kleinclauss F[5], van der Poel HG[6], Stief CG[7], Rassweiler J[8], Salomon G[9], Solsona E[10], Alcaraz A[11], Tammela TT[12], Rosario DJ[13], Gomez-Veiga F[14], Ahlgren G[15], Benzaghou F[16], Gaillac B[16], Amzal B[17], Debruyne FM[18], Fromont G[19], Gratzke C[7], Emberton M[20]; PCM301 Study Group.

Author information

Abstract

BACKGROUND: Vascular-targeted photodynamic therapy, a novel tissue-preserving treatment for low-risk prostate cancer, has shown favourable safety and efficacy results in single-arm phase 1 and 2 studies. We compared this treatment with the standard of care, active surveillance, in men with low-risk prostate cancer in a phase 3 trial.

METHODS: This randomised controlled trial was done in 47 European university centres and community hospitals. Men with low-risk, localised prostate cancer (Gleason pattern 3) who had received no previous treatment were randomly assigned (1:1) to vascular-targeted photodynamic therapy (4 mg/kg padeliporfin intravenously over 10 min and optical fibres inserted into the prostate to cover the desired treatment zone and subsequent activation by laser light 753 nm with a fixed power of 150 mW/cm for 22 min 15 s) or active surveillance. Randomisation was done by a web-based allocation system stratified by centre with balanced blocks of two or four patients. Best practice for active surveillance at the time of study design was followed (ie, biopsy at 12-month intervals and prostate-specific antigen measurement and digital rectal examination at 3-month intervals). The co-primary endpoints were treatment failure (histological progression of cancer from low to moderate or high risk or death during 24 months' follow-up) and absence of definite cancer (absence of any histology result definitely positive for cancer at month 24). Analysis was by intention to treat. Treatment was open-label, but investigators assessing primary efficacy outcomes were masked to treatment allocation. This trial is registered with ClinicalTrials.gov, number NCT01310894.

FINDINGS: Between March 8, 2011, and April 30, 2013, we randomly assigned 206 patients to vascular-targeted photodynamic therapy and 207 patients to active surveillance. Median follow-up was 24 months (IQR 24-25). The proportion of participants who had disease progression at month 24 was 58 (28%) of 206 in the vascular-targeted photodynamic therapy group compared with 120 (58%) of 207 in the active surveillance group (adjusted hazard ratio 0·34, 95% CI 0·24-0·46; p<0·0001). 101 (49%) men in the vascular-targeted photodynamic therapy group had a negative prostate biopsy result at 24 months post treatment compared with 28 (14%) men in the active surveillance group (adjusted risk ratio 3·67, 95% CI 2·53-5·33; p<0·0001). Vascular-targeted photodynamic therapy was well tolerated. The most common grade 3-4 adverse events were prostatitis (three [2%] in the vascular-targeted photodynamic therapy group vs one [<1%] in the active surveillance group), acute urinary retention (three [2%] vs one [<1%]) and erectile dysfunction (two [1%] vs three [1%]). The most common serious adverse event in the vascular-targeted photodynamic therapy group was retention of urine (15 patients; severe in three); this event resolved within 2 months in all patients. The most common serious adverse event in the active surveillance group was myocardial infarction (three patients).

INTERPRETATION: Padeliporfin vascular-targeted photodynamic therapy is a safe, effective treatment for low-risk, localised prostate cancer. This treatment might allow more men to consider a tissue-preserving approach and defer or avoid radical therapy.

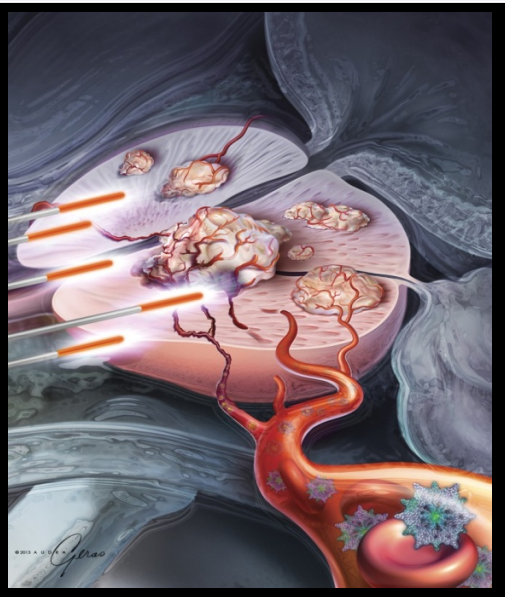
FUNDING: Steba Biotech.

