Prostate cancer case based learning resource

Overview of the prostate cancer case based learning resource: Ted's story

This case study recounts the experience of Ted, a 60-year-old male diagnosed with prostate cancer.

The case study contains four sections:

1. Reduce risk.
2. Find the condition early.
3. Have the best treatment and support during active treatment.
4. Have the best treatment and support between and after active treatment.

It is recommended that you complete the sections and their related activities in order. This is because each section and each activity includes information that will help you complete the sections and activities that follow.

Learning activities

At times, you will have learning activities to complete. Click on the learning activities button and a list of questions will pop up. The questions will relate to the content you've just read or the video you've just watched.

Videos

There is a video component to this case study that is presented in six parts. You can watch the video clips when prompted throughout this case study or at any time by clicking on the video icon in the right-side menu. Learning activities throughout the case study will discuss the video and ask questions about it.

Resource links

Resource links are included throughout the resource. These links lead to interesting articles or websites, and are designed to encourage you to explore other available resources.

PDF of prostate cancer module
You can download a PDF version of the prostate cancer module.

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Aim of the prostate cancer case study

This case study aims to facilitate the development of competencies that reflect the role of the Specialist Cancer Nurse (SCN) in managing disease and treatment related care for a person at risk of or diagnosed with prostate cancer across a cancer journey.

Rationale

In 2017, it is estimated that 16,665 new cases of prostate cancer will be diagnosed in Australia. [88]Prostate cancer was the most commonly diagnosed cancer in Australia in 2013. In 2013, it was also the most commonly diagnosed cancer among males. [88] In 2009–2013, males diagnosed with prostate cancer had a 95% chance of surviving for 5 years compared to their counterparts in the general Australian population. Between 1984–1988 and 2009–2013, 5-year relative survival from prostate cancer improved from 58% to 95%. [88]
In 2014, prostate cancer was the 3rd most common cause of cancer deaths in Australia, with 3,102 deaths from prostate cancer in Australia. In 2017, it is estimated that this will increase to 3,452 deaths. [88]

There are many points along the cancer journey when the SCN can improve outcomes for people at risk of or affected by prostate cancer. These include:

Section 1: Reduce risk

Prostate cancer is the most common cancer amongst Australian men, yet its exact aetiology is not well understood.

While a number of risk factors have been proposed as being important in the development of prostate cancer, including age and family history, there is limited evidence regarding lifestyle or behavioural risk factors. Public education about risks for prostate cancer needs to reflect contemporary, evidence-based messages.

Section 2: Find the condition early

The benefits of population screening for prostate cancer are at this time unproven.[7]

With no current formalised, population-based screening programs for prostate cancer in Australia, the SCN can play an important role in ensuring men are informed about the risks and benefits of screening tests and about signs and symptoms that should lead to health practitioner consultation.

Section 3: Have the best treatment and support during active treatment

Men diagnosed with prostate cancer face difficult treatment decisions. This is, in part, due to the lack of clear survival advantage of one treatment path over another.

In order to make an informed treatment decision, individuals need information about the benefits and harms of all treatment options. The SCN plays an important role in providing information and support to men making treatment decisions.

Treatments for prostate cancer can include surgery, radiotherapy, antineoplastic agents and androgen deprivation therapy, each of which can result in significant morbidity. The SCN has an important role in prevention, detection and management of these adverse effects.

Section 4: Have the best treatment and support between and after active treatment

Relative survival after diagnosis with prostate cancer is high compared with other cancers.[6] However, men treated for prostate cancer require long-term follow up due to the unpredictable trajectory of the disease.

Following completion of treatment for prostate cancer men can experience significant adverse effects across all domains of their health.

The SCN can minimise the impact of these adverse effects with targeted supportive care strategies to ensure optimal quality of life outcomes.

Section 1: Reduce risk

Objectives

On completion of this section, you should be able to:

1. Interpret key epidemiological trends in age-specific incidence, mortality and survival from prostate cancer.
2. Explain current evidence regarding risk factors associated with the development of prostate cancer.

Prostate cancer in Australia

Prostate cancer is the most commonly diagnosed cancer in Australia.[6] Between 1982 and 2014, the age-standardised incidence of prostate cancer is estimated to increase from 79.5 to 128.7 per 100,000.[6] In 2013 there were 19, 233 new cases of prostate cancer. [88] In 2017, it is estimated that 16,665 new cases of prostate cancer will be diagnosed in Australia. [88]

The fluctuations in incidence of prostate cancer are thought to be due to:

- Population ageing[3]
- Changes in the use of Prostate Specific Antigen (PSA) testing (up by 42% in the years from 2001 to 2005/2006)[8]
- Changes in diagnostic procedures, including lowering the investigation threshold, which may have led to more men being sent for biopsy.[2]

The most significant risk factor in prostate cancer is increasing age. In 2017, it is estimated that the risk of being diagnosed with prostate cancer will be one in seven by aged 85.[88] In 2014, there were 3,102 deaths from prostate cancer in Australia. [88]

An analysis of autopsy reports has shown that approximately one in three men aged over 50 years had histologic evidence of prostate cancer at their death, although up to 80% of these tumours were limited in size and grade and so, were clinically insignificant.[9]

From 2005-2009, age-standardised incidence was 16% higher in inner regional areas, and more than 40% lower in very remote areas (compared with major cities).[6] In Australia from 2006 to 2009, people living in areas with the highest socioeconomic status had higher incidence rates of prostate cancer than people living in all other areas.[6] Conversely, during 2009-2012, people in higher socioeconomic areas had lower age-standardised mortality rate for prostate cancer[6], suggesting perhaps that their cancers were detected at an earlier stage.

Prostate cancer showed the greatest increase in five-year relative survival, from 58.2% in 1982-1987 to 95% in 2009-2013.[88] This increase in survival may be due, in part, to the introduction of PSA screening in 1989. Before this, the majority of cancers were diagnosed at a more advanced stage or were otherwise undiagnosed.[10]

Learning activities		
Completed		
☐	1	Access Cancer in Australia: an overview, 2017 (PDF, 5.1MB)[88] and compile information related to: • trends in incidence and mortality from prostate cancer • incidence related to geographical location • Australia's incidence of prostate cancer in comparison to other countries.
☐	2	Access Cancer survival and prevalence in Australia: period estimates from 1982-2010[3] and compile information to compare prostate cancer and other common cancers on the following criteria: • drivers of increasing incidence of prostate cancer • relative five-year survival rate for prostate cancer

	• prevalence of prostate cancer • trends in survival from prostate cancer.

