
Western Health
Boston Scientific
GP360
GENERAL PRACTICE EDUCATION
FOOTSCRAY HOSPITAL
UROWEST II · 2026
GP Urological Education Meeting | Western Health
Saturday May 30th 2026 - Footscray Hospital
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SESSION 3

13:15 – 15:15

13:15	What's New in Urology? Emerging Technologies GPs Need to Know About *A/Prof Homi Zargar*
13:45	Kidney lesions for GPs – When to refer and treatment options *Mr James Huang*
14:15	Urethral stricture disease – Management & the GP's role in post-operative care *Mr Henry Yao*
14:45	Prostate cancer: Screening, MRI and PSMA PET – what GPs need to know *Mr Dan Steiner*
15:15	**AFTERNOON TEA / INDUSTRY BREAK** Tea room behind auditorium (terrace/patio)

Kidney lesions for GPs: Practical guide

Mr James Huang

MBBS (Hons), Grad Dip Surg Anat, FRACS (Urology)

Consultant Urologist and Robotic Surgeon

Western Health, Monash Health

Epworth Hospital, Western Private

30th May 2026

Learning objectives

- By the end:
  - Recognise common types of renal lesion on imaging reports
  - Understand simple vs complex cysts
    - Apply risk stratification including Bosniak classification
  - Know when to reassure vs investigate vs refer
  - Understand broad overview of management pathways

How kidney lesions are found

- Most renal lesions are incidental and benign
- Common scenarios:
  - Incidental lesion on imaging
  - Haematuria workup
  - Rarely: symptomatic

First question: cyst or solid

- Renal cyst
  - Simple
  - Complex

- Solid renal mass
- Others:
  - Pseudolesions e.g. column of Bertin, scarring, inflammatory (abscess)

- Key clinical question:
  - Is this benign or malignant

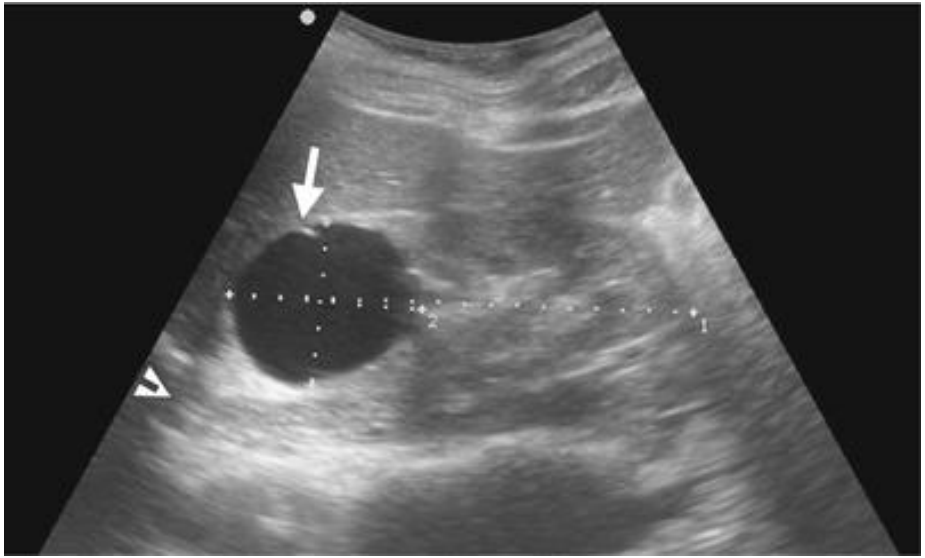
Renal cysts (Common)

- Very common with age
- Often asymptomatic
- Usually benign

- Types
  - Simple cysts
  - Complex cyst

Simple renal cyst

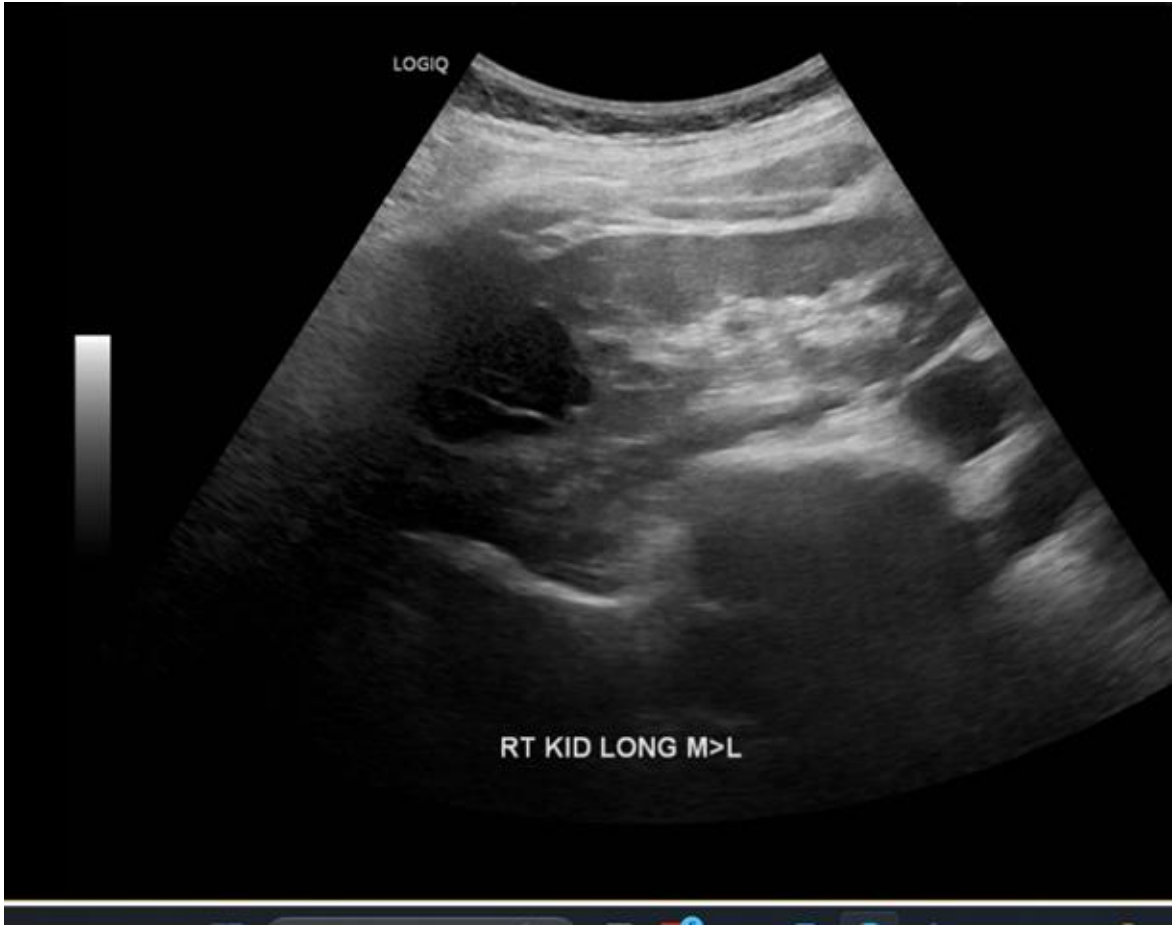
- Ultrasound features
  - Anechoic
  - Thin wall
  - No septation
  - Posterior acoustic enhancement
- Management
  - No follow up
  - No referral
  - Reassure patient



