Quality Statements to Guide Melanoma Diagnosis and Treatment in New Zealand

THIRD EDITION
2023
Endorsed by

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# Contents

<table>
<thead>
<tr>
<th>Purpose</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
<td>2</td>
</tr>
<tr>
<td>Glossary of terms</td>
<td>3</td>
</tr>
<tr>
<td>AJCC: Melanoma of the skin staging (8th edition)</td>
<td>7</td>
</tr>
<tr>
<td>The quality statements</td>
<td>8</td>
</tr>
<tr>
<td>Quality statements 1: Prevention and early detection</td>
<td>13</td>
</tr>
<tr>
<td>Quality statement 1.1: Prevention and early detection of melanoma</td>
<td>13</td>
</tr>
<tr>
<td>Quality statement 1.2: Training of primary health care professionals</td>
<td>17</td>
</tr>
<tr>
<td>Quality statement 1.3: People at increased risk of melanoma</td>
<td>19</td>
</tr>
<tr>
<td>Quality statements 2: Timely Access to Services</td>
<td>21</td>
</tr>
<tr>
<td>Quality statement 2.1: Timely Access to Services</td>
<td>21</td>
</tr>
<tr>
<td>Quality statements 3: Investigation, diagnosis and staging</td>
<td>23</td>
</tr>
<tr>
<td>Quality statement 3.1: Patient access to trained health care professionals</td>
<td>23</td>
</tr>
<tr>
<td>Quality statement 3.2: Excision of melanocytic lesions</td>
<td>25</td>
</tr>
<tr>
<td>Quality statement 3.3: Histopathological reporting</td>
<td>27</td>
</tr>
<tr>
<td>Quality statement 3.4: Time to pathological diagnosis</td>
<td>29</td>
</tr>
<tr>
<td>Quality statement 3.5: Sentinel node biopsy reporting</td>
<td>30</td>
</tr>
<tr>
<td>Quality statement 3.6: Radiological staging</td>
<td>31</td>
</tr>
<tr>
<td>Quality statements 4: Multidisciplinary care</td>
<td>36</td>
</tr>
<tr>
<td>Quality statement 4.1: Multidisciplinary meetings</td>
<td>36</td>
</tr>
<tr>
<td>Quality statements 5: Treatment</td>
<td>38</td>
</tr>
<tr>
<td>Quality statement 5.1: Re-excision of histologically confirmed melanomas</td>
<td>38</td>
</tr>
<tr>
<td>Quality statement 5.2: Desmoplastic/neurotropic melanoma</td>
<td>42</td>
</tr>
<tr>
<td>Quality statement 5.3: Sentinel node biopsy technique</td>
<td>44</td>
</tr>
<tr>
<td>Quality statement 5.4: Therapeutic/Completion lymphadenectomy</td>
<td>47</td>
</tr>
<tr>
<td>Quality statement 5.5: Adjuvant and neoadjuvant therapy</td>
<td>51</td>
</tr>
<tr>
<td>Quality statement 5.6: Patients with loco-regionally recurrent, locally advanced and stage IV melanoma</td>
<td>54</td>
</tr>
<tr>
<td>Quality statements 6: Follow-up and surveillance</td>
<td>57</td>
</tr>
<tr>
<td>Quality statement 6.1: Clinical follow-up and surveillance</td>
<td>57</td>
</tr>
</tbody>
</table>
Quality statement 6.2: Patient self-examination 62
Quality statement 6.3: Follow-up cross-sectional imaging 64
Quality statement 6.4: Ultrasound imaging of draining node basins 70

Quality statements 7: Supportive Care 72
Quality statement 7.1: Supportive care 72

Quality statements 8: Care Coordination 74
Quality statement 8.1: Care coordination 74

Appendices 75
Appendix 1: National Melanoma Working Group members 75
Appendix 2: Example templates and associated guidance 76
Appendix 3: Example melanoma follow-up schedule 87
Appendix 4: Feedback contributors 88
Appendix 5: Summary of changes 90
Purpose

High-quality cancer care in New Zealand requires a nationally consistent, coordinated approach that advances equity and person-centred care.