Risk factors

The exact aetiology of prostate cancer is not clearly or consistently understood; the natural history of the disease can be remarkably heterogenous.[9] However, there are several proposed risk factors:

Increased age:
Prostate cancer is rare in men under aged 45. New cases occurred in only 113 men aged under 45 out of a total of 19,993 total cases in 2011.[11]. The majority of new cases are in men aged over 60, with the average age at diagnosis being 68.2 years.[6] More than 60% of all prostate cancers are diagnosed in men aged 65 or over in 2011.[11] Approximately 75% of deaths from prostate cancer in 2012 occurred in men over 75 years of age.[11] The mean age of death for those with prostate cancer in 2012 was 80.2 years.[6]

Family history:
Between five and 10% of prostate cancers may be caused by inherited genetic defects.[12] Men who have a first-degree relative with prostate cancer are two to three times more likely to develop prostate cancer as men with no affected relatives. The risk increases if a man has more than one relative with prostate cancer, or a relative who was diagnosed before the age of 50.[13, 14]

Having a female family member (especially a mother) with breast cancer has been also associated with a significantly increased risk of prostate cancer. Further study is indicated to identify the potential mechanisms behind this association.[15] Men carrying mutations of the breast cancer susceptibility genes BRCA1 or BRCA2 have an increased risk of several types of cancer, including prostate cancer. Male carriers of BRCA2 mutations have a 3.5-fold increased risk of prostate cancer and an earlier age of onset and have been reported to have poorer survival rates than those without BRCA2 mutations.[14]

Lifestyle:
Evidence linking prostate cancer and modifiable lifestyle factors is limited and firm conclusions are lacking. Obesity and a high animal-fat and milk and dairy product intake have been linked with increasing risk of prostate cancer, and/or increased aggressiveness of prostate cancer.[14, 16, 17] Heavy alcohol consumption may be associated with a higher risk of prostate cancer.[14] Physical activity may be associated with a small reduction in prostate cancer risk.[14]

Learning activities		
Completed		
☐	1	Discuss possible explanations for the differences in prostate cancer incidence across countries.
☐	2	The 50-year-old brother of a 55-year-old man diagnosed with prostate cancer asks you if he has an increased risk of developing prostate cancer and whether taking vitamin supplements can reduce any risk. Outline how you would respond, including where you would access relevant evidence-based information resources and services.

Section 2: Find the condition early

Objectives

On completion of this section, you should be able to:

1. Discuss evidence regarding the risks and benefits of population-based screening for prostate cancer.
2. Identify recommendations of key cancer organisations in Australia regarding screening and early detection of asymptomatic men and men at above average risk of prostate cancer.
3. Explain strategies the SCN may use to promote informed decisions about screening for early detection of prostate cancer.
4. Describe common concerns and reactions of men undergoing investigations to detect prostate cancer.
5. Implement strategies to provide information, education and support to men undergoing investigations to detect prostate cancer.

Early detection

Screening for prostate cancer is a complex, controversial and widely debated topic. For most men, prostate cancer is slow growing and does not result in clinical signs or symptoms during their lifetime.[18] There is a disparity between the high prevalence of prostate cancer, and the relatively low lifetime risk of death from prostate cancer.[9] Histological evidence of prostate cancer may be found in a high percentage of men aged over 50, but only one in four of these will become clinically evident, and only one in 14 will cause death. [9]A particular concern with initiating routine prostate cancer screening is that many non-life threatening cancers will be found.

Current screening tests for detecting prostate cancer do not have sufficient sensitivity and specificity to be used as population-based screening tools as the harms outweigh the benefits.[7, 14] Tests for detecting prostate cancer include:

- **Prostate specific antigen (PSA)** blood test. PSA is a protein produced by the cells of the prostate gland that may rise due to benign changes to the prostate (such as benign prostatic enlargement, prostatitis or urinary tract infection) or due to cancer.[14]

- **Digital rectal examination (DRE)**. This is a manual examination of the prostate gland through the rectum to check any abnormality in size, shape or texture in the prostate.[14] Some abnormalities may be felt but it is not possible to feel the entire prostate. The reliability of DRE on its own is low, but combining it with PSA testing increases its predictive value.[14]

Evidence that population-based screening will lead to reduced morbidity or mortality due to effective early detection and treatment is inconclusive.[5] There is potential for clinically insignificant cancers to be over-diagnosed, resulting in unnecessary treatment and potential morbidities. Consequently, population-based prostate cancer screening programs for asymptomatic men are currently not recommended in Australia.[14]

Current evidence supports the stance that the harms of population screening with the PSA test outweigh the benefits.[7] The NHMRC recommends that individual decisions about testing are made after an informed decision-making process shared between the doctor and the man. This process should take account of an individual's risk, and involve discussion of the benefits, risks and uncertainties of testing, and discussion about treatment options and effects.[5]

The current context of screening for prostate cancer in individuals in Australia has been outlined in the National Cancer Prevention Policy.[4]

Key resources

Clinical practice guidelines PSA Testing and Early Management of Test-Detected Prostate Cancer.[4] Cancer Council Australia, 2015

Prostate-Specific Antigen (PSA) testing in asymptomatic men.[19] NHMRC, 2014

PSA Testing for Prostate Cancer in Asymptomatic Men: Information for Health Practitioners.[5] NHMRC, 2014

Prostate Cancer Screening in Australia: Position Statement.[7] Australian Health Ministers' Advisory Council & Cancer Council Australia, 2014

Factsheet: PSA Testing.[20] Andrology Australia, 2013

Screening for men at above average risk

Men at above average risk of prostate cancer should be given adequate objective information about the potential benefits and harms of screening, diagnostic procedures, and treatment for prostate cancer, to allow them to make a fully informed decision on whether to be tested or not.[21]

Screening discussions and decisions should take into account age and other individual risk factors such as a family history of the disease.[21]

While there are no published recommendations at a national level for follow up of men at increased risk, the Victorian Government Patient Management Framework recommends annual DRE/PSA testing for prostate cancer from 10 years before the age at which the person's relative was diagnosed.[22]

Learning activities	
Completed	
☐	1 Access the following position statements relating to screening for prostate cancer: • National Cancer Prevention Policy: Prostate Cancer.[4] Cancer Council Australia, 2012 • PSA Testing for Prostate Cancer in Asymptomatic Men: Information for Health Practitioners. [5] NHMRC, 2014 Outline key arguments in the debate regarding the pros and cons of introducing a population-based screening program for prostate cancer.
☐	2 Discuss strategies the SCN can use to support men to make informed decisions regarding PSA and DRE examinations. You may find a guide like The early detection of prostate cancer in general practice: Referral guide for prostate testing[23] helpful.

Responding to a new symptom

Prostate cancer often has no specific clinical symptoms that would cause a man to consult a general practitioner (GP). Lower urinary tract symptoms are not sensitive or specific enough to aid in the diagnosis of prostate cancer. They may also be caused by benign prostatic enlargement.

Urinary symptoms requiring further investigation include:[22, 24-26]

- urgency
- hesitancy
- frequency especially at night
- dysuria
- weak stream
- urine leakage
- feeling that the bladder is not emptying.

Later-stage prostate cancer may cause the above symptoms, as well as:[22]

- pain or a burning feeling when urinating
- pain during ejaculation
- blood in urine or semen
- continuing pain.

Initial investigations undertaken by the GP, following discussion with the man, include DRE and serum PSA testing. The Victorian Government Patient Management Framework[22] recommends that:

- an abnormal result should be discussed face to face, and information provided
- the man should be referred to an urologist who is affiliated with or has access to a multidisciplinary team (MDT)
- referral should include clinical findings and all abnormal results (DRE and/or PSA) with past history, medications, allergies, family history and PSA result (history of serial PSA is extremely helpful) for further assessment with possibility of biopsy.

Learning activities		
Completed		
☐	1	Discuss similarities and differences in signs, symptoms and results of clinical investigations for benign prostatic enlargement and prostate cancer.
☐	2	Describe strategies you could use as an SCN to promote access to evidence-based information about signs and symptoms of prostate cancer.

