Unit 529 July 2016

Cancer
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About this activity

Acronyms

Case 1  Charles has a positive FOBT

Case 2  Wendy finds a breast lump

Case 3  Maurice has lesions on his face and back

Case 4  Marjorie has a funny tummy

Multiple choice questions

The five domains of general practice

- Communication skills and the patient–doctor relationship
- Applied professional knowledge and skills
- Population health and the context of general practice
- Professional and ethical role
- Organisational and legal dimensions
ABOUT THIS ACTIVITY

As the first point of health contact for the majority of Australians, general practitioners (GPs) play a significant role in the prevention, screening, diagnosis, and after-treatment care of patients with cancer.1

In 2016, an estimated 130,000 new cases of cancer will be diagnosed in Australia, and more than 45,000 Australians will die from various cancers.2 With more than eight in 10 Australians visiting a GP in the previous 12 months,3 general practice can improve the outcomes of cancer diagnosis through early intervention.

It is estimated that there will be more than 17,500 new cases of bowel cancer in 2016 in Australia (13.4% of all cancers).2 Similarly, the number of new cases of breast cancer among Australian women will be close to 16,000 (27.3% of all cancer in women).2

GP encounters with non-melanoma skin cancer increased by more than 14% between 1998–2000 and 2005–07,4 and this rate is expected to keep increasing.5 Around 1500 new cases of ovarian cancer will be diagnosed in 2016 in Australia.6

This edition of check considers the management and treatment of various cancers in general practice.

LEARNING OUTCOMES

At the end of this activity, participants will be able to:

• outline the treatment options and recommendations for follow-up of patients with colorectal cancer
• discuss the assessment and management of patients with breast cancer
• describe assessment and treatment of non-melanoma skin cancer
• discuss the approach to diagnosing ovarian cancer.

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REFERENCES


CASE 1
CHARLES HAS A POSITIVE FOBT
Charles is an accountant, 60 years of age, and is keen on looking after his health. He presents having returned a positive faecal occult blood test (FOBT) through the National Bowel Cancer Screening Program (NBCSP).

QUESTION 1 😡😡
What are the current NBSCP guidelines for screening with an FOBT? How would you manage this presentation?

FURTHER INFORMATION
Charles has a colonoscopy, which reveals a 2 cm lesion in the sigmoid colon. Histology confirms that the lesion is a moderately differentiated adenocarcinoma of the sigmoid colon. His surgeon has discussed this with him, but Charles was rather shocked at the diagnosis of cancer and wishes to discuss his treatment options with you.

QUESTION 2 😡
What further investigation would you consider?

FURTHER INFORMATION
You next see Charles two months later. He underwent an uncomplicated laparoscopic-assisted left hemicolectomy. This revealed some spread of tumour into the pericolic fat and two positive lymph nodes. He was referred to the local oncology service and recommended to have six months of chemotherapy with 5-fluorouracil, folinic acid and oxaliplatin. He would like to discuss the implications of this.

QUESTION 3 😡
What are the treatment options for Charles’s carcinoma?

QUESTION 4 😡 😡
What issues would you discuss with Charles about chemotherapy?

QUESTION 5 😡
What long-term follow-up would you recommend for Charles?
ANSWER 1

The National Bowel Cancer Screening program was introduced by the Commonwealth Government in 2006. Initially people were invited to take part when they turned 50, 55 and 65 years of age. FOBТ kits are mailed out after the relevant birthday. In recent years the program has been rolled out to other age groups, with the aim of offering screening every second year from ages 50–75 from 2020. In 2016, people are sent kits at age 50, 55, 60, 64, 65, 70, 72 and 74.

In Australia, most people – 85% of the population – visit a general practitioner (GP) at least annually. These visits provide opportunities for GPs to discuss the NBCSP with their patients around the time of the relevant birthday, and encourage their patients to participate.

For patients such as Charles, who present with a positive FOBТ result, it is important for the GP to explain the significance of a positive result and the possible outcomes. Microscopic amounts of blood have been detected in the faecal sample. This can be present for a number of reasons, mainly innocent, but with a small chance that it may be something more serious, such as an early cancer. Figures from the NBCSP show that there is a one in 32 chance of finding a colon cancer and one in 17 chance of finding an advanced adenoma in patients with a positive FOBТ result.

Recent data from Queensland show that the positive predictive value (PPV) for an immunochemical FOBТ (the probability that a person with a positive screening test truly has the disease) is 4.3% for cancer, 23% for advanced adenoma and 48% for all types of adenoma, giving a combined PPV of 52.3% for cancer and adenomas together.

Take a general history, including past history, family history and general health. Ask Charles if he has had any fatigue, recent changes in his bowel habit, rectal bleeding, abdominal pain, and changes in appetite or weight. Enquire about smoking, alcohol intake, dietary habits and exercise. Check his medication history, with particular regard to aspirin and iron supplements, although neither of these affect an immunochemical FOBТ.

Charles should have a general physical examination, with particular reference to the abdomen – any masses, tenderness – and a digital rectal examination (DRE). From clinical experience, a low rectal cancer will be within the reach of the finger on DRE and a probable diagnosis of a cancer at this stage will indicate early surgical referral.

ANSWER 2

Charles needs a colonoscopy. He will need referral to either a hospital endoscopy service, or through a surgeon in the private sector. The NBCSP does not have a role in referral, but advises colonoscopy within three months of a positive FOBТ. It is important for the GP to write a detailed referral letter, particularly if the patient is referred into the public system, and include the result letter from the NBCSP.

You may also consider some baseline investigations, such as a full blood count (FBC), iron studies, renal function tests, liver function tests and inflammatory markers, as part of a general assessment.

ANSWER 3

There are several treatment modalities that will be of relevance in Charles’s situation. Treatment will be dictated by staging of the tumour, which can be done by assessment of the tumour size, lymph node involvement and metastasis (the TNM process) or by Dukes staging:

- Dukes A – Cancer is limited to the mucosa
- Dukes B – Cancer extends through the muscular layer of the bowel wall
- Dukes C – Cancer has spread to at least one local lymph node
- Dukes D – Cancer has metastasised.