The quality statements contained in this resource have been developed by the National Melanoma Working Group (NMWG) (see Appendix 1) and the Melanoma Network of New Zealand (MelNet),¹ in partnership with a wide range of sector experts and key stakeholders. They focus specifically on melanoma cancer.

The statements aim to reduce New Zealand’s world-leading melanoma incidence rates and improve outcomes for all melanoma patients by guiding and informing work aimed at ensuring national consistency in the access and delivery of quality melanoma care. They are targeted at clinicians but are also a valuable resource for government health organisations, melanoma patients, and their families/whānau.

The statements comprise evidence-based statements that describe good-quality care and are reflective of global best practice. Where there was a lack of evidence, the statements’ development was informed by expert opinion, which was arrived at by consensus.

While it is acknowledged that the resources and protocols of individual centres may differ, the statements are intended to outline best practice and function as the evidence base for quality-improvement activities.

The content is up to date at the time of publishing, and it is intended that the statements be formally reviewed periodically to ensure they remain an up-to-date resource for New Zealand clinicians. However, as a living document they can be updated at any time as new evidence emerges in the prevention, diagnosis and treatment of melanoma. MelNet as the guardian of this document welcomes any feedback outside of formal review periods to enable this to occur.

The intention is that the statements in this document be used to support improvements in quality melanoma care across New Zealand, and inform and align with cancer quality improvement programmes led by New Zealand Government agencies such as Te Aho o Te Kahu, the Cancer Control Agency².

For more information, please go to: http://www.melnet.org.nz/resources

¹ For more information about MelNet, see their website at: www.melnet.org.nz/resources
² For more information about Te Aho o Te Kahu, see their website at: https://teaho.govt.nz
Background

A range of tumour standards were developed by health sector working groups and patient representatives led by the four regional cancer networks that were set up to facilitate the implementation of the New Zealand Cancer Control Action Plan 2005–2010. The first were the 2011 service provision standards for lung cancer patients. These were followed in 2013 by provisional tumour standards for breast, bowel, head and neck, lymphoma, melanoma, myeloma, gynaecological, sarcoma, thyroid and upper gastrointestinal cancers.

In early 2019, the National Melanoma Working Group (NMWG) was convened to update the Standards of Service Provision for Melanoma Patients in New Zealand – Provisional. The NMWG reviewed the melanoma-specific sections of the provisional melanoma standards and updated these based on current evidence and best practice or, where evidence has not been available, through expert opinion, which was arrived at by consensus. The final document was released on the MelNet website in November 2021 and formally launched at the New Zealand Melanoma Summit in February 2022.

The NMWG reconvened in July 2022 and July 2023 with the purpose of reviewing the document to ensure the quality statements continued to reflect latest research and best practice. This resulted in the publication of the second edition in September 2022 and third edition in September 2023. Feedback received during the review processes was considered by the NMWG, of which most has been incorporated. Significant changes to clinical material are included as Appendix 5.

This body of work wouldn’t have been possible without the hard work and robust discussion of the working group members. Thanks must also go to Professor John Thompson, Emeritus Professor of Melanoma and Surgical Oncology, The University of Sydney, for his invaluable peer review, and the numerous individual and groups whose positive feedback has helped shape this document.