Case Study: Meet Ted

Case study: meet Ted
Ted is a 60-year-old-male who goes to his GP with symptoms for investigation. Watch Ted's first video and then work through the learning activities. **Ted's story 1: Meet Ted**

Learning activities		
Completed		
☐	1	Ted mentions that his wife June made the appointment to investigate his symptoms. Discuss factors which might have influenced Ted's reluctance to visit his GP to review his symptoms.
☐	2	Identify symptoms described by Ted that might indicate the need for further investigation.
☐	3	Outline communication strategies that health professionals could use at this time to reduce Ted's anxiety about his symptoms and need for further investigation.
☐	4	Discuss the clinical implications of a finding of asymmetrical enlargement of the prostate.

Diagnosis

Case study: Ted's diagnosis
In this video, Ted and his wife June share their reactions to Ted's diagnosis. After watching the video, work through the learning activities. **Ted's story 2: Diagnosis**

Learning activity		
Completed ☐	1	Ted states that he was 'a bit rattled' by the call back to his GP. • Discuss potential sources of Ted's anxiety at this time. • Outline strategies that could be used to reduce Ted and June's anxiety at this point in their cancer journey.

Follow up diagnostic investigations

When an individual's history, DRE and PSA testing indicate the possibility of prostate cancer, imaging and biopsy of the prostate gland are used to confirm the diagnosis.[14]

Use of the transrectal ultrasound (TRUS) determines the positioning of prostate biopsies that can be examined for diagnosis and used for treatment planning.[27] The transrectal biopsy involves taking several tissue samples of the prostate with a spring-loaded needle. The transperineal biopsy approach has been reported as a feasible alternative to detect prostate cancer with some research suggesting reduced infection rates and increased detection rates.[28]

Approximately 50% of suspicious lesions found through DRE prove cancerous on biopsy.[29] Histologic information obtained from prostate biopsies are used to determine clinical stage and contribute to prediction of pathologic stage and tumour volume.[27]

Men undergoing a prostate biopsy should be counselled on what to expect before, during, and after the procedure.[27] As with any invasive investigation, this test carries a risk of discomfort, infection, bleeding, and anxiety.[14, 27]

Following confirmation of a prostate cancer diagnosis, further imaging with bone scans, computerised tomography (CT), magnetic resonance imaging (MRI), and/ or positive emission tomography (PET) may be used to distinguish organ-confined disease from that which has spread beyond the prostate.[27]

Key resources

Prostate Cancer – Diagnosis factsheet.[30] Andrology Australia, 2011

Guidelines on Prostate Cancer.[31] European Association of Urology, 2014

Learning activity	
Completed ☐	1 Oultine the evidence based information you would provide to a man undergoing a transrectal biopsy compared with a transperineal prostate biopsy. Include information and resources on: • what to expect • pre-procedural preparation • the outline of the procedure • post-procedural care to detect and manage adverse effects of a TRUS biopsy.

Section 3: Have the best treatment and support during active treatment

Objectives

On completion of this section, you should be able to:

1. Describe the underlying biological mechanisms associated with the development of prostate cancer.

2. Discuss the implications of staging and grading of prostate cancer for a man's prostate cancer journey.

3. Discuss current treatment approaches for the management of different stages and grades of prostate cancer.

4. Discuss the possible early and late effects associated with surgery, radiotherapy, and androgen deprivation therapy (ADT) in the treatment of prostate cancer.

5. Analyse factors that might influence the treatment decisions of men with prostate cancer.

6. Use evidence-based approaches to facilitate the ability of people affected by prostate cancer to participate in decisions about their treatment and care according to their preferences.

7. Implement evidence-based interventions to respond to the health needs of people undergoing the various treatments for prostate cancer.

Staging and grading of prostate cancer

Approximately 95% of all cancers that develop in the prostate are adenocarcinomas.[32] The majority are acinar adenocarcinomas, with variants of usual acinar adenocarcinoma including:[33]

- atrophic
- pseudohyperplastic
- foamy
- colloid (mucinous)
- signet ring
- oncocytic
- lymphoepithelioma-like.

Non-acinar carcinoma variants account for about 5% - 10% of primary prostate cancers and include:[33]

- sarcomatoid carcinoma
- ductal adenocarcinoma
- urothelial carcinoma
- squamous and adeno squamous carcinoma
- basal cell carcinoma
- clear cell adenocarcinoma
- microcystic adenocarcinoma
- PIN-like adenocarcinoma
- large-cell neuroendocrine carcinoma
- pleomorphic giant cell adenocarcinoma
- prostatic intraepithelial neoplasia (PIN).

Assessment of disease volume and grade of the cancer is important for determining an appropriate treatment plan. Following examination of tissue samples obtained via prostate biopsy, a histological grade is assigned to assist in predicting pathologic grade and prognosis.

The most common histological grading system for prostate cancer is the Gleason grading system, which was developed in 1966, and modified following a 2005 consensus conference of international experts in urological pathology.[34] The modifications are in response to advances in prostate cancer diagnosis including prostate specific antigen testing, prostate biopsy techniques with greater sampling, immunohistochemistry for basal cells that changed the classification of prostate cancer and new prostate cancer variants.[34] The Gleason score is incorporated into a number of the tools (Partin tables or Kattan nomograms) clinicians use to predict outcomes, including the pathological stage or prognosis.[35]

Biopsy core specimens are evaluated under a microscope and assigned a score based on architectural patterns. Sections of tumour are graded from 1 (low grade) to 5 (high grade) and the two predominant patterns from each tumour are added to give a score ranging from 2 to 10. Historically, tumours with a score of less than 7 tended to have a good prognosis, while those with a score of 7 and above tend to have a poorer prognosis.[36]

In the modified Gleason grading system:

- a Gleason score of needle biopsy specimens less than 4 are rarely made[35]
- Gleason score 6, margin negative cancer is highly curable[35]
- the prognosis of a tumour with Gleason Score of 7 varies considerable depending of the predominance of Gleason pattern 4.[37]

Prostate cancer is most commonly staged using the tumour, nodes, metastases (TNM) classification system.[36] The prostate cancer is then classified as localised, locally advanced, or metastatic disease.[36]

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Prostate cancer is most commonly staged using the tumour, nodes, metastases (TNM) classification system.[36] The prostate cancer is then classified as localised, locally advanced, or metastatic disease.[36]

Key resources

Prostate Cancer Staging. 7th Edition.[38] American Joint Committee on Cancer, 2009.

Prognostic indicators

A number of tumour characteristics are used to predict cancer outcomes:[39, 40]

- PSA level
- PSA changes such as velocity and doubling time
- Gleason score
- tumour stage.

Based on these characteristics, risk strata have been defined and may be used to guide treatment recommendations. Risk groups include: [31, 40]

- very low-risk
- low-risk
- intermediate-risk
- high-risk
- locally advanced.

Learning activities		
Completed		
☐	1	Access Localised prostate cancer: a guide for men and their families[26] and discuss how you could use this resource to provide information to a man newly diagnosed about staging and grading of prostate cancer.
☐	2	Access the Guidelines on Prostate Cancer (2014),[31] and: • Distinguish the features of low, intermediate and high risk prostate cancer • Discuss the implications of each of these above classifications for a man's cancer journey.