Surgery

Charles will require surgical excision of the sigmoid colon. This may be done laparoscopically or by a combination of laparoscopy and open surgery. He should not need a stoma for this cancer unless there are surgical complications encountered requiring more extensive resection. However the possibility that he might need a stoma should be raised and his concerns addressed. Further treatment such as chemotherapy and/or radiotherapy may be indicated, depending on the findings at operation and on histology of the tumour and adjacent lymph nodes.

Encourage Charles to make a list of questions to ask his surgeon so that he can be fully informed of possible outcomes and complications before the procedure. Patients who are fully informed of the nature and possible outcomes of their procedure are more likely to have better outcomes.

Chemotherapy

If there is evidence that the cancer has spread beyond the bowel wall or to lymph nodes (Dukes C), chemotherapy will be indicated. This will usually commence once Charles has recovered from his operation, possibly two to three months post-surgery. His course of chemotherapy will involve fortnightly intravenous infusions of a 5-fluorouracil-based regime, which also includes folinic acid and possibly oxaliplatin, known as FOLFOX therapy. Other regimens include irinotecan in place of oxaloplatin.

Cephalaxine is an oral antimetabolite that may also be considered by the oncology team. Its cost is supported by the Pharmaceutical Benefits Scheme (PBS); the other medications are funded by the PBS as hospital-only medications.

Radiotherapy

Decisions about radiotherapy will depend on the findings at surgery, such as spread and lymph node involvement, and the pathological findings. Charles may be referred for radiotherapy if there is more significant spread, but this is not likely in this case.

Outlook

Charles’s prognosis is very positive. Treatment of early-stage colorectal cancer is highly effective, with five-year survival rates of up to 93% for Dukes A, 82% with Dukes B, and 59% for Dukes C cancers, so although this is all very confronting and the treatment course is long and often unpleasant, the long-term outcome is very positive.

Importance of GP follow-up

The GP should remain the central point of contact and management for Charles. It is important to maintain contact and he should have regular reviews with his GP to discuss the progress of his treatment.
and complications, how he is managing emotionally, and to monitor other health conditions he may have in the context of his cancer management.

The survivorship care plan (SCP) is a new initiative emerging as a means of assisting coordination of care. An SCP is a formal, written document that provides details of the patient’s diagnosis, treatment, and potential and long-term effects arising from the cancer and its treatment. It also details recommended follow-up and lifestyle advice to promote wellbeing.8

ANSWER 4

Time scale

His treatment will consist of fortnightly intravenous infusions of the three agents and is likely to last six months. He may have a subcutaneous port placed in his chest to enable ready access of his medications to the vena caval system. This will require surgical referral and a day procedure under general anaesthetic.

Likely result

For Charles’s lesion, the outlook is very positive, with a five-year survival rate in excess of 80%.2

Realistically, this means he has a high chance of cure from his cancer. It is useful to talk to Charles in terms of long-term survival and that his health status will probably return to normal. Use terms that are easily understood by lay people.

Blood tests and monitoring

During the course of Charles’s chemotherapy, he will need an FBC before each treatment cycle, with particular reference to the white cell and platelet counts. Treatment cycles may need to be delayed if his counts are low.

Side effects of chemotherapy

All patients on chemotherapy will experience side effects. These include:9

- myelosuppression (eg anaemia, thrombocytopenia, leucopenia)
- infection (febrile neutropaenia)
- nausea and vomiting, diarrhoea
- weakness, fatigue and general lethargy
- oral mucositis, taste changes
- peripheral neuropathy.

It is particularly important to discuss febrile neutropaenia, advising that a febrile illness should be reported as a matter of urgency, either to his GP or the emergency department of his treating hospital.

Lifestyle issues during chemotherapy

Encourage Charles to continue his normal life as much as possible within the limitations of his therapy. Discuss the importance of healthy eating and exercise – short walks and gentle exercise can be very beneficial during treatment. Continuing to work on a part-time basis within the limitations of fatigue and malaise is beneficial and will assist Charles in keeping his lifestyle as normal as possible during his treatment.

ANSWER 5

First three years

Charles should have regular medical checks with his GP every six months for the first three years, and then once or twice yearly, covering general health, mental health, any signs of recurrence, examination and investigations:10,11

- Regular FBCs, carcinoembryonic antigen (CEA) – every six to 12 months for the first three years
- Abdomino-pelvic computed tomography (CT) annually, or as directed by his oncology team
- Colonoscopy at 12 months post-diagnosis and then every two to three years. This is important to assess any signs of recurrence or development of further polyps or adenomas.
- Lifestyle advice. Charles should be encouraged to have regular exercise, eg walking 30 minutes a day for at least five days a week, not to smoke, limit alcohol intake to two standard drinks a day, and have a low fat, high fibre diet, limited to 10480 Kj/day.

General health issues for cancer survivors

Management of patients with a past history of cancer – survivors – is a common part of general practice. In 2007, it was estimated there were 775,000 Australians with a past history of cancer.12

Aspects to consider in their management include:

- A sense of ‘loss’ on completion of treatment: patients’ reactions to completion of treatment vary from relief to a sense of loss. Some note a sense of being lost or abandoned following treatment when their support system from oncology, for example, is no longer there.
- Management of long-term effects of treatment: these effects include fatigue, changes to bodily appearance such as scars, changes to bowel habit and neuropathy.
- Increased incidence of chronic medical conditions, such as depression, hypertension, heart disease and diabetes: among cancer survivors, >24% of those in the 65–74 year age group, and >38% of survivors >75 years have five or more comorbidities. Some of these are related to cancer management and therapy.13 The GP should incorporate surveillance and management of comorbidities into the ongoing management and surveillance for cancer recurrence, or new cancers. The use of chronic disease management plans can significantly assist in management.14

Advice for other family members.

If there is no other family history of colorectal cancer, Charles’s family members are not at greater than average risk and should be advised to have an FOBT every two years from 50–75. If there is a stronger family history (eg a first-degree relative with a past history of colorectal cancer aged <55, or multiple relatives affected), family members should be offered regular screening by colonoscopy.11

REFERENCES


CASE 2

WENDY FINDS A BREAST LUMP

Wendy is a dentist, aged 51 years. She is married and has two daughters, Angie, aged 28 years and Natasha, aged 25 years. At the age of 50 years, Wendy had her first screening mammogram with BreastScreen, which was reported as normal. Two months ago, Wendy found a small lump in her left breast while she was having a shower. As she had a normal screening mammogram less than a year ago, Wendy thought the lump was nothing to be concerned about. But last week, after speaking to her older sister, Janelle, who had a breast lump that turned out to be cancer, she thought that she would ask you about it.

