

Dipartimento di Urologia
Direttore Prof. Giorgio Guazzoni

Mini-Invasive Treatment in Urological Diseases

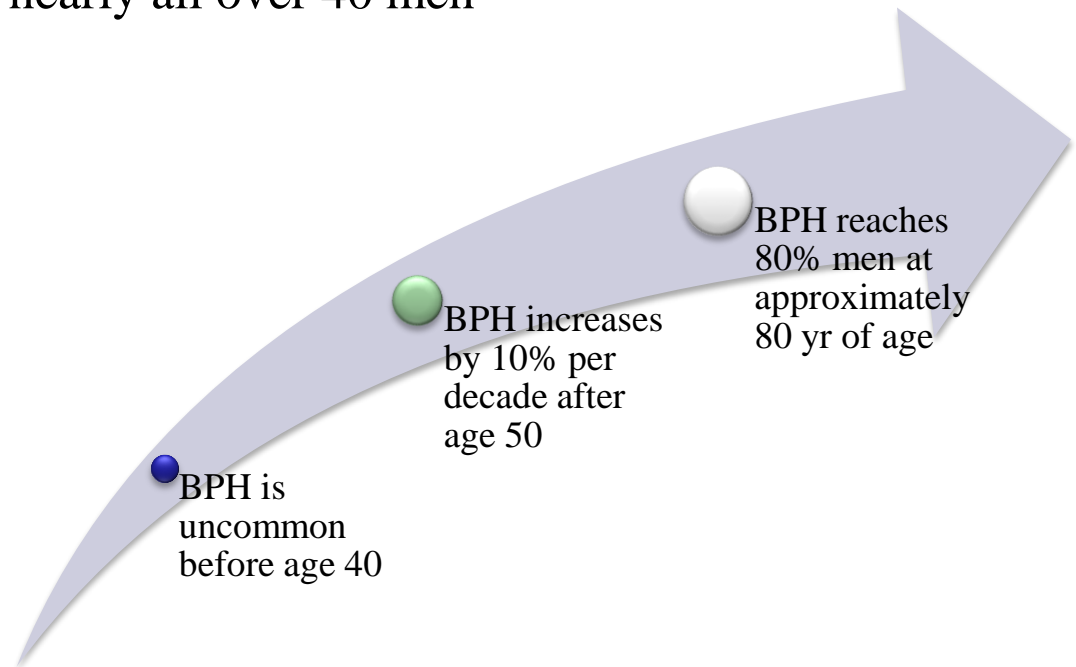
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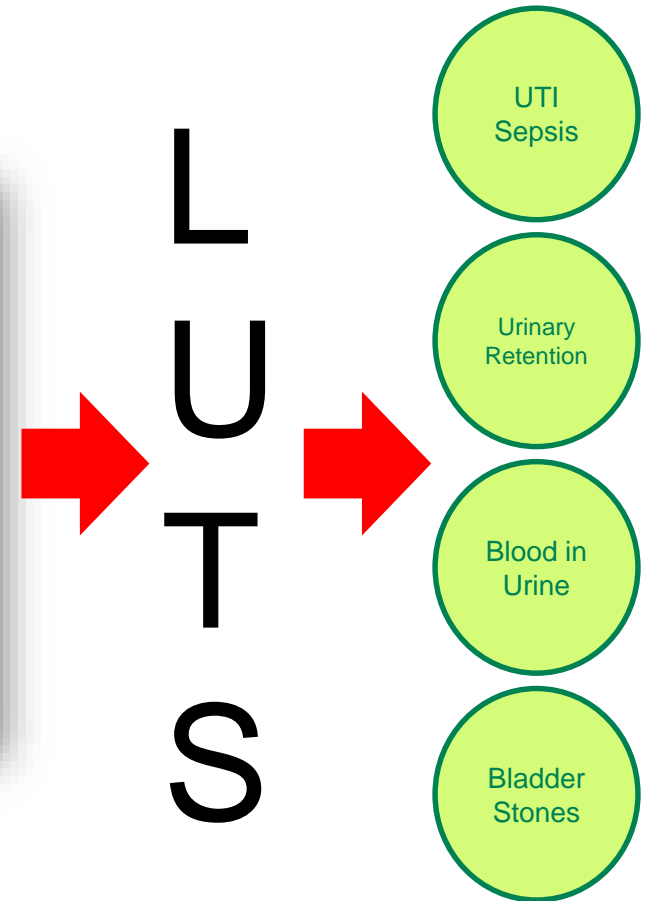
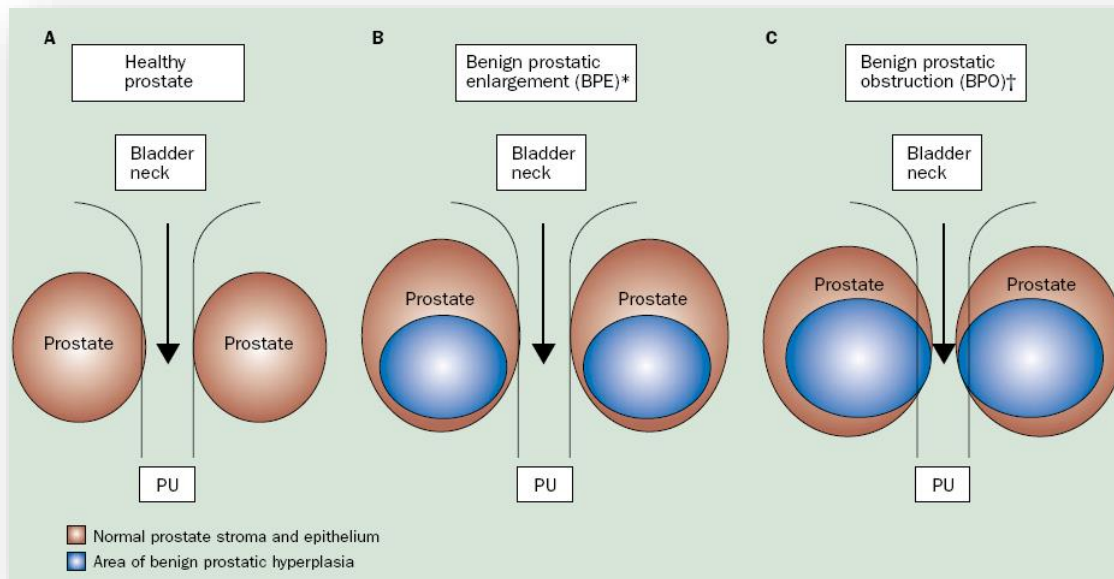
Benign Prostate Hyperplasia

BPH - Bladder Outlet Obstruction

- Non-malignant growth of the prostate
- Age-related phenomenon in nearly all over 40 men
- Risk factors:
 - Age
 - Hormones
 - Metabolic syndrome
 - Genetic factors
 - Diet (fatty)
 - Overweight
 - Chronic inflammation

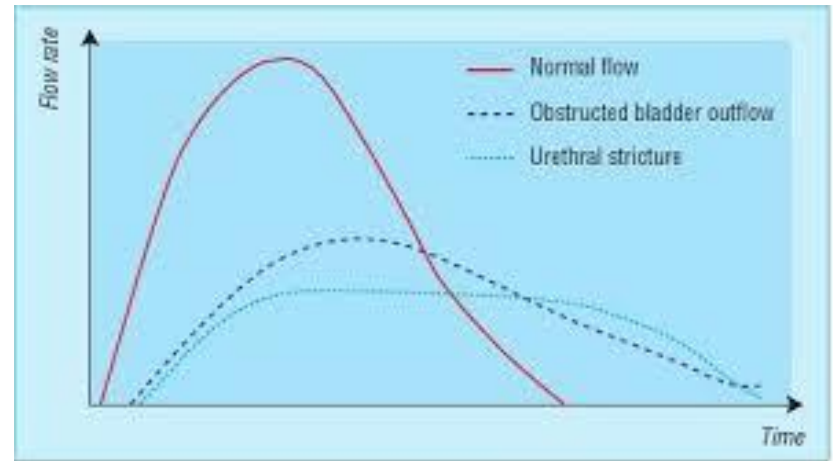


BPH



Diagnosis

- All patients should undergo:
 - Careful clinical history
 - Physical examination
 - Digital rectal examination (DRE)
 - Urinalysis, Urinary Culture, PSA
 - Ultrasound for volume assessment
 - Uroflowmetry
 - Questionnaire (IPSS)