Case study

Histopathology report

Patients name:	Ted Johnson
Sex:	M ☑ F ☐
Age:	60
PSA:	14 TRUSP Biopsy Apex, mid, base, TZ. Right and Left biopsies
Macroscopic description:	

- Specimen labelled prostate biopsy right base. 20mm pale core, processed whole.
- Specimen labelled prostate biopsy right mid. 16mm pale core, processed whole.
- Specimen labelled prostate biopsy right apex. 10mm pale core, processed whole.
- Specimen labelled prostate biopsy right transitional. 15mm pale core, processed whole.
- Specimen labelled prostate biopsy left base. 16mm pale core, processed whole.
- Specimen labelled prostate biopsy left mid. 18mm pale core, processed whole.
- Specimen labelled prostate biopsy left apex. 12mm pale core, processed whole.
- Specimen labelled prostate biopsy left transitional. 18mm pale core, processed whole.

Microscopic description:

1-2. Sections show cores of benign prostatic tissue. There is no high-grade PIN* or invasive malignancy.

3. Sections show acinar adenocarcinoma, Gleason score 3+4 (10%) = 7, involving 3mm of the core biopsy. No perineural permeation or extraprostatic extension is identified.

4-8. Sections show cores of benign prostatic tissue. There is no high-grade PIN or invasive malignancy.

Diagnosis:

1-8. TRUS Biopsies of prostate, sites as specified above - Acinar adenocarcinoma, Gleason score 3+4=7, involving one of eight biopsies (right apex); no perineural permeation or extraprostatic extension identified.

* PIN= prostatic intraepithelial neoplasia[41]

Learning activities		
Completed		
☐	1	Review the histopathology report for Ted's TRUS biopsy. Explain the implications of the findings in terms of risk strata.
☐	2	Describe how you would assist Ted and June to understand PSA and Gleason scores.

Treatment decision making

Once diagnosis and staging of prostate cancer is confirmed, an assessment of treatment determinants should occur, including:[39]

- life expectancy
- overall health status
- tumour characteristics
- individual preferences.

Many men are diagnosed with prostate cancer, but it contributes to death in only a small proportion of those diagnosed. Newly diagnosed men are faced with a difficult therapeutic dilemma due to a number of factors, including:[39, 42, 43]

- increasing numbers of men who are asymptomatic at diagnosis
- variability of the course of the disease
- unpredictability of prognosis
- similarity in survival rates associated with different treatments
- new technologies and emerging therapies
- an increasing amount of information available.

The treatments following diagnosis of prostate cancer consist of watchful waiting, active surveillance (monitoring with further biopsies), or active treatment which may include surgical removal of the prostate, external beam radiotherapy, interstitial prostate brachytherapy, antineoplastic agents or hormonal treatments.[14, 39, 44, 45] Each approach is associated with significant potential morbidity.

Radical therapy maximises the chance of cure but may involve significant sexual or urinary morbidity, while active surveillance preserves genitourinary function in exchange for psychological effects.[46] With careful evaluation of suitability for active surveillance, about 70% of men will avoid treatment for five or more years, although the risk of prostate cancer death may become unacceptable if continued beyond 10-15 years.[47, 48] The term 'watchful waiting' is not synonymous with active surveillance, and relates to the care of men with comorbidities and an incidental diagnosis unlikely to affect their survival.[47]

Therapeutic decisions must be weighed up in light of reported risks and benefits of therapies and disease progression and is often based on an individual's circumstances. At this time, men and their partners have many physical, psychological, social, informational and spiritual needs.

In determining treatment plans, NHMRC Clinical Practice Guidelines[44] state that:

- A person with clinically localised prostate cancer should be informed about the commonly accepted initial interventions including, at a minimum, radical prostatectomy, radiotherapy and no initial treatment. A discussion of the estimates for benefits and harms of each intervention should be offered to the individual.
- Psychological factors need to be given significant recognition, particularly the need for education with regard to therapeutic choices and which would be optimal for the individual.

Predictive nomograms may be helpful in the complex decision making process by providing an estimation of the probability of recurrence after initial treatment. Concerns have been raised regarding the applicability and accessibility of existing tools and how responsive they are to novel treatment modalities.[49]

Key resources

Prostate Cancer Treatment factsheet. [50] Andrology Australia, 2014

Case study

Ted's story 3: Treatment decision

Learning activities		
Completed		
☐	1	Outline how you would determine Ted and June's information needs at this time.
☐	2	Consider how Ted's response to his diagnosis might be similar or different for Ted, aged 60, if he was aged 80.
☐	3	Access the Memorial Sloan-Kettering Cancer Centre's Prostate cancer prediction tool. Discuss how, as an SCN, you could advise Ted on the use of this tool. Access evidence based literature to support your response. • Adamis, S. and I.M. Varkarakis, Defining prostate cancer risk after radical prostatectomy. European Journal of Surgical Oncology (EJSO), 2014. 40(5): p. 496-504.
☐	4	Access the Guidelines on Prostate Cancer (2014)[31] and: • Discuss the meaning of the term 'active surveillance', including indications, and recommended follow up and actions to be taken following evidence of progression. • Outline how you would respond to a 75-year-old man with clinically localised disease who asks you how he can find out more about the advantages and disadvantages of active surveillance. • Explain how an individual's life expectancy and overall health status can impact on treatment determination.

Multidisciplinary care of prostate cancer

Treatment plans should be determined by a multidisciplinary team (MDT). Discussion among MDT members is essential in the absence of clear evidence of the superiority of one treatment over the other.[22] MDTs are perceived to improve communication, coordination and decision-making between health care professionals when weighing up treatment options with individuals.[51]

The MDT generally comprises:[22]

- GP
- medical oncologist
- nurse
- pathologist
- radiation oncologist
- radiologist
- social worker
- urologist.

The SCN specialising in prostate cancer is involved in the care of men in all treatment streams and is an integral part of the MDT. The Prostate Cancer Specialist Nurse is an evolving specialist nurse role. The Prostate Cancer Foundation of Australia (PCFA) supports a number of positions nationally and is evaluating the impact of the role in cancer control efforts related to prostate cancer. The PCFA Prostate Cancer Specialist Nurse:[52]

- acts as an expert point of contact for the man and their family
- provides both psychosocial and clinical support using a structured approach
- works alongside existing healthcare providers to contribute to the delivery of effective care
- promotes the optimal use of resources available in their immediate community
- streamlines service delivery when referral to another centre is required
- adopts a strategic function to influence care at a systems level both locally and at State and national level.

A practice Framework was developed by PCFA which describes the scope of the Prostate Cancer Specialist Nursing role at both a clinical and strategic level to both inform and influence practice at an advanced level. The Competency Standards for the Prostate Cancer Specialist Nurse are based on the EdCaN competency standards for the SCN and have been adapted for application in the prostate cancer nursing context.[52] This Framework may be useful to guide all SCN specialising in prostate cancer.

Practice Framework and Competency Standards for the Prostate Cancer Specialist Nurse.[52] Prostate Cancer Foundation of Australia, 2013

Learning activities		
Completed		
☐	1	Access the Practice Framework and Competency Standards for the Prostate Cancer Specialist Nurse[52], and read part one. Familiarise yourself with the role of the Prostate Cancer Specialist Nurse.
☐	2	Explain how an SCN, as part of an MDT, can facilitate assessment of an individual's preference for information and involvement in decisions.