QUESTION 1

What questions would you ask Wendy to collect a relevant history relating to her breast lump?

FURTHER INFORMATION

Wendy provides the following information:

• Family history of breast cancer – sister Janelle at 54 years of age
• No family history of ovarian or other cancers
• Started menarche at 14 years of age
• Normal menstrual history
• No Ashkenazi Jewish ethnicity
• Body mass index (BMI) = 27 kg/m²
• Occasional alcohol consumption, low-fat diet

QUESTION 2

What are the possible differential diagnoses?

FURTHER INFORMATION

On clinical breast examination, you feel a small, firm, pea-sized mass in the upper outer quadrant of Wendy’s left breast (Figure 1). There are no other masses felt or any lymphadenopathy. There is no obvious skin tethering, breast asymmetry or dimpling. Wendy asks if this lump is unlikely to be cancer as she had a normal screening mammogram.

QUESTION 3

How would you respond to Wendy’s question?
QUESTION 4  🇨暌
How will you manage Wendy?

FURTHER INFORMATION
You referred Wendy for a diagnostic mammogram and breast ultrasound. The mammogram showed a spiculated mass measuring about 7 mm, and the ultrasound showed an irregular hypoechoic lesion in the same area of her left breast. There were no enlarged lymph nodes seen and the right breast was normal. The imaging studies are suspicious for breast cancer. After a discussion with Wendy about the imaging findings, you arrange for her to see a breast specialist at the local hospital’s breast clinic.

She had further tests at the hospital, which confirmed breast cancer. As the tumour was small, Wendy had breast-conserving surgery. There was no evidence of lymph node involvement. You see Wendy seven weeks later. Her surgical scars are healing well and she is not experiencing any significant discomfort. Wendy says that everything happened so fast that she is only now starting to reflect on recent events. She saw the specialist the day before and was prescribed tamoxifen. She is also about to start radiotherapy. Some of her friends have suggested she take ‘natural’ herbal remedies to help treat her breast cancer. Wendy asks you for information about tamoxifen and herbal treatments.

QUESTION 5  🇨ไต
What can you tell Wendy about tamoxifen and herbal treatments?

FURTHER INFORMATION
You discuss the common adverse effects of tamoxifen and give Wendy consumer medical information from websites such as the NPS MedicineWise (NPS) and Therapeutic Goods Administration (TGA). A quick internet search reveals that there is a range of herbal remedies, including turmeric, garlic and black cohosh, that have been used to treat breast cancer, but you advise Wendy the scientific evidence is limited. You explain that there is no evidence that these treatments work in cancer. They may help or they may harm, but no one really knows because they have not been adequately researched. Wendy says she was looking at ways to help her feel better. You use this as an opportunity to talk about keeping healthy, eating well, staying active and reducing risk factors, such as alcohol. You also suggest that she could gain useful information and support from the Cancer Council. Wendy asks if her daughters should have genetic testing.

QUESTION 6  🇨ไต
How will you respond to Wendy’s query regarding genetic testing for her daughters?

FURTHER INFORMATION
You have a consultation with Wendy and her daughters and inform them that, on the basis of their family history, they have a moderately increased risk of breast cancer. As screening mammograms are not a proven method for the early detection of breast cancer in women younger than 40 years of age, you discuss modifiable risk factors (eg alcohol, overweight), how to be aware of the normal look and feel of their breasts, and to promptly see you about any persistent or unusual changes.

Wendy continues to see her breast surgeon and oncologist for regular reviews and she sees you for her routine healthcare. But six months after her surgery, Wendy comes to see you about a new problem. She is concerned about her relationship with her husband, John. She feels that, while he is very supportive, they are not as intimate and sexually active as they used to be.

QUESTION 7  🇨ไต
What are your thoughts?
CASE 2 ANSWERS

ANSWER 1
The key questions in Wendy’s history relate to her menstrual and reproductive history, and any known risk factors for breast cancer (Box 1). For example, there is increased risk in women who start menstruating at an early age (around 12 years of age) and have menopause later (after 55 years of age) because of a longer lifetime exposure to oestrogen and progesterone. Also ask about any breast changes (eg nipple discharge, dimpling), change in size of the lump (especially with her menstrual cycle) and any past history of breast problems.

Wendy has a first-degree relative who has breast cancer. It would be helpful to construct a family tree for cancers involving first-degree (mother, father, brother, sister, son and daughter) and second-degree relatives on the maternal and paternal sides of the family. It is important to ask about other cancers (eg ovarian, prostate) as some inherited gene mutations involve other cancers as well as breast cancer.

Box 1. Risk factors for breast cancer

- Family history of breast and ovarian cancer
- Increasing age
- Late childbearing (after the age of 30 years)
- Nulliparity (no children)
- Early menarche (<12 years of age)
- Late menopause
- Use of hormone replacement therapy (particularly combined therapy)
- Ashkenazi Jewish ethnicity
- Obesity (post-menopausal women)
- Lifestyle factors (eg high alcohol consumption, high-fat diet)

ANSWER 2
The possible differential diagnoses of a breast lump are shown in Box 2.

Box 2. Common causes of palpable breast lumps

- Prominent fibroglandular tissue (normal breast tissue)
- Cyst
- Fibroadenoma
- Abscess
- Lipoma
- Fat necrosis
- Haematoma
- Breast cancer

ANSWER 3
You tell Wendy that the mammogram she had was for screening and not for the investigation of breast symptoms. You explain that screening mammography picks up some cancers but not all. This lump may or may not be a cancer. If it is a cancer, it might not have been present or might have been too small to be seen at the time of the last screen.

Population-based screening mammography is currently the best method of detecting breast cancer early in asymptomatic women. There is a possibility that screening will miss a change attributable to breast cancer (false negative). The chance of a false-negative result is higher in younger women because their breast tissue is denser, making it more difficult to detect changes.