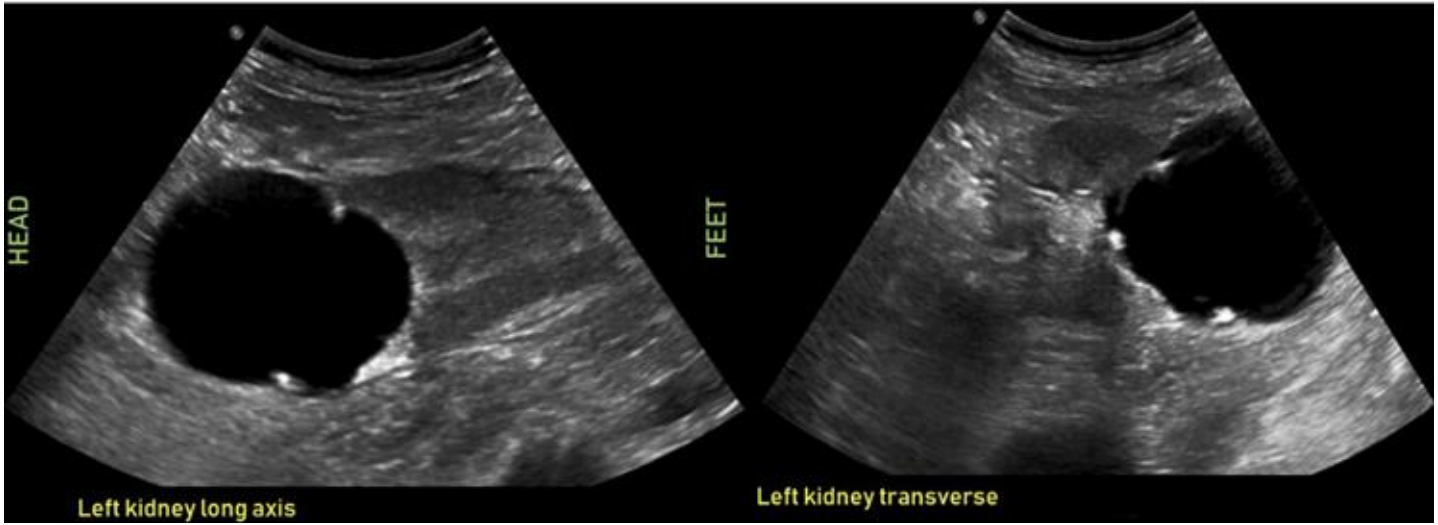
Complex cysts

- Features
  - Septations
  - Calcifications
  - Thickened walls
  - Solid components