Treatment



Lifestyle Changes



Medical



Surgical

Lifestyle Changes

- Reduction in fluid intake
- Avoidance/moderation of alcohol and caffeine intake
- Bladder retraining
- Use of timed voiding schedules
- Discontinuation of drugs that may aggravate obstruction



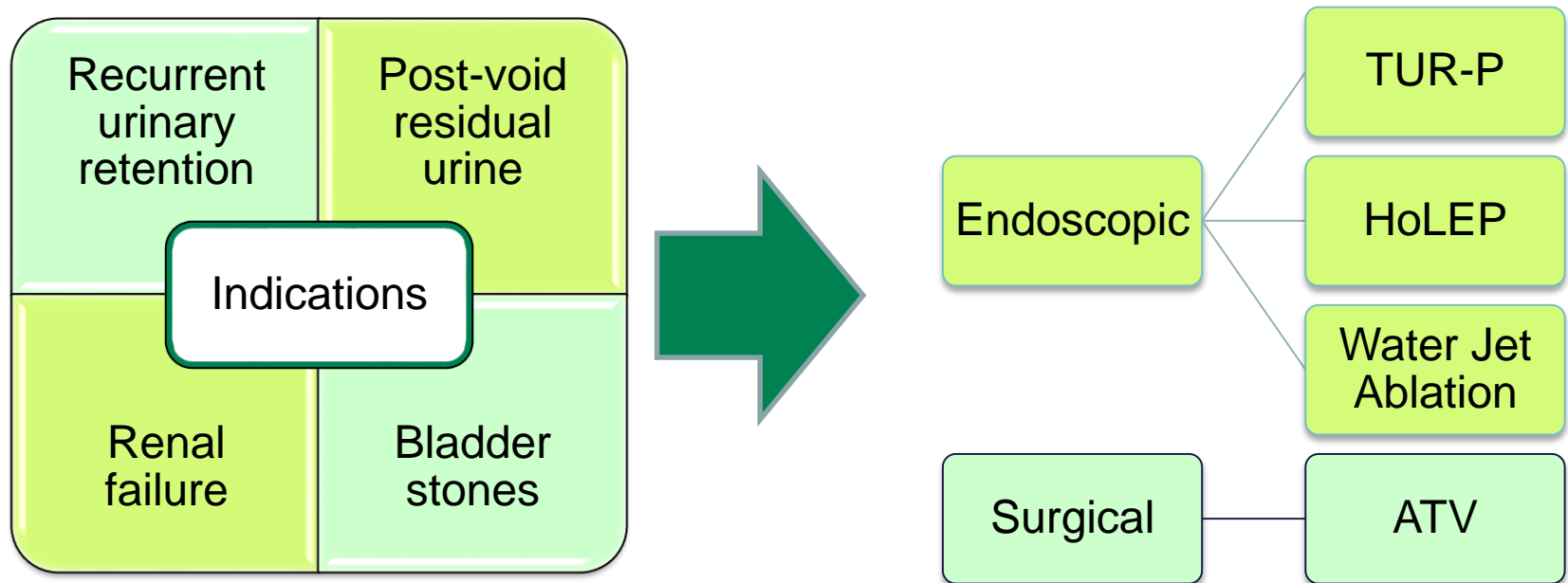
- AUA Guidelines on the Management of Benign Prostatic Hyperplasia
- EAU Guidelines on Benign Prostatic Hyperplasia

Medical Therapy

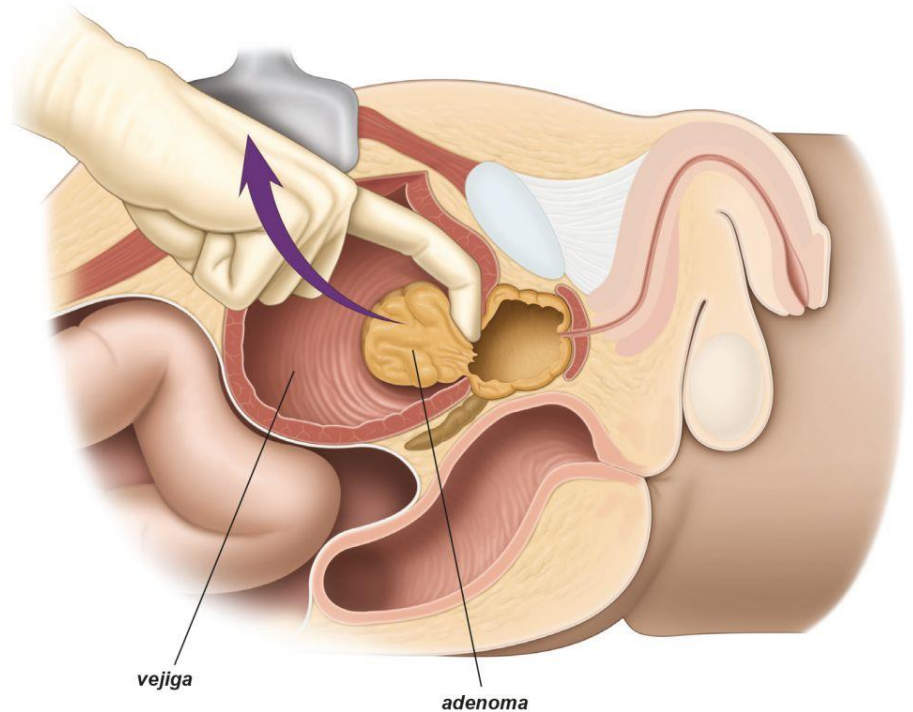
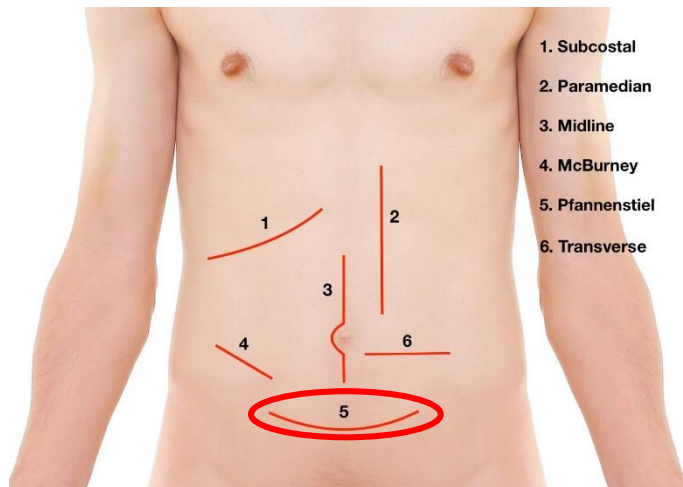
- **α -blockers monotherapy** (Alfuzosin, Doxazosin, Terazosin, Tamsulosin, Silodosin)
 - Mild to moderate symptoms
- **5 α -reductase inhibitors monotherapy** (Finasteride, Dutasteride)
 - Moderate to severe symptoms
- **Combination therapy**
- **Anticholinergics**
 - Hyperactive bladder
- **Phytotherapies** (*Serenoa repens*)
 - Unable to make specific recommendations
- **PDE5-inhibitors** (Tadalafil)