The aim of screening is to reduce mortality through the early detection of breast cancer in women in the target age group, 50–74 years. The 2009 BreastScreen Australia evaluation report found that the national breast screening program was successful in reducing mortality from breast cancer in women aged 50–69 years by approximately 21–28%.

Interval cancer is the term given to cancers detected after a negative screen and before the next scheduled screening examination. There are various reasons for interval cancers, including:

- a new lesion that was not present at the time of the mammogram
- a lesion that was radiologically occult
- a lesion missed at the previous screen

ANSWER 4
General practitioners (GPs) have a key role in diagnosing cancer on the basis of a patient’s symptoms and associated cancer risk factors. The challenge is arriving at that diagnosis without over-investigating or causing the patient undue discomfort or harm. Compared with other cancers, arriving at a diagnosis of breast cancer is usually done with fewer GP visits. The prevalence of breast cancer in women with breast symptoms is estimated to be 2–10%. Therefore, all new breast symptoms should be appropriately investigated.

The ‘triple test’ is an approach for the investigation of a new breast symptom. It involves:

- Step 1: A thorough history and clinical examination
- Step 2: Diagnostic imaging involving a mammogram and/or ultrasound
- Step 3: Non-excisional biopsy, involving fine needle aspiration (FNA) cytology and/or core biopsy.

A negative result (normal, benign or no significant abnormality detected) on all three components provides reassurance that the symptoms are not due to breast cancer. If results are inconsistent or if they are benign but do not account for symptoms, then further investigation is warranted.

ANSWER 5
Tamoxifen has been the standard hormonal treatment for breast cancer for many years. It is prescribed to treat early stage oestrogen receptor – positive breast cancer in premenopausal and
postmenopausal women. Tamoxifen is usually taken for up to five years, but decisions about the type and duration of therapy are made on an individual basis in consultation with a specialist. As tamoxifen is an ‘anti-oestrogen’ drug, the common side effects are hot flushes, night sweats and vaginal dryness. Less commonly, tamoxifen increases the risk of blood clots, stroke, cataracts, endometrial cancer, mood swings, depression and loss of libido.

The use of complementary and alternative medicine (CAM) is common among patients with cancer. They are used by those with breast cancer to improve quality of life and boost their immune system. It is important to explore Wendy’s understanding about herbal remedies and perhaps review the scientific evidence for the effectiveness of a particular herb in treating breast cancer using the internet. Studies show that patients often do not disclose their use of CAM to their doctors. GPs should be proactive in asking patients about their possible use of CAM. Many herbal remedies have limited research concerning the benefits and harms of prolonged use. There is a common misconception that herbal remedies are safe because they are natural. However, idiosyncratic reactions can occur, ranging from mild to serious (eg hepatotoxicity with black cohosh).

ANSWER 6

About 14,000 women are newly diagnosed with breast cancer each year in Australia, and the lifetime risk approaches one in eight. Approximately 95% of all breast cancers are due to somatic mutations in cancer-associated genes. Only about 5% of women have breast cancer due to a genetic predisposition or inherited gene mutation, such as BRCA1 and BRCA2. Some examples will be provided in Box 3. As the majority of women with breast cancer do not have a high-risk (inherited or familial) gene mutation, it is important that you are careful in your risk assessment. Overestimating risk may lead to unnecessary anxiety, over-investigation and over-treatment. Construct a thorough family tree of all relatives affected by cancer, across three generations on maternal and paternal sides of the family. There are useful online risk assessment tools that can help (refer to Resources for doctors). Genetic testing is complex, involving pre-test and post-test counselling, and can have a psychosocial impact on families, particularly when the family history is strong but the genetic testing fails to find a gene mutation (ie the test is inconclusive). Your risk assessments of Wendy’s daughters using the Cancer Australia Familial Risk Assessment online tool place them at a moderately increased risk of breast cancer. This covers less than 4% of the female population. This risk is 1.5 to 3 times the population average.

A more precise risk assessment and management plan is available from a family cancer clinic or specialist cancer clinic. Each state and territory has dedicated familial cancer clinics that can provide counselling, information and genetic testing where appropriate (refer to Resources for patients and doctors). The Cancer Council Helpline – 13 11 20 – can help direct you and your patients to appropriate services.

Box 3. Important genetic mutations and syndromes that increase the risk of hereditary breast cancer

- BRCA1 and BRCA2 gene mutations
- Li-Fraumeni syndrome or p53 mutation – osteosarcomas, sarcomas, breast cancer, leukemia, adrenal gland cancer
- Cowden syndrome – hamartomas, breast, thyroid and endometrial cancers
- Familial-type gastric cancer and lobular breast cancer
- Peutz-Jeghers syndrome or intestinal polyposis-cutaneous pigmentation syndrome

ANSWER 7

All kinds of cancer treatments can potentially affect sexual functioning, so it is not uncommon for women such as Wendy to have difficulties (Box 4). It is reported that up to 70% of women with breast cancer have sexual dysfunction. Sexuality is something that often falls into the background when the priority is diagnosis and treatment. At some point, acute treatment will be completed and women move into a phase of ‘survivorship’. Reconnecting with normality can be challenging. Sexuality is a very private and sensitive topic, but GPs have an important role in helping women when difficulties are experienced. GPs can be helpful just by discussing the topic, providing emotional support and practical advice (eg treat vaginal dryness with lubricants, or a topical oestrogen that is not systemically absorbed). Encouraging support from a partner is very important in helping women adjust to the ‘altered sexual self’. It can also be useful to access help from health professionals with expertise in psychological, sex and couples therapy.

