Skin Lesion Excision

This pathway is for adults with suspected skin malignancy, including melanoma. See also Suspected Melanoma and Melanoma Referral Pathways.

Disclaimer

Contents

Disclaimer ........................................................................................................................................... 1
Assessment .......................................................................................................................................... 2
  Non-surgical options .......................................................................................................................... 2
  Technically difficult non-melanoma lesion ......................................................................................... 2
  Excisional biopsy .............................................................................................................................. 2
  Melanoma .......................................................................................................................................... 2
  Clinical features of a high-risk BCC or SCC .................................................................................... 3
  Histological features of a high-risk BCC or SCC ............................................................................ 3
  Clearance margins2,3 .......................................................................................................................... 4
  Characteristics suitable for general practitioner excision ............................................................... 4
Management ......................................................................................................................................... 5
  Risks .................................................................................................................................................. 5
  Partial biopsy of skin lesions ............................................................................................................ 5
  Mark the lesion .................................................................................................................................. 6
  Anaesthetise the skin ........................................................................................................................ 7
  Excise the lesion ............................................................................................................................... 7
  Suture selection ............................................................................................................................... 7
  Follow-up of skin lesion excision (excisional biopsy) ................................................................. 8
Referral ................................................................................................................................................ 8
  Cosmetic or technical concerns ....................................................................................................... 8
Information .......................................................................................................................................... 9
Assessment

1. If the lesion is not melanoma or other high-risk lesion (see Suspected Melanoma for detecting non-pigmented melanoma), consider the feasibility of non-surgical options for:

   **Non-surgical options**
   - Cryotherapy
   - Topical fluorouracil, e.g. Efudix cream
   - Topical imiquimod, e.g. Aldara cream
   - Curettage
   - Skin monitoring including serial photography

   - low-risk non-melanoma lesions (e.g., SCC in situ, superficial BCC).
   - multiple superficial or wide field lesions.

2. Assess for excisional biopsy. If technically difficult non-melanoma lesion, or unsure of clinical diagnosis of non-melanoma lesion, before referring for excisional biopsy, perform punch biopsy or central shave, preserving margins.

   **Technically difficult non-melanoma lesion**
   Consider referring to a general surgeon, plastic surgeon, or dermatologist for specialist assessment for lesions of:
   - trunk or extremity lesion greater than 15 mm.
   - periorcular region, ears, eyelid, lips, nose, genitalia.
   - face, especially if greater than 5 mm, where scarring may be problematic.
   - scalp, especially if greater than 10 mm diameter.

   **Excisional biopsy**
   Most persistent, enlarging, or rapidly growing skin lesions will require excision biopsy, whether pigmented, nodular, or not. Excision biopsy is the preferred treatment to avoid missing these types of melanomas.¹

   Perform excisional biopsy for all lesions where risk and uncertainty exists. Excise rather than observe.

   Excision biopsy must be performed if practicable for:
   - all lesions where melanoma is a possibility, even if non-pigmented. See also Suspected Melanoma.

   **Melanoma**
   - Do not perform punch, shave, or other non-excisional biopsy on lesions with high suspicion of melanoma (exceptions follow).
   - Unless impractical, shave biopsy is preferred over punch as it is less likely to miss an area of dysplasia or neoplasia.
   - If suspected early change in an existing lentigo and initial excision is impractical, perform shave biopsy, if possible (otherwise perform punch biopsy), as preparation for excision e.g:
     - lesions with a low probability of melanoma.
     - large lesions where the size precludes easy excision, and referral is not initially indicated.
   - Shave biopsy of the middle of lesions provides diagnostic information without obscuring margins.
   - While shave biopsy may provide early diagnosis, it is not a treatment and results maybe prognostically misleading.

   - **clinical features of a high-risk BCC or SCC**.
Clinical features of a high-risk BCC or SCC

These features correlate with an increased likelihood of positive excision margins, loco-regional recurrence, and/or surgical complication rates.