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## Glossary of terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tr>
<td>AAD</td>
<td>American Academy of Dermatology</td>
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</table>
| ABCDEFG rule                | A rule to recognise the early signs of melanoma:  
Asymmetry: the spot is not symmetrical like a normal mole or freckle  
Border: the spot has a blurry or jagged edge  
Colour: the spot has more than one colour or changes colour  
Different: the spot is larger than 6 mm diameter or different from the rest of your skin lesions (ugly duckling)  
Elevated: the spot is raised with an uneven surface  
Firm: feels firm to touch  
Growing: over weeks/months |
| Adjuvant therapy            | Additional treatment in the form of radiotherapy or medications                                                                                                                                              |
| AJCC                        | American Joint Committee on Cancer                                                                                                                                                                           |
| Biopsy                      | Removal of tissue to be looked at under a microscope to help in the diagnosis of a disease                                                                                                                    |
| BRAF                        | An oncogene that encodes for the production of a protein called B-Raf, which is involved in signal transduction and regulation of cell division.                                                               |
| Breslow thickness           | The single most important prognostic factor for clinically localised primary melanoma. The deeper the melanoma has grown, the more likely it is that some cells have spread through the blood stream or lymphatic system.  
Breslow thickness or ‘depth’ is measured from the top of the granular layer of the epidermis (or, if the surface is ulcerated, from the base of the ulcer) to the deepest invasive cell across the broad base of the tumour (dermal/subcutaneous) as described by pathologist Alexander Breslow. |
<p>| CAP                         | College of American Pathologists                                                                                                                                                                             |
| CGH                         | Comparative genomic hybridisation                                                                                                                                                                             |
| Chemotherapy                | Treatment with cytotoxic drugs                                                                                                                                                                                |
| CLND                        | Complete lymph node dissection                                                                                                                                                                                |
| CMN                         | Congenital melanocytic naevi                                                                                                                                                                                  |
| CNC                         | Cancer Nurse Coordinator                                                                                                                                                                                      |
| CNS                         | Clinical Nurse Specialist                                                                                                                                                                                     |
| CT                          | Computed tomography                                                                                                                                                                                           |
| Dermatoscopy                | Examination of skin lesions via an incident light magnification system, using immersion oil on the skin surface or a polarised lens so the epidermis appears translucent                                                |
| Desmoplastic melanoma       | Malignant melanocytic tumour with fibroblastic proliferation appearing as an enlarging scar-like plaque                                                                                                      |