Box 4. Examples of cancer treatments affecting sexuality

- Breast surgery can affect how a person feels about their body image
- Chemotherapy – can affect fertility, reduce libido, cause vaginal dryness, cause body changes such as weight gain or loss, peripheral neuropathy, tiredness, hair loss
- Endocrine therapy (tamoxifen, aromatase inhibitors) – can cause symptoms such as vaginal dryness, hot flushes, mood swings and lack of interest in sex due to a medically induced menopause
- Familial-type gastric cancer and lobular breast cancer
- Radiotherapy – can cause skin irritation, itching, tiredness

CONCLUSION

You have a joint consultation with Wendy and John. He was very stressed about Wendy’s illness and that affected his sexual health as well. It turns out that John was also afraid to talk about their sex life, as he thought Wendy had enough to deal with at the time. You refer them to a clinical psychologist experienced in cancer survivorship issues. Wendy sees you a few weeks later and tells you that things are improving with John. Being intimate again has helped boost her self-esteem and the sense of wellbeing that having breast cancer took away from her.
RESOURCES FOR PATIENTS AND DOCTORS


RESOURCES FOR DOCTORS


REFERENCES


CASE 3

MAURICE HAS LESIONS ON HIS FACE AND BACK

Maurice, 72 years of age, presents with a foreign body in his eye. He is a retired farmer and still gets out in the garden regularly. You remove the foreign body (a seed under the eyelid from the garden) but during the examination you notice a crusty lesion near Maurice’s inner canthus (Figure 1). On questioning, Maurice says he had noticed a rough area for six months or so but thought it was due to his glasses rubbing.

QUESTION 1
What are the differential diagnoses?

QUESTION 2
What will you do at the next appointment you schedule?

QUESTION 3
What else will you do?

FURTHER INFORMATION
You do not have time at this appointment to address this lesion but you ask Maurice to make a follow-up appointment some time in the next four weeks.

FURTHER INFORMATION
You check Maurice’s body, limbs and head, and find a red patch over his right scapula (Figure 2). Dermoscopy of this patch reveals arborising vessels and blue-grey, leaf-like areas.

Figure 1. A lesion near the inner canthus

Figure 2. A red patch on Maurice’s right scapula
QUESTION 4  
What is the likely cause of the red patch on Maurice’s right scapula? How will you manage the lesions on Maurice’s face and right scapula?

QUESTION 5  
What are your treatment options for Maurice’s lesions?

QUESTION 6  
Is imiquimod cream suitable for all superficial BCCs on the face, body and limbs?

QUESTION 7  
What is the treatment schedule for imiquimod cream? What is the success rate for treating superficial BCCs with imiquimod?

QUESTION 8  
How would you use liquid nitrogen to treat the lesion on Maurice’s back?

QUESTION 9  
What is the appropriate follow-up for Maurice?
CASE 3 ANSWERS

ANSWER 1
The differential diagnoses include:
• basal cell carcinoma (BCC)
• squamous cell carcinoma (SCC)
• solar keratosis.

The most likely diagnosis is a BCC, with the differential diagnosis being a solar keratosis or SCC. BCC is the most common form of skin cancer. It is usually slowly growing and tends to bleed a little when the crust comes off. Superficial BCCs are typically flat, red patches, whereas nodular BCCs tend to eventually develop a central ulcer and crusting (the classic rodent ulcer). A solar keratosis does not usually bleed.

An SCC tends to be faster growing but the most important characteristic is tenderness when pressed. An in situ SCC (Bowen’s disease) is more like a superficial BCC: flat and red.

Skin cancer is a common problem that Australian general practitioners have to deal with. Australia has one of the highest rates of skin cancer in the world. Skin cancer may be a presenting problem but it is commonly an incidental finding.

ANSWER 2
Unless you have confidently diagnosed a solar keratosis, the lesion should not be frozen. Biopsy is a very reasonable option, but careful examination, removal of the scab and the use of dermoscopy may allow confident diagnosis of a malignancy. Examination is aided by gentle rubbing and cleaning of the area with an antiseptic gel, good lighting and stretching of the skin at the site of the lesion. If dermoscopy reveals arborising vessels and possibly blue-grey leaf like areas, this is highly predictive of BCC. If still in doubt, biopsy the lesion.

ANSWER 3
It is important to check the rest of Maurice’s skin. You have made a clinical diagnosis of a nodular BCC on his face by examination and dermoscopy and he has signs of sun damage, including several small solar keratoses on the face, telangiectatic vessels, solar elastosis and freckling. He is at significant risk of other skin cancers.

ANSWER 4
Possible causes of the lesion on Maurice’s scapula are:
• psoriasis
• solar keratosis
• amelanotic melanoma
• BCC.

An isolated lesion on a sun-damaged area is unlikely to be eczema or psoriasis. These rashes typically show symmetry and a number of patches, not an isolated patch. The lesion has the typical features of BCC and is highly likely to be a BCC but an amelanotic melanoma is a possibility. If the lesion is a BCC, it is important to know if it is superficial or infiltrating, as this will guide treatment. A punch biopsy or shave biopsy is the appropriate action. Biopsy will help to rule out melanoma and solar keratosis, but it is important to re-biopsy if the histology provides a non-specific answer; the initial biopsy may have missed the main pathology of the lesion.

ANSWER 5
The lesion on the face should be excised. It is in a danger area and the aim should be to have histological confirmation of clearance. The chance of recurrence would then be about 5%. Other treatments would have a recurrence rate of 20% or more.

Possible treatment options for the lesion on the back include:
• excision (recurrence rate approximately 5%)
• liquid nitrogen (20%)
• curettage and diathermy (20%)
• imiquimod cream (20%).

Excision (although all treatment options are reasonable for the BCC on the back) would require quite a large ellipse, but clear margins on histology would be highly likely to be curative (about a 5% chance of recurrence). All treatment options may be discussed with the patient to determine the most favoured option. Some patients will prefer definitive excision and are not particularly concerned about a scar, but other patients may be very keen to avoid this.

ANSWER 6
Theoretically, imiquimod could be used for all superficial BCCs, but it is important to consider compliance issues and practical issues, such as ease of application (eg on the back for a patient living alone). Imiquimod is also less effective on large superficial BCCs.

It is important not to use imiquimod for BCCs on the head and face, or for infiltrating, cystic, micronodular or morphoeic BCCs. There is a significant risk of treatment failure and delay in definitive treatment of BCCs in danger areas such as the face. The PBS listing for imiquimod is: ‘For treatment of biopsy-confirmed primary (previously untreated) superficial BCC in patients with normal immune function for whom surgical excision, cryotherapy, or curettage with diathermy are inappropriate and topical drug therapy is required.

The date of the pathology report and name of the Approved Pathology Authority must be provided at the time of application.

ANSWER 7
Treatment of superficial BCCs on the body and limbs with imiquimod requires application five nights a week for six weeks, but with instructions to miss some applications if the treated area becomes too sore or too inflamed. Missed days are not added to the end of the schedule. On average, patients will treat for five out of the six weeks due to missed days.