Surgical Treatment

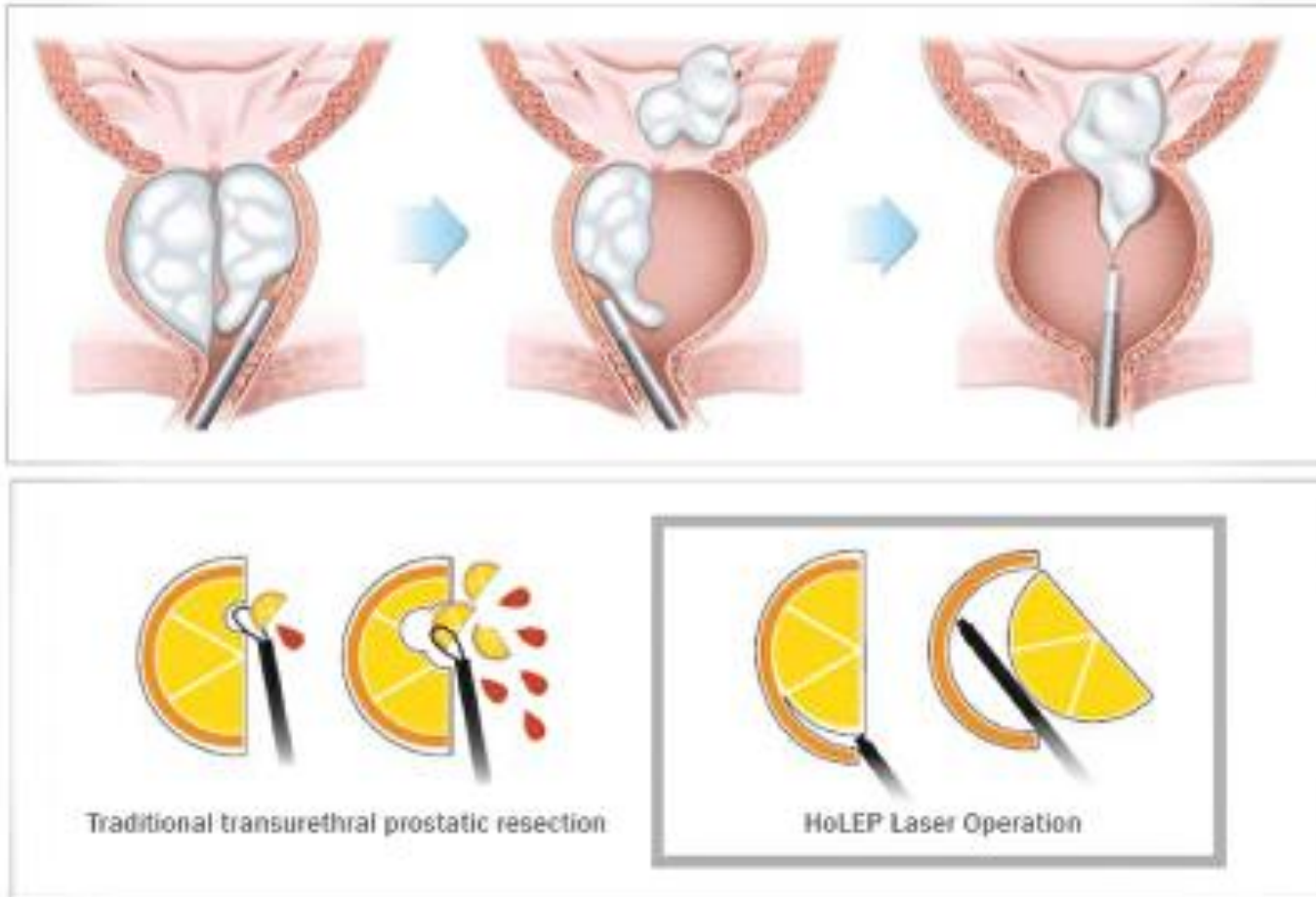


Transvescical Resection



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Transurethral Resection and Lasers




Prostate Cancer

Epidemiology


Incidence

Estimated New Cases*

			Males
Prostate	241,740	29%	
Lung & bronchus	116,470	14%	
Colon & rectum	73,420	9%	
Urinary bladder	55,600	7%	
Melanoma of the skin	44,250	5%	
Kidney & renal pelvis	40,250	5%	
Non-Hodgkin lymphoma	38,160	4%	
Oral cavity & pharynx	28,540	3%	
Leukemia	26,830	3%	
Pancreas	22,090	3%	
All Sites	848,170	100%	

Mortality

Estimated Deaths

			Males
Lung & bronchus	87,750	29%	
Prostate	28,170	9%	
Colon & rectum	26,470	9%	
Pancreas	18,850	6%	
Liver & intrahepatic bile duct	13,980	5%	
Leukemia	13,500	4%	
Esophagus	12,040	4%	
Urinary bladder	10,510	3%	
Non-Hodgkin lymphoma	10,320	3%	
Kidney & renal pelvis	8,650	3%	
All Sites	301,820	100%	

Siegel et al. CA Cancer J Clin 2013

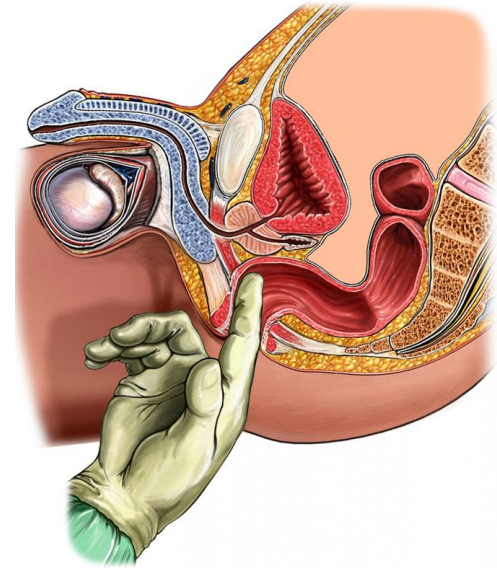
Risk Factors

- **Age**
- **Ethnicity**
- **Family History**
- **Other influencing factors**
 - Food consumption
 - Sexual behavior
 - Alcohol consumption
 - UV radiation exposure
 - Chronic inflammation
 - Occupational exposure



Diagnosis

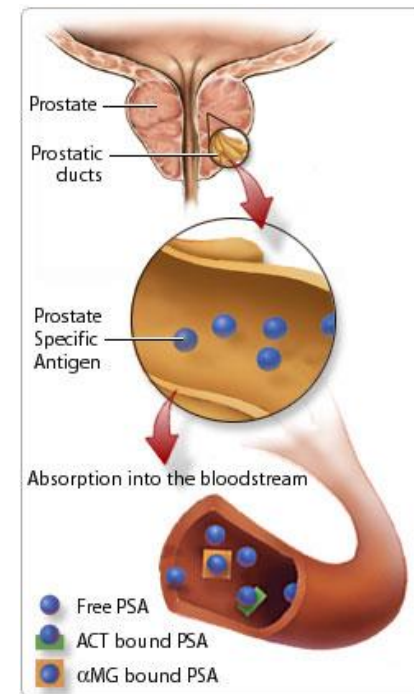
- PCa is usually asymptomatic
- The main diagnostic tools
 - Digital rectal examination (DRE)
 - Serum PSA
 - Transrectal ultrasonography (TRUS)
- A definite diagnosis is reached with the histopathologic analysis of biopsy cores or operative specimens



*Heidenreich et al. Eur Urol 2013, in press
EAU Guidelines 2013*

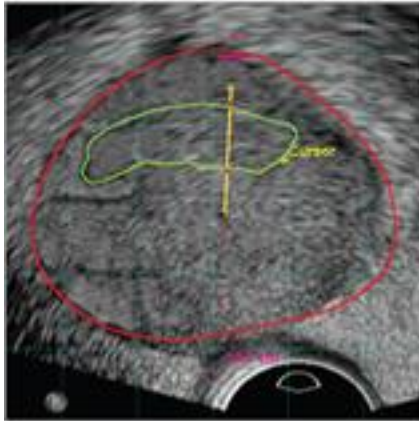
Prostate-Specific Antigen (PSA)

- PSA is a protein secreted by the epithelial cells of the prostate gland
- PSA is secreted in the ejaculate, where allows the sperm to swim freely
- PSA is present in small quantities in the serum of healthy men
- PSA is often elevated in the presence of PCa or other prostatic disorders such as prostatitis or BPH

