

## An update for GPs on modern radiation therapy & hormones for prostate cancer

A/Prof Sandra Turner  
Radiation Oncologist  
Crown Princess Mary Cancer Centre,  
Westmead Hospital, Sydney



## Disclaimer – who am I?

- I am a radiation oncologist (24 years GU cancers)
- I work in public sector - no financial conflict of interest
- I am the Clinical Lead for the RANZCR Faculty of Radiation Oncology Targeting Cancer Campaign raising awareness of, and better knowledge around, modern radiation therapy
- I believe that men deserve to be fully informed about all their treatment options
- I believe GPs are critical in helping achieve this



## Take home messages

- Modern radiation therapy (RT) is as effective as **prostatectomy** in curing prostate cancer
- **GPs can help ensure men know treatment options**
- Advances in RT have significantly reduced serious side effects & improved the patient experience
- Treatment for prostate cancer is rarely urgent
- Hormone therapy (ADT) is often used with RT in the curative setting & **GPs have a key role in managing potential ADT morbidity**



## Session plan

This session will cover:

- modern radiation therapy (RT) advances
- case study – localised prostate cancer
- treatment options –GP's role
- the patient experience
- hormone therapy – GP's role
- RT in palliation of bone metastases
- resources

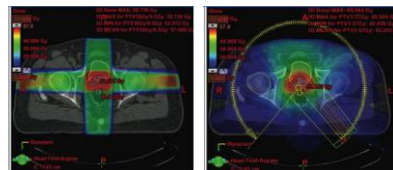


## Advances in radiation therapy

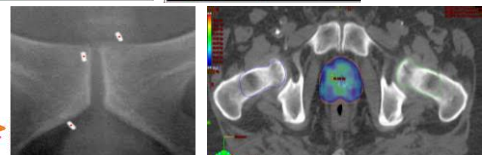
- Increased targeting of cancer/area to be treated (more 'conformal')
- Avoidance of adjacent organs
  - reduced side effects
  - higher doses given safely -> better cure rates
- Imaging of cancer/organ on daily basis
  - image-guided RT (IGRT)
- Faster daily treatments



## Increasing Sophistication



Gorayski P et al.  
Advances in radiotherapy technology for prostate cancer: What every GP should know.  
*Aus Fam Phys*: 44:663–67, 2015



## Types of radiation therapy

- External beam radiation therapy (EBRT)
  - photon (Xray) beams directed from outside the body
  - IMRT, VMAT = tightly targeted modern radiation therapy
- OR
- Brachytherapy – high/low dose rate
  - internally placed radiation sources
  - (go to [targetingcancer.com.au](http://targetingcancer.com.au))



The Royal Australian and New Zealand College of Radiologists  
The Faculty of Radiation Oncology

## Case Study – Intermediate Risk PrCa

- 67 year old man
- otherwise fit and well
- mild - mod. LUTS increasing over 2 years
- first (only) PSA 12ng/ml
- DRE – normal feeling prostate gland (T1c)
- referred to a urologist
  - TRUS biopsies– Gleason 4+3=7 adenocarcinoma in 6 of 12 biopsies (+MRI)
- what are his treatment options?



The Royal Australian and New Zealand College of Radiologists  
The Faculty of Radiation Oncology

What happens now?  
As his GP, what is your experience?



The Royal Australian and New Zealand College of Radiologists  
The Faculty of Radiation Oncology

## Management options

	Low risk	Intermediate risk	High risk
<b>PSA</b>	0 to 10 ng/ml	10 to 20 ng/ml	>20 ng/ml
<b>T-stage</b>	T1 – T2a	T1-T2b	T2c – T4
<b>Gleason</b>	6 or lower	Gleason 7	8 or higher
<b>Management options</b>	<ul style="list-style-type: none"> <li>Active surveillance</li> <li>Radical prostatectomy</li> <li>External beam RT</li> <li>LDR brachytherapy</li> </ul>	<ul style="list-style-type: none"> <li>Radical prostatectomy</li> <li>External beam RT +/- ADT</li> <li>LDR brachytherapy (selected cases)</li> </ul>	<ul style="list-style-type: none"> <li>External Beam RT + ADT</li> <li>Radical prostatectomy + adjuvant EBRT</li> <li>EBRT/HDR brachytherapy + ADT</li> </ul>



The Royal Australian and New Zealand College of Radiologists  
The Faculty of Radiation Oncology