- Larger than:
  - 20 mm on trunks or extremities
  - 10 mm on cheek, forehead, or scalp
- Rapid growth
- Recurrent lesions – previously incomplete excision of lesion, and any previously treated area (cryotherapy, curette and cautery, excision)
- Incompletely excised lesions – consider re-excising to achieve clear margins
- Lesions fixed to underlying structures
- Lesions involving or lying adjacent to significant nerves, e.g. facial or accessory nerve
- Poorly defined lesions
- Lesions with regional lymph node metastasis
- Cosmetically sensitive sites, e.g. central face, nose, ears, lips, periocular
- Functionally important sites, e.g. digits, genitalia, hands, feet
- Immunosuppressed patients, e.g. those with solid organ transplant, chronic lymphocytic leukaemia, or HIV
- Primary mucosal SCC

- Histological features of a high-risk BCC or SCC.

Histological features of a high-risk BCC or SCC

These features correlate with an increased likelihood of positive excision margins, loco-regional recurrence, and/or surgical complication rates.

- Depth of invasion more than 4 mm
- Perineural or vascular invasion
- Extension into subcutaneous fat
- BCC:
  - Micronodular
  - Infiltrative
  - Morphoeic (sclerosing)
- SCC:
  - Poorly differentiated
  - High-risk histological variants of SCC:
    - Spindle cell carcinoma
    - Acantholytic SCC
    - Adenosquamous tumours

3. Perform clinical examination for metastasis. If enlarged lymph nodes in drainage fields or hepatomegaly, refer to a general surgeon who treats complex melanoma for staging, e.g. sentinel node biopsy, CT, or PET imaging. See Suspected Melanoma.
4. If proceeding with excision, assess whether:

- direct closure is possible. Recommended clearance margins depend on lesion type.

<table>
<thead>
<tr>
<th>Clearance margins²³</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial excision</strong></td>
</tr>
<tr>
<td>Suspected melanoma</td>
</tr>
<tr>
<td>Benign lesions, dysplastic naevi</td>
</tr>
<tr>
<td>BCC nodular</td>
</tr>
<tr>
<td>BCC other</td>
</tr>
<tr>
<td>SCC in situ (Bowen’s disease)</td>
</tr>
<tr>
<td>SCC</td>
</tr>
<tr>
<td><strong>Re-excision</strong></td>
</tr>
<tr>
<td>Melanoma in situ</td>
</tr>
<tr>
<td>Lentigo maligna</td>
</tr>
<tr>
<td>Thin &lt; 1 mm Breslow thickness⁴</td>
</tr>
<tr>
<td>Intermediate 1 to 4 mm Breslow thickness⁴</td>
</tr>
<tr>
<td>Thick &gt; 4 mm Breslow thickness⁴</td>
</tr>
<tr>
<td>Histological margin for SCC or BCC &lt; 1 mm</td>
</tr>
</tbody>
</table>

This table is a guide only. Recommended excision margins depend on many variables and involve weighing risks of wider excision with those of recurrence. Definitive evidence based recommendations remain elusive. Best practice relies on thorough deliberative evidence based consensus guidelines (still in review 2019). Updated guidelines will be made available as links in this table when released. Seek specialist advice if in doubt.

- lesion has characteristics suitable for general practitioner excision.

**Characteristics suitable for general practitioner excision**

- Patient and GP expectations have been discussed and aligned.
- The general practitioner is proficient and confident of the procedure, managing aftercare and follow-up.

**General practitioner proficiency and skin lesions**

- The aim of peer referral is to avoid specialist overload without compromising medical care.
- Dermatoscopy and clinical photography are examples of techniques where specialist referral can often be avoided.
- Most GPs will rely on specialist treatment for advanced excision techniques which require specific training e.g., skin flaps, curettage and cautery.
- Advanced GP training is available through the [RACGP Certificate of Primary Care Dermatology](#).

- Well-defined primary lesions of:
  - trunk and extremities that are less than 15 mm diameter.
  - the face that are less than 5 mm diameter and risk of scarring discussed.
  - the scalp that are less than 10 mm diameter.
- Clinically or histologically less than 4 mm thick.
5. Consider referral to a general surgeon, plastic surgeon, or dermatologist for specialist assessment if:
   - located on:
     o trunk or extremity lesion greater than 15 mm.
     o periorcular region, ears, eyelid, lips, nose, genitalia.
     o face, especially if greater than 5 mm, where scarring may be problematic.
     o scalp, especially if greater than 10 mm diameter.
   - recurrence, or near a previously treated area.
   - rapidly growing.
   - extending beyond subcutaneous tissue.
   - persisting cosmesis concern after risk discussion.