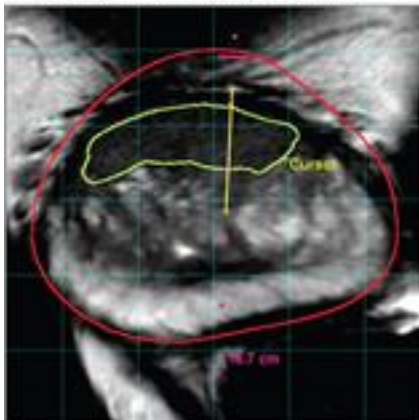


MRI and Fusion Biopsy

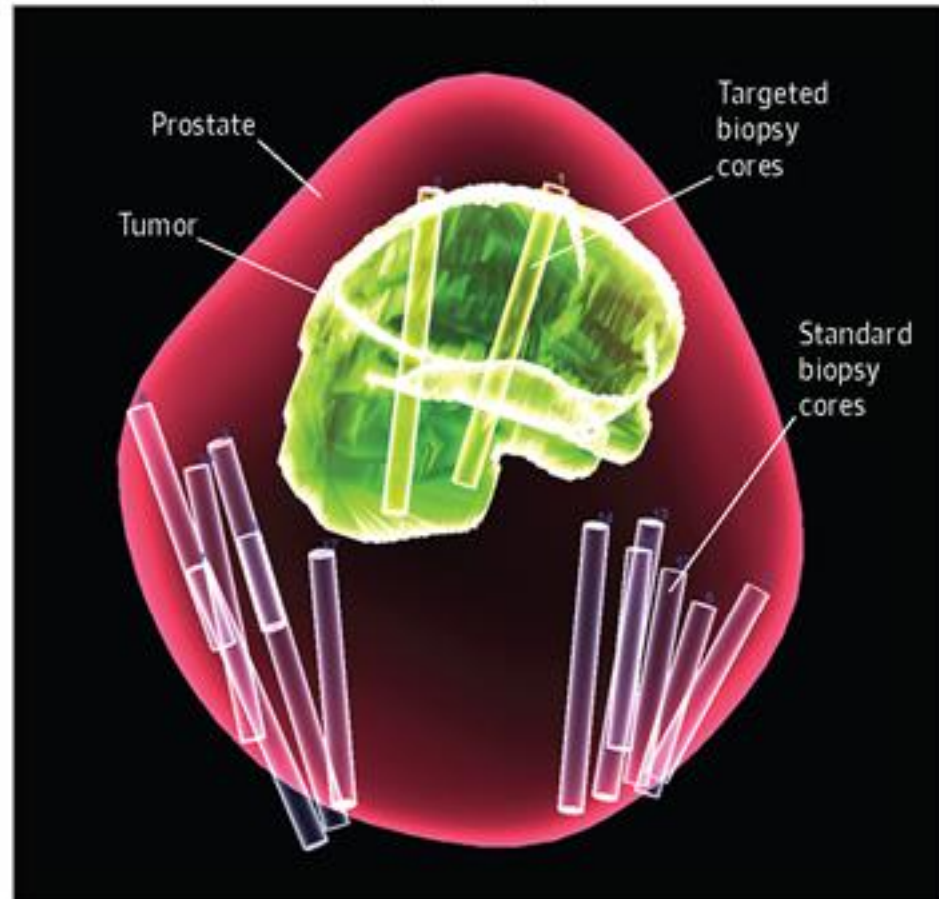
Real-time axial
transrectal ultrasound



Correlated T2-weighted MRI



Reconstructed 3-dimensional map of the prostate

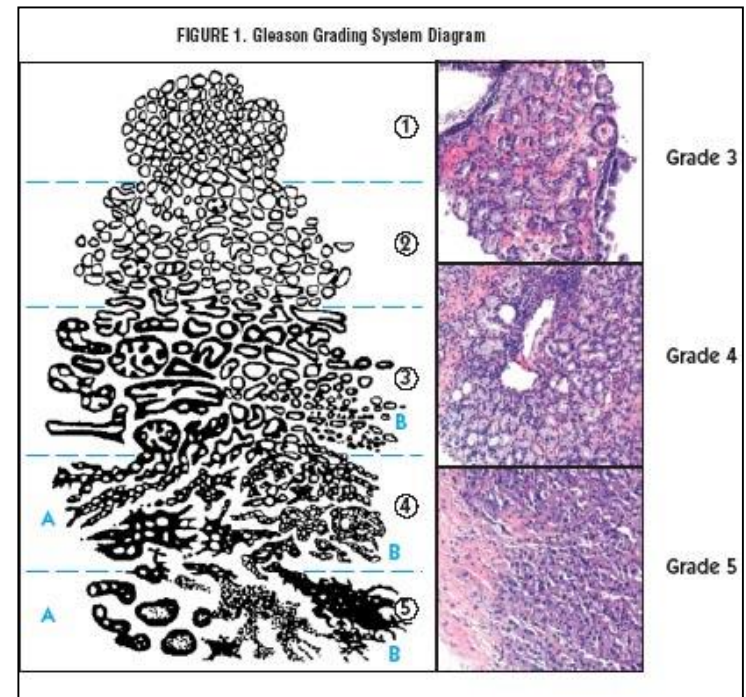


Biopsy and Gleason Score

- The biopsy
 - Transrectally or transperineally
 - Random or fusion (MRI)
 - Bioptic Gleason score correlates with the extent of the disease



- The Gleason score is the recommended grading system
- It consists in 2 numbers:
 - The dominant (most extensive) carcinoma
 - The highest grade, regardless of its extent



Heindenreich A et al. Eur Urol 2014, in press
EAU Guidelines 2013

Staging

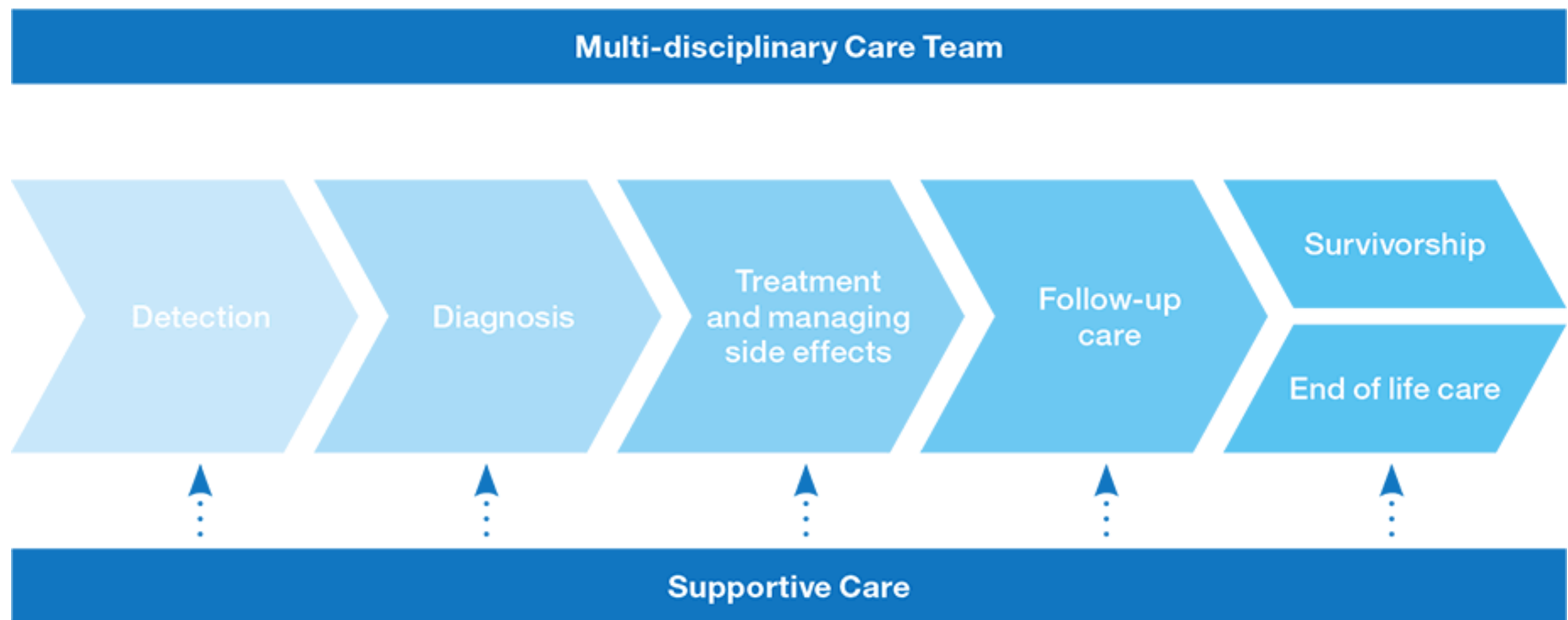
- T-staging: Local staging
 - DRE, TRUS, Biopsy, MRI
- N-staging: Lymphnodes
 - CT, PET-CT
- M-staging: Metastasis
 - CT, PET-CT, Bone Scan



