

Clinical challenge

These questions are based on the Focus articles in this issue. Please choose the single best answer for each question.

CASE 1

Betty, a woman aged 63 years, asks for your advice regarding possible treatments suggested by her oncologist for melanoma.

QUESTION 1

Which immune checkpoint inhibitor was the first to be approved for treatment use?

- A. Ipilimumab
- B. Pembrolizumab
- C. Nivolumab
- D. Relatlimab

QUESTION 2

Nearly half of all patients with melanoma have tumours carrying a mutation in which gene?

- A. *FLCN*
- B. *BRCA*
- C. *PTEN*
- D. *BRAF*

QUESTION 3

In stage III melanoma, with regional lymph node or in-transit metastases, one year of postoperative therapy with anti-PD-1 agents or BRAF/MEK inhibitors reduces recurrence risk by approximately:

- A. One-quarter
- B. One-third
- C. Half
- D. Three-quarters

CASE 2

Frank, a man aged 72 years, presents to discuss a new lesion he has noticed on his left forearm.

QUESTION 4

What percentage of Australians are expected to have at least one basal cell carcinoma or cutaneous squamous cell carcinoma excised in their lifetime?

- A. 40%
- B. 50%
- C. 60%
- D. 70%

QUESTION 5

OncoBeta epidermal radioisotope therapy using the beta emitting rhenium-188 radioisotope is applied as a:

- A. paste
- B. lotion
- C. cream
- D. patch

CASE 3

Thomas, a man aged 39 years, presents to ask about the use of artificial intelligence as part of his skin check.

QUESTION 6

Difficult-to-image areas present difficulties in sequential photography and artificial intelligence use. These areas include skin folds, the groin and:

- A. acral surfaces
- B. the chest
- C. the back
- D. the shoulders

QUESTION 7

Personalised treatment plans developed by artificial intelligence might incorporate patient characteristics including age, sex, comorbidities and:

- A. use of medications
- B. Fitzpatrick skin type
- C. preferred holiday destinations
- D. cancer screening adherence

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The five domains of general practice

- (D1) Domain 1: Communication skills and the patient-doctor relationship
- (D2) Domain 2: Applied professional knowledge and skills
- (D3) Domain 3: Population health and the context of general practice
- (D4) Domain 4: Professional and ethical role
- (D5) Domain 5: Organisational and legal dimensions

These domains apply to all Focus articles, which are required reading for the Clinical challenge CPD activity.

How to use AJGP for your CPD

Each issue of the *Australian Journal of General Practice (AJGP)* has a focus on a specific clinical or health topic. Many GPs find the entire issue of interest and of relevance to their practice; some GPs find one or more articles in the journal relevant.

You can use *AJGP* for your CPD. If you want to use the entire issue for CPD, you must work your way carefully through each article in the issue and complete the Clinical challenge. When you do this, take time to read the articles carefully and critically, and think carefully about how you might adjust your practice in response to what you have learned.

We recommend that you access *AJGP*, the articles and the Clinical challenge through *gplearning* (<https://gpl.racgp.org.au/d2l/home>) (Activity ID: 920843). Then, when you complete the articles and the Clinical challenge, your CPD hours are automatically credited to your CPD account. If you work through the full issue of *AJGP* and complete the Clinical challenge, you will receive 16 CPD hours (eight hours' Educational Activities and eight hours' Reviewing Performance).

If you do not want to do the full *AJGP* issue, and you prefer to select one or more articles to read, you can QuickLog the CPD hours directly through your myCPD dashboard. As guidance, each article in *AJGP* would provide 1-2 CPD hours, split half Educational Activities and half Reviewing Performance.



CASE 4

Jessica, a woman aged 44 years, tells you she is worried about melanoma overdiagnosis while you examine a lesion on her back.

QUESTION 8

The definition of melanoma overdiagnosis excludes cases where there are:

- A. false-positive results
- B. true-positive results
- C. true-negative results
- D. false-negative results

QUESTION 9

Which group of practitioners manage the highest number of melanomas?

- A. Dermatologists
- B. Medical oncologists
- C. General practitioners
- D. Plastic surgeons

QUESTION 10

A study using the Skin Cancer Audit Research Database (SCARD) has investigated how sub-specialisation in skin cancer management affects the excision rate of benign lesions for each melanoma detected. Compared to general practitioners (GPs) who are not sub-specialists, GPs who are sub-specialists excise how many fewer benign lesions for each melanoma detected?