| Diagnosis                   | The process of identifying a disease, such as a cancer, from its signs and symptoms                                                                                                                         |</p>
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tbody>
<tr>
<td>DNA</td>
<td>Deoxyribonucleic acid (the molecule that carries the genetic instructions for the development, functioning, growth and reproduction of all living things) or did not attend (an appointment)</td>
</tr>
<tr>
<td>Excisional biopsy</td>
<td>A biopsy where the entire piece of affected tissue is removed for pathological examination</td>
</tr>
<tr>
<td>FAMMM</td>
<td>Familial atypical multiple mole melanoma</td>
</tr>
<tr>
<td>FCT</td>
<td>Faster cancer treatment</td>
</tr>
<tr>
<td>FISH</td>
<td>Fluorescence in-situ hybridisation, the use of DNA sequences linked to a fluorescent marker, which acts as a probe to bind to specific DNA sequences on intact chromosomes</td>
</tr>
<tr>
<td>FNA</td>
<td>Fine-needle aspiration</td>
</tr>
<tr>
<td>FSA</td>
<td>First specialist assessment</td>
</tr>
<tr>
<td>GEP</td>
<td>Gene expression profile</td>
</tr>
<tr>
<td>GP</td>
<td>General practitioner</td>
</tr>
<tr>
<td>GPEP</td>
<td>General practice education programme</td>
</tr>
<tr>
<td>Health care professional</td>
<td>Generic term that includes doctors, nurses and allied health workers.</td>
</tr>
<tr>
<td>Histology</td>
<td>The study of the structure, composition and function of tissues and cells under a microscope</td>
</tr>
<tr>
<td>Ilioinguinal</td>
<td>Pertaining to the pelvis and groin regions</td>
</tr>
<tr>
<td>Incisional biopsy</td>
<td>A biopsy where only part of the affected tissue is removed</td>
</tr>
<tr>
<td>Isolated limb infusion (ILI)</td>
<td>A form of regional chemotherapy for recurrent disease that is confined to a limb</td>
</tr>
<tr>
<td>Langer's lines</td>
<td>Any one of a number of linear striations in the skin that delineate the general structural pattern, direction and tension of the subcutaneous fibrous tissue</td>
</tr>
<tr>
<td>Lesion</td>
<td>An area of abnormal tissue</td>
</tr>
<tr>
<td>Lymph node dissection</td>
<td>Surgical removal of a lymph node(s). Also called lymphadenectomy.</td>
</tr>
<tr>
<td>Lymph nodes</td>
<td>Small oval-shaped structures found in clusters throughout the lymphatic system. They form part of the immune system and are also known as lymph glands.</td>
</tr>
<tr>
<td>Lymphadenopathy</td>
<td>Disease or swelling of the lymph nodes</td>
</tr>
<tr>
<td>Lymphoscintigraphy</td>
<td>A nuclear-medicine-based diagnostic technique using scintillation scanning of technetium-99m antimony trisulphide colloid</td>
</tr>
<tr>
<td>Magnetic resonance imaging (MRI)</td>
<td>A radiological technique used to form pictures of the anatomy and the physiological processes of the body</td>
</tr>
<tr>
<td>MDM</td>
<td>Multidisciplinary meeting. A forum for health professionals with expertise in diagnosing and managing specific cancers to collectively review pertinent clinical information and make timely decisions regarding the recommended optimal treatment and care of individual patients at identified points in their cancer journey.</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
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<tr>
<td>Melanoma</td>
<td>Any of a group of malignant neoplasms that originate in the skin and are composed of melanocytes (skin cells that are capable of producing melanin)</td>
</tr>
<tr>
<td>MELFO</td>
<td>MELanoma FOllow-up study, an international phase 3 randomised trial investigating the effects of a reduced stage-adjusted follow-up schedule for Stage IB-IIC cutaneous melanoma patients</td>
</tr>
<tr>
<td>MEK</td>
<td>Mitogen-activated extracellular signal-regulated kinase</td>
</tr>
<tr>
<td>Metastases</td>
<td>Also known as ‘secondaries’; tumours or masses of cells that develop when cancer cells break away from the original (primary) cancer and are carried by the lymphatic and blood systems to other parts of the body</td>
</tr>
<tr>
<td>Metastasis</td>
<td>The spread of cancer from the primary site (place where it started) to other places in the body via the blood stream or the lymphatic system</td>
</tr>
<tr>
<td>MIA</td>
<td>Melanoma Institute Australia</td>
</tr>
<tr>
<td>Microstaging</td>
<td>A technique used to determine the stage of melanoma and certain squamous cell cancers</td>