Lecouvet et al. Eur Urol 2012;62:68-75

Multidisciplinary Approach in ICH

YOUR CANCER JOURNEY



Robotic Surgery



Robotic Surgery



Robotic surgery offers many [benefits to patients](#) compared to open surgery,

- Shorter hospitalization
- Reduced pain and discomfort
- Faster recovery time and return to normal activities
- Smaller incisions, resulting in reduced risk of infection
- Reduced blood loss and transfusions
- Minimal scarring



Robotic Surgery

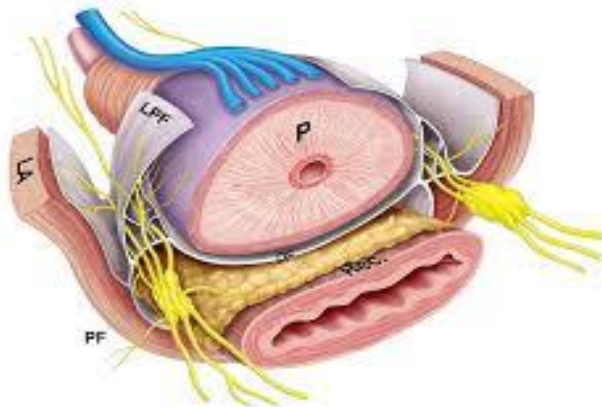
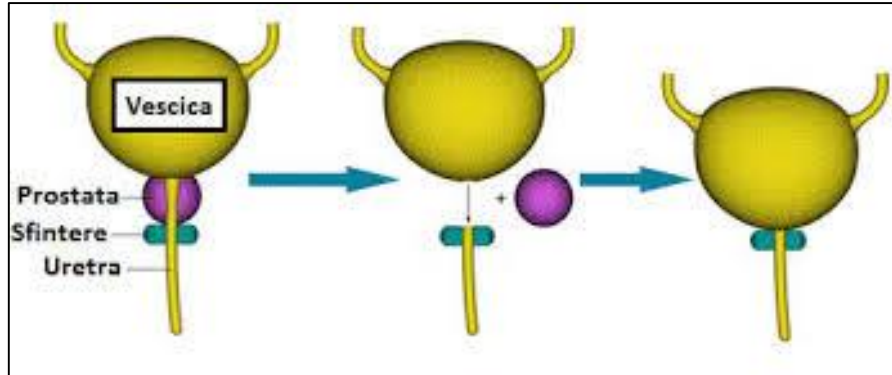


Major advantages for surgeons using robotic surgery include:

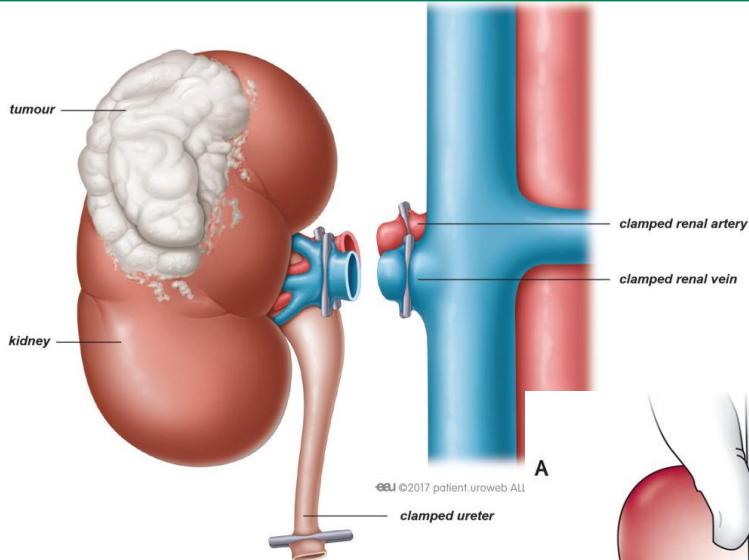
- Greater visualization
- Enhanced dexterity
- Greater precision