The overall clearance rate when using imiquimod is about 80%. There is considerable variation in patients’ responses to treatment. Some patients respond very briskly and intensely; they tend to have
the best long-term response, but often their treatment schedule is interrupted frequently due to the strong response. Most patients have a moderate response with erythema and scaling. Occasionally there is no response.6

ANSWER 8
Freezing a BCC is quite different from freezing solar keratoses. The prolonged freeze can be quite painful, so local anaesthetic is appropriate. First mark the border of the lesion and then mark a line 3 mm out from this. Inject with local anaesthetic, then freeze to the edge of the 3 mm margin and maintain for 30 seconds (use a timer). After it has defrosted, repeat the 30-second freeze. The treated area will almost certainly blister and weep, requiring a simple dressing for the first few days. The patient needs to know this in advance. Despite this, it can be an attractive treatment option for some patients as there are no stitches and no need for regular application of cream for several weeks. Generally, it is advisable to avoid treating BCCs on the legs with liquid nitrogen as there is a significant risk of producing an ulcer.

ANSWER 9
You have now treated two skin cancers on Maurice. He has a very significant risk of developing further skin cancers.2 If there are going to be issues with complying with follow-up, based on your knowledge of the patient, then excision of skin cancers would be an ideal approach to treatment. If any lesions are treated with curettage or liquid nitrogen or imiquimod, the risk of recurrence is significantly higher than excision, at about 20%.2 In this case, the two reasons to have a yearly review (as per expert opinion) are to check for any new skin cancers, and to inspect previously treated areas for signs of recurrence. Photography may be useful for patient follow-up but is not a substitute for careful examination. Maurice should also be instructed on the importance of sun protection measures including the regular use of a hat and daily application of a sunscreen.

RESOURCES FOR PATIENTS

RESOURCES FOR DOCTORS
• Basal Cell Carcinoma, Squamous Cell Carcinoma (and related lesions) – A guide to clinical management in Australia (November 2008), Cancer Council Australia
• DermNet NZ, provides authoritative information about skin diseases, conditions and treatment for patients and their health professionals, http://dermnet.nz

REFERENCES
CASE 4

MARJORIE HAS A FUNNY TUMMY

Marjorie, 61 years of age, is a one of your regular patients who you see several times a year. At her last visit, about four weeks ago, she mentioned in passing that she had been feeling uncomfortable in the abdominal area for a couple of weeks and had occasionally been constipated. You suggested some measures to help with the constipation but she has now returned saying her discomfort is increasing.

QUESTION 1

What additional information do you need from Marjorie?

FURTHER INFORMATION

Marjorie tells you that the constipation had improved a little with the treatments you suggested, but she is experiencing fairly constant discomfort in her lower abdominal area and feels her abdomen is bloated. She has definitely not lost any weight and, if anything, her skirt seems tighter than usual; she may have gained weight. Marjorie has not had diarrhoea and has not noticed any rectal bleeding. She thinks she is urinating more frequently and often needs to get up at night to go to the toilet, although there is no dysuria. Marjorie has not had any vaginal bleeding or discharge (she had a hysterectomy about 15 years ago for heavy bleeding), and has not had intercourse since her husband died two years ago. Her paternal uncle and grandfather died of bowel cancer but there is no other family history of cancer.

QUESTION 2

What examinations will you do?

FURTHER INFORMATION

On examination, Marjorie looks well. She is afebrile and has a normal pulse and blood pressure. She is overweight but her abdomen does seem somewhat more distended than usual. She has some tenderness in the lower quadrants of her abdomen. Rectal examination and urinalysis are normal. Vaginal examination is difficult because of her body habitus and she finds it very uncomfortable, but you think that she has a mass in the left adnexal area.

QUESTION 3

What differential diagnoses would you consider?
CASE 4

QUESTION 4
How will you proceed from here?

FURTHER INFORMATION
You refer Marjorie for a pelvic ultrasound scan, and blood and urine tests. Marjorie returns to see you two days later for her test results. Her urine is clear but her ultrasound shows that she has some ascites and a pelvic mass. The appearance of the mass is consistent with an ovarian malignancy. Her CA125 level is 460 U/mL (normal <35 U/mL).

QUESTION 5
How will you proceed from here?

FURTHER INFORMATION
You refer Marjorie to a gynaecological oncologist and her case is discussed at a multidisciplinary meeting. Her investigations suggest that she has a stage III cancer. It is decided that she should have primary debulking of her tumour and commence chemotherapy soon after.

You see her two days later – she is having her surgery the next day. She is coping well but has a lot to think about. She has read that that less than 50% of women with this cancer survive beyond five years. She wants to know if there is anything she can do to improve her chances.

QUESTION 6
What advice can you give Marjorie?

FURTHER INFORMATION
Marjorie’s final diagnosis was stage IIIIC high-grade serous ovarian cancer. She completes her chemotherapy successfully. The oncologist tells her that her CA125 is now in the normal range and there is no detectable cancer. She is happy that she is in remission but has a number of concerns.

She is worried about her two daughters who are now aged in their 30s. She asks if they are at risk of developing ovarian cancer? Should they have regular screening? Are there ways they can reduce their risk of developing the disease? Marjorie also wonders if she should have been screened for ovarian cancer on a regular basis and whether that would have changed things for her.

QUESTION 7
How can you advise Marjorie?
CASE 4

FURTHER INFORMATION
Marjorie reports not sleeping well and feeling very tired all the time.

QUESTION 8
What should you do?

FURTHER INFORMATION
Marjorie continues her regular reviews with her gynaecological oncology team and her CA125 remains in the normal range for about two years. It then starts increasing and it appears that the cancer has returned. She has further chemotherapy, which seems to be effective once again. However, six months later her CA125 levels rise again and there is radiological evidence of recurrent ovarian cancer. Chemotherapy does not seem to be effective and despite regimen changes, the cancer seems resistant to treatment.

QUESTION 9
What issues should you consider discussing with Marjorie?

CASE 4 ANSWERS

ANSWER 1
You should take a routine history about the nature of the discomfort (e.g., site, frequency, severity, duration, triggers) and any associated symptoms including gastrointestinal, genitourinary or gynaecological and constitutional, as well as an updated family, medication and surgical history, if you do not already have that information.