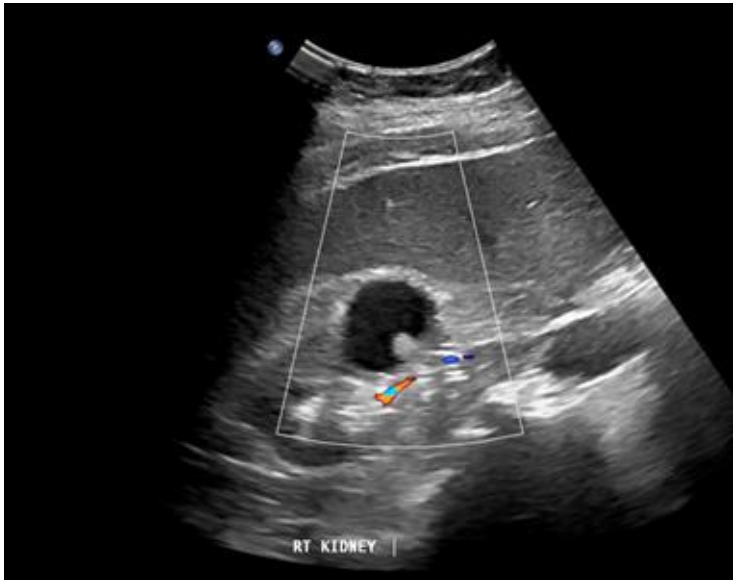
Septation

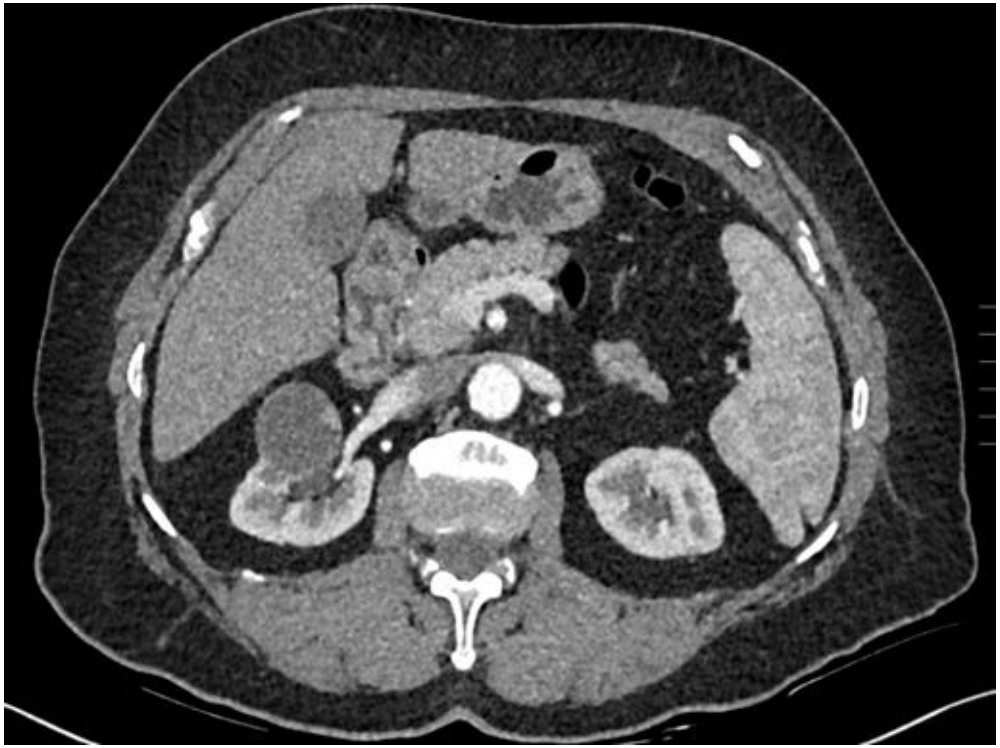


Calcification



Solid component



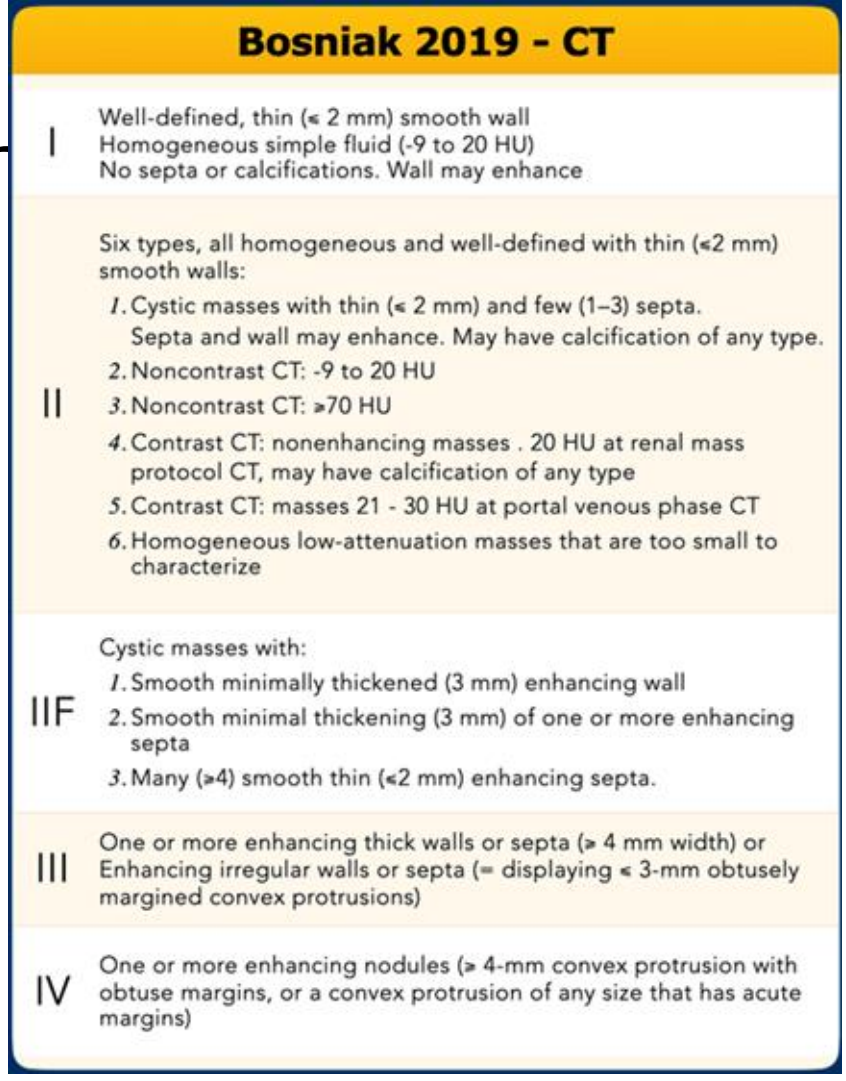


Complex cyst on US

- Cannot assume benign
- Need further characterisation
  - CT renal (with and without contrast)

Bosniak classification

- Updated 2019 version incorporates MRI features and clearer definitions



- Bosniak I/II (~0% risk): benign : no follow up
- Bosniak IIF: low risk (~5% risk); surveillance
- Bosniak III/IV: high risk Refer to urology

What to look for in imaging reports

- Key phrases
  - Simple cyst □ Reassure
  - Complex cyst □ Need CT
  - Enhancing lesions □ Suspicious
  - Solid renal mass □ Refer

- Enhancement = key red flag

Solid renal masses

- Up to 80% malignant but many indolent
- Common types:
  - Renal cell cancer (RCC)
  - Oncocytoma
  - Angiomyolipoma (AML)

Renal cell carcinoma

- Most common kidney cancer
- Often incidental
- Classic trial (rare)
  haematuria, flank pain, mass
- Risk factors:
  - Smoking (HR 1.23-1.58)
  - Obesity (>35 vs <25) (HR 1.71)
  - Hypertension (HR 1.70)

Angiomyolipoma (AML)

- Present in 0.3% of population and >50% present incidentally
- Benign tumour (Fat-containing)
- Often incidental

- Risk
  - Bleeding if large (>4cm)
- Management
  - Small □ Observe
  - Large/Symptomatic □ Refer

Size matters – Renal mass

- General guidelines
  - Small renal mass (SRM) <4cm
    - Benign
      - AML
      - Oncocytoma
    - Malignant
      - Clear cell
      - Others: papillary, chromophobe
  - 4cm higher malignancy risk

SRM Definition and natural history

- SRM = solid enhancing mass <4cm
- Many are indolent
- 20% are benign on final pathology
- Risk of metastasis is low if <3-4cm, but varies with grade/subtype
- Median rate of growth

Role of CT imaging

- Phrases
  - Non contrast
  - Cortico-medullary
  - Nephrographic
- Determines
  - Enhancement
  - Complexity
  - Staging

When to order imaging (GP perspective)

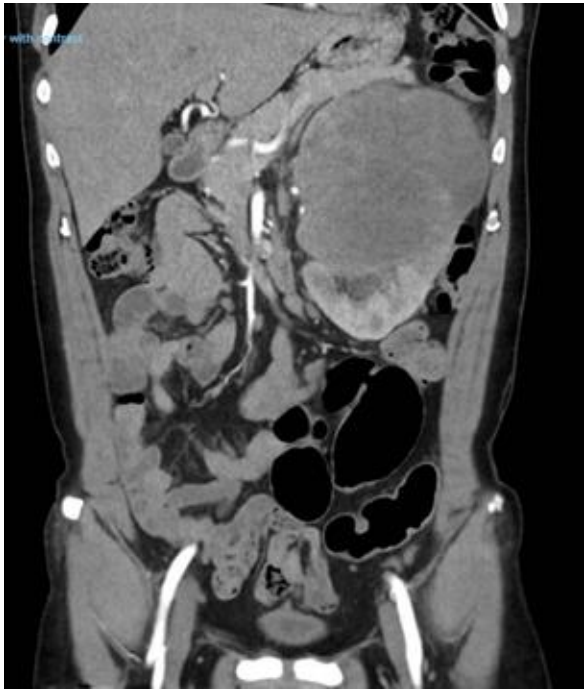
- Appropriate
  - Indeterminate lesion on US
  - Haematuria
  - Suspicious symptoms