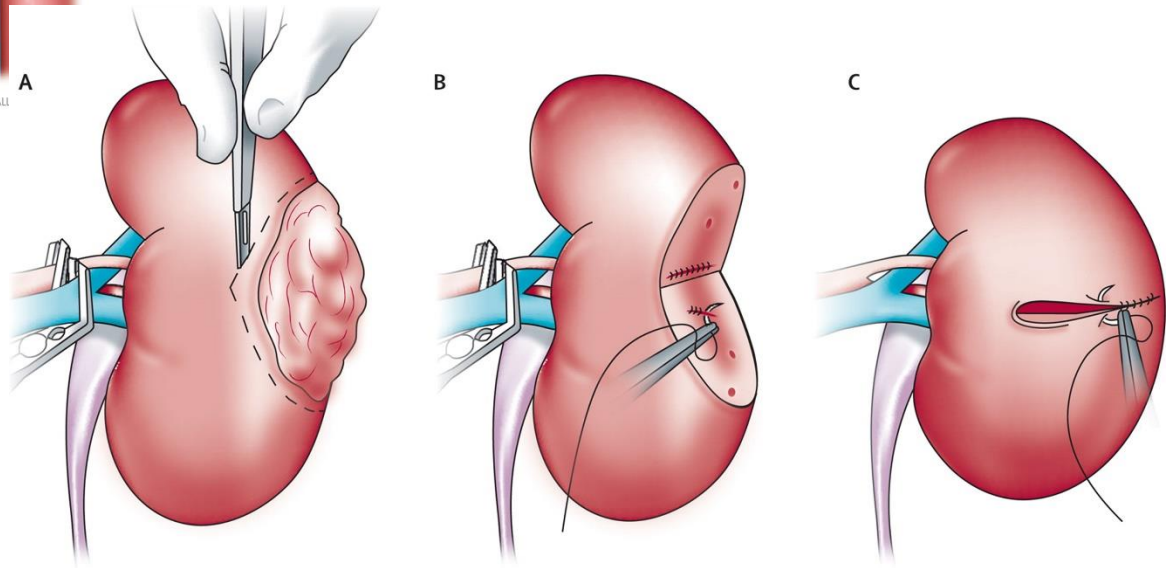
Robotic Surgery in The Prostate



Robotic Surgery in the Kidney

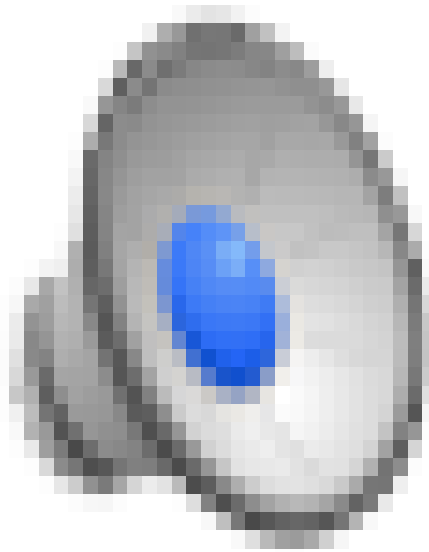


Radical Nephrectomy



Partial Nephrectomy

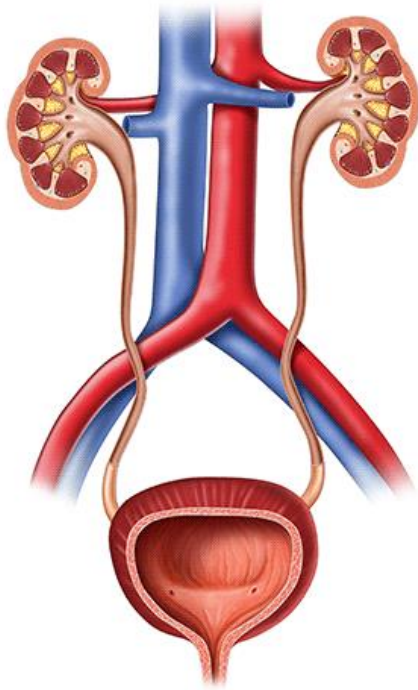
1.22 Robotic Surgery in the Kidney



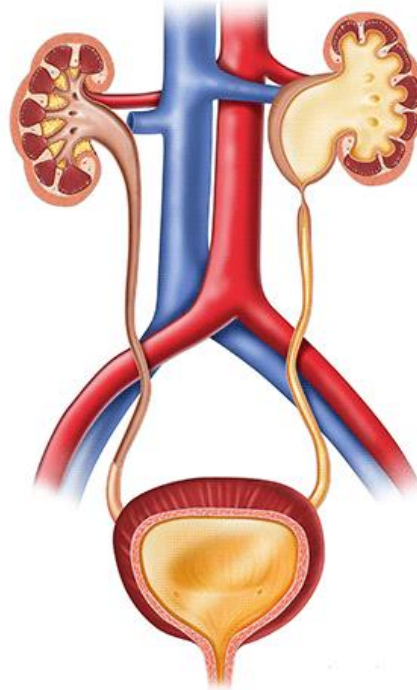
Robotic Surgery in the Kidney



Normal System



Ureteropelvic Junction
Obstruction



© 2014 The Children's Hospital of Philadelphia

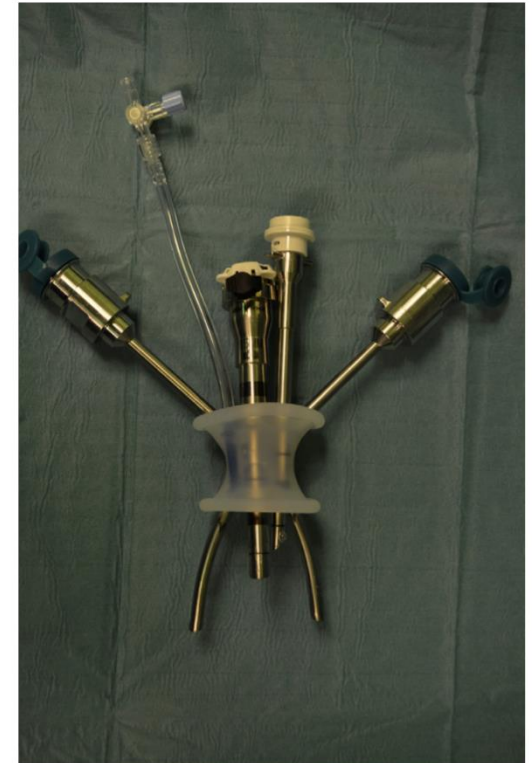
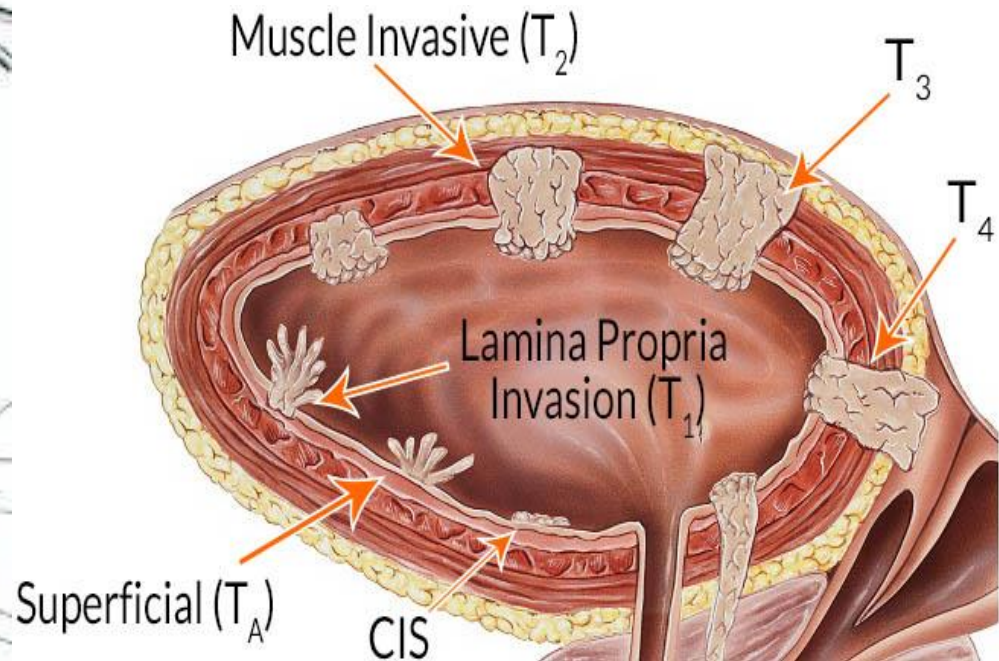
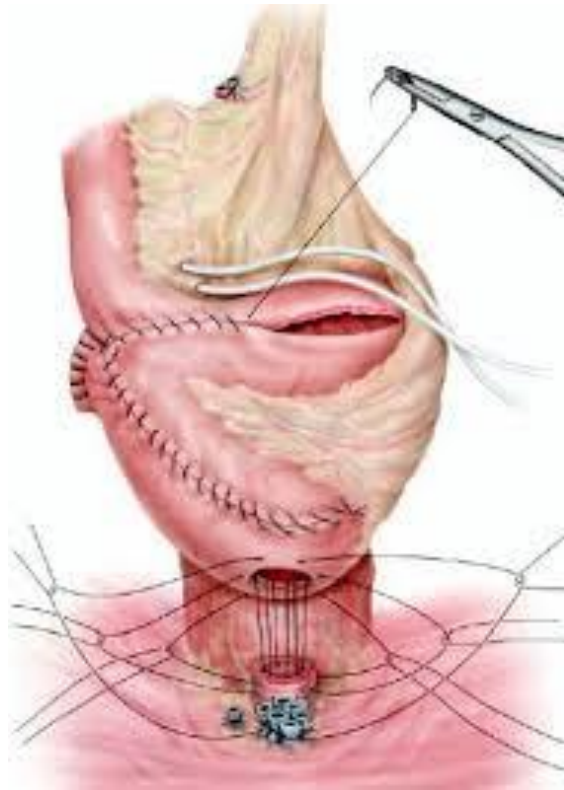


Fig. 1 - Scheme of the da Vinci single-site platform.

Robotic Surgery in The Bladder

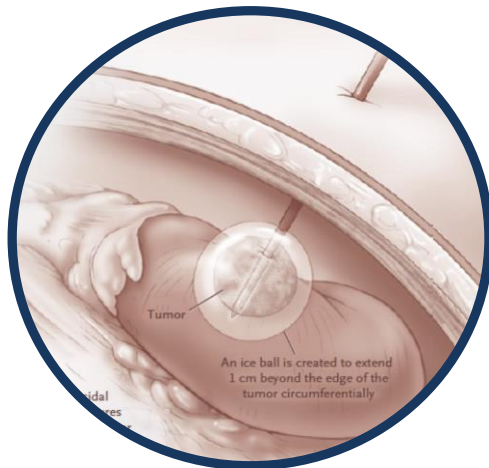


Other Mini-Invasive Technologies

Oncological outcomes and complication rates after laparoscopic-assisted cryoablation: a European Registry for Renal Cryoablation (EuRECA) multi-institutional study