Case study
Ted's story 4: Multidisciplinary care

Learning activities		
Completed		
☐	3	Access the treatment recommendations based on risk stratification outlined in Guidelines on Prostate Cancer (2014)[31] and identify how treatment recommendations based on risk stratification assist treatment decision making in Ted's situation.
☐	4	Discuss how you could, as part of an MDT, assist Ted and June to understand the risks and benefits of various treatment options, and make a decision consistent with their values and preferences.

Surgical approaches for prostate cancer

High-grade tumours of low volume may be effectively managed by surgery in a moderate proportion of men. A radical prostatectomy may be indicated for men with low and intermediate risk localised prostate cancer and a life-expectancy greater than ten years.[31]

It is generally offered to younger, fitter men because the risk of incontinence with this procedure increases with age.[47] With the possible exception of a transurethral resection of the prostate in men who are unable to void after androgen deprivation therapy, surgery is not recommended in the management of men with advanced prostate cancer.[53]

A large observational study of mortality outcomes concluded:[54]

- *The majority of men with clinically localised prostate cancer might benefit more from surgery than radiotherapy, whereas radiotherapy might be preferable in men with metastatic disease.*
- *Younger men and those with fewer comorbidities who have intermediate or high risk localised prostate cancer might have a greater benefit from surgery.*

Radical prostatectomy involves removal of the entire prostate gland between the urethra and bladder, and resection of both seminal vesicles, along with sufficient surrounding tissue to obtain a negative margin. The procedure is often accompanied by bilateral pelvic lymph node dissection.[31] The operation may be performed using one of four techniques:[39]

- a retropubic incision
- a perineal incision
- a laparoscopic technique
- a robotic-assisted technique.

The desired outcomes of radical prostatectomy are to control cancer, and, depending on tumour characteristics and the man's pre-existing sexual function, to preserve urinary and sexual function. Pathological assessment of the prostate gland and usually the obturator lymph nodes occur post-surgery.[39]

The retropubic approach is most commonly used because it provides access to the regional lymph nodes in the pelvis. This allows sampling of the nodes and removal of the prostate using a single incision where required. The decision to perform a pelvic lymph node dissection and the extent of such dissection depends on the probability of nodal metastases.[40]

Minimally invasive techniques, such as laparoscopic radical prostatectomy (LRP) and robotic-assisted surgery, have been developed. The LRP technique has shown improved outcomes for pain, length of hospitalisation and blood loss during surgery, but is not as widely available due to the specialised skills required to undertake the procedure.[25, 40]

Similarly, while the robotic-assisted technique requires advanced training and the cost of the equipment limits its use, it has reported benefits. It is becoming widely used in the USA and Europe.[31] It is associated with less blood loss and transfusion rates compared with radical retropubic prostatectomy. Evidence is indeterminate regarding benefits related to urinary continence and erectile function.[31]

Post-operative considerations

Immediate post-operative considerations include:[55]

- pain
- wound drainage
- paralytic ileus
- infection
- anastomotic leak
- urinary output
- catheter blockages
- constipation
- haematuria (which may persist for several weeks).

People affected by prostate cancer require education and support to help reduce anxiety and manage any problems that may arise after surgery.[55, 56] The estimated risks of complications associated with radical prostatectomy include:[57]

- Erectile dysfunction 30-100%
- Gastrointestinal effects Less than 15%
- Urethral stricture Up to 10%
- Urinary incontinence – any up to 70%
- Urinary incontinence – severe 0-5%.%

Urinary incontinence and impotence are of significant concern for men following prostatectomy. Incontinence will usually improve with time but there are exercises men can do to help improve the recovery process.[58] Men should be encouraged to perform pelvic floor muscle exercises early in the recovery to help improve level of continence.[55, 56]

PSA levels continue to be monitored in the post-operative period, and may be a source of concern for some men.[40] A rise in PSA post-surgery may indicate the need for further treatment.[40] There is some evidence that adjuvant radiotherapy may reduce mortality in men whose PSA levels are elevated or continue to rise even after prostatectomy.[59] Adjuvant radiotherapy may also be offered to men whose surgery revealed seminal vesicle invasion, extracapsular extension, and/or which did not achieve clear margins.[40]

A recent study found that nearly half of men felt mentally and physically worse after undergoing prostatectomy.[60] A combined psychological and physical counseling program before and after surgery has been proposed to improve postoperative health related quality of life, potency and continence.[60]

Learning activities		
Completed		
☐	1	Access the Guidelines on Prostate Cancer (2017)[31] and outline the indications, advantages and disadvantages of the following surgical approaches in regard to patient outcomes and side effects: • open radical prostatectomy • laparoscopic radical prostatectomy • robotic-assisted laparoscopic radical prostatectomy.
☐	2	Identify the immediate post-operative complications associated with radical prostatectomy.

☐	3	Discuss how you would teach a man to perform pelvic floor muscle exercises. To complete this activity access the following resources: • Pelvic floor muscle training for men.[61] Continence Foundation of Australia, ND • Pelvic floor first.[62] Continence Foundation of Australia, 2014

Case study
Ted's story 5: Post-operative

Learning activities		
Completed		
☐	4	Describe the role of the following health care professionals in pre- and post-operative care: • urology / surgical nurse (non-cancer specialist) • continence nurse • physiotherapist.
☐	5	Outline the components of a pre-operative assessment prior to radical prostatectomy.
☐	6	Outline the immediate post-operative observations following radical prostatectomy, including timing of these observations, and the rationale for conducting these observations.
☐	7	Summarise current evidence-based interventions to prevent and manage the following post-prostatectomy complications: • constipation • urinary catheter dysfunction and discomfort • wound infection • pain • haemorrhage.
☐	8	Outline key components of a discharge plan for a man following prostatectomy.

Radiotherapy approaches for prostate cancer

External beam radiotherapy

External beam radiotherapy has a role in the management of prostate cancer for:[63]

- localised/locally advanced prostate cancer where the individual has at least a 10-year life expectancy and has been assessed as suitable by the multidisciplinary team
- clinically localised prostate cancer with evidence of similar progression-free survival in low-risk individuals treated with radical prostatectomy or radiotherapy
- post-operative individuals who are likely to relapse or who have had a biochemical relapse
- treatment with neoadjuvant ADT
- individuals with metastatic disease requiring palliation.

Radiotherapy techniques have evolved allowing higher doses and improved treatment accuracy which have been associated with improved disease outcomes and reduced treatment effects.[63] Current approaches available for prostate cancer include:[47]

- three dimensional (3D) conformal radiation therapy
- intensity modulated radiotherapy
- image guided radiotherapy.

An integral aspect of radiotherapy planning involves identifying individuals with high and intermediate risk cancers who will benefit from pelvic lymph node irradiation and neo adjuvant and adjuvant androgen deprivation therapy (ADT).[40]

External beam radiotherapy in the management of prostate cancer:[40, 64]

- Results in temporary adverse effects in up to 50% of men, including diarrhoea, tenesmus, proctitis, dysuria, frequency, and lethargy.
- Is associated with long-term effects including erectile dysfunction and chronic proctitis.

Contraindications for radiotherapy for prostate cancer include:[63]

- prior pelvic irradiation
- active inflammatory disease of the rectum
- permanent indwelling Foley catheter.

Relative contraindications include: [63]

- very low capacity bladder
- chronic moderate or severe diarrhoea
- bladder outlet obstruction requiring a suprapubic catheter
- inactive ulcerative colitis.

