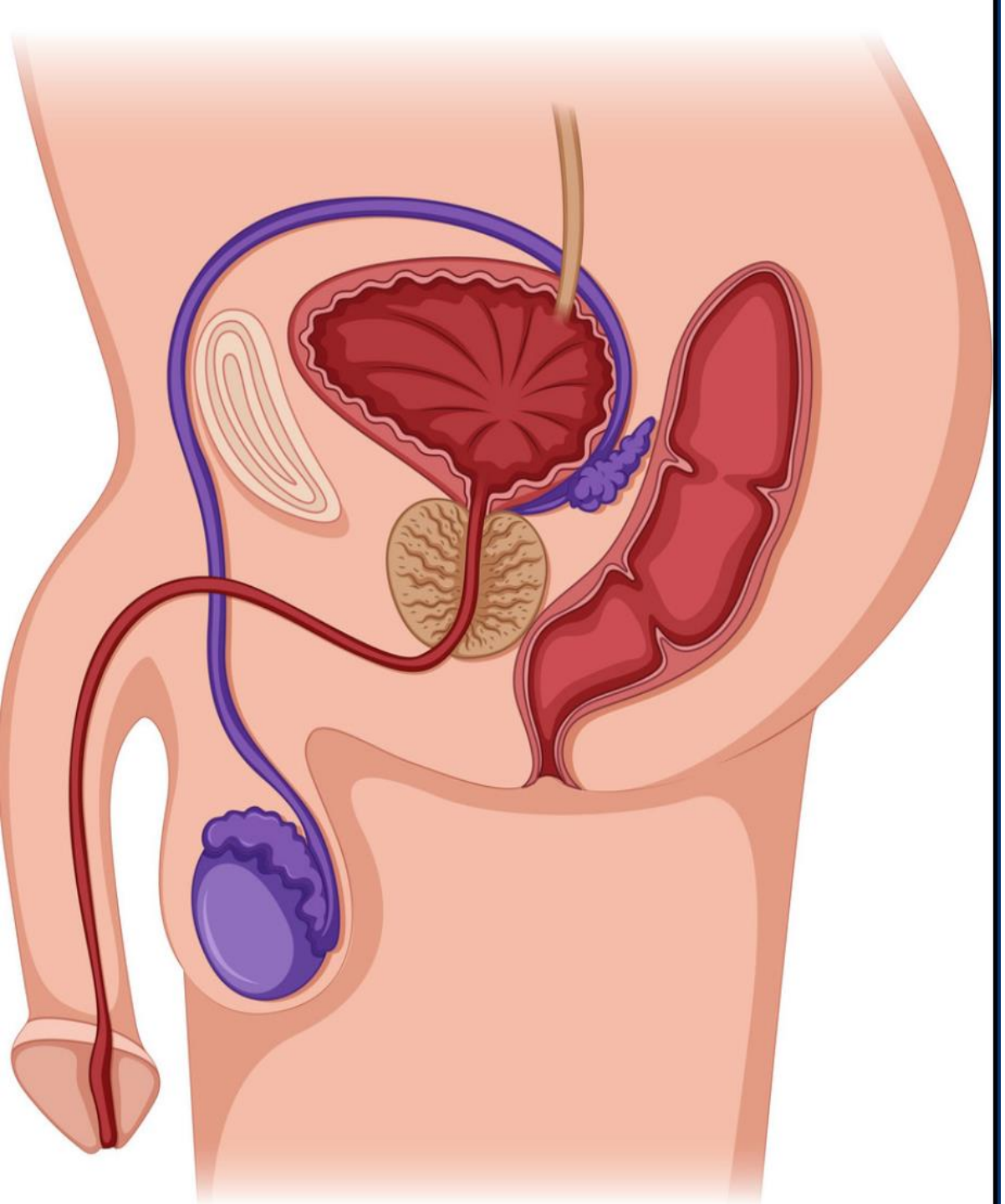


Common Urological Conditions - Prostate and Penis

Dr Rachel Esler

Urological Surgeon

Director of Urology, Royal Brisbane and Women's Hospital

Visiting Urologist, The Wesley Hospital

Common Prostate Conditions

- Lower urinary tract symptoms
  - Benign prostatic enlargement
  - Initial work up
  - Primary management
  - Treatment options
- Prostate cancer
  - Current role of PSA
  - Diagnostics