## Management options

	Low risk	Intermediate risk	High risk
<b>PSA</b>	0 to 10 ng/ml	10 to 20 ng/ml	>20 ng/ml
<b>T-stage</b>	T1 – T2a	T1-T2b	T2c – T4
<b>Gleason</b>	6 or lower	Gleason 7	8 or higher
<b>Management options</b>	<ul style="list-style-type: none"> <li>Active surveillance</li> <li>Radical prostatectomy</li> <li>External beam RT</li> <li>LDR brachy</li> </ul>	<ul style="list-style-type: none"> <li>Radical prostatectomy</li> <li>External beam RT +/- ADT</li> <li>LDR brachy</li> </ul>	<ul style="list-style-type: none"> <li>External Beam RT + ADT</li> <li>Radical prostatectomy + adjuvant EBRT</li> <li>EBRT/HDR brachy + ADT</li> </ul>

Ref: UK ProtecT studies NEJM 2016



The Royal Australian and New Zealand College of Radiologists  
The Faculty of Radiation Oncology



The Royal Australian and New Zealand College of Radiologists  
The Faculty of Radiation Oncology

## Treatment Outcomes

- No evidence for superiority of surgical treatments over radiation therapy (+/- hormones)
- There is growing evidence that RT and hormones offer better control for high risk prostate cancer – adjuvant/salvage RT required post-op in  $\geq 40\%$
- No good evidence that planned ‘multi-modal therapy’ improves cancer outcomes – definitely worsens side effects and costs



Ref: UK ProtecT studies  
NEJM 2016



## Decision-making in PrCa

- Men may miss out on having full information about options before surgery
- Many studies show this leads to psychological morbidity = ‘decisional regret’\*
  - especially if toxicity, options and costs are inadequately discussed
- Referral pathway differs from other cancers
- **There usually  $\geq$  one ‘good’ option – therefore often comes down to patient preference**



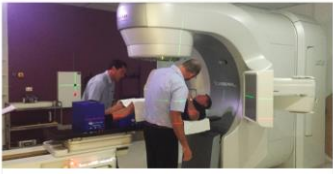
\* Christie D et al, Psycho-Oncology, 2015



ONCOLOGY UPDATE NEWSLETTER

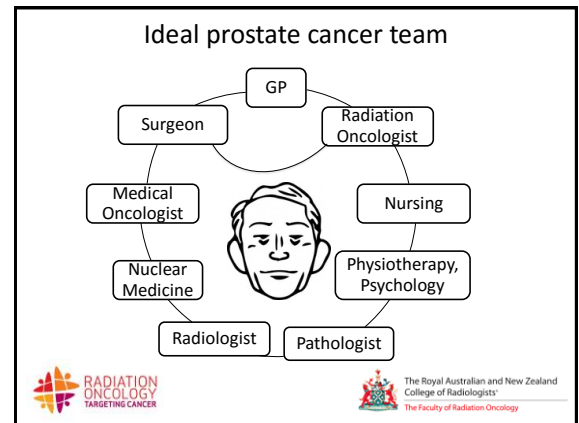
### Latest news

**Prostate cancer patients often regret surgery**  
But they have fewer misgivings about radiotherapy, study shows  
[Read full article online](#)



**LESS PATIENTS REGRET RADIATION THERAPY**

▲ Josh Carrivick ○ October 18, 2016 ● Leave a comment



## MDT model in cancer care

- Patient assessment & decision-making requires multidisciplinary panel of experts
- Prostate cancer has lowest rate of MDT meeting discussions for all major cancers (Vic Data)
- Many MDT discussions occur *after* surgery
- Radical prostatectomy rates are increasing
  - the Da Vinci robot
- GPs can play a key role helping men get expert opinions & in their decision-making



Go-rayski P et al. Advances in radiotherapy: Ensuring balance in the discussion. *AFP*: 44; 11; Nov 2015

## Your patient

What you might do if there is a suspicion of PrCa (as well as referring to a urologist):

- encourage him to explore all treatment options with equal cure rates (suggest he returns for discussion & communicate this to urologist)
- if biopsies +ve, make a referral to a radiation oncologist about non-surgical options
- reassure him that there is likely *no urgency* to decide on treatment