Brachytherapy

Brachytherapy involves insertion of a radioactive source directly into the prostate gland providing a dose of radiation locally, thus sparing surrounding normal tissue.[44, 65] The radioactive sources may be permanently placed seeds containing a low dose isotope such as iodine-125, cesium-137 or palladium-103, or temporary cables or wires (inserted through percutaneous catheters) to deliver high-dose radiation (iridium 192).[44, 65]

Permanent Low Dose Rate (LDR) Seed Brachytherapy

Permanent seed brachytherapy slowly emits localised radiation to the prostate gland and, over time, gradually loses radioactivity. Adequate dose levels of treatment to the prostate are achieved with reduced irradiation of the bladder and rectum.[63]

Permanent seed brachytherapy can be performed as a sole modality. When used in combination with external beam radiotherapy, with or without hormonal therapies, complication rates increase with its use. [40, 66] Permanent radioactive seed implantation as a sole modality is recommended for individuals with:[40]

- stage cT1b-T2a N0, M0
- a Gleason score less than or equal to 6 assessed on an adequate number of random biopsies
- an initial PSA level less than or equal to 10ng/mL
- less than or equal to 5-% of biopsy cores involved with cancer
- a prostate volume of less than 50cm^3
- an International Prostatic Symptom Score (IPSS) less than or equal to 12.

The recurrence-free survival after 5 and 10 years has been reported to range from 71% to 93% and from 65% to 85%, respectively.[31]

Pre-operative bowel preparation and imaging facilitates the implant procedure and potentially decreases post-operative morbidity.[66] Imaging allows determination of the number and placement of seeds to be used.[66]

Approximately 100-150 radioactive seeds or more are inserted between the scrotum and the anus by needles with TRUS guidance.[67] The advantage of permanent radioactive seed implantation is that, as an outpatient or overnight procedure, treatment is completed in one day.[40]

Potential complications may include acute urinary retention, as well as irritation to the urethra which may persist for a year after implantation and may be associated with frequency, urgency, hesitancy, dysuria, decreased flow of stream, nocturia, and incontinence.[40, 44, 64-66]

Bowel symptoms are typically minimal and may include proctitis, constipation or diarrhoea and rectal bleeding.[66] The rate of erectile dysfunction after seed implantation has been reported between 30%-53%.[68, 69] The development of erectile dysfunction may be progressive over several years.[40] Common effects on sexual function include bloody ejaculate for several weeks post-implant, discoloured, diminished or dry ejaculate, and temporary oligospermia.[66]

Men need to be reassured that none of their body fluids are radioactive and only the seeds emit radiation. There is a small risk of radiation exposure to others and the precautions recommended depend on the isotope used. Iodine-125 requires greater restrictions than Palladium-103.[66] Principles of radiation safety should therefore be implemented, including:[66]

- avoiding prolonged, close-proximity contact with children and pregnant women for two months post-seed insertion
- using condoms during sexual intercourse for one month post-seed insertion.

Temporary High Dose Rate (HDR) Brachytherapy

Temporary high dose rate (HDR) prostate brachytherapy involves delivery of localised radiotherapy via radioactive sources placed through the previously inserted catheters via a computer controlled remote after-loader machine.[24, 66] The catheters are implanted under a general or spinal anaesthetic via a transperineal approach under guidance of TRUS or MRI.[39, 67]

Several treatments are delivered over an interval of 24-36 hours; typically two daily treatments administered six hours apart.[66] HDR prostate brachytherapy may be given in combination external beam

radiotherapy.[64, 66] HDR prostate brachytherapy is recommended for individuals with intermediate risk disease demonstrating:[24, 66]

- clinical stages of T1b to T3b
- no evidence of distant metastases
- a Gleason grade 8-10
- a PSA of less than 30
- only one high risk feature present in individuals with high risk disease
- no history of trans-urethral resection of the prostate (TURP)
- suitability for general or spinal anaesthetic.

Minor bleeding, bruising and tenderness of the perineal area may occur.[66] Potential complications include irritation to the urethra, which results in dysuria and lower urinary tract symptoms (irritative), nocturia, urinary retention and haematuria.[64, 66] The risk of developing impotency has been reported between 10-60%.[64, 66]

Learning activities		
Completed		
☐	1	Access current clinical guidelines and summarise the indications for external beam radiotherapy and brachytherapy in the management of prostate cancer.
☐	2	Identify potential short and longer term adverse effects of external beam radiotherapy and brachytherapy for prostate cancer.
☐	3	Describe interventions for assessing and managing the following short term effects related to external beam radiotherapy: • diarrhea • skin irritation • burning on urination.
☐	4	Outline how you would apply principles of radiation safety in the care and education of a man receiving permanent seed prostate brachytherapy.

Androgen deprivation therapy (ADT) for prostate cancer

Prostate cells are physiologically dependent on androgens to stimulate growth, function and proliferation. Deprived of androgenic stimulation, prostate cells undergo apoptosis. Any treatment that results ultimately in suppression of androgen activity is referred to as androgen deprivation therapy (ADT).[31(p.96)]

Androgen suppressing strategies are central to the management of advanced prostate cancer. They are also being used as neoadjuvant / concomitant /adjuvant therapy in combination with radiation in localised or locally advanced prostate cancers.[31, 63] The role of ADT in individuals with rising PSA level and no symptomatic or clinical evidence of cancer presents therapeutic dilemma, because the benefit of ADT as monotherapy in this circumstance is not clear. There are no current Australian guidelines to advise recommended treatment approaches.

ADT can be achieved by: [31(p.96)]

- suppressing the secretion of testicular androgens
- inhibiting the action of circulating androgens at the level of their receptor using competing compounds known as anti-androgens
- combination of suppression and inhibition to achieve complete (or maximal or total) androgen blockade (CAB).

Testosterone lowering therapy (castration)[31]

- Surgical castration using bilateral orchiectomy:
    - performed under local anaesthesia
    - less than 12 hours to achieve decline in testosterone level and induce a hypogonadal status
    - associated with negative psychological effects
    - irreversible
    - does not allow for intermittent treatment.

Oestrogens[31]

- Mechanisms of action in management of prostate cancer include:
    - down regulation of LHRH secretion
    - androgen inactivation
    - direct suppression of Leydig cell function.
- Good response rates associated with oestrogen use in castrate-refractory prostate cancer.
- Precluded as standard first-line treatment due to cardiotoxicity

Luteinizing hormone-releasing hormone (LHRH) agonists[31]

- Synthetic analogues of LHRH
- Chronic exposure to LHRH agnoists results in the down-regulation of LHRH-receptors, suppressing luteinizing hormone (LH) and follicle-stimulating hormone (FSH) secretion and therefore testosterone production. The castration level is usually obtained within 2-4 weeks. [31(p.97)]
- A ‘testosterone surge’ or ‘flare up’ phenomenon may occur after the first dose and might lead to detrimental effects such as increased bone pain, acute bladder outlet obstruction, obstructive renal failure, spinal cord compression, and fatal cardiovascular events due to hypercoagulation status.

Luteinizing hormone-releasing hormone (LHRH) antagonists[31]

- LHRH antagonists bind immediately and competitively to LHRH receptors in the pituitary gland leading to rapid decrease in LH, FSH and testosterone levels without any flare.
- Use limited by lack of long-acting formulation.