</tr>
<tr>
<td>MIS</td>
<td>Melanoma in situ</td>
</tr>
<tr>
<td>MMS</td>
<td>Mohs micrographic surgery</td>
</tr>
<tr>
<td>Naevus/Naevi</td>
<td>A medical term for moles. There are several types, including ‘common,’ which is harmless, and ‘dysplastic,’ which is atypical and may increase the risk of melanoma.</td>
</tr>
<tr>
<td>NCCN</td>
<td>National Comprehensive Cancer Network, a non-profit alliance of more than 30 leading cancer centres in the United States dedicated to improving cancer care.</td>
</tr>
<tr>
<td>New Zealand Cancer Registry (NZCR)</td>
<td>A population-based register of all primary malignant diseases diagnosed in New Zealand, excluding squamous and basal cell skin cancers</td>
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<tr>
<td>NRAS</td>
<td>An oncogene that encodes for the production of a protein called N-Ras, which is involved in the regulation of cell division.</td>
</tr>
<tr>
<td>Positron emission tomography/computed tomography (PET-CT)</td>
<td>A specialised imaging technique that demonstrates uptake of 18FDG in areas of high cell metabolism and can help differentiate between benign and malignant masses</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal protective equipment, anything that is used or worn by a person (including clothing) to minimise risks to the person's health and safety</td>
</tr>
<tr>
<td>Radiotherapy</td>
<td>Treatment using high-energy X-rays to destroy cancer cells</td>
</tr>
<tr>
<td>RCPA</td>
<td>The Royal College of Pathologists of Australasia</td>
</tr>
<tr>
<td>RCT</td>
<td>Randomised controlled trial</td>
</tr>
<tr>
<td>RFS</td>
<td>Recurrence-free survival</td>
</tr>
<tr>
<td>SCAN rule</td>
<td>An alternative to the ABCDEFG rule to identify early signs of melanoma: <strong>S</strong>ore, <strong>C</strong>hanging, <strong>A</strong>bnormal, <strong>N</strong>ew</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
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<tr>
<td>SDELM</td>
<td>Sequential digital epiluminescent microscopy: the capture and assessment of successive macroscopic and dermatoscopic images</td>
</tr>
<tr>
<td>Sentinel node biopsy (SNB)</td>
<td>A procedure in which the sentinel lymph node is removed and examined histologically under a microscope to determine whether cancer cells are present</td>
</tr>
<tr>
<td>Skin lesions</td>
<td>Part of the skin that has abnormal growth or appearance compared with the skin around it</td>
</tr>
<tr>
<td>SLNB</td>
<td>Sentinel lymph node biopsy</td>
</tr>
<tr>
<td>SPECT</td>
<td>Single-proton emission computed tomography (also known as SPET)</td>
</tr>
<tr>
<td>SPF</td>
<td>Sun protection factor, a standard used to measure the effectiveness of sunscreens</td>
</tr>
<tr>
<td>Stage</td>
<td>A way of describing the size of a cancer and how far it has grown. Staging is important because it helps determine the treatments that are required</td>
</tr>
<tr>
<td>Te Aho o Te Kahu, Cancer Control Agency</td>
<td>A government agency created in recognition of the impact cancer has on the lives of New Zealanders. It is charged with leading and uniting efforts to deliver better cancer outcomes for Aotearoa New Zealand. Te Aho o Te Kahu is guided by the goals and outcomes in the National Cancer Action Plan 2019-2029.</td>
</tr>
<tr>
<td>Te Whatu Ora – Health New Zealand</td>
<td>The organisation responsible for ensuring all publicly funded health and disability services, including hospital and specialist services and primary and community care, are provided to all New Zealanders.</td>
</tr>
</tbody>
</table>
| TNM staging | The most widely used cancer staging system and the global standard used to record the anatomical extent of disease. In the TNM system, each cancer is assigned a letter or number to describe the tumour, node and metastases.  
  T refers to the size and extent of the original (primary) tumour  
  N refers to the number of nearby lymph nodes that have cancer  
  M refers to whether the cancer has metastasised (spread from the primary tumour to other parts of the body). |
| Tumour | An abnormal mass of tissue that results when cells divide more than they should or do not die when they should. Tumours may be benign (not cancer) or malignant (cancer). |
| UPF | Ultraviolet protection factor, a standard used to measure the effectiveness of sun protective fabrics |
| US | Ultrasound |
| UVI | UV Index. The measure of the intensity of UVR |
| UVR | Ultraviolet radiation |
AJCC: Melanoma of the skin staging (8th edition)