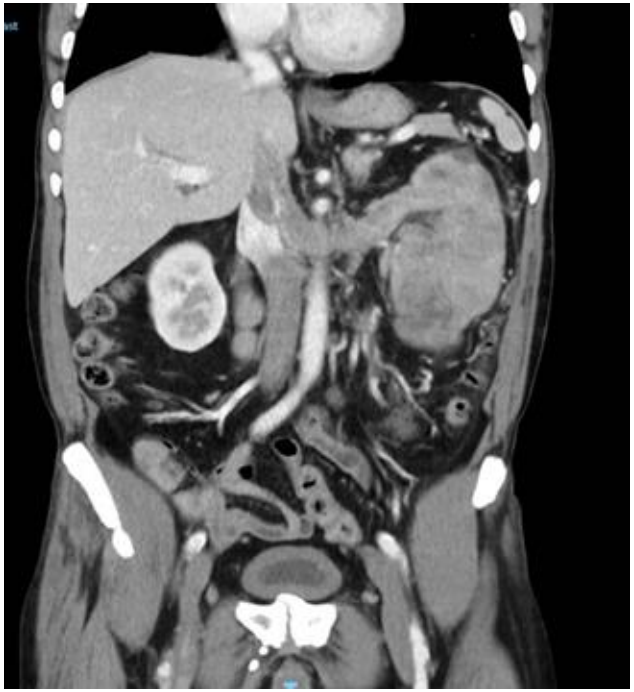
When to refer to urology

- Refer if
  - Solid renal mass
  - Complex cyst
  - Enhancing lesion
  - Growing lesion
  - Symptomatic AML
- Urgency
  - Usually semi-urgent (not emergency)

When is it urgent

- Gross haematuria with mass
- IVC/renal vein thrombus on imaging
- Suspected metastatic disease





Treatment options

- Radiological biopsy

- Active surveillance
- Partial nephrectomy
- Radical nephrectomy
- Ablation
  - RFA/Cryoablation
  - Stereotactic radiation
- Systemic therapy

What influences management?

- Disease factors (Kidney lesion)

- Patient factors
  - Age
  - Co-morbidities
  - Renal function
  - Patient preference

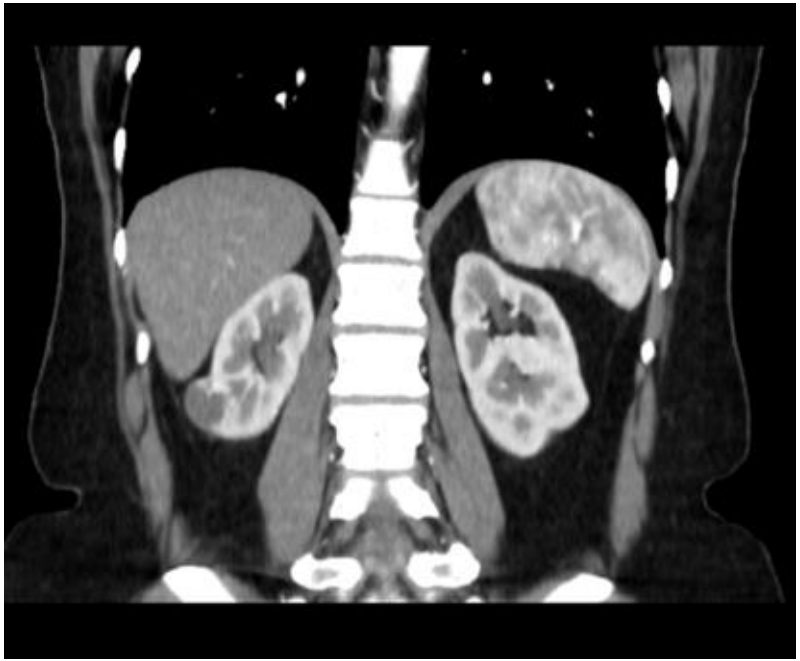
Special situations

- Elderly/Co-morbid : Surveillance when appropriate vs watchful waiting
- Young patient: Lower threshold to treat
- Incidental tiny lesion: often overcalled

- Context matters more than the scan alone

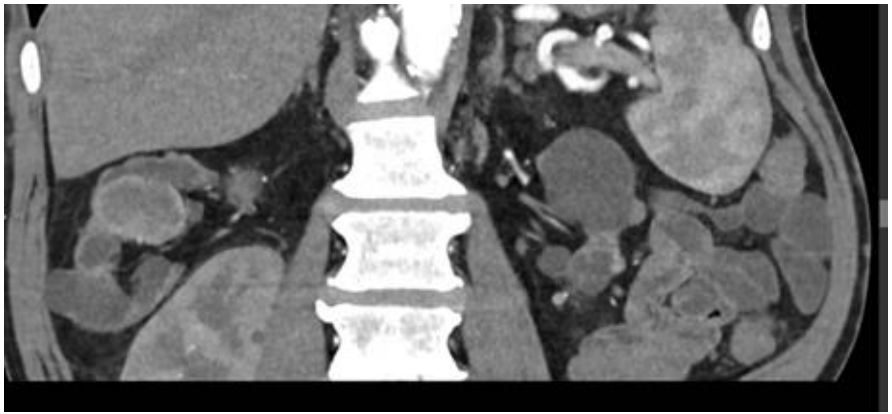
2cm renal mass

- 45 yo patient
  - Partial nephrectomy (robotic)
  - Radiological biopsy
- 80 yo co-morbid patient
  - Surveillance
    - Ablation if interval growth



3cm renal mass

- 60 yo male with ESRF undergoes a renal transplant (immunosuppression)
  - 3cm renal mass in native right kidney
  - Radical nephrectomy



Take home slide

- Refer if:
  - Solid enhancing mass
  - Bosniak III or IV cyst
  - Indeterminate lesion
- No need to refer:
  - Simple cyst