Anti-androgens[31]

- Compete with androgens at the receptor level
- Oral compounds classified as:
    - steroidal, e.g. cypoterone acetate (CPA), megestrol acetate and medroxyprogesterone acetate
    - non-steroidal or pure, e.g. nilutimide, flutamide and bicalutamide.

Individualised assessment, based on other prognostic indicators, personal concerns of the person affected by cancer, and consideration of short and long-term effects of ADT, is required to decide therapeutic options.[40] In general, adverse effects of ADT include: [63]

- hot flashes
- hot flushes
- vasomotor instability
- osteoporosis
- greater incidence of clinical fractures
- obesity
- insulin resistance
- alterations in lipids, and
- greater risk for diabetes and cardiovascular disease.

Management of these effects will involve a combination of supportive care strategies including information provision, counselling, pharmacological intervention and lifestyle changes.

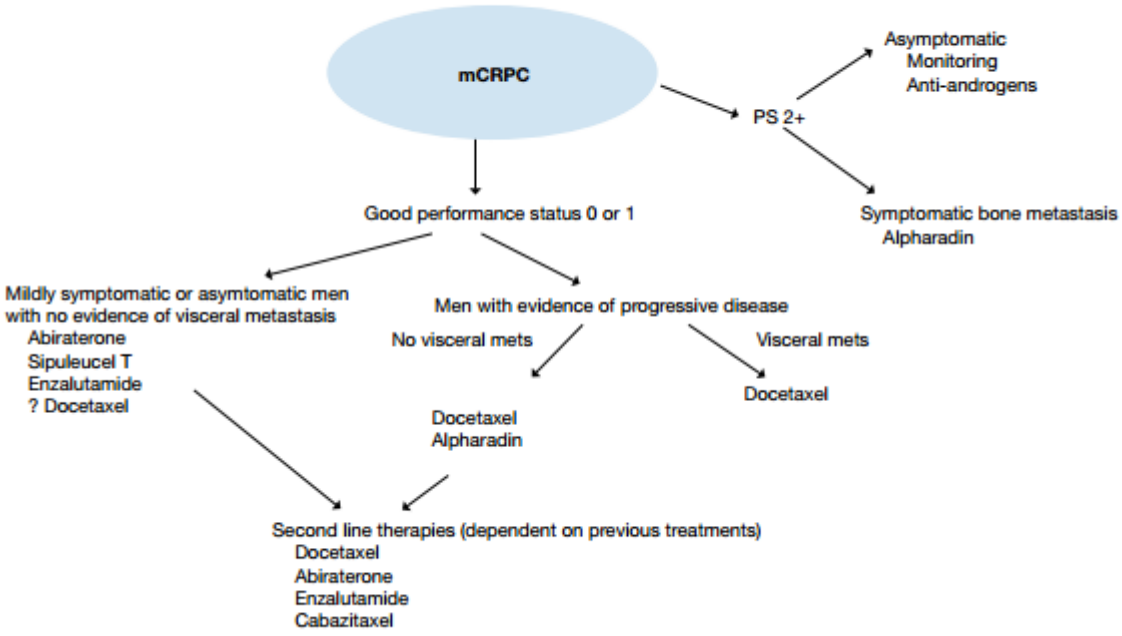
Learning activities		
Completed		
☐	1	Explain the rationale for hormonal manipulation in prostate cancer.
☐	2	Access a current pharmaceutical database (e.g. MIMS) and the NCCN Clinical practice guidelines in oncology - prostate cancer [63] (a free resource, but you must register and then click 'Remember me' to bypass the login page in future) and identify the indications, method of administration, and adverse effects of the following drugs: • goserelin acetate • leuprorelin acetate • cyproterone acetate • bicalutamide • flutamide • degarelix.
☐	3	Explain the mechanisms underpinning the following risks associated with ADT: • metabolic syndrome

		• cardiovascular disease • diabetes • osteoporosis • mood changes.
☐	4	Choose three of the above adverse effects, and for each, outline how you would educate a man about signs and symptoms of the adverse effects and management strategies.
☐	5	Describe the supportive care needs of a man who is to have surgical castration (orchiectomy) for the management of prostate cancer.

Management options for castration-resistant disease

There are systemic and supportive therapies available to manage metastatic disease or disease that is castration resistant (CRPC: castration-resistant prostate cancer).[31, 63] The addition of anti-androgens, anti-androgen withdrawal, oestrogenic compounds, adrenolytic agents, and novel approaches are summarised in the figure below.

Figure 20.1: Flowchart of the potential therapeutic options after PSA progression following initial hormonal therapy



Source: **European Association of Urology. *Guidelines on Prostate Cancer*.[31] 2017 15 July 2014; Available from: http://uroweb.org/guideline/prostate-cancer/. Page 156**
(Permission to use figure granted 8 August, 2014 as per Karin M.J. Plass EAU Guidelines Office)

Other supportive care options for men with CRPC include:

- use of bisphosphonates. This class of drugs may be considered as an option to aid pain relief in men with existing bony metastases[70]
- Zoledronic acid or denosumab are recommended for men with CRPC and bone metastases to prevent or delay disease-associated skeletal-related events[63]
- low-dose corticosteroids may help palliate symptoms in some men with advanced disease; symptoms that may be eased include pain, nausea and vomiting, and diarrhoea[71]
- unsealed radioisotopes may be considered for the management of multifocal bone pain alongside other options.[53]

The first anti-cancer vaccine was approved for use by the American Food and Drug Administration in 2010. This vaccine has been approved for use in the US for some men with metastatic prostate cancer. In a clinical trial, the vaccine (which is produced using the man's own white blood cells) increased the survival of men with CRPC by about 4 months.[72] Cost and availability of the vaccine are challenges to its use.[31]

Section 4: Have the best treatment and support between and after active treatment

Objectives

On completion of this section, you should be able to:

1. Explain the recommended follow up regimen following active treatment for prostate cancer.
2. Identify signs and symptoms associated with prostate cancer recurrence.
3. Identify long-term adverse effects following active treatment for prostate cancer.
4. Describe survivorship issues experienced by men after active treatment for prostate cancer across all domains of health.
5. Implement evidence-based interventions to promote optimal health across all domains for a person following treatment for prostate cancer.

Follow up treatment and care

Follow up visits are an opportunity to review treatment-related effects and to assist men to cope with any changes in their situation.

To monitor for progression of disease, follow up generally includes a detailed disease-specific history, serum electrolytes and liver function tests (E/LFTs), haemoglobin, serum PSA and DRE. Follow up may vary depending on the intent of initial treatment.[22]

The Victorian Government Patient Management Framework identifies that follow up after radical prostatectomy and/or radiotherapy should comprise:[22]

- early post-operative assessment
- at three months post-treatment: clinical review plus PSA
- to two years post-treatment: clinical review plus PSA every six months
- to five years post-treatment: clinical review plus PSA every 12 months
- to at least 15 years post-treatment: clinical review every 12 months.

The GP has a key role in coordinating follow up care.[22]

Learning activities		
Completed		
☐	1	Summarise the current recommendations for follow up for men who have been treated for prostate cancer.
☐	2	Outline the role of serum PSA testing in the monitoring of men following treatment for prostate cancer, and discuss the meaning of these tests from the perspective of the person affected by this disease.