ANSWER 2
You should do a routine abdominal examination, including testing for shifting dullness and conducting rectal and vaginal examinations. Urinalysis should also be undertaken. For women with an intact cervix, a pap smear may be required if not recently undertaken.

ANSWER 3
Marjorie’s symptoms are not very specific and could indicate gastrointestinal, urinary tract or gynaecological causes for her discomfort. However, her examination suggests the possibility of an adnexal mass, which could be benign or malignant. Despite the belief that ovarian cancer is a ‘silent killer’, most women with this diagnosis experience symptoms in the months and weeks before diagnosis; less than 10% are diagnosed incidentally. The most common symptoms are pelvic or abdominal pain, abdominal swelling or bloating (persistent or frequent) and urinary frequency/urgency, but the positive predictive value of these symptoms (the percentage of women who present with the symptoms who actually have ovarian cancer) for ovarian cancer is low because ovarian cancer is uncommon. Nevertheless, the finding of an adnexal mass on examination should prompt further investigation.

ANSWER 4
The presence of a pelvic mass can usually be confirmed with a pelvic ultrasound. The transvaginal approach has greater sensitivity than a transabdominal ultrasound in differentiating benign from malignant ovarian masses. Computed tomography (CT) or magnetic resonance imaging (MRI) can also be used, but have a similar sensitivity and specificity to pelvic ultrasound. A serum CA125 should be ordered in conjunction with imaging as it can be helpful in making a diagnosis of ovarian cancer, particularly if it is very high. However, false positive and false negative results can occur. CA125 can be elevated in other malignancies (e.g., breast, lung, colon, pancreas) and in benign conditions (e.g., endometriosis, cysts, pelvic inflammatory disease) and may be normal, particularly in early stage ovarian cancer. Therefore, results should be interpreted alongside other information. There are scoring systems that can be applied that combine imaging and blood results to help determine which women would benefit from direct referral to a gynaecological oncology unit. For example, the Risk of Malignancy Index combines a score for:

- ultrasound findings (e.g., multilocular cysts, solid areas, ascites, bilateral lesions and likely metastatic lesions – scored 0 for no features; 1 for one feature; 3 for >one feature)
- CA125 results (absolute level)
- menopausal status (1 for premenopausal; 3 for postmenopausal).
The results for the three factors are multiplied together to calculate the score with a cut-off of 200 used to discriminate between benign and malignant.5

ANSWER 5

Given the ultrasound findings and marked elevation of the CA125, ovarian cancer is the most likely diagnosis and Marjorie should be referred directly to a gynaecological oncology centre or gynaecological oncologist who works as part of a multidisciplinary team.6 The treatment and supportive care needs of women with ovarian cancer are complex and ongoing. Thus, coordinated multidisciplinary care with input from specialist clinicians, nurses and allied health professionals can improve outcomes (eg patient satisfaction, mental wellbeing and timeliness of treatment) for these women.6

Cytoreductive surgery and chemotherapy (either neoadjuvant or after primary cytoreductive surgery) are the mainstays of ovarian cancer treatment. The aim of cytoreductive surgery is to remove all macroscopic disease because this has been shown to significantly improve survival.3 Ensuring Marjorie is assessed by a specialist gynaecological oncologist will increase the likelihood that the best surgical result possible is achieved for her.

ANSWER 6

There has been little research that has investigated whether lifestyle (eg diet, physical activity) can improve outcomes for women with ovarian cancer. However, some evidence suggests that physical activity might help patients complete chemotherapy with fewer dose reductions and delays.7 Being physically active has also been associated with better overall and cancer-specific survival among women with breast8 and colorectal cancer.9 Low-to-moderate intensity physical activity (eg walking) three to five times a week for around 20 minutes per session may help.10 While there is no specific evidence of survival benefit, maintaining a healthy lifestyle in terms of diet, avoiding smoking, and moderating alcohol intake is recommended. There is no specific evidence that the use of supplements or other complementary medicines improves survival, but many cancer patients use these.11 Advise Marjorie that if she decides to use any supplements or complementary medicines, she should let her oncologist know in case there may be interactions with her chemotherapy.

ANSWER 7

The risk of ovarian cancer for a woman with a first-degree relative with ovarian cancer is about three times that of women without a family history.12 Although Marjorie has no family history of ovarian or breast cancer, it has been shown that as many as 17% of women with high-grade serous cancers carry a BRCA mutation13 and up to half of those with a mutation have no suggestive family history. As a result, it has been recommended that all women younger than 70 years of age who are diagnosed with high-grade (G2, G3) non-mucinous ovarian, fallopian tube or primary peritoneal cancers be routinely referred for genetic counselling and screening.14 If Marjorie has not already been tested for a BRCA mutation, consider discussing this with her and her oncologist or gynaecological oncologist, particularly given her concerns about her daughters.

If Marjorie has a BRCA mutation, then her daughters should be counselled and offered screening for the mutation as well and, if positive, can be counselled about risk reducing surgery such as bilateral salpingo-oophorectomy.15 Use of the oral contraceptive pill significantly reduces the risk of ovarian cancer, so if there are no contraindications to its use and contraception is required, then this option could be discussed with Marjorie's daughters.15 Higher parity, tubal ligation and prolonged episodes of breastfeeding are also associated with reduced risk,16 but are generally less amenable to modification for the purposes of cancer prevention, particularly in women who have already completed their families.

Two large, randomised trials have been published, which assessed whether screening for ovarian cancer using CA125 and ultrasonography reduces ovarian cancer mortality (from the US and the UK). The US study found screening did not reduce ovarian cancer mortality.17 The primary analysis of the UK study results also showed mortality was not significantly lower in the screened group, although a secondary analysis with removal of prevalent cases at baseline screening showed a small mortality reduction that was observed only seven to 14 years after screening commenced.18 Further follow-up is required to clarify these findings, but at this time screening with CA125 or ultrasonography is not recommended for women from the general population or for women at high risk.15

ANSWER 8

As for most cancers, fear of recurrence is common in women with ovarian cancer.19 Anxiety (distress) is commonly associated with insomnia among women with ovarian cancer20 so this should be considered high on your list of differential diagnoses. Clinical practice guidelines recommend routine psychosocial screening of patients with cancer after completion of primary treatment and during follow-up.21 If there are indications that Marjorie has clinical levels of anxiety, she may benefit from referral to a clinical psychologist (with Medicare rebates available through the MBS Better Access program [www.health.gov.au/mentalhealth-betteraccess]). Check to see what psychosocial supports Marjorie has and whether she needs additional help.