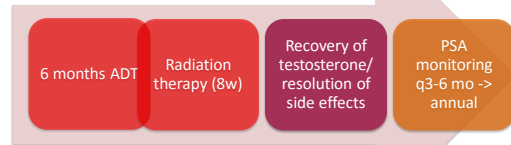


## The patient pathway

- Discussion & decision regarding treatment
- If having radiation therapy:
  - ADT commenced if required (4-6 months before RT starts; + 18 mo after RT if high risk)
  - Planning for radiation – fiducials, ?MRI then CT planning scan (non-contrast)
  - Tailored radiation plan developed on CT scan (man not present)
  - Treatment delivered – patient reviewed on RT
  - Follow up



## Overall management pathway- intermediate risk prostate cancer



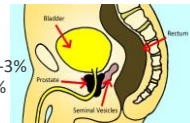
## The patient experience

- Outpatient treatment program
- Treatment sessions (fractions) every work day (or 9/fortnight)
- Takes only minutes to deliver
- Approx. 30 - 40 mins in department
- Usually 39 - 40 treatments over 8w
- Men can work, drive & do their usual activities through treatment
- Soon: 1- 4 week options for some men



## Side effects of RT to prostate

- Acute
  - short-term, usually mild & settle 2-8w after RT
  - highly variable between men
  - usually start 3-4 w & build towards end
  - fatigue, urinary (frequency, nocturia, dysuria), rectal (discomfort, tenesmus, mucus)
  - >80% men have acute symptoms
- Late
  - urinary incontinence <1%, strictures 2-3%
  - rectal: bleeding, urgency, mucus ~5-7%
  - not always permanent
  - sexual dysfunction

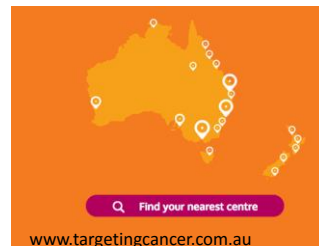


## Radiation therapy – costs

- Around 60% of radiation therapy is given in the public setting; 40% private
- Centres in Australia well-equipped for EBRT
- Waiting lists are rarely a problem
- Public hospitals: most bulk bill
- Private: out of pocket costs range from \$0 - \$7000 total, typically few \$K for curative course of prostate RT



## How to refer?



- GPs can refer direct to radiation oncologists
- Radiation oncology centres have a nurse or a RO can advise you about your patient



## Androgen Deprivation Therapy: Indications

- In combination with RT (higher cure rates for intermediate and high risk PrCa)
  - 6 months – 2 years
- First-line therapy for PSA-relapse with or without metastatic disease on imaging
  - continuously or intermittently
- Indicated alone for men not well enough for, or able to have, other therapy (uncommon)



## More on ADT

- (neo)adjuvant with curative RT, usually LHRH alone eg Zoladex, Lucrin, Dipheraline, Eligard
- 1, 3, 6 month SC or IM implant/injection
- Recovery of testosterone 3 months – years
- Non-steroidal anti-androgens eg Cosudex 50mg daily used for PSA relapse on LHRH = '2nd line' therapy or to prevent testosterone spike and pain flare (metastatic disease) or if severe obstructive symptoms prior to LHRH



## Potential morbidity of ADT

- Short term
  - Hot flushes, loss of libido and erections, lethargy
  - Testosterone typically recovers 6 – 12 mo
- Longer term
  - Weight gain, loss of muscle mass, loss of bone density, mood & cognitive changes, non-fatal cardiac events, reduced glucose tolerance, 'metabolic syndrome'
- Highly variable impact on quality of life



## Managing ADT-related morbidity

- Short term ADT
  - regular exercise, prevention of weight gain
- Longer term ADT >6 months
  - monitor cardiac risk factors/?cardiology review
  - BSL, cholesterol, lipids
  - bone health – annual Dexa scan, ?bisphosphonates/endocrinologist review
  - resistance exercise and healthy weight key (physio/exercise physiologist)



Teleni L et al. Exercise improves QoL in ADT-treated prostatecancer Endocr Relat Cancer Feb 1, 2016:101-112



### Recommended Resources from Healthed seminars

#### Exercise Medicine Research Institute

Established in 2009, the Exercise Medicine Research Institute is an institute that builds collaboration between researchers, educators, industry and government to optimise health and improve quality of life for people of all ages, within differing social, cultural, political and environmental contexts.

Edith Cowan University's Exercise Medicine Research Institute is WA in the first institute of its kind at an Australian University bringing together an expert team of researchers committed to improving community health and wellbeing.