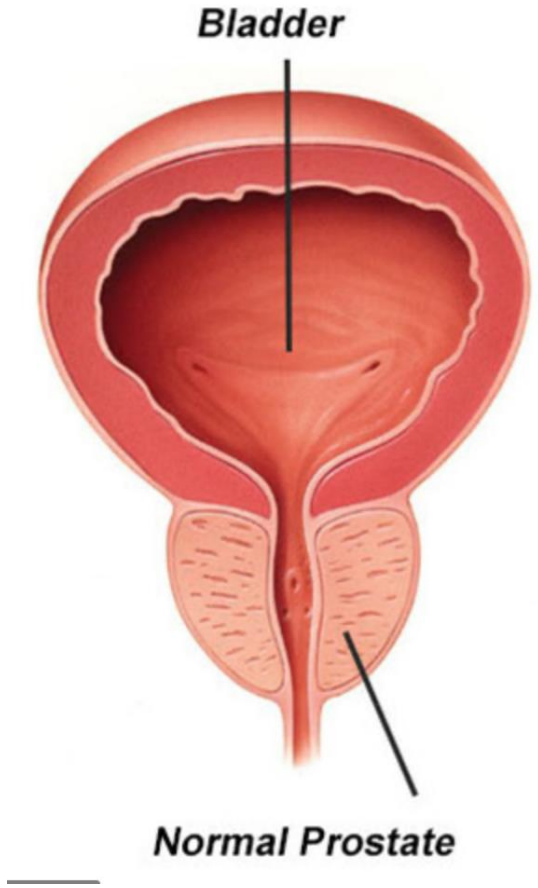
Common penile conditions

- Phimosis
  - BXO
  - Treatment options
- Paraphimosis
- Penile cancers

- Ask me anything…

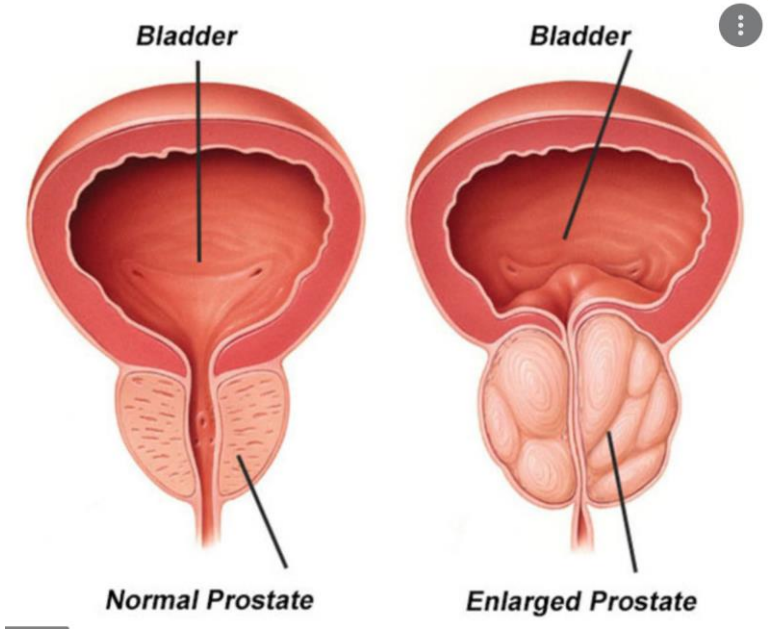
LUTS

- Why do prostates cause symptoms –
  - Increase in the amount of prostatic stoma – occlude the lumen of the prostatic urethra
    - 5ARi treat BPH by shrinking prostatic stroma.
  - Increase in the number of alpha-1 receptors in the prostatic stroma – causes an increase in smooth muscle tone within the prostate and bladder neck, and greater restriction on the flow of urine.
    - Alpha-blockers treat BPH by relaxing prostate and bladder neck smooth muscle.
- Does size matter? Nope.
  - Symptoms matter.
  - Obstruction matters.
  - Evidence for use of 5ARis based on cut off of 50g.



Symptoms

- Reduced flow, hesitancy, intermittency, terminal dribble, nocturia.
- Progression to overactive bladder symptoms (urgency, frequency).
- With severe, prolonged BOO – bladder decompensation (hypocontractile bladder), urinary retention, overflow incontinence, hydronephrosis and renal failure.
- No correlation between severity of urinary symptoms and prostate size.
    - Small prostates can cause severe symptoms. Large prostates can be asymptomatic.
- No correlation between severity of urinary symptoms and degree of bladder outlet obstruction.
    - Men with severe obstruction may have few symptoms and men with minimal obstruction may have severe symptoms.
- Haematuria



Evaluation

- History
- USS, including post void residual
- Bladder diary (very helpful for nocturia)
- PSA
- Urine M/C/S

- Red flags
  - Infections (>1)
  - Retention
  - Haematuria
  - Bladder stones
  - Hydronephrosis/renal failure

International Prostate Symptom Score (I-PSS)

Patient Name: _____ **Date of birth:** _____ **Date completed** _____

In the past month:	Not at All	Less than 1 in 5 Times	Less than Half the Time	About Half the Time	More than Half the Time	Almost Always	Your score
1. Incomplete Emptying How often have you had the sensation of not emptying your bladder?	0	1	2	3	4	5	
2. Frequency How often have you had to urinate less than every two hours?	0	1	2	3	4	5	
3. Intermittency How often have you found you stopped and started again several times when you urinated?	0	1	2	3	4	5	
4. Urgency How often have you found it difficult to postpone urination?	0	1	2	3	4	5	
5. Weak Stream How often have you had a weak urinary stream?	0	1	2	3	4	5	
6. Straining How often have you had to strain to start urination?	0	1	2	3	4	5	
	None	**1 Time**	**2 Times**	**3 Times**	**4 Times**	**5 Times**	
7. Nocturia How many times did you typically get up at night to urinate?	0	1	2	3	4	5	
Total I-PSS Score							

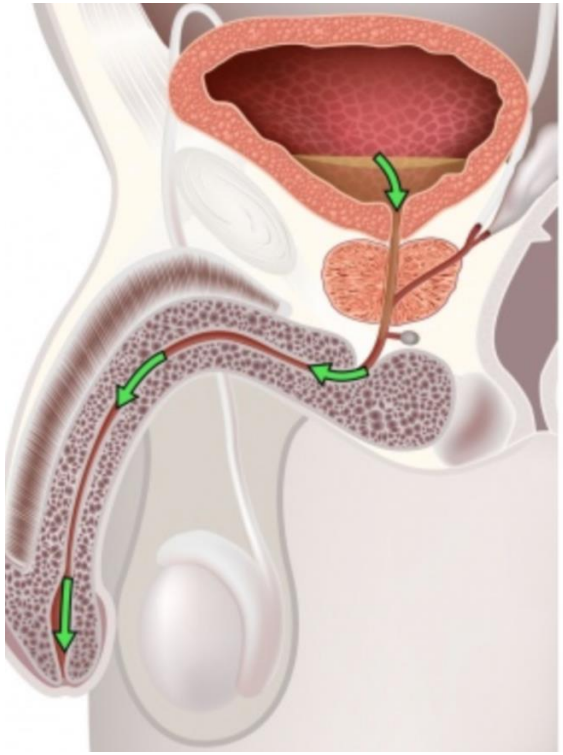
Score: 1-7: *Mild* 8-19: *Moderate* 20-35: *Severe*