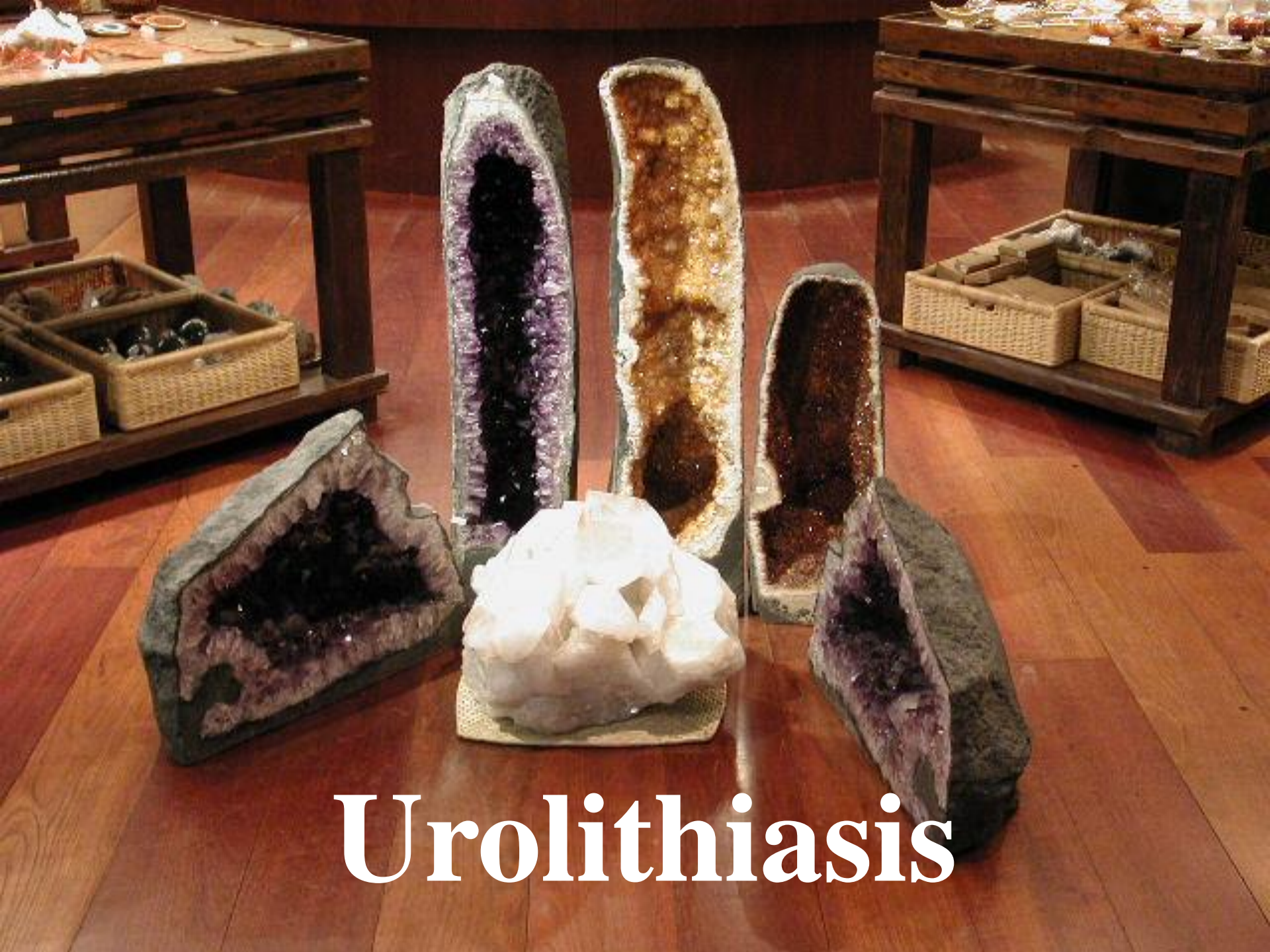
Tommy K. Nielsen*, Brunolf W. Lagerveld†, Francis Keeley‡, Giovanni Lughezzani§, Seshadri Sriprasad¶, Neil J. Barber**, Lars U. Hansen*.,††, Nicole M. Buffi§, Giorgio Guazzoni§, Johan A. van der Zee†, Mohamed Ismail‡, Khaled Farrag¶, Amr M. Emara*.,††, Lars Lund††.§§, Øyvind Østraat* and Michael Borre*

Satisfactory long-term oncological outcomes for small renal masses



Cryoablation

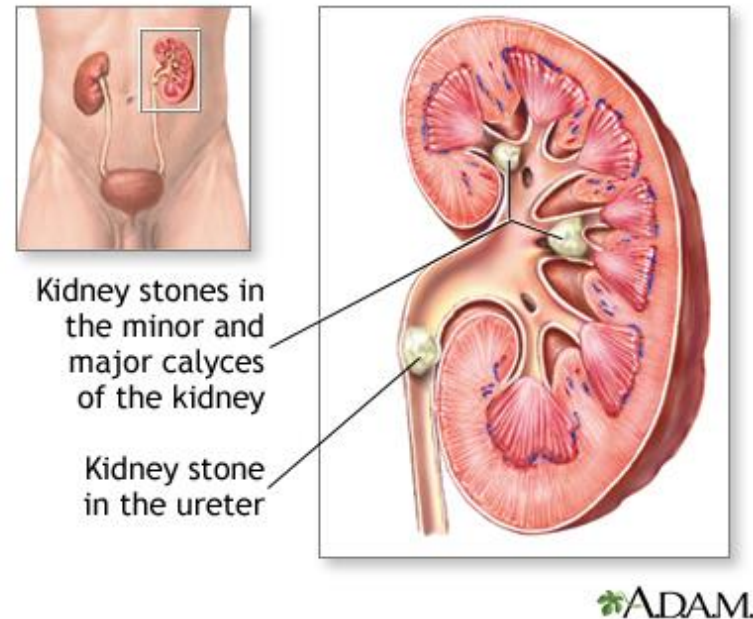




Urolithiasis

Urolithiasis

- It is a solid concretion or crystal aggregation formed in the urinary tract
- It implies a large impact on the patients' quality of life
 - Comorbidities
 - Economic costs
- It is the final manifestation of various systemic, etiological, and pathogenic events
- Incidence 13% in men; 7% in women
- Prevalence from 5% to 20% depending on the geographic area
- Recurrence rate for first formers is 50% at 5 years

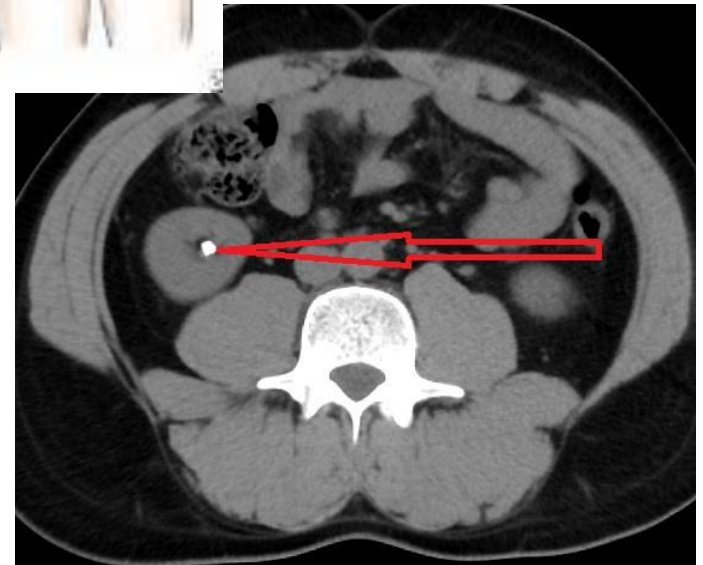


Diagnosis

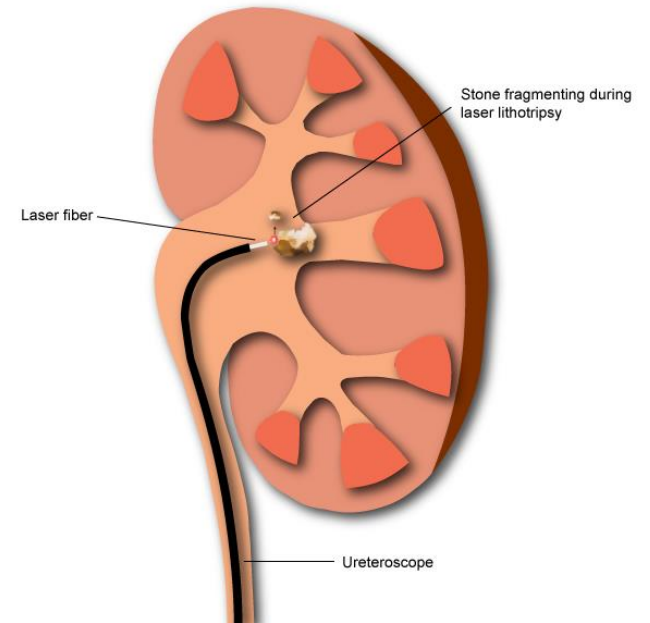
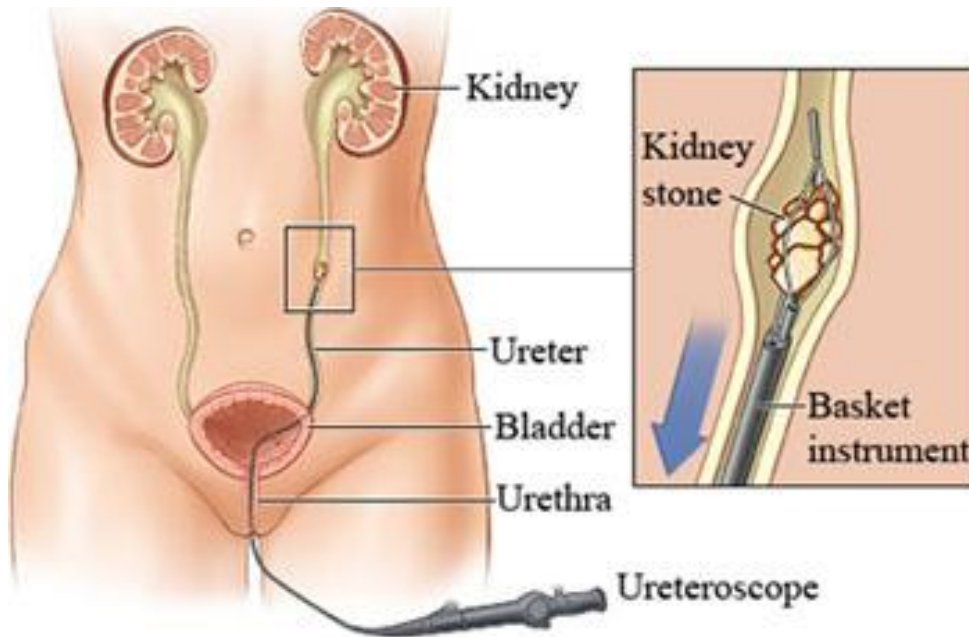
- Medical history
- Physical examination
- Loin/flank pain
- Vomiting
- Fever
- Hematuria