Questions

- Thank you

- Email: james.huang@wh.org.au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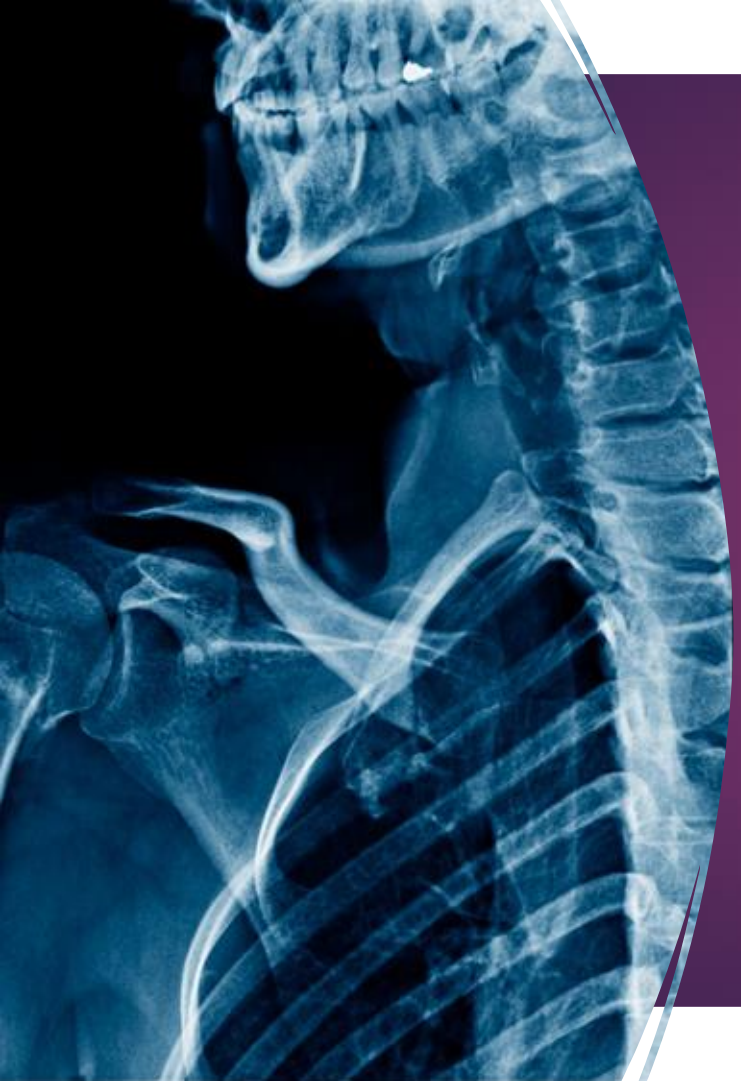


Advancements in Prostate cancer :

MR DANIEL STEINER – UROLOGIST

Western Health

Overview:

- Contemporary epidemiology Prostate Ca
- PSA testing – latest recommendations
- Prostate Imaging: MRI & PSMA PET scan
- Latest prostate biopsy techniques
- New grading system for Prostate Ca

Overview

- Treatment option conundrum – guidance from the GP
  - Active surveillance
  - Surgery
  - Radiotherapy

Magnitude of Prostate Cancer in Australia:

- most common solid organ cancer in Australian males
  - >26,000 Aussie men diagnosed with prostate cancer each year
    - 1.8% - <49yo
    - 12.3% 50-59yo
    - 36.3% 60-69yo
    - 36.3 % 70-79yo
    - 13.6% >80yo
- 2nd most common cause of cancer related death in Australian males (after lung cancer)
  - >3900 men die each year from prostate cancer (equivalent to Breast Cancer figures)
- 30% of all new cancer diagnosis in Australian men each year
- >250,000 Australian men alive today with diagnosis of prostate cancer
- Annual health expenditure approx. $1.5billion/yr
- 20% of all cancer related expenditure on Pharmaceutical Benefits Scheme

How common is Prostate Cancer??

- Life time risk of diagnosis – approximately 20%
  - 1 in 5 by age 85
- Other than increasing age, first degree family history is the major additional risk factor
- Other risk factors:
  - Black male with Sub Saharan African ancestry
  - Certain genetic mutations: BRCA

The good news!

- Prostate Cancer has one of the highest survival rates of all cancers
  - 5 year survival rates - 98% if diagnosed early stage/localised prostate cancer
    - Approx 75% detected in early stage (localised to the prostate)
    - 36% 5 year survival if diagnosed at advanced stage – historic data
      - Many living 5-8yrs from diagnosis of mets due to improved systemic treatments
- Due to:
  - Early diagnosis with PSA testing
  - Improved treatment options
    - Surgical, radiotherapy, hormonal/chemotherapy advances

PSA Testing:

- Prostate Specific Antigen: blood test
  - Produced by normal prostate cells
  - Specific to prostate gland but **not** to prostate cancer
  - Higher the PSA, the greater the risk of prostate cancer
  - Other causes can elevate:
    - BPH
    - Infections: urine / prostatitis
    - Urological procedures, recent catheterisation, urine retention
  - Currently, it remains the best readily available test to help diagnose Prostate cancer

What is the benefit of PSA testing?

European Study of Prostate Cancer Screening (ERSPC) — 23-Year Follow-up

- **N Engl J Med 2025**
- **Summary results:**
  - PSA screening associated with:
    - 13% lower prostate cancer mortality in screening group
    - ARR – Absolute risk reduction 0.22%
    - 1 death from prostate cancer prevented for every 456 men screened
    - 1 death from prostate cancer was averted for every 12 men diagnosed with Ca prostate

Historical concerns with PSA screening:

- Other causes of elevated PSA leading to invasive investigations/biopsy
- Morbidity from biopsy
- Increased detection/ over treatment of indolent cancers
- Anxiety from diagnosis
- Side effects of treatments
  - Incontinence
  - ED

Modern improvements to reduce harm from screening:

- Better guidelines/understanding of appropriate PSA testing
- MRI prostate – reducing amount of negative biopsies
- Trans-perineal prostate biopsy
  - Reduced sepsis rates
- Uncoupling prostate cancer diagnosis from treatment
  - Widespread acceptance of Active surveillance
- Improvements in side effect profile of treatments
  - Surgery – Robotic
  - Radiotherapy – IMRT

PSA screening: current guidelines – 2025 NHMRC & PCFA guidelines

- **For men aged 50–69, level 1 evidence demonstrates that PSA testing reduces prostate cancer-specific mortality and the incidence of metastatic prostate cancer**

- **Testing from age 50 in most men**
- **Testing from 40yo if at higher risk**
  - **Family history**
    - **Brother or father with prostate cancer**
    - **2 second degree relatives with CaP (cousins, uncles etc)**
    - **African American**
    - **Aboriginal. Torres Strait islander**
    - **Known genetic predisposition: BRCA**

PSA testing <50yo:

- Median PSA level very low in this age group – 0.5-0.7ng/ml
- PSA <1 – low risk Ca prostate – rpt every 2 years or at 50
- PSA >1 – rpt PSA within 3 months with free:total ratio
  - +-Renal tract ultrasound (prostate vol, PSA density)
  - If remains >1 – consider referral to urologist

PSA density : PSAd

- Psa/ prostate vol
  - Eg psa 3 pros vol 30cc = psad 0.1
  - Eg psa 3 pros vol 60cc = psad 0.05

- Psad <0.1 – low risk sig Ca
- Psad 0.1-0.15 – equivocal
- Psad >0.15 – incr risk Cap
  - Refer early

Free:total ratio

- Lower the ration – higher the risk Ca eg
  - >30% - low risk Ca – likely bph
  - <10% - sig higher risk Ca
  - 11-29% - indeterminate – lower the %, higher the risk