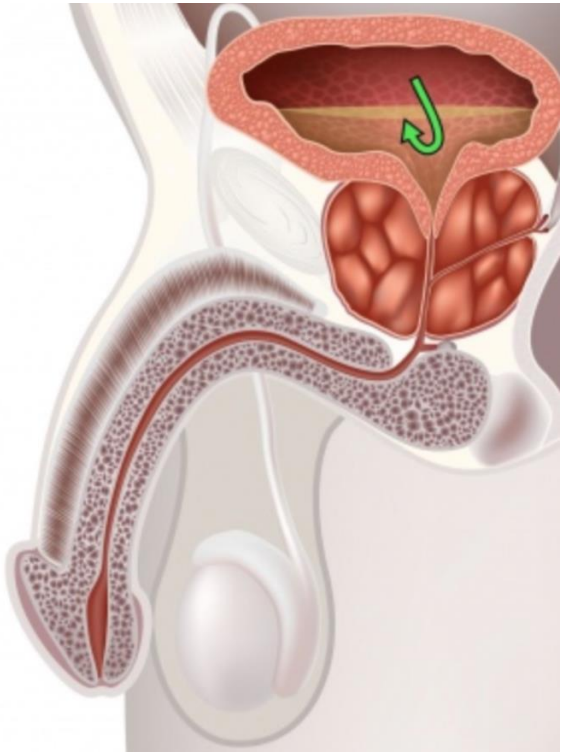
Quality of Life Due to Urinary Symptoms	Delighted	Pleased	Mostly Satisfied	Mixed	Mostly Dissatisfied	Unhappy	Terrible
If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that?	**0**	**1**	**2**	**3**	**4**	**5**	**6**

850 × 1,191

Treatment

- Conservative
  - Avoid things that increase risk of AUR – alpha-agonists, anticholinergics/beta-3 agonists
  - Avoid bladder irritants – CAFFEINE, alcohol
  - If nocturia is the main issue
    - Decrease evening fluid intake
    - Avoid diuretics in the evening (including EtOH)
    - Elevate legs if pedal oedema
- Supplements
- Pharmacological
  - Alpha-blockers
  - Combination alpha-blocker + 5ARi
  - 5ARI alone
  - PDE5i



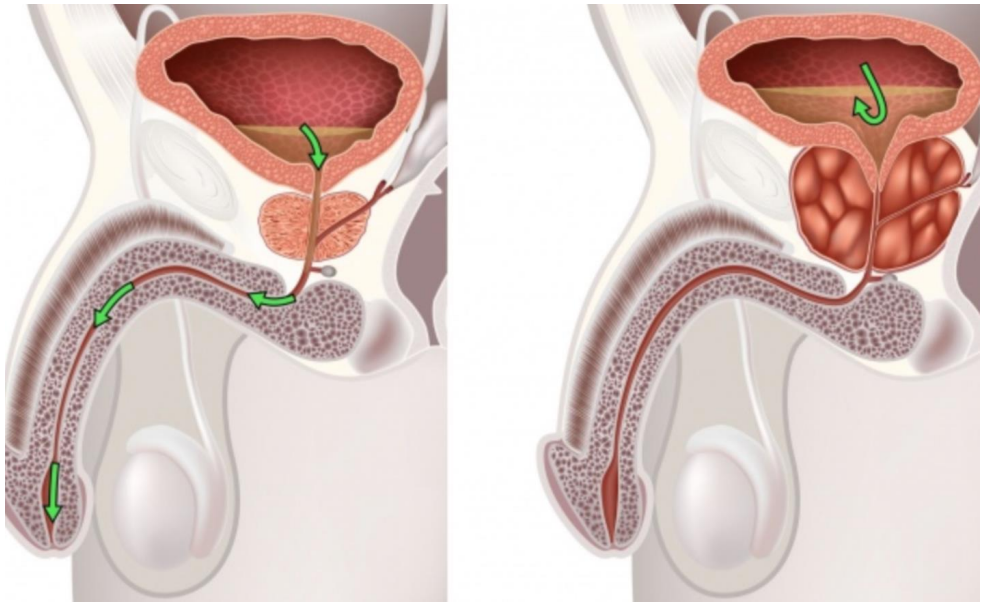


Alpha-blockers

- Inhibit alpha-1 adrenergic receptors causing smooth muscle relaxation
- Equal long term efficacy between agents
- Variable side-effect profile and time to maximal symptoms improvement.
- Non-selective (prazosin)
- Selective (tamsulosin, silodosin)
- Side-effects –
  - Dizziness
  - Fatigue
  - Nasal congestion
  - Postural hypotension
  - Syncope
  - Retrograde ejaculation

5 alpha-reductase inhibitors

- 5 alpha-reductase converts testosterone to dihydrotestosterone (DHT). By blocking this enzyme, 5ARis lower DHT causing:
  - Reduction in prostatic volume (20-25%)
  - Increase maximum urinary flow (10%)
  - Improves symptom score (20-30%)
  - Reduces risk of urinary retention (50%)
  - Reduces need for surgical BPH treatment (50%)
  - Reduces PSA by 50% at 6 months
  - Can be helpful for refractory prostatic bleeding
- Side-effects
  - Erectile dysfunction (5%, but may be permanent)
  - Reduced libido (4%)
  - Reduced ejaculatory volume (3%)
  - Gynaecomastia (<1%)
- Evidence for use in glands >50g



Combination therapy

	Progression	Acute Retention	Need for surgery
Alpha-blocker	39%	No change	No change
5ARi	34%	68%	64%
Combination	66%	81%	67%

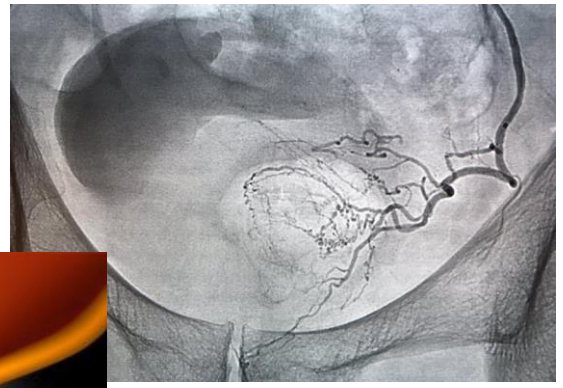
The benefit of combination therapy was greatest in men with a PSA >1.5ng/ml and prostate volume >50g.