Φωτοδυναμική θεραπεία προστάτου (PDT)
open-label, phase 3, randomised controlled trial

	PDT	Active surveillance
47 κέντρα στην Ευρώπη	PDT= IV padeliporfin για 10 min και ενεργοποίηση διαπερινεικών ινών 753nm laser για 22min.	
1:1 Randomization	206	207
Πρόοδος της νόσου (24 μηνές)	28%	58%
Αρνητική βιοψία	49%	14%

Κυριότερη επιπλοκή PDT: Επίσχεση ούρων σε 15/206 ασθενείς

Lancet Oncol. 2016



J Urol. 2018 Jun 1. pii: S0022-5347(18)43299-5. doi: 10.1016/j.juro.2018.05.121. [Epub ahead of print]

Randomized Trial of Partial Gland Ablation with Vascular-Targeted Phototherapy versus Active Surveillance for Low-risk Prostate Cancer: Extended Follow-up and Analyses of Effectiveness.

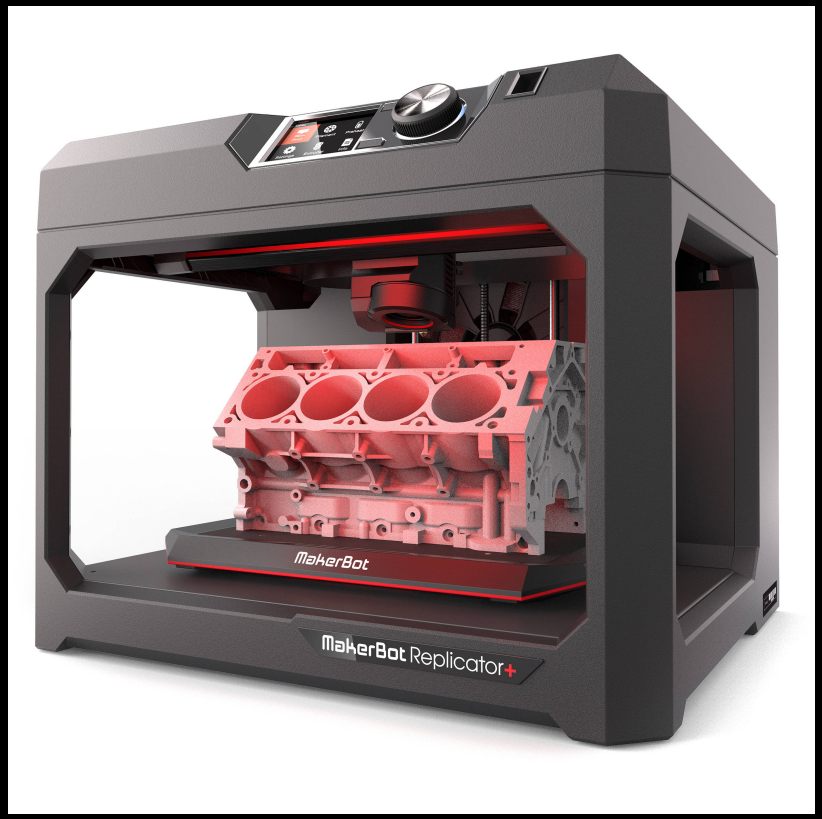
Gill IS[1], Azzouzi AR[2], Emberton M[3], Coleman JA[4], Coeytaux E[5], Scherz A[6], Scardino PT[4]; PCM301 Study Group.