The Institute assumes the role of exercise in:

- Metastatic Therapy for Prostate Cancer
- Promoting Lifestyle Changes in Prostate Cancer Survivors
- Neoadjuvant Chemoradiation in Patients with Rectal Cancer
- Breast Cancer Related Lymphoedema
- Cancer Patients with Advanced Bone Metastatic Disease

#### GENERAL PRACTICE EDUCATION DAY

Adelaide, 17 September  
8.30am-4.30pm  
Adelaide Convention Centre  
**Last chance to register!**  
[Register now](#)

Melbourne, 13 October  
8.30am-4.30pm  
Melbourne Convention & Exhibition Centre, South Yarra  
**Super Early Bird ends this Friday!**  
[Register now](#)

Sydney, 20 October  
8.30am-4.30pm  
ICC Centre, University of NSW  
[Register now](#)

Perth, 5 November  
8.30am-4.30pm  
Perth Convention & Exhibition Centre  
[Register now](#)



## Radiation therapy for palliation

- Bone mets are common
- RT effective in palliation
- 1 – 5 treatments (fractions)
- 75 - 80% pain response
- Reduction in opioids
- Side effects minimal
- Can be repeated



Morris L et al. Back Pain in a Cancer Patient: A Case Study. **AFP** : 43; 8; Aug 2014



**Prostate cancer Treatment options**

**Other questions to ask your doctors**  
(GP, radiation oncologist & urologist)

- What treatment options would be suitable for me, and are there any characteristics of my prostate cancer which may affect my treatment choices?
- Can you tell me the benefits and risks of the treatment you have recommended?
- What are the side effects of the treatment, how likely are they to happen, and how can they be treated?
- What is the chance I may need to have more than one of the treatments listed above?
- How soon do I need to make a choice about which treatment I prefer?
- Where and how do I get a second opinion?
- Where can I have treatment, and how much is it likely to cost?
- Are there any clinical trials I might be suitable for, and how can I find out about these?
- What tests and follow-up care will I have?

**Make the choice that's right for you**

**There are several options. Ask which treatment is suitable for you.**

**Active surveillance**  
 This approach involves monitoring the prostate for signs of growth and only treating if necessary. It is suitable for men with low-risk prostate cancer. It involves regular PSA tests, digital rectal exams (DRE) and biopsies. There are two scenarios you should ask to - a biopsy is negative and a surgeon, your GP and your urologist to confirm if you should have a second look for you. Often this comes down to personal preference and you now all the information.

**Radiation Therapy (RT)**  
 This treatment destroys cancer cells inside and just outside the prostate gland. It is usually given in 20 to 30 sessions over 4 to 8 weeks. It can be given as external beam radiation therapy (EBRT) or as brachytherapy (internal radiation therapy). EBRT is given as external beam radiation therapy (EBRT) or as brachytherapy (internal radiation therapy). EBRT is given as external beam radiation therapy (EBRT) or as brachytherapy (internal radiation therapy).

**Hormone therapy**  
 The treatment involves stopping the body from making testosterone and slowing the growth of the cancer cells or slowing the cancer growth. It may be given alone or in combination with radiation therapy. Not everyone will receive hormone therapy.

**Surgery**  
 This aims to remove the prostate gland and any nearby lymph nodes. It is usually done by a urologist. There are two types of prostatectomy: radical prostatectomy and prostatectomy with lymph node dissection. Prostatectomy with lymph node dissection involves removing the prostate gland and any nearby lymph nodes. Prostatectomy with lymph node dissection involves removing the prostate gland and any nearby lymph nodes.

**RADIATION ONCOLOGY TARGETING CANCER**

**The Royal Australian and New Zealand College of Radiologists**  
 The Faculty of Radiation Oncology

**More resources for patients & GPs**

[www.targetingcancer.com.au](http://www.targetingcancer.com.au) **For GPs**

**About Radiation Oncology** **Radiation Therapy** **Treatment by Cancer Type** **Our Stories** **Talking To Your Doctor**

**RADIATION ONCOLOGY TARGETING CANCER**

**Radiation therapy**  
 Safety through targeted technology

**Take home messages**

- Modern radiation therapy (RT) is as effective as prostatectomy in curing prostate cancer
- GPs can help ensure men know treatment options
- Advances in RT have significantly reduced serious side effects & improved the patient experience
- Treatment for prostate cancer is rarely urgent
- Hormone therapy (ADT) is often used with RT in the curative setting & GPs have a key role in managing potential ADT morbidity

**RADIATION ONCOLOGY TARGETING CANCER**

**The Royal Australian and New Zealand College of Radiologists**  
 The Faculty of Radiation Oncology