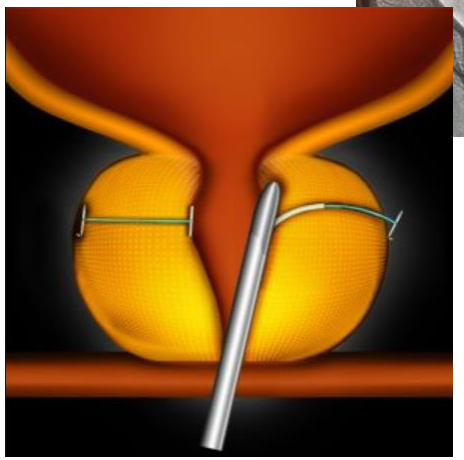
Phosphodiesterase 5 inhibitors (PDE5i)

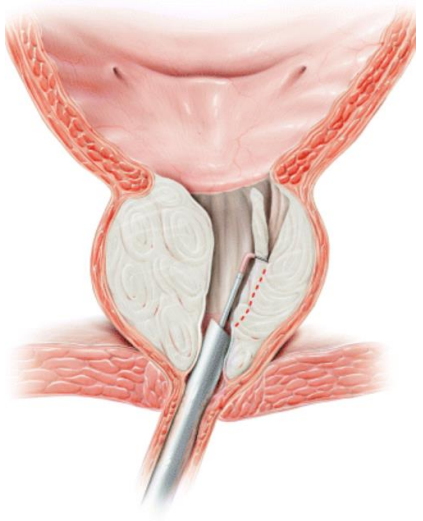
- Tadalafil developed for use in erectile dysfunction
- Improves ED, voiding symptoms and flow rate.
- Improvement in LUTS can occur within 1 week, maximum effect at 2 months
- When compared to Tamsulosin
  - Improved ED (no change with Tamsulosin)
  - Improved BPH QoL scores (no change Tamsulosin)
  - Similar degree of improvement in voiding symptoms
- Side-effects:
  - Headache
  - Flushing
  - Nasal congestion
  - Back pain
  - Myalgia
  - Dyspepsia
  - Diplopia
  - Impaired colour vision
  - Priapism, loss of vision, hearing loss very rare

Surgical management options

- Prostatic artery embolization
- Urolift
- TURP – monopolar, bipolar, laser
- Enucleation (Laser, open, robotic)
- Novel treatments
  - Steam (Rezum)





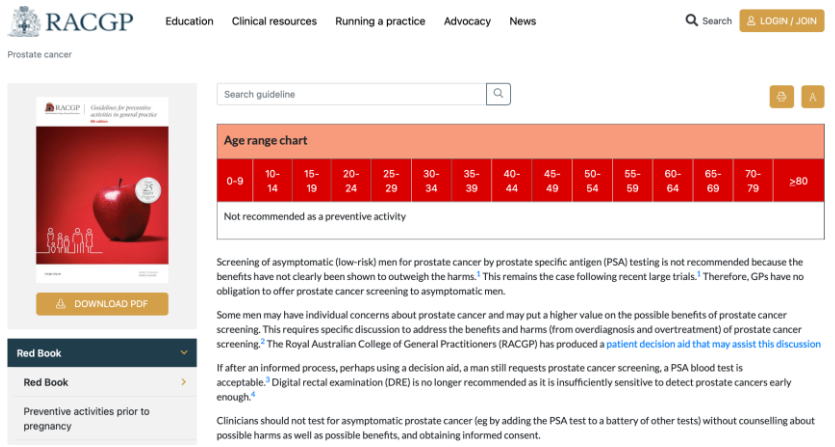


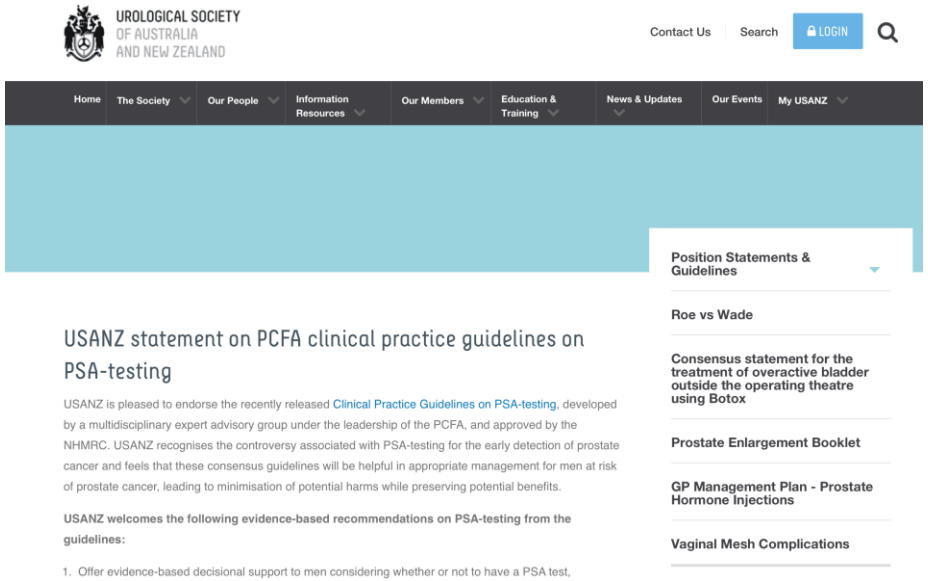
Prostate Cancer

- 1 in 6 Australian men will be diagnosed before 85 years
- Current 5 year survival 95% (cf 60% 30 years ago)

Prostate Cancer Diagnosis

- Screening PSA
  - RACGP does not recommend PSA screening
  - USANZ position statement – “for men with average risk..offer 2 yearly PSA from 50 to 69 years”
- DRE
  - RACGP does not recommend
  - USANZ/PCFA - “GPs confident in performing DRE are encouraged to do so”