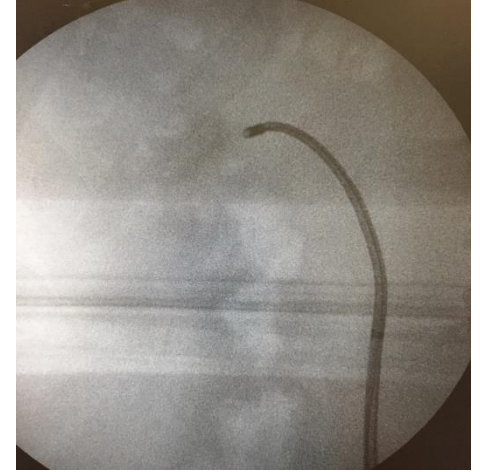
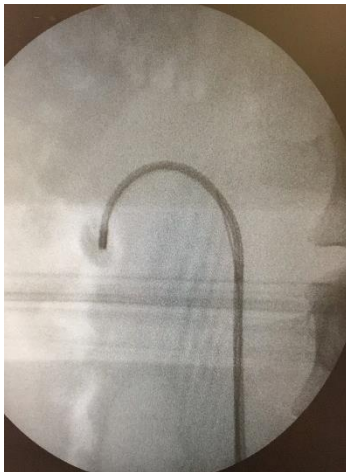
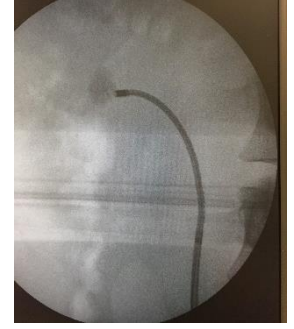
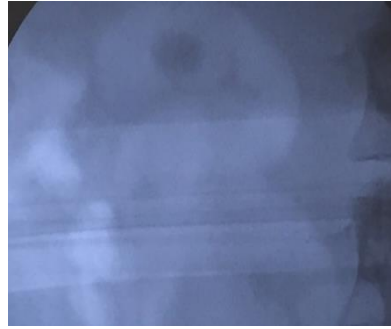
- Ultrasound is the primary diagnostic tool
- CT is the gold standard for the diagnosis



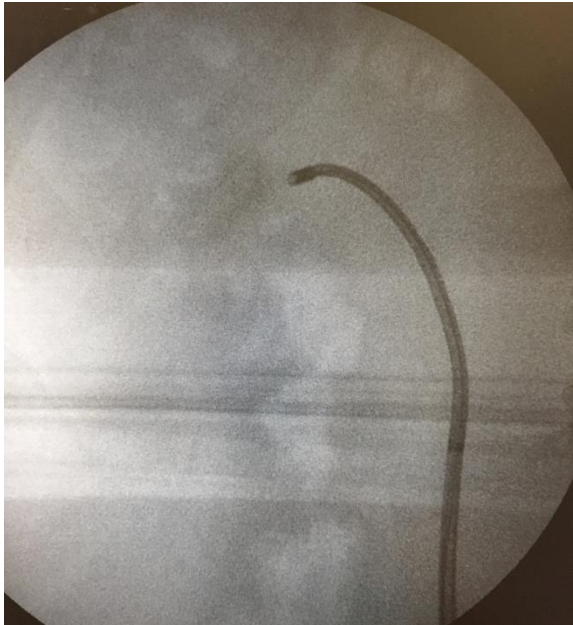
URS and RIRS



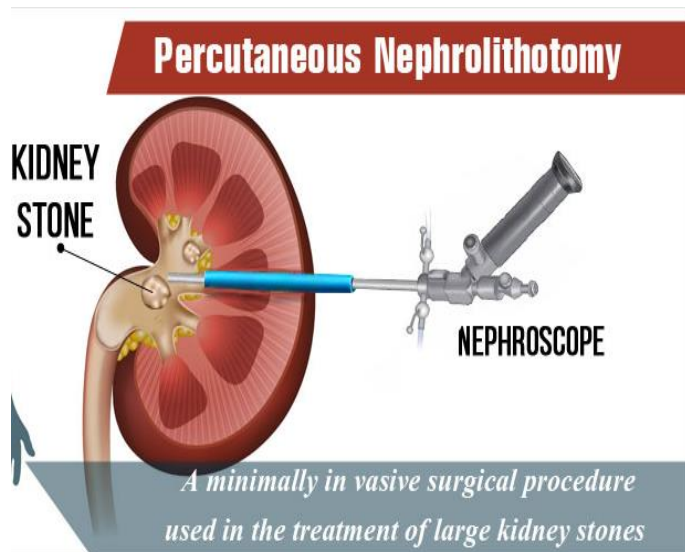
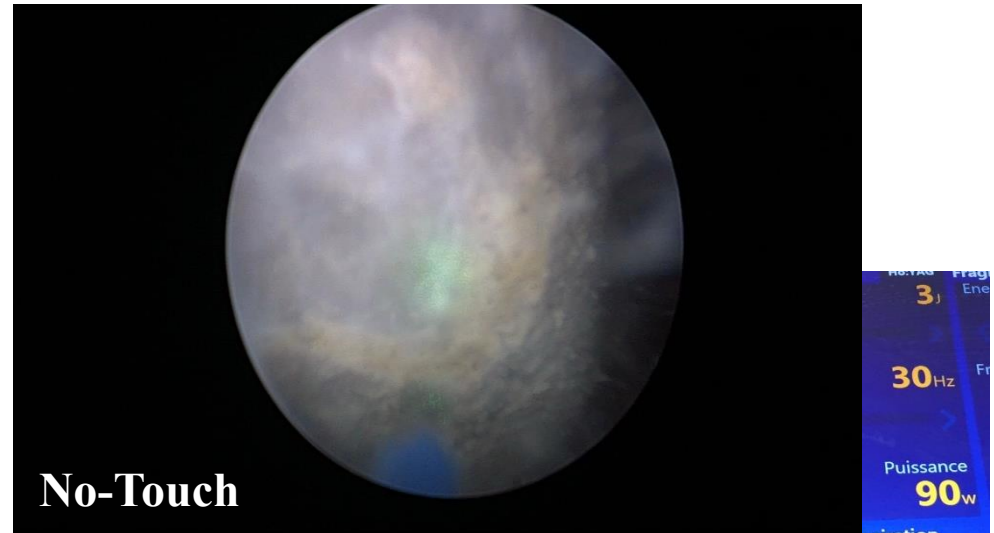
2 cm Stone dusting 750 – 1110 HU



2 cm Stone dusting



Stone lithotripsy – Mini PCNL



Thank You