- A. 10%
- B. 30%
- C. 50%
- D. 70%

These questions are based on the Focus articles in this issue. Please write a concise and focused response to each question.

CASE 1

Betty, a woman aged 63 years, asks for your advice regarding possible treatments suggested by her oncologist for melanoma.

QUESTION 1

Define immune checkpoints and the effect of their blockade.

QUESTION 2

List the five most common systems to be affected by immune-related adverse events during treatment with immune checkpoint inhibitors.

QUESTION 3

What symptoms and/or signs associated with initial immune checkpoint inhibitor treatment could suggest rare but potentially life-threatening toxicity?

CASE 2

Frank, a man aged 72 years, presents to discuss a new lesion he has noticed on his left forearm.

QUESTION 4

Describe how volumetric modulated arc therapy works.

QUESTION 5

List eight indications for a general practitioner to consider referral for radiotherapy in keratinocyte cancer.

CASE 3

Thomas, a man aged 39 years, presents to ask about the use of artificial intelligence as part of his skin check.

QUESTION 6

How do you describe 3D total body imaging and its use of artificial intelligence to Thomas?

QUESTION 7

List six possible future applications for artificial intelligence in the diagnosis and treatment of melanoma.

CASE 4

Jessica, a woman aged 44 years, tells you she is worried about melanoma overdiagnosis while you examine a lesion on her back.

QUESTION 8

Define melanoma overdiagnosis.

QUESTION 9

Discuss the potential harms of melanoma overdiagnosis.

QUESTION 10

Describe the relationship between excess melanoma deaths and melanoma diagnosis rates by geographical region.

August 2024 Multiple-choice question answers

ANSWER 1: C

Australian guidelines recommend elliptical excision as the preferred diagnostic procedure. Deep shave excision and punch excision methods might also be used for complete excision but are more often associated with positive margins than elliptical excision with primary closure. Hence, deep shave excision and punch excision methods are not the primary recommendation. Where melanoma is a significant differential, shave excision is only appropriate if the clinician is confident the lesion can be removed in width and depth.

ANSWER 2: B

Vitamin B3 is currently recommended at an oral dose of 500 mg twice daily as a chemo-preventative adjunct in high-risk, immune-competent patients with a history of multiple keratinocyte cancers. At this point, it is not recommended for lower-risk individuals without a history of keratinocyte cancer.

ANSWER 3: B

Sunscreen is currently recommended to be applied when the ultraviolet (UV) index is 3 or greater as part of a daily routine to provide baseline level of protection during incidental sun exposure. In addition, if planning on being outdoors at times of the day when the UV index is 3 or more, all five sun protection measures should be used (slip on a shirt, slop on sunscreen, slap on a hat, seek shade, and slide on sunglasses).

ANSWER 4: C

In Australia, acitretin, an oral retinoid, requires referral to a dermatologist for a prescription. This treatment is decided on a case-by-case basis. Higher doses will result in greater clearance of actinic damage and lowered incidence of squamous cell carcinoma but the prescription of acitretin will be limited by side effects. Doses of 10–20 mg daily are usually tolerated with resultant benefit.

ANSWER 5: A

Imiquimod is approved by the Therapeutic Goods Administration for the treatment of actinic keratosis and superficial basal cell carcinomas. Fluorouracil is approved by the Pharmaceutical Benefits Scheme for the treatment of actinic keratosis.

ANSWER 6: D

Diclofenac 3% (Solaraze®) is applied topically twice daily over three months. While side effects are usually mild, treatment efficacy is generally less than other field treatments and the longer duration of treatment limits adherence.

ANSWER 7: B

The length of an elliptical excision should be at least three times the width of the lesion. This minimises the elevation of the tips of the ellipse (dog ear) once the wound is closed.

ANSWER 8: B

The pre-treatment use of a keratolytic containing salicylic acid for two weeks prior can improve the efficacy of field treatment by reducing the amount of surface keratin present in the field area.