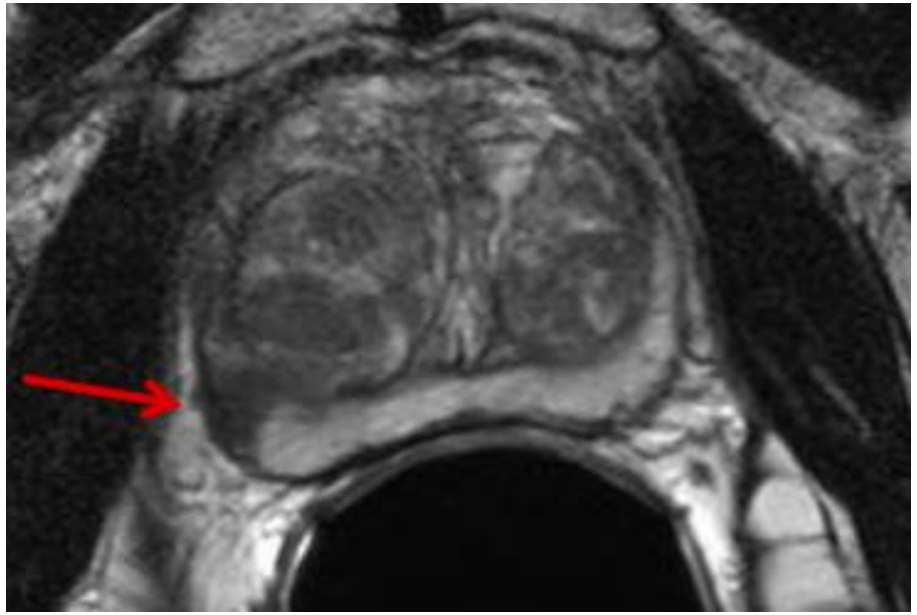
2 International guidelines for PSA screening for prostate cancer[5,8,17,18]

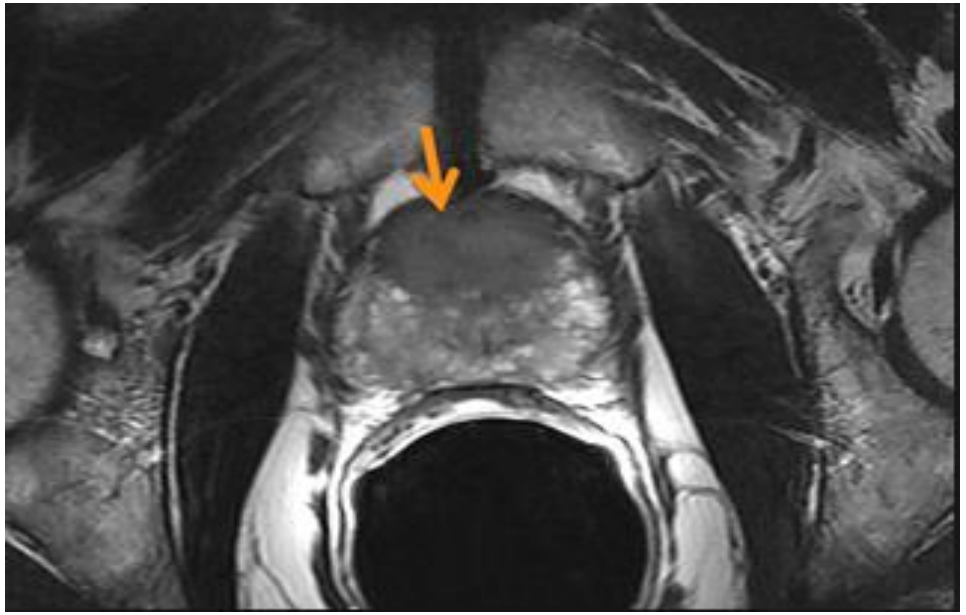
Guidelines	Recommendations	Men at increased risk	Not recommended
Prostate Cancer Foundation Australia	Well informed men aged 50–69 years	From age 45 years for men with 2.5–3 times increased risk (eg, a brother diagnosed, particularly if diagnosed at age < 60 years), or age 40 years for those with nine to ten times increased risk (eg, father and two brothers diagnosed)	Men aged > 70 years or those with a life expectancy < 15 years
European Association of Urology	Well informed men aged ≥ 50 years	From age 45 years for men with family history of prostate cancer or men of African descent, and from age 40 years for men carrying *BRCA2* mutations	Men ≥ 70 years or those with a life expectancy < 15 years
American Urological Association	Well informed men aged 55–69 years	For men younger than 55 years at higher risk (African American, family history of metastatic prostate cancer, genetic mutations) screening should be individualised	Men < 40 years, men > 70, or those with < 10–15-year life expectancy
National Comprehensive Cancer Network	Men aged 55–69 years	From age 45–75 years for average risk patients, and from age 40–75 years for African American patients or those with germline mutations	Men aged < 40 years, men > 70 years, or those with < 10–15-year life expectancy

Prostate MRI

- Criteria for Medicare rebateable MRI
  - Ordered by Urologist/Oncologist AND
  - **Abnormal DRE** or
  - Two PSA tests within interval of 1-3 months are >3.0ng/ml with a free: total ratio of <25% for men aged <70 years or
  - Two PSA tests within interval of 1-3 months are >2.0ng/ml with a free: total ratio of <25% (in men <70 years and a family history of first degree relative with BRCA1 or BRCA2 mutation) or
  - Two PSA tests within interval of 1-3 months are >5.5ng/ml with a free: total ratio of <25% for men aged >70 years or
  - In men on active surveillance for prostate cancer