**Reference**

The quality statements

The quality statements in this resource focus specifically on melanoma cancer. Each statement follows the format outlined below.

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A concise statement that provides guidance on important elements of high-quality health care for the specific topic.</td>
</tr>
<tr>
<td>Rationale</td>
<td>An evidence-based description of why the quality statement is important, including any appropriate additional context.</td>
</tr>
<tr>
<td>Good practice points</td>
<td>Practice points supported either by international literature or the consensus of feedback from consultation with New Zealand clinicians who are involved in providing care to patients with a specific tumour type.</td>
</tr>
<tr>
<td>References</td>
<td>Supporting international/national evidence for the quality statement, rationale and good practice points.</td>
</tr>
</tbody>
</table>

The quality statements described in this resource are listed below, with a hyperlink to the full description for each statement.

<table>
<thead>
<tr>
<th>ID</th>
<th>Quality statement title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Prevention and early detection of melanoma</td>
<td>Prevention and early detection of melanoma is a key priority in reducing the incidence of melanoma and improving melanoma outcomes. It is important that:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• there are adequate prevention strategies that seek to both inform and protect the public regarding the dangers of excessive UVR exposure and its relationship to the rising incidence of melanoma.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• people are offered information on risk factors and the early detection of melanoma</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• there is easily accessible information about referral pathways for anyone who is concerned about suspicious or concerning lesions.</td>
</tr>
<tr>
<td>1.2</td>
<td>Training of primary health care professionals</td>
<td>Primary health care professionals are trained to recognise skin lesions suspicious for melanoma.</td>
</tr>
<tr>
<td>1.3</td>
<td>People at increased risk of melanoma</td>
<td>People at increased risk of melanoma are identified and offered management appropriate to their level of risk.</td>
</tr>
<tr>
<td>ID</td>
<td>Quality statement title</td>
<td>Description</td>
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</tr>
<tr>
<td>2.1</td>
<td>Timely access to services</td>
<td>Patients referred urgently with a high suspicion of melanoma receive their first cancer treatment within 62 days of receipt of referral. Patients referred urgently with a biopsy-confirmed or high suspicion of melanoma (including locally recurrent and metastatic melanoma and excluding melanoma in situ) have their FSA within 14 days of receipt of referral. Urgent diagnostic excision for lesions suspicious for melanoma occurs within 14 days of specialist assessment or image-based triage. Image-guided core or FNA biopsy of suspected tumour occurs within 14 days of the request being received. Patients with a confirmed diagnosis of melanoma (including locally recurrent or metastatic melanoma and excluding melanoma in situ) receive their first cancer treatment within 31 days of the decision to treat.</td>
</tr>
</tbody>
</table>
| 3.1 | Patient access to trained health care professionals        | Patients have access to:  
  - health care professional trained in early detection and diagnosis of melanoma, including the use of dermatoscopy  
  - health care professional trained in surgical skills required to undertake excision and direct closure of in-situ or thin melanoma  
  - health care professional trained in triage and referral of patients with lesions of uncertain diagnosis, thicker melanoma and lesions at sites where surgery is difficult.  
  - melanoma CNS or nurse who specialises in cancer care to coordinate all aspects of their care between secondary and primary care. This health professional should be a member of the MDM. |
<p>| 3.2 | Excision of melanocytic lesions                            | The preferred biopsy technique for excision of melanocytic lesions suspected of being melanoma is a narrow complete excision biopsy, with 2-mm margins, that encompasses the entire lesion and is of sufficient depth to avoid transection at the base. All tissue specimens are sent for formalin-fixed paraffin-embedded histopathology. |
| 3.3 | Histopathological reporting                               | Melanoma is reported histopathologically and staged histopathologically, clinically and radiologically in accordance with the latest (8th edition) AJCC Cancer Staging Manual, 2017 (Amin et al 2017). The pathology report for the diagnosis of primary cutaneous melanoma and lymph node metastases is structured and includes a minimum data set for TNM staging and other variables thought to affect clinical behaviour and survival. |</p>
<table>
<thead>
<tr>
<th>ID</th>
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<th>Description</th>
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<tbody>
<tr>
<td>3.4</td>
<td>Time to pathological diagnosis</td>
<td>A diagnosis of melanoma is reported in 5 working days in 80% of cases, and 90% of cases should have a final report in 10 working days. Cases requiring molecular studies or additional departmental consultation are excluded from this metric; however, these cases should have a provisional report and/or notification to the requesting clinician within 10 working days. Pathology departments should maintain a tracking system to monitor cases awaiting diagnosis and match diagnosis with request when received back in the department.</td>
</tr>
<tr>
<td>3.5</td>
<td>Sentinel node biopsy reporting</td>
<td>The current MIA or RCPA protocol fields are recommended for processing and reporting SNB.</td>