Management

1. Discuss risks and obtain informed consent for all procedures and treatments, and document in patient records. If the lesion is benign, reassure the patient and explain that removal is for cosmesis only. Explain that if melanoma, re-excision is likely to be required to ensure complete removal.

<table>
<thead>
<tr>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Incomplete removal of skin lesion, requiring further excision or monitoring after initial removal</td>
</tr>
<tr>
<td>o Scarring – hypertrophic, keloid, hypopigmented, stretch scars</td>
</tr>
<tr>
<td>o Bleeding</td>
</tr>
<tr>
<td>o Infection</td>
</tr>
<tr>
<td>o Poor wound healing</td>
</tr>
<tr>
<td>o Numbness and nerve damage – motor or sensory</td>
</tr>
<tr>
<td>o Contour abnormality</td>
</tr>
<tr>
<td>o Asymmetry</td>
</tr>
<tr>
<td>o Disturbance of free margins e.g., eyelid, lips, nasal alar</td>
</tr>
</tbody>
</table>

2. If complete excision with 2 to 5 mm margin is difficult, before referring for excisional biopsy, perform punch biopsy or central shave, preserving margins. Excision biopsy must be performed for all suspicious lesions due to the limitations of partial biopsy. Generally, refer within 2 weeks to one of:
   - Non-acute dermatology assessment
   - Non-acute general surgery assessment
   - Non-acute plastic surgery assessment

<table>
<thead>
<tr>
<th>Partial biopsy of skin lesions</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Do not perform punch, shave, or other non-excisional biopsy on lesions with high suspicion of melanoma (exceptions follow).</td>
</tr>
<tr>
<td>o Unless impractical, shave biopsy is preferred over punch as it is less likely to miss an area of dysplasia or neoplasia.</td>
</tr>
<tr>
<td>o If suspected early change in an existing lentigo and initial excision is impractical, perform shave biopsy, if possible (otherwise perform punch biopsy), as preparation for excision, e.g:</td>
</tr>
<tr>
<td>▪ lesions with a low probability of melanoma.</td>
</tr>
<tr>
<td>▪ large lesions where the size precludes easy excision, and referral is not initially indicated.</td>
</tr>
<tr>
<td>o Shave biopsy of the middle of lesions provides diagnostic information without obscuring margins.</td>
</tr>
<tr>
<td>o If malignancy is suspected, shave biopsy contributes to diagnosis but must be followed by complete excision.</td>
</tr>
</tbody>
</table>
3. **Mark the lesion** and allow for 2 to 5 mm clearance. Recommended excision clearance margins depend on lesion type.

**Mark the lesion**

1) Squeeze the skin to find the relaxed tension lines. Alignment with these lines minimises excision difficulties.

2) Mark the orientation of the relaxed skin tension lines with 2 dots, which will be the ends of your ellipse.

3) Draw an ellipse with an appropriate clearance margin in the orientation of the relaxed skin tension lines, using the 3:1 length:width ratio.

4. Document, or optimally photograph, the lesion for reference after histopathology.
5. **Anaesthetise the skin**

Anaesthetise the skin

Local anaesthetic:
- The majority of skin cancers can be excised with lignocaine 1% with adrenaline 1:100,000.
- The needle tip must continue moving during infiltration to avoid intravascular injection. This is particularly important in elderly patients and highly vascular areas.

Adrenaline:
- Adrenaline is an important addition, especially in vascular areas e.g., face.
- There is no contraindication to the use of adrenaline (epinephrine) in the nose or ears.
- It takes seven minutes to work effectively, so best infiltrated unsterile before preparation.
- It may be used cautiously in fingers and toes if there is no history of peripheral arterial insufficiency. Otherwise plain lignocaine may be used.

6. **Excise the lesion.**

Excise the lesion

- Mark tissue sample for anatomical orientation and note this on the histology request form e.g., a suture may be placed in the superior pole and marked 12 o’clock (excision right arm, suture 12 o’clock superior).
- Ensure the incision plane is perpendicular to the skin surface down to subcutaneous fat.
- In all cases, ensure complete excision.