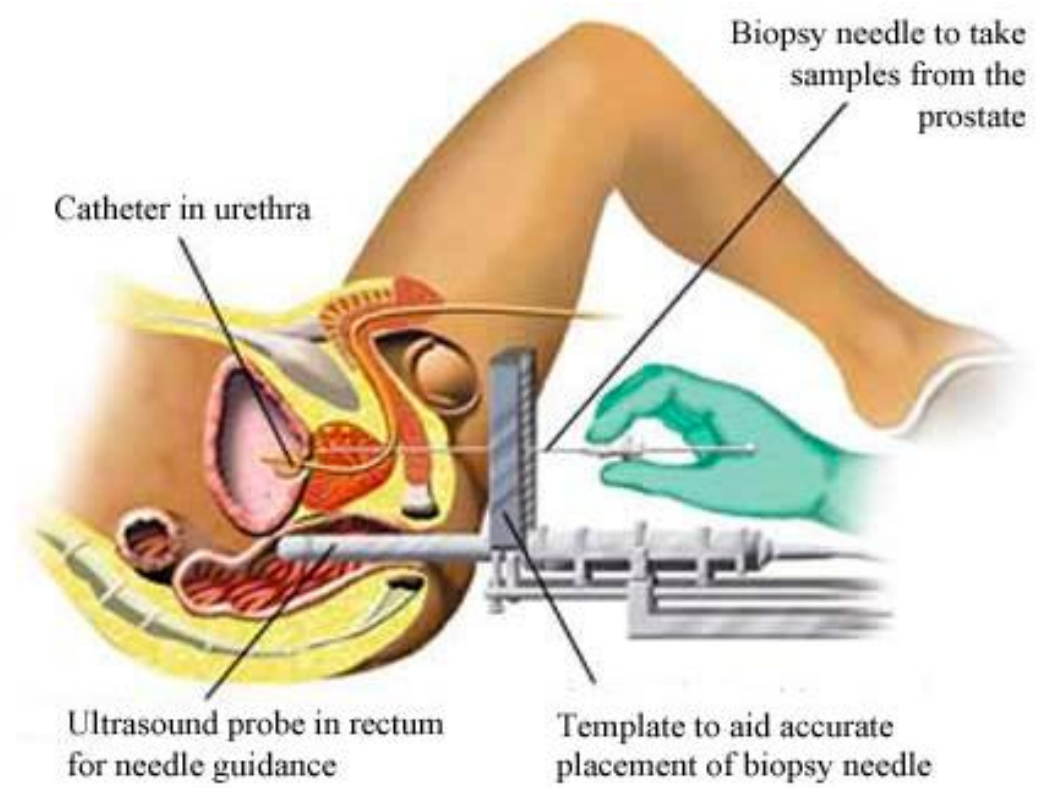
Prostate MRI

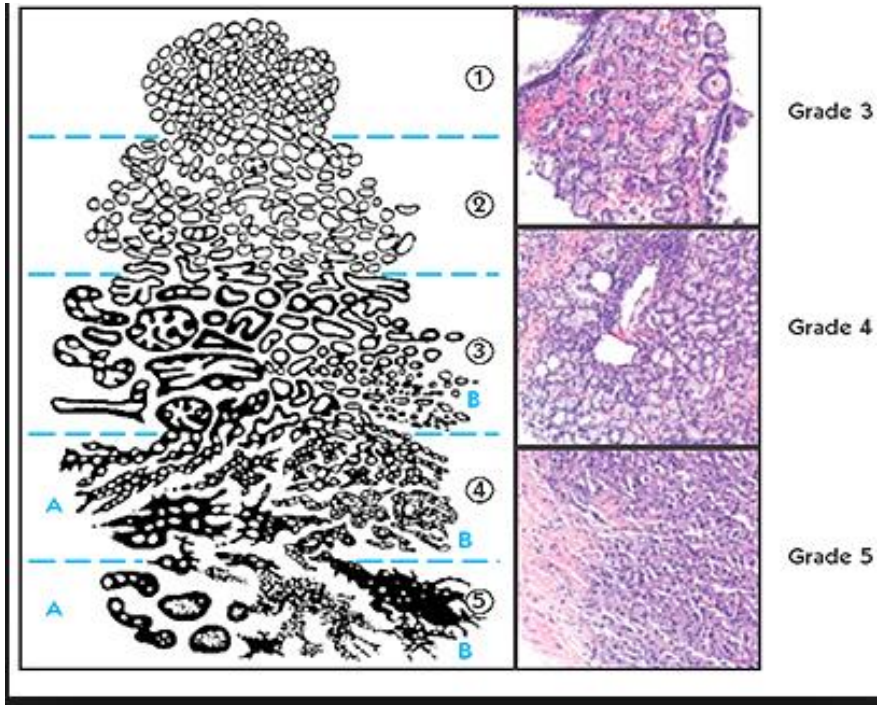




- PI-RADS 1: very low (clinically significant cancer is highly unlikely to be present)
- PI-RADS 2: low (clinically significant cancer is unlikely to be present)
- PI-RADS 3: intermediate (the presence of clinically significant cancer is equivocal)
- PI-RADS 4: high (clinically significant cancer is likely to be present)
- PI-RADS 5: very high (clinically significant cancer is highly likely to be present)