PSA testing 50-69

- Recommended in all
- PSA <3 – rpt every 2 years (Medicare funded)
  - Steiner recommended every year
- PSA >3 – rpt within 3 months +- Renal tract ultrasound, f:t
  - If remains >3 – refer urologist
  - F:t <10%
  - Psad >0.15
- PSA velocity – rate of change over time also to be considered
  - Eg if prev PSA 1 – now 2.5 – needs urologist
  - Acceptable rise/year – 0.3

PSA testing 70+

- Recommended if life expectancy > 7-10 years+
- Reduced benefit testing as patient ages
- PSA >5.5 – rpt within 3 months (u/s, free:total)
  - Refer urologist if remains >5.5
  - F:t <10%
  - Psad>0.15

PSA Medicare funding 2023:

- Once every 23 months screening population
- Once every 11 months with family history
- Unlimited if diagnosis Ca prostate
- Can order more if abnormal – but clinical history must be written on path form

PSA questions?

mp MRI Prostate:

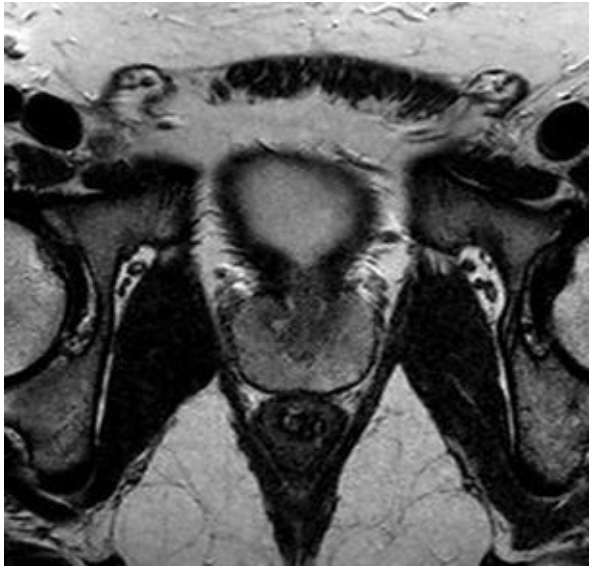
- Now standard of care for all men with elevated/ concerning PSA prior to biopsy
- Importance of obtaining MRI through high volume/ high quality centre with experienced MRI radiologist trained to read prostate MRI
- Sensitivity – detects approx. 85% of all prostate cancer
  - Will not detect very small tumours <5mm
  - Poor at detecting low grade tumours
  - 5% miss rate for "significant" tumours – cancers which require treatment

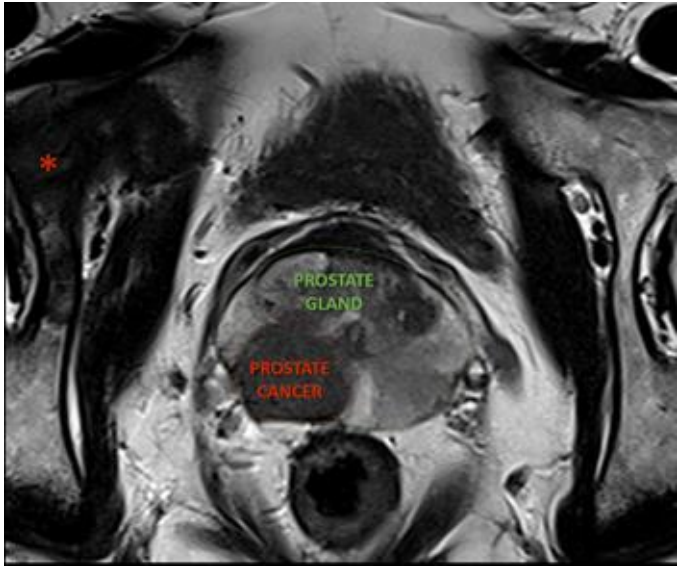
Prostate MRI Medicare funding:

- Abnormal digital rectal examination
- <70 – PSA >3 on 2 readings
- >70 – PSA >5.5 on 2 readings
- <70 with family history - >2 on 2 readings

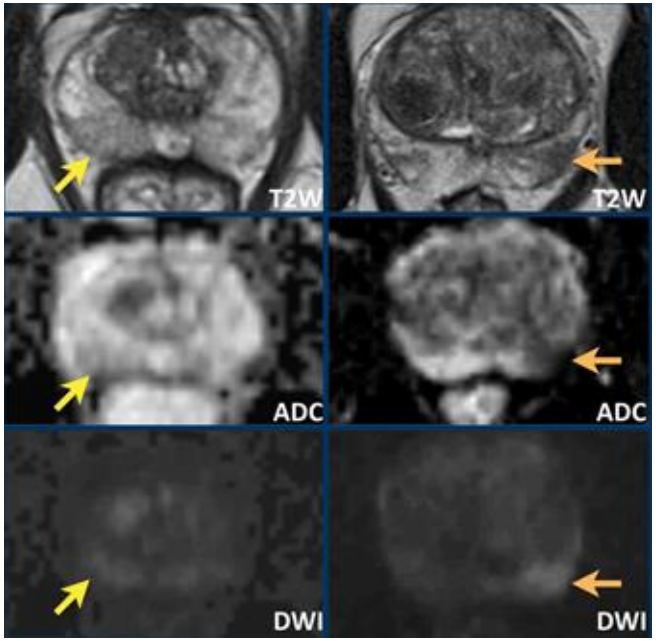
- Active surveillance follow up

MRI prostate images:





MRI prostate images:

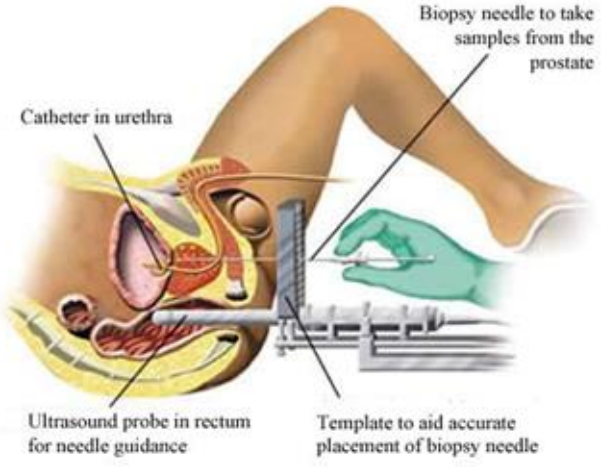


MRI prostate grading system: PI-RADSv 2.1

- Pirads 1&2 -no lesion - 5% risk cs Ca prostate
  - avoid biopsy unless risk factors
    - Rising PSA
    - Strong Fhx
    - High PSA density: psa level vs prostate volume
- Pirads – 3 – equivocal lesion – 20% risk cs CaP
  - Biopsy vs watch – generally biopsy
- Pirads 4 - <1.5cm lesion – 55% risk csCap
  - Biopsy all
- Pirads 5 >1.5cm lesion – 85% risk cs CaP
  - Biopsy all