</tr>
<tr>
<td>3.6</td>
<td>Radiological staging</td>
<td>Radiological staging should be requested dependent on melanoma TNM status, level of risk and intended treatment. Oligometastasis may be resectable or treated with radiotherapy. Asymptomatic metastases may be appropriate for immunotherapy with a curative intent. In New Zealand access to this is dependent on radiologically evaluable unresectable or metastatic disease. If patient factors/co-morbidities deem patients unfit for any further treatment, do not perform routine staging.</td>
</tr>
</tbody>
</table>
| 4.1  | Multidisciplinary meetings                     | Patients with the following should be discussed at a MDM:  
- complex reconstruction cases, including MIS  
- stages II (B and C) cases if management decisions are not straightforward  
- stages III and IV cutaneous melanoma cases  
- desmoplastic melanoma  
- melanoma in people under 25 years of age  
- non-cutaneous melanoma. The outcome of the MDM is documented and communicated to the treating clinician, GP and patient. |
<p>| 5.1  | Re-excision of histopathologically confirmed melanomas | Histologically confirmed melanomas are re-excised, with additional clinical margins determined by Breslow thickness. Lesions meeting histological staging AJCC T1b or higher are referred to an appropriately trained and experienced surgical specialist for consideration of SNB staging at the time of the re-excision. |
| 5.2  | Desmoplastic/neurotropic melanoma              | The MDM discusses the potential role of radiation treatment to improve local control in patients with desmoplastic/neurotropic melanoma.                                                                  |</p>
<table>
<thead>
<tr>
<th>ID</th>
<th>Quality statement title</th>
<th>Description</th>
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</table>
| 5.3 | Sentinel node biopsy technique                                                         | SNB staging is offered to patients with T1b or thicker melanoma who could benefit from the procedure and is performed by surgeons trained and experienced in the technique.  
SNB in melanoma is carried out using triple localisation with preoperative lymphoscintigraphy and SPECT scan. Intra-operative localisation is performed with blue dye and a gamma probe. |
| 5.4 | Therapeutic/Completion lymphadenectomy                                                   | An oncological therapeutic lymphadenectomy is offered to all patients with clinically evident nodal disease after appropriate staging and discussion at a melanoma MDM.                                                   |
| 5.5 | Adjuvant and neoadjuvant therapy                                                        | All patients with resected stage III/IV melanoma or stage II (B or C) melanoma are:  
• discussed at a melanoma MDM (if management decisions are not straightforward)  
• considered for adjuvant radiotherapy and/or adjuvant systemic treatment or enrolment in clinical trials.  
• neoadjuvant therapy (i.e., systemic treatment prior to curative intent surgery) is a rapidly evolving area for locally advanced melanoma. Enrolment into clinical trial should be encouraged. |
| 5.6 | Patients with loco-regionally recurrent, locally advanced and stage IV melanoma         | Patients with loco-regionally recurrent, locally advanced or stage IV melanoma are seen or discussed by melanoma specialists experienced in the care of melanoma patients and part of a melanoma MDM. |
| 6.1 | Clinical follow-up and surveillance                                                     | Follow-up is carried out by a health care professional experienced in melanoma diagnosis and management. The health care professional may be a specialist, GP, nurse practitioner or a combination working in conjunction with the patient and their family/whānau. |
| 6.2 | Patient self-examination                                                                | Patient self-examination is taught and is an integral part of melanoma follow-up.                                                                                                                           |
| 6.3 | Follow-up cross-sectional imaging                                                       | Follow-up cross-sectional imaging (CT or PET-CT) is determined by stage, symptoms/clinical findings and suitability for therapy. Oligometastasis may be resectable or treated with radiotherapy. Asymptomatic metastases may be appropriate for immunotherapy with a curative intent. In New Zealand access to this is dependent on radiologically evaluable unresectable or metastatic disease.  
If patient factors/co-morbidities deem patients unfit for any further treatment, do not perform routine staging. |
<p>| 6.4 | Ultrasound imaging of draining nodal basins                                              | US imaging of the draining nodal basins(s) can be considered in a select group of patients, in conjunction with routine clinical follow-up ± cross-sectional imaging as per TNM stage. |</p>
<table>
<thead>
<tr>
<th>ID</th>
<th>Quality statement title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Supportive care</td>
<td>Patients with melanoma and their families/ whānau have equitable and coordinated access to appropriate medical, allied health and supportive care services, in accordance with <em>Guidance for Improving Supportive Care for Adults with Cancer in New Zealand</em> (Ministry of Health 2010).</td>
</tr>
<tr>
<td>8.1</td>
<td>Care coordination</td>
<td>Patients managed by a melanoma MDT have access to a CNS, CNC or other health professional who is a member of the MDM to help coordinate all aspects of their care. Each treatment centre has a melanoma clinical lead to provide necessary leadership, guidance and provision of melanoma care.</td>
</tr>
</tbody>
</table>
Quality statements 1:
Prevention and early detection