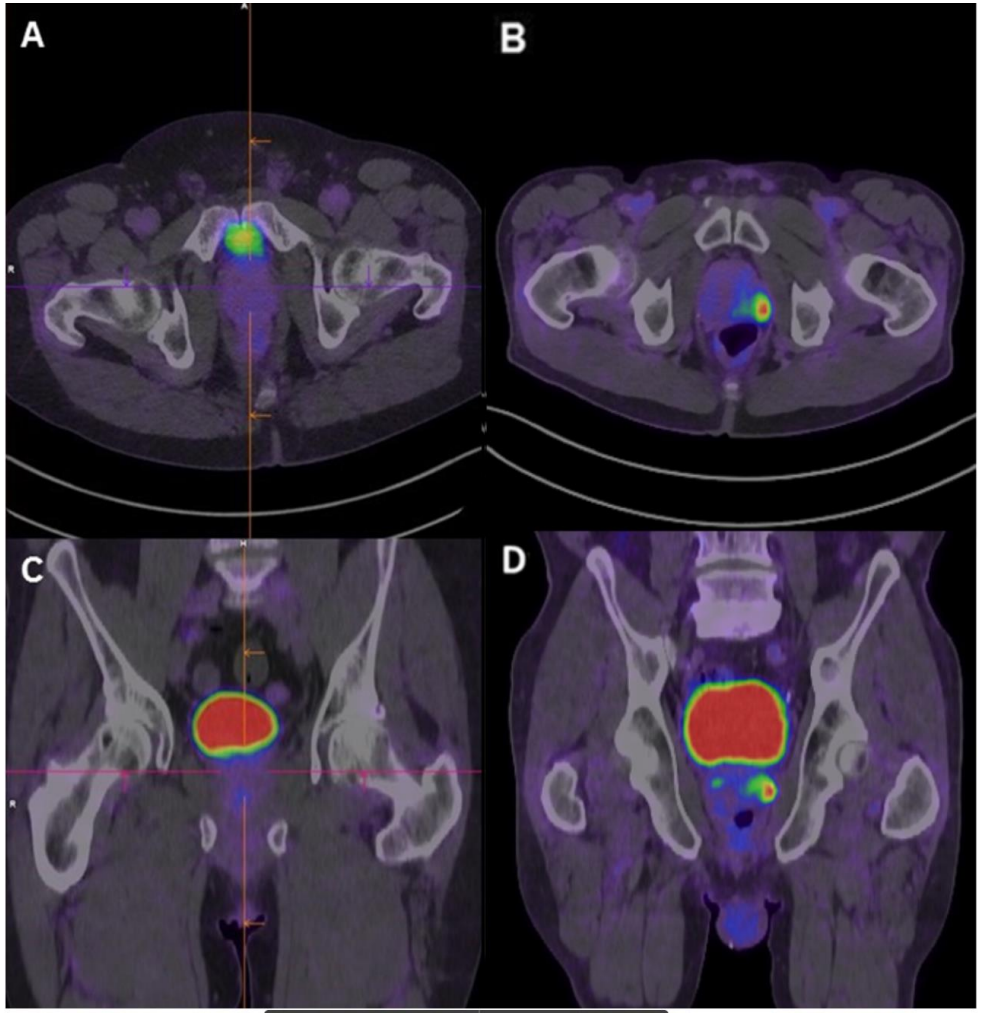
Prostate biopsy





PSMA PET scan

- Now Medicare rebateable for staging in intermediate and high risk prostate cancer (replacing CT AP and bone scan).
- Lots of ongoing research in utility in diagnosis and prognosis



European Journal of Nuclear Medicine and Molecular Imaging
https://doi.org/10.1007/s00259-020-04944-2

SHORT COMMUNICATION

Check for updates

^{68}Ga-PSMA PET/CT tumour intensity pre-operatively predicts adverse pathological outcomes and progression-free survival in localised prostate cancer

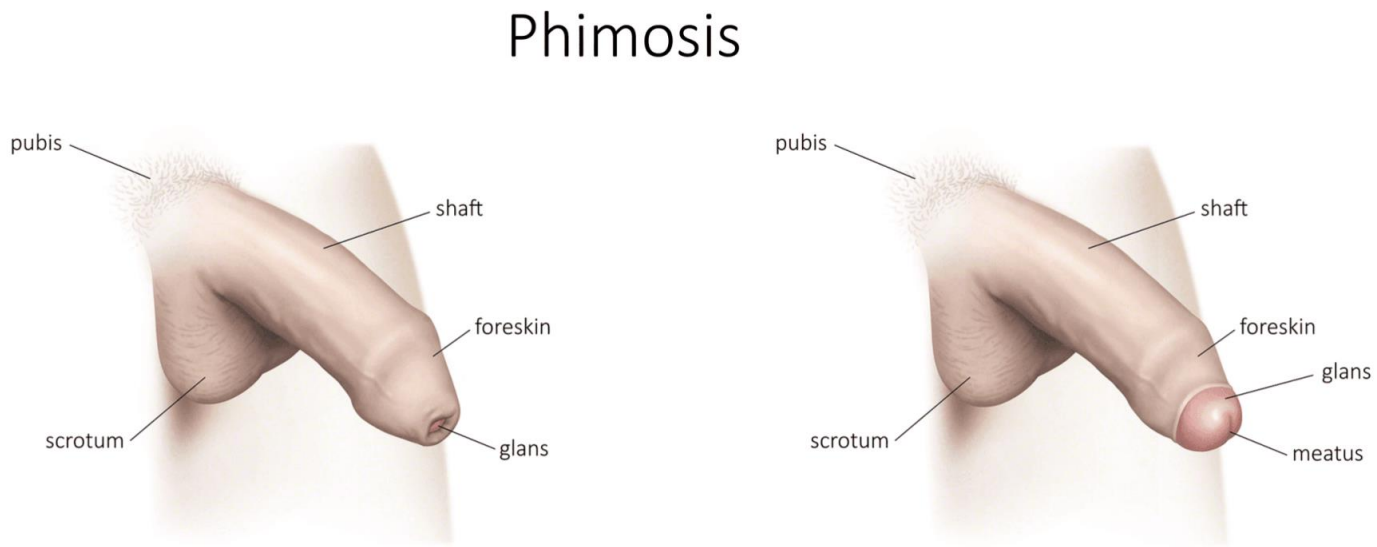
Matthew J. Roberts[1,2,3,4] · Andrew Morton[4] · Peter Donato[1,4] · Samuel Kyle[4,5] · David A. Pattison[4,5] · Paul Thomas[4,5] · Geoff Coughlin[1] · Rachel Esler[1] · Nigel Dunglison[1] · Robert A. Gardiner[1,2,6,7] · Suhail A. Doi[8] · Louise Emmett[9,10] · John Yaxley[1,4]