Prostate biopsy - Transperineal:

- Technique
- Pros:
  - Reduced infection rate (<1/1000)
  - Improved cancer detection c/w TRUS
  - Better correlation with radical prostatectomy specimens– improved decision making
- Cons:
  - Requires full GA
  - More time consuming: 10 min vs. 20min
  - Increased urinary retention rate post biopsy
  - Cost: equipment & theatre time



New Grading System for Ca prostate:

- Historically Gleason Grade: (6-10)
  - Histological grading system
  - Addition of dominant pattern and next most frequent pattern
  - E.g. 3+4 or 4+3
  - Patients (and doctors) found complex to understand
- New ISUP grading system

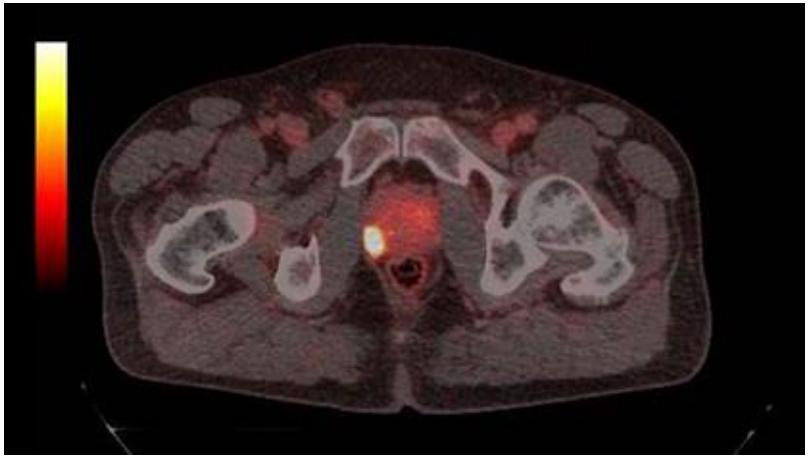
ISUP Grading system:

- Grade 1 = Gleason 3+3=6
- Grade 2 = Gleason 3+4=7
- Grade 3 = Gleason 4+3=7
- Grade 4 = Gleason 4+4=8
- Grade 5 – Gleason 4+5=9 & 5+5=10

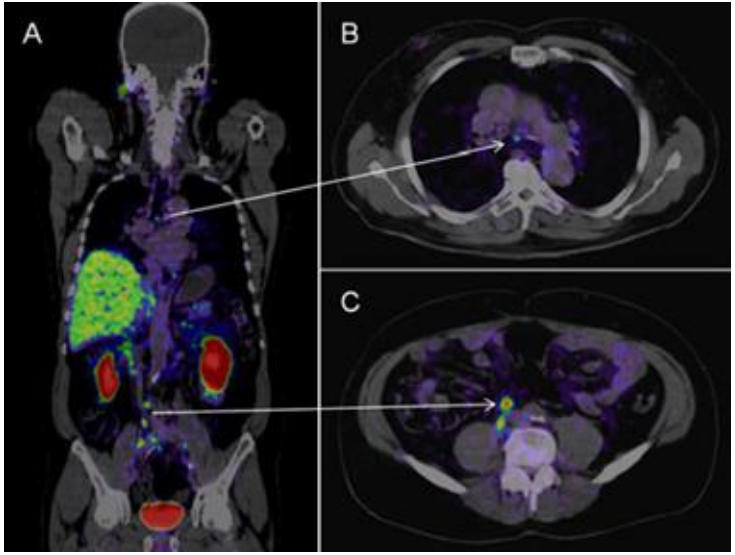
Staging – PSMA PET scan:

- Historically CT scan and bone scan
- PSMA PET – now Medicare funded for staging Grade2+ cancers
  - Risk metastatic disease Grade 1 cancer – essentially 0
- Sig more accurate than Ct and bone scan
  - More sensitive
  - More specific

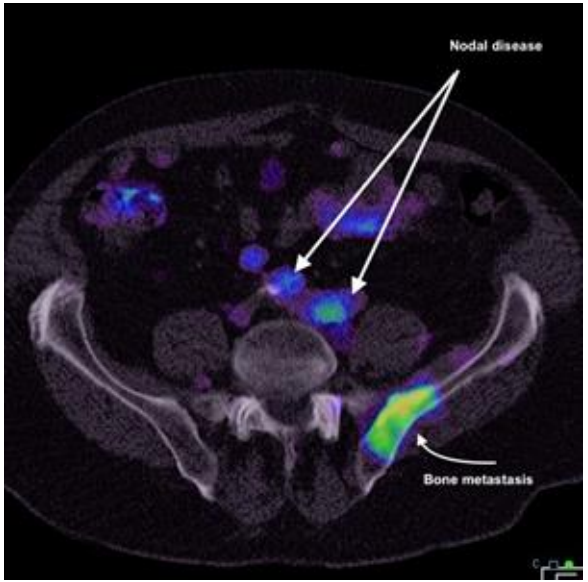
PSMA PET scan: localised



PSMA PET: lymph node disease



PSMA PET widespread mets:



Re staging PET scan:

- Used after treatment (surgery or Radiotherapy) to check for recurrence when PSA rising
- Medicare funds 2 scans per patient in lifetime
- Issues:
  - Poor detection at low PSA level
    - Surgery – wait until psa >0.2
- Used prior to salvage treatments to
  - Direct treatment – radiotherapy
  - Minimise side effects
  - Reduce chances of futile treatments

Prostate cancer treatments: How can you help patients choose?

- **Active Surveillance**
- **Surgery**
- **Radiotherapy**

Active Surveillance:

- Defined:
  - expectant management of low volume, low risk prostate cancer
  - treatment deferred until evidence displays an increased risk of disease progression
  - Aims to avoid overtreatment of low risk prostate cancer
  - Defer/avoid the potential long term side effects/morbidity of definitive treatment
    - Radical Prostatectomy: (erectile dysfunction, incontinence)
    - Radical Radiotherapy: (ED, incontinence, LUTS, bowel)

Rationale for AS:

- Based upon the prolonged natural history of low grade prostate cancer
- High incidence of latent prostate cancer in ageing men
- Increased use of PSA
  - Lead time >10 years
- Long term effects of definitive treatment

Who is a candidate?
Low volume, low grade Ca.