ANSWER 9: B

Dehydration is accomplished via a graded series of alcohol baths of increasing concentration. Extracting aqueous fluid allows molten paraffin wax to infuse the tissue thoroughly during later infiltration. Intermediate clearing baths utilise solvents such as xylene to extract residual alcohol and optical-clarify the tissues, thereby facilitating uniform wax impregnation.

ANSWER 10: A

Once the pathology report has been issued, there is a standard requirement that any unprocessed tissue is retained for a month, that slides, blocks and reports be retained for a minimum of 10 years, and that processed paediatric specimens be retained in perpetuity. This allows further evaluation if the clinical circumstances evolve, or if additional investigations are required.

August 2024 Short answer question answers

ANSWER 1

Three specific indications for the use of shave procedures in the management of melanoma are:

- initial removal of small, pigmented lesions where in situ or superficially invasive melanoma is a differential
- sampling of lesions where complete excision is untenable due to size or site
- mapping the extent of large lentigo maligna.

ANSWER 2

It is important to note that shave excision in the management of melanoma should not be performed without training in lesion selection and technique. The five benefits of shave excision include:

- superior outcomes in terms of earlier identification of melanomas
- more likely to capture diagnostically difficult melanomas
- reduced costs to the patient, the practice and the healthcare system
- enhanced compliance as it is a same-day procedure
- satisfactory cosmesis in the majority of cases.

ANSWER 3

Factors associated with an increased risk of squamous cell carcinoma are:

- total lifetime exposure to UV radiation
- immunosuppression
- age-related decline in immune function.

ANSWER 4

Four secondary skin cancer prevention strategies that general practitioners can suggest are:

- educate patients about how to examine their own skin between formal skin checks
- encourage individuals to present to a doctor with a lesion of concern
- enrol high-risk individuals into a surveillance program
- for melanoma; 6-12 monthly skin checks with a trained clinician.

ANSWER 5

Seven features that increase the malignant potential of actinic keratosis into squamous cell carcinoma are:

- polymorphic vessels on dermoscopy
- history of rapid growth
- tenderness
- hyperkeratosis
- thickness of the base
- induration
- surrounding erythema.

ANSWER 6

These are three features that might make squamous cell carcinoma in situ in terminal hair-bearing areas (eyebrows and scalp) more suited to management with surgical excision than cryotherapy.

- The cancer might tract deep down into the epidermis surrounding the hair follicle infundibula, especially in larger lesions.
- Longer duration of lesion.
- Immunosuppression present.

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ANSWER 7

These are three considerations to improve effectiveness when performing field treatment of solar damaged skin.

- Selection with consideration of field site, patient factors and treating doctor's expertise.
- Cryotherapy of individual (thicker) lesions pre-field treatment might reduce the burden of disease.
- Pre-treatment use of a keratolytic containing salicylic acid (eg CeraVe SA®) for two weeks prior can improve treatment efficacy by reducing the amount of surface keratin present.

ANSWER 8

These are four pain management strategies to be used with conventional photodynamic therapy in field treatment.

- A moderate to strong analgesia.
- A topical anaesthetic one hour prior to treatment.
- Nerve block.
- The use of cooled air directed onto the treatment field.

ANSWER 9

Three considerations for deciding whether to perform an excisional, punch or shave biopsy for a suspicious lesion are as follows:

- Suspected clinical diagnosis – Pigmentation raises the possibility of melanoma. Excisional biopsy is the preferred method for less-experienced clinicians.
- Thickness or induration of non-pigmented lesion – A shave sample is usually appropriate for a pink macule or scaly non-indurated patch, while a nodule or indurated plaque is usually more suited to a punch biopsy. Either technique is suitable for a flat lesion, as long as a large enough sample is taken.
- Consideration of what diagnosis needs to be excluded – Sampling the correct tissue to exclude the more dangerous diagnosis leads to safer clinical outcomes.

ANSWER 10

These are the three different sampling methods used by Australian histopathology laboratories that can explain the variation in reported skin cancer recurrence rates:

- One-third of laboratories cut the specimen into parallel slices about 3 mm thick, spanning the entire length of elliptical specimens.
- Another one-third uses a similar slicing method but does not encompass the entire specimen.
- The remaining laboratories similarly sample the visibly affected parts of the lesion and additionally obtain longitudinal sections from the ellipse's poles but discard intervening tissue.