Received: 26 March 2020 / Accepted: 28 June 2020

Common Penile Conditions

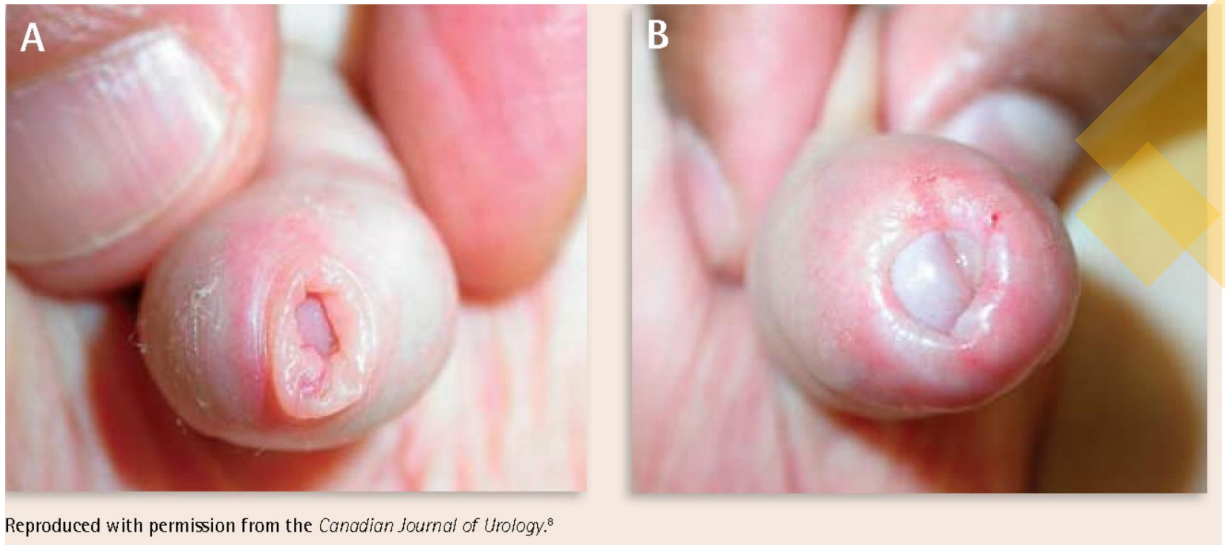
Phimosis

- BXO (balanitis xerotica obliterans) or Lichen Sclerosis
- Chronic inflammation/scarring
- 9% progression to SCC



Treatment options

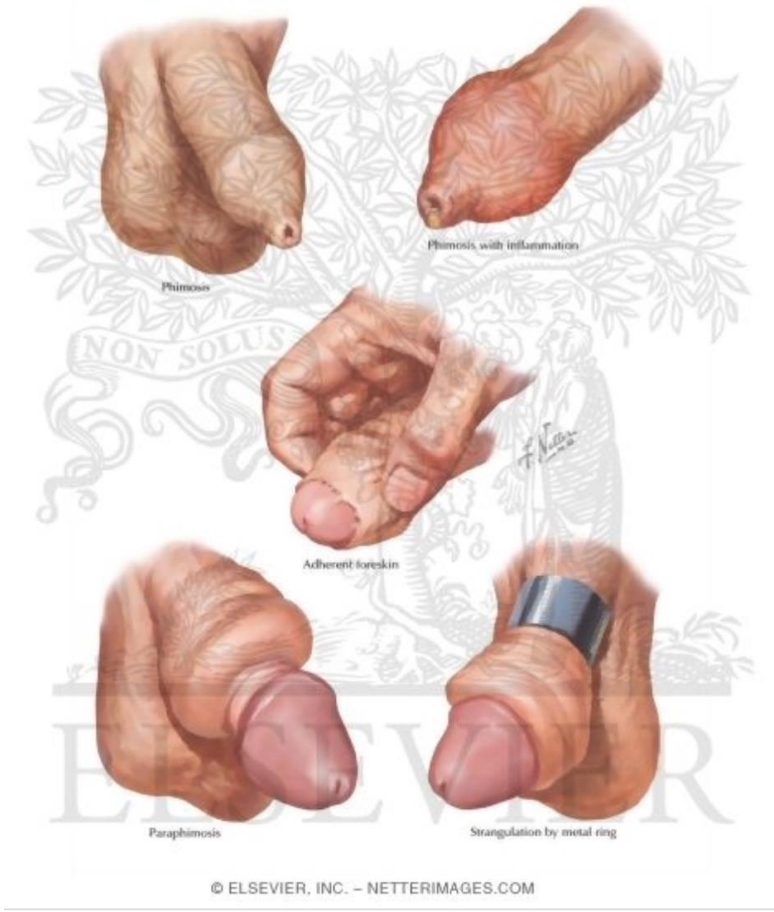
- Topical options
- Surgery
  - Dorsal slit
  - Circumcision
- Red flags
  - Voiding difficulty
  - Sexual dysfunction – pain, repeated tearing/splitting
  - Recurrent balanitis
  - Persistent skin changes



Reproduced with permission from the *Canadian Journal of Urology*.[8]

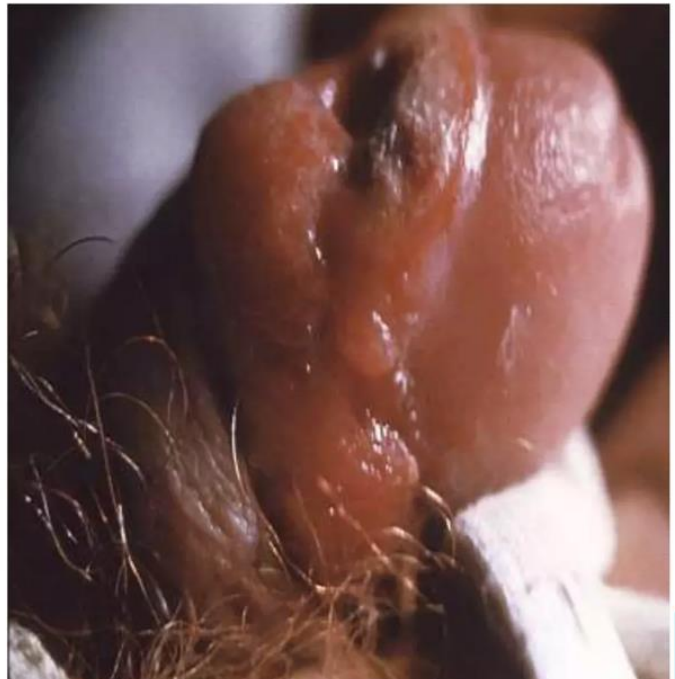
Paraphimosis

- Requires emergent treatment



Penile cancer

- Aetiology
  - Squamous cell carcinoma. > 95%
  - Mesenchymal tumors. < 3%
    e.g Kaposi sarcoma, angiosarcoma etc
  - Malignant Melanoma.
  - Basal cell carcinoma.
  - Metastasis.



Risk factors:

- Lack of neonatal circumcision
- Poor hygiene standards
- Phimosis.
- HPV infection.
- Exposure to tobacco products
- Penile trauma – mutilating circumcision, penile tears,etc.
- No convincing association with occupation, gonorrhea, syphillis & alcohol intake.

Questions