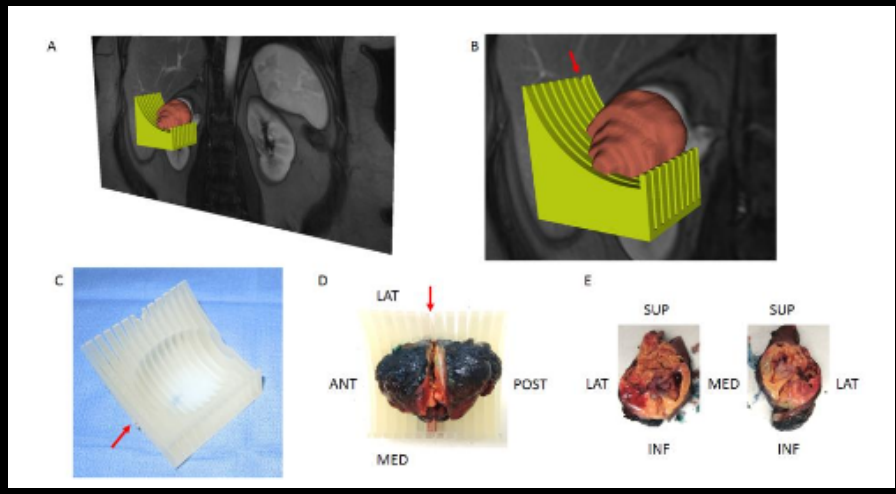
Follow-up: 48 μήνες. Βιοψία στους 12 και 24 μήνες

	PDT	Active surveillance
47 κέντρα στην Ευρώπη	PDT= IV padeliporfin για 10 min και ενεργοποίηση διαπερινεικών ινών 753nm laser για 22min.	
1:1 Randomization	206	207
Αντιμετώπιση με ριζική επέμβαση		
24 μήνες	7%	32%
36 μήνες	15%	44%
48 μήνες	24%	53%
Αρνητική βιοψία (στο τέλος της μελέτης)	50%	14%
Gleason 7 or higher	16%	41%

Μειώνει τις επιπλοκές που σχετίζονται με τη θεραπεία

Τρισδιάστατη εκτύπωση





Urology. 2018 Apr;114:114-120. doi: 10.1016/j.urology.2018.01.030. Epub 2018 Feb 5.

Development and Validity of a Silicone Renal Tumor Model for Robotic Partial Nephrectomy Training.

Monda SM[1], Weese JR[2], Anderson BG[2], Vetter JM[2], Venkatesh R[2], Du K[2], Andriole GL[2], Figenshau RS[2].

World J Urol. 2018 Feb;36(2):201-207. doi: 10.1007/s00345-017-2126-1. Epub 2017 Nov 10.

Development and validation of 3D printed virtual models for robot-assisted radical prostatectomy and partial nephrectomy: urologists' and patients' perception.

Porpiglia F[1], Bertolo R[2], Checcucci E[2], Amparore D[2], Autorino R[3], Dasgupta P[4], Wiklund P[5], Tewari A[6], Liatsikos E[7], Fiori C[2]; ESUT Research Group.

Urology. 2018 Feb;112:209-214. doi: 10.1016/j.urology.2017.08.056. Epub 2017 Oct 19.

Development of a Patient-specific Tumor Mold Using Magnetic Resonance Imaging and 3-Dimensional Printing Technology for Targeted Tissue Procurement and Radiomics Analysis of Renal Masses.

Dwivedi DK[1], Chatzinoff Y[1], Zhang Y[1], Yuan Q[1], Fulkerson M[1], Chopra R[2], Brugarolas J[3], Cadeddu JA[4], Kapur

Χρήσιμο για:

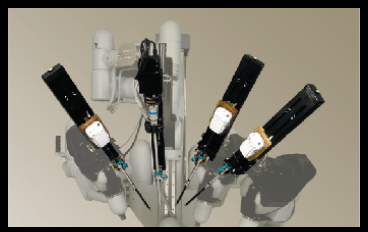
- τη συμβουλευτική των ασθενών
- την προετοιμασία του χειρουργείου
- την εκπαίδευση νέων χειρουργών

da Vinci System Product Development

2009
da Vinci Si Surgical System

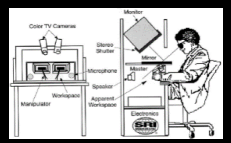
2006
da Vinci S Surgical System

2003
4th Arm

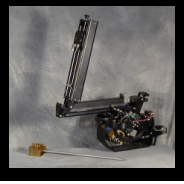


2014
da Vinci Xi Surgical System

1995
Intuitive Surgical Founded



1997
"Mona"
First live human case



1998
da Vinci Surgical System

Robotic surgery: new robots and finally some real competition!