Cancer recurrence

Prostate cancer survivors confront fears of recurrence each time they feel unwell or present for follow up testing or screening. Adopting a healthy lifestyle, sharing concerns, and using humour are coping strategies identified in survivors.[73]

In the event of recurrence, a multidisciplinary approach to treatment planning considers the location and extent of the recurrence and previous management. Treatment may include:[22]

- surgery (for symptomatic recurrence)
- radiotherapy (for symptomatic bony metastases or other local recurrence)
- ADT
- antineoplastic agents (for advanced disease).

Learning activity		
Completed ☐	1	Access the National Comprehensive Cancer Network Clinical Practice Guidelines - Prostate Cancer[63] (a free resource, but you must register and then click 'Remember me' to bypass the login page in future) and outline the salvage therapy options for the person diagnosed with recurrent prostate cancer.

Promoting quality of life for prostate cancer survivors

Survival outcomes for prostate cancer were ranked the fourth highest, with 93.2% five-year relative survival in the period 2007-2011.[6] However, survivorship for people affected by prostate cancer is commonly complicated by disease and treatment related effects.[74]

Being a survivor means different things to different people. Some individuals report positive psychosocial effects including strengthened relationships, a sense of gratitude or empowerment, or an increased appreciation for life. In addition, survivors are at risk of experiencing distress associated with the range of physical, psychological, social or practical changes associated with survivorship. Common concerns that have been identified by survivors include:[75]

- fear about the cancer coming back
- anxiety before a follow-up visit to their doctor
- possible effects later on from their treatment
- frustration how their follow-up is being managed
- financial, family and emotional changes during and after cancer and treatment.

For people affected by prostate cancer, specific physical needs may relate to:[22]

- urinary dysfunction
- sexual dysfunction
- rectal/faecal dysfunction
- hot flushes
- osteoporosis
- weight gain and fluid retention
- gynaecomastia.

The results of a two year follow up prospective study of men treated for localised prostate cancer demonstrated significant negative effects of treatment persisted after two years of follow up, such as:[42]

- sexual dysfunction and urinary incontinence post radical prostatectomy
- moderate bowel dysfunction post external beam radiotherapy
- moderate urinary irritation post brachytherapy.

Specific psychological needs may relate to:[22]

- body image
- fertility
- sexuality.

Potential psychosocial consequences of prostate cancer and treatment include increased risk of:[24, 74]

- depression and anxiety
- coping issues
- social isolation
- relationship problems.

There is evidence that the effects of prostate cancer treatment can cause feelings of loss of control. People with more physical effects such as impotence and incontinence were more likely to experience anger and decreased self-esteem.[55]

Support groups can be effective in meeting many of the support needs of men with prostate cancer. However, many men do not attend due to the perceived stigma.[24, 74] The PeterMac Navigate website has been designed to help men who have been recently diagnosed with low risk prostate cancer, and their

partners or support persons. The website gives information about prostate cancer, treatment options, side effects, and ways to keep healthy after the prostate cancer diagnosis.

Resource links:

Maintaining your well-being: Information on depression and anxiety for men with prostate cancer and their partners. 2010, beyondblue in association with Prostate Cancer Foundation of Australia.[77]

Prostate cancer and the risk of depression/anxiety. Fact sheet 34. 2010. beyondblue.[78]

Supporting sexual function in men with prostate cancer

Prostate surgery and pelvic irradiation are two factors implicated in increased risk of sexual difficulties.[79] Human sexuality involves each of the aspects identified above: body image, reproductive ability, and sexual function.[79]

Nursing assessment and intervention strategies to address issues related to sexuality have been identified as:[79]

- sexual assessment
- individualised education
- understanding and facilitating individual goals
- using guidelines to discuss sexuality and support sexual rehabilitation.

Referral may be indicated for specialist counselling and to access treatment and rehabilitation approaches.

Erectile dysfunction has been reported as high as 88% after prostatectomy, and has been identified as a major problem adversely impacting quality of life.[80] The goal of erectile dysfunction treatment is an erection sufficient for sexual relations. Whilst established treatment approaches exist, there is insufficient research to provide clear guidance. Treatment approaches need to be individualized. All treatment options should be presented to facilitate informed decision making. Existing treatment approaches include:[80]

Erectile dysfunction has been reported as high as 88% after prostatectomy, and has been identified as a major problem adversely impacting quality of life.[80] The goal of erectile dysfunction treatment is an erection sufficient for sexual relations. Whilst established treatment approaches exist, there is insufficient research to provide clear guidance. Treatment approaches need to be individualized. All treatment options should be presented to facilitate informed decision making. Existing treatment approaches include: [80]

- oral PDE-5 inhibitors
- venous and vacuum constriction devices
- intraurethral suppository
- penile injections
- penile implant.

Each treatment has advantages and disadvantages.

The goal of penile rehabilitation is to maximise erectile function recovery, with the aim of a spontaneous erection that is rigid enough for successful sexual relations. Approaches aim to improve tissue oxygenation and decrease fibrosis and collagen formation. [80] Two approaches being studied include vacuum devices and intraurethral suppositories.[80, 81]

Resource links

Sexuality. Macmillan Cancer Care[82]

Sexuality, intimacy, and cancer. Cancer Council Australia, 2013[83]

Erectile Dysfunction (impotence) factsheet. Andrology Australia, 2010[84]

Interventions for sexual dysfunction following treatments for cancer. The Cochrane Library, 2007[85]

PSGC[86], or the psychosexual care of women affected by gynaecological cancers, is a website that features learning resources for health professionals and is designed to help SCNs develop the knowledge and skills to support people experiencing sexual concerns after a cancer diagnosis. Although this website focuses specifically on women suffering from gynaecological cancers, Module One on Understanding sexuality broadly discusses dimensions of human sexuality and describes how biological, social and cultural factors can influence how a person perceives and experiences sexuality. This can be a valuable resource for helping SCNs develop skills to talk confidently about sexuality to any person affected by cancer, including men with prostate cancer. In particular, you may like to look at section 1.1, which talks about the dimensions of sexuality and sexual health.

Learning activities

Completed		
☐	1	Outline the impact of prostate cancer and its treatment on key physical, emotional and social domains of health: • in the first 12 months following completion of treatment • in the first five years following completion of treatment.
☐	2	Access your local Cancer Council website and identify resources for men following treatment for prostate cancer.
☐	3	Discuss the role of support groups for men following treatment for prostate cancer.
☐	4	Discuss the implications of the high prevalence of prostate cancer in the community for the type of health services that may be required by prostate cancer survivors.
☐	5	Access the Understanding sexuality[87] section on the PSGC website and consider some myths about sexuality. Discuss how these myths can affect a person's sexual function.

Case study

Ted's story 6: Quality of life for prostate cancer survivors

Learning activities		
Completed		
☐	4	Outline the advice you would provide to Ted and June about support groups for men affected by prostate cancer.
☐	5	Discuss the impact that urinary incontinence may have on Ted's overall health.
☐	6	Access the Cochrane Review Interventions for sexual dysfunction following treatments for cancer[85] and complete the following: In your role as an SCN, what information and support can you provide to a couple such as Ted and June to improve their quality of life related to erectile dysfunction and impotence?
☐	7	Identify how you would facilitate referral for couples such as Ted and June for relationship counselling.

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