- Age: <70 (?75)
  - No lower age limit, however more stringent inclusion criteria
- PSA: <10ng/ml
- DRE: impalpable (T1c) or T2a (<half 1 lobe)
- MRI – prefer Pirads 2/3
- Gleason: 3+3=6 (no pattern 4)
  - The lower volume the better

AS protocol:

- PSA every 3-4 months
- DRE every 12 months
- Repeat MRI/ biopsy at 12-18 months
  - if min change: GI 6 only, no incr volume
  - Rpt MRI +-biopsy every 3-5years

Active surveillance – what's new:

- With longer follow up international studies – more confident of safety of AS
  - Can monitor most men with Grade 1/ Gleason 6 cancer these days
  - Can monitor men with small volume Grade 2/GI 7 cancer
- CONFIRM trial
  - Lesion on MRI however only low volume grade 1 cancer on biopsy
    - Funded MRI and PSMA Pet scan within 12 months
    - Rpt confirmatory biopsy within 12 months
- GENI-Airspace trial
  - Determine if genetic testing can aid decision making for patients with favourable intermediate prostate cancer – i.e. small volume Grade 2/ Gleason 7

Surgery:

- Robotic Radical Prostatectomy (RARP)
  - Now considered gold standard surgical treatment world wide
  - C/w open/ laparoscopic
    - Less pain
    - Less blood loss
    - Shorter hospital stay
    - Shorter duration with catheter
    - Improved early continence rates
    - Improved nerve sparing techniques
- Now widely available in private and public sector in Aus

Robotic prostatectomy

Robotic surgery advancements:

- Newer robots – Xi Da Vinci robot
  - Better 3d HD cameras
  - Improved ergonomics for robotic arms/instruments
  - Single Port Robot
- Better training – now Aus urology trainees receiving local training
- Nerve sparing improvements
  - More aggressive due to correlation b/w biopsy results and MRI/PET

Radiotherapy: what's new?

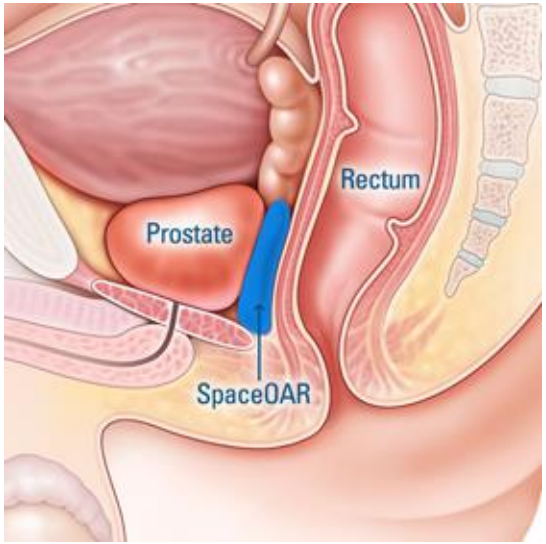
- Intensity Modulated Radiation Therapy (IMRT)
  - CT guided technique to precisely adjust dose of radiation beams to prostate vs surrounding tissue
    - Aims to minimize side effects to bladder and bowel
- Dose escalation
  - Higher doses than ever being used with high cancer control rates
- Hypofractionation
  - Delivers same dose of radiation over few treatment fractions/sessions

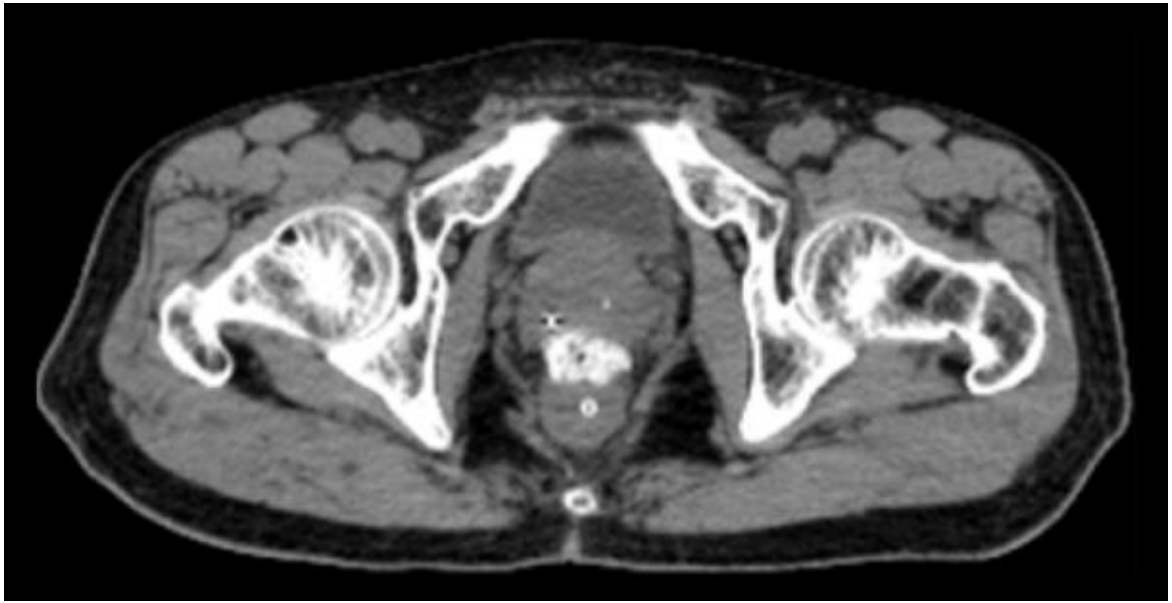
Radiation Treatment: Rectal Spacer

- Hydrogel inserted like a TP biopsy under anaes prior to radiotherapy
- Aims to separate the rectal wall from the prostate, to minimize radiation to rectum
- Minimise rectal side effects: bleeding, mucous, diarrhea

- Spacer Vue, Spacer OAR, Barrigel

Spacer Gel





Surgery vs Radiotherapy:

- Factors to favour surgery:
  - Younger age
  - Min co-morbid – low risk peri=-op complications
  - Higher risk cancer – may need salvage Rtx
  - BPH symptoms/luts
  - Long distance to radiotherapy centre
  - Sexual function not main priority

Factors to favour radiotherapy:

- Older age – 70+
  - Insig risk radiation induced malignancy
- Co-morbid – higher operative risk
- Obese
- Wants preservation of sexual function for short term
- Good bladder function – no LUTS
- Hostile abdomen/pelvis
- Very worried about risk urinary incontinence
- Locally advanced disease – high risk positive margin

Take home messages:

- Prostate cancer is extremely common however has an excellent prognosis if diagnosed at early stage
- Level 1 evidence supports benefit of PSA testing to reduce likelihood of death from prostate cancer and development mets
- Recommend PSA screening from 50 (40 with risk factors)
  - If elevated – rpt within 3 months, f:t , ultrasound
  - Refer if PSA >1 when very young, >3 50+, >5.5 70+
  - Refer if f:t <10%, psad >0.15,
- Quality of MRI prostate of utmost importance
  - 5% risk sig cancer even if normal
- Active surveillance for most men with low risk prostate cancer
- For "clinically significant" prostate cancer – individualise treatment to patient and cancer factors

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