ANSWER 9

In consultation with her oncology team, consider discussing with Marjorie how palliative care might benefit her and how community-based services might be used to assist with her care and support needs. Early use of palliative care has been shown to lengthen survival, minimise physical and emotional symptoms and cost, and minimise caregiver burden.5 Some patients might feel that palliative care is equivalent to giving up hope. You should emphasise that this approach does not denote a defeatist or hopeless attitude, and that early introduction of palliative care can provide patients with better physical and emotional symptom control. Typically, overall quality of life declines sharply in the six months before death from ovarian cancer.22 Lack of energy, anorexia, abdominal swelling, nausea and pain generally increase in prevalence and severity towards the end of life. It is important to help Marjorie and her family realise the concurrent goals of maximising comfort along the cancer journey and being prepared for the challenges ahead.22

RESOURCES FOR PATIENTS

- Ovarian Cancer Australia, https://ovariancancer.net.au

RESOURCES FOR DOCTORS

Cancer Institute NSW. eviQ, www.eviq.org.au

REFERENCES
CASE 1 – CLARENCE
Clarence, 62 years of age, presents for repeat prescriptions for his antihypertensive medication and a flu vaccination. While administering the vaccination, you notice a red patch on his upper arm. You ask Clarence about the patch and he tells you that he has had it for a few months but it is not sore or itchy, so he has not been worried about it. He did notice a few days ago that the area is bigger than when it first appeared. You do a dermatoscopy examination, which reveals arborising vessels and a blue-grey, leaf-like pattern.

QUESTION 1
What is the most likely diagnosis?
A. Psoriasis
B. Solar keratosis
C. Basal cell carcinoma (BCC)
D. Amelanotic melanoma

FURTHER INFORMATION
Biopsy of the area confirms that the lesion on Clarence’s arm is a superficial BCC.

QUESTION 2
What is the treatment schedule for imiquimod?
A. Apply twice a day until the lesion clears.
B. Apply three days a week for 16 weeks.
C. Apply morning and night for six weeks.
D. Apply five nights a week for six weeks.

QUESTION 3
What is the success rate for treating superficial BCCs with imiquimod?
A. 99%
B. 80%
C. 50%
D. 30%

CASE 2 – HAZEL
Hazel celebrated her 50th birthday three months ago and a week ago, she received a kit for a faecal occult blood test (FOBT) from the National Bowel Cancer Screening Program (NBCSP). She sees you today for a Pap smear and asks you about the FOBT. She tells you that she is not keen on doing the test but is curious about the implications of a positive result. You discuss the test and the benefits of early detection of cancer with Hazel, and strongly encourage her to participate in the screening program.

QUESTION 4
Which of the following statements regarding a positive FOBT result is true?
A. The chance of finding a colon cancer is one in 32.
B. The chance of finding an advanced adenoma is one in 32.
C. The positive predictive value is 23% for cancer.
D. The positive predictive value is 4.3% for advanced adenoma.

QUESTION 5
What can you tell Hazel about five-year survival rates following treatment of early stage colorectal cancer that is limited to the bowel mucosa?
A. Five-year survival rates are up to 99%.
B. Five-year survival rates are up to 93%.
C. Five-year survival rates are up to 89%.
D. Five-year survival rates are up to 82%.

FURTHER INFORMATION
Hazel does the FOBT and, to her dismay, the result is positive. Follow-up tests show that she has stage 1 (Dukes A) colorectal cancer and she undergoes laparoscopic excision of the tumour. The surgery is successful and Hazel is relieved to learn that there is no evidence that the cancer has spread beyond the colon.
**QUESTION 6**
What follow-up investigations should you recommend for Hazel?
A. Full blood evaluations (FBEs) every three months for the first year after diagnosis and every two years thereafter.
B. Carcinoembryonic antigen (CEA) 3 testing every three months after diagnosis for the first year after diagnosis and every year thereafter.
C. Abdominopelvic computed tomography (CT) every two years after diagnosis.
D. Colonoscopy at 12 months after diagnosis and every two to three years thereafter.

**CASE 3 – SAMANTHA**
Samantha, 48 years of age, is one of your regular patients. She had surgery two months ago to remove a tumour in her left breast. She has commenced treatment with tamoxifen and comes to see you about side effects of the treatment and her concern about her daughters and sisters developing breast cancer.

**QUESTION 7**
Which of the following is a common side effect of tamoxifen?
A. Night sweats
B. Mood swings
C. Depression
D. Cataracts

**QUESTION 8**
How can you best address Samantha’s concerns about the other women in her family developing breast cancer?
A. Reassure Samantha that only a small percentage of women have a genetic predisposition for breast cancer.
B. Advise Samantha to encourage her daughters and sisters to have genetic testing to determine their risk of developing breast cancer.
C. Do a familial risk assessment.
D. All of the above are correct.

**CASE 4 – HILARY**
Hilary, 48 years of age, presents with abdominal discomfort and bloating that have persisted for the past three weeks. She has a poor appetite and has not been eating much, but has noticed some weight gain. You take a thorough history and examine Hilary. She does not have any past history of illness, is not on any medication and has regular periods. On examination, you detect a pelvic mass and order a pelvic ultrasound and blood tests to check for an ovarian malignancy. The ultrasound findings include the presence of a pelvic mass and ascites. Her CA125 level is 90 U/mL.

**QUESTION 9**
What is Hilary’s malignancy risk index (RMI) score?
A. 810

**QUESTION 10**
Which of the following statements regarding CA125 testing is true?
A. CA125 levels of <35 U/mL excludes the possibility of ovarian cancer.
B. CA125 can be elevated in benign conditions such as endometriosis and pelvic inflammatory disease.
C. CA125 levels above 200 U/mL confirms a diagnosis of ovarian cancer.
D. All of the above are true.