**Excising the lesion**

7. **Select suture** and close the wound.

Suture selection

- Simple interrupted non-absorbable sutures – for small wound closures, as long as there is no undue tension
- Absorbable deep sutures – may provide better eversion and closure of the wound
- Continuous subcuticular absorbable sutures – useful method of closure that eliminates the need for suture removal and provides longer-lasting wound support without the risk of suture marks
8. Apply a suitable protective dressing.

9. Provide patient with post-operation instructions about [how to take care of sutures](#).

**Follow-up of skin lesion excision (excisional biopsy)**

1. Check histology results for the diagnosis.
2. Ensure adequate clearance margins have been obtained and arrange regular follow up as per the histological diagnosis.¹
3. If excision is incomplete:
   - discuss with the patient and arrange re-excision. Discuss prognosis and expectations of complications, e.g. healing process, scar appearance. If melanoma has been diagnosed, assess Breslow thickness² and manage as per [Established Malignant Melanoma](#).
   - and if re-excision is resisted, use shared decision-making approach, ensuring that risks and benefits of re-excision versus regular review are understood.
   - and the re-excision is not straightforward, consider seeking advice from a dermatologist, plastic surgeon, general surgeon, or radiation oncologist.
4. If lesion histology is uncertain, refer to a skin specialist (dermatologist, plastic surgeon), or a general surgeon within 2 weeks.

**Referral**

[Click here for Melanoma referral Pathways](#)

- If re-excision is required to achieve adequate clearance margins, refer to a dermatologist, general surgeon, or plastic surgeon. If patient prefers conservative approach, consider seeking advice from a dermatologist, plastic surgeon, general surgeon, or radiation oncologist, using a shared decision-making approach.
- Generally, refer to a skin specialist (dermatologist, plastic surgeon), or a general surgeon within 2 weeks if:
  - excision is incomplete and re-excision is not straightforward.
  - complete excision with direct closure is not deemed possible. Perform partial biopsy for non-melanoma lesions before referring.
  - lesion histology is uncertain.
  - there are persisting cosmetic or technical concerns. [Cosmetic or technical concerns](#)

Consider referring lesions of:

<table>
<thead>
<tr>
<th>Location</th>
<th>Suture size</th>
<th>Timing of suture removal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arms or scalp</td>
<td>4-0</td>
<td>7 to 10 days</td>
</tr>
<tr>
<td>Face</td>
<td>5-0 or 6-0</td>
<td>3 to 7 days</td>
</tr>
<tr>
<td>Hands or feet</td>
<td>4-0 or 5-0</td>
<td>10 to 14 days</td>
</tr>
<tr>
<td>Legs</td>
<td>4-0</td>
<td>10 to 14 days</td>
</tr>
<tr>
<td>Palms or soles</td>
<td>3-0 or 4-0</td>
<td>14 to 21 days</td>
</tr>
<tr>
<td>Trunk</td>
<td>3-0 or 4-0</td>
<td>14 to 21 days</td>
</tr>
</tbody>
</table>
- trunk or extremity lesion greater than 15 mm.
- periorcular region, ears, eyelid, lips, nose, genitalia.
- face, especially if greater than 5 mm, where scarring may be problematic.
- scalp, especially if greater than 10 mm diameter.
- persisting concern about cosmetic outcome.

- melanoma where thickness is > 0.75 mm as a sentinel node biopsy is required.
- metastatic melanoma.
- clinical features of a high risk BCC or SCC.
- histological features of a high risk BCC or SCC.

Information

For health professionals

- Cancer Council Australia:
  - Clinical Practice Guide: Basal Cell Carcinoma, Squamous Cell Carcinoma (and Related Lesions) – a Guide to Clinical Management in Australia
  - Optimal Cancer Care Pathway for People with Melanoma
- Department of Human Services – Education Guide: Skin Lesion Excision And Biopsy Items Under Medicare: Item Selection for Excision of Skin Lesions
- DermNet NZ – Skin Cancer

For patients

- DermNet NZ – Risks and Complications of Skin Surgery
- Healthdirect – Caring for Sutures

Sources

References


Disclaimer