Pradeep P. Rao[1]

Published online: 09 February 2018

World Journal of Urology

Senhance surgical robot

Fig. 2 REVO-I Robot with closed console, operation cart and vision cart

REVO-I surgical robot

Robotic surgery: new robots and finally some real competition!

Table 1 Currently available robots and their features

Device	Da Vinci	Senhance surgical robot	REVO-I
Console	Closed	Open	Closed
Optics	8 mm 3D HD	10 mm 3D HD	10 mm 3D HD
Instruments with articulation	Monopolar/bipolar/needle holder	Bipolar/needle holder	Monopolar/bipolar/needle holder
Instrument size	8 mm	5 mm/needle holder 10 mm	8 mm
Haptic feedback	No	Yes	Yes
Optic control	Handles + foot pedal	Pupil tracking	Handles + foot pedal
Reusability	Ten uses	No restriction	20 uses
Cost per use*	$ 1500	$ 200–500	NA (only in South Korea)
Cost of device*	$ 1.5–2 Million	$ 1–1.2 Million	NA (only in South Korea)
Approvals	Worldwide	US FDA for colorectal and Gyn, CE for all lap applications	Korean FDA for use in South Korea

*Approximate figures which will vary with country

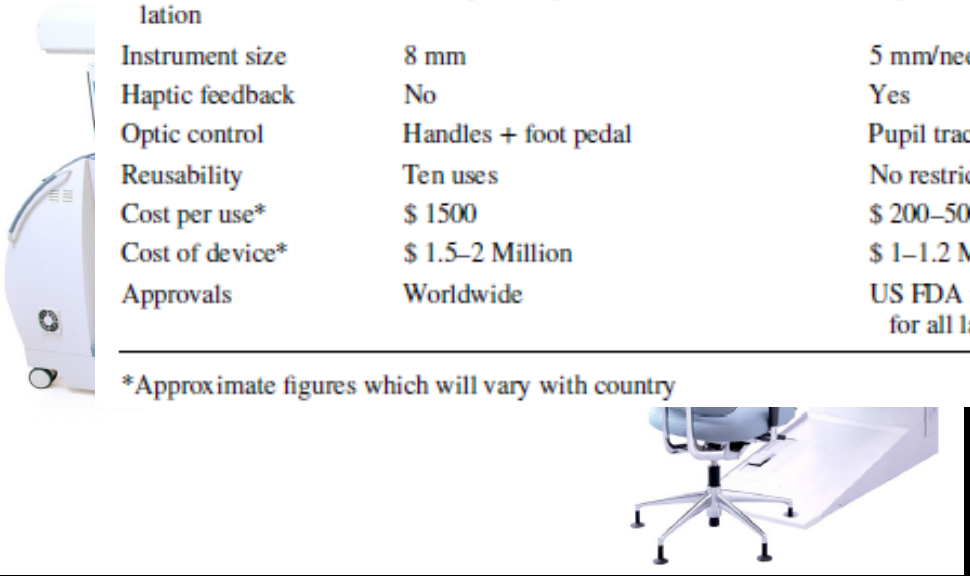


Fig. 2 REVO-I Robot with closed console, operation cart and vision cart

Εν αναμονή του ανταγωνιστή

TransEnterix, Morrisville, North Carolina

avatera medical, Jena, Germany

Medtronic, Dublin, Ireland

Verb Surgical, Mountain View, California

Titan Medical, Toronto, Canada

Riverfield Inc., Tokyo, Japan

meerecompany, Republic of Korea

European Association of Urology

Key Steps in Conducting Systematic Reviews for Underpinning Clinical Practice Guidelines: Methodology of the European Association of Urology

Thomas Knoll[a,1], *Muhammad Imran Omar*[b,1,*], *Steven Maclennan*[b], *Virginia Hernández*[c], *Steven Canfield*[d], *Yuhong Yuan*[e], *Max Bruins*[f], *Lorenzo Marconi*[g], *Hein Van Poppel*[h], *James N'Dow*[b], *Richard Sylvester*[i],

EAU Guidelines Office Senior Associates Group Authorship[2]

EUROPEAN UROLOGY XXX (2017) XXX–XXX

Καθορισμός των κριτηρίων για τη πραγματοποίηση συστηματικής ερευνάς της βιβλιογραφίας για να αναδειχτούν δεδομένα που θα αλλάξουν την καθημερινή πρακτική μας

Ευχαριστώ