Quality statement 1.1: Prevention and early detection of melanoma

| Description | Prevention and early detection of melanoma is a key priority in reducing the incidence of melanoma and improving melanoma outcomes. It is important that:
|             | • there are adequate prevention strategies that seek to both inform and protect the public regarding the dangers of excessive UVR exposure and its relationship to the incidence of melanoma.
|             | • people are offered information on risk factors and the early detection of melanoma.
|             | • there is easily accessible information about referral pathways for anyone who is concerned about suspicious or concerning lesions.

| Rationale   | There is consistent evidence that the best avenues for reducing the burden of melanoma are prevention and early diagnosis (Whiteman 2017).
|             | The causal association of cutaneous melanoma and keratinocytic (non-melanoma) skin cancer and solar ultraviolet radiation (UVR) exposure is established. Although there is no scientifically validated safe threshold level of UVR exposure that allows for maximal vitamin D synthesis without increasing skin cancer risk, it is thought that the brief exposures required for vitamin D synthesis are unlikely to increase the risk (Ministry of Health 2012).
|             | There is strong evidence that exposure to UVR in artificial tanning devices (such as sunbeds and tanning units) causes DNA damage that can lead to the development of both melanoma and keratinocytic skin cancers. The risk increases with greater use and an earlier age at first use (Boniol et al 2012).
|             | Additionally, there is a need for raised awareness among Māori and other ethnic minorities as well as health practitioners and health systems to aid early detection of skin cancer and improve overall outcomes. The evidence shows that while melanoma is uncommon in Māori, they are more likely to be diagnosed with higher stage melanoma with poorer survival than non-Māori (Sneyd et al 2009, Hore et al 2010, Sneyd et al 2011).
|             | Melanoma detected early at the in-situ pre-invasive stage and managed with a re-excised 5–10 mm margin (Kunishige et al 2012). This avoids disease progression to advanced stages that requires excessive resourcing and a poorer outcome in terms of morbidity and mortality for patients.
|             | The prognosis for melanoma less than 1 mm thick is generally good; however, many patients with thin melanomas often only experience complications/progression of melanoma between 5 and 15 years after initial diagnosis and therefore require long-term follow-up (Lo et al 2018). |
### Rationale (continued)

It is well documented that survival decreases with increasing thickness of the primary melanoma (HPA and Melanoma Network of New Zealand 2017). Early detection with full-body skin checks, utilising dermatoscopy and digital dermatoscopy is best practice. Clinicians performing skin examinations for the purpose of detecting skin cancer should be trained in and use dermatoscopy (Cancer Council Australia Melanoma Guidelines Working Party 2019).

### Good practice points

#### 1.1.1 People are advised as follows:

- exposure to UVR when the ultraviolet index (UVI) is 3 or higher or when spending time outdoors for extended periods of time should be limited and sunburn avoided.
- brief sun exposure is needed to maintain vitamin D levels; total lack of sun exposure is not advisable without vitamin D supplementation (Ministry of Health 2012, National Cancer Control Policy Contributors 2018).
- the use of artificial tanning devices is illegal for those under the age of 18 years and is strongly discouraged for those 18 years and over. Solaria for cosmetic purposes (Standards Australia/Standards New Zealand 2008) specifies that those under the age of 18 years and those with skin phototype 1 should not use sunbeds. Those 18 years and over should be informed of the risks and lack of evidence for any health benefits. The NMWG supports the position taken by the Cancer Society of NZ, Cancer Council Australia and the Australasian College of Dermatologists that commercial artificial tanning devices should be banned.
- when the UV index is forecast to reach three or above or when people are outside for extended periods, UVR protection should be adopted by:
  - slipping on a shirt with long sleeves and a collar
  - slipping into shade
  - slopping on sunscreen that is ideally SPF 50, broad spectrum and water resistant at least 20 minutes before going outside and reapplying every 2 hours especially after being in the water or sweating
  - slapping on a wide-brimmed hat that shades the face, head, neck and ears
  - wrapping on close-fitting wrap-around style sunglasses that meet the standards (Standards Australia/Standards New Zealand 1067.1 and 1067.2:2016) (HPA and Melanoma Network of NZ 2017).

#### 1.1.2 Prevention strategies include:

- schools and other education settings having a sun protection policy, using sun protection practices and participating in the Cancer Society Sunsmart Schools accreditation programme.
- comprehensive workplace policies and programmes, especially for outdoor workplaces (Health and Safety at Work Act 2015). Workplaces should be supported to implement SunSmart policies to guide best practice in scheduling work, personal protective equipment and skin checks.
- quality shade structures factored into planning of public areas such as sports facilities, recreation spaces, education spaces, workplaces and private areas.
- require national and local government to develop and implement comprehensive policies and public awareness campaigns.
• sunscreens being included as a therapeutic product to ensure quality standards of being fit for purpose (Standards Australia/Standards New Zealand 2604:2021)
• UPF-rated clothing and sun protective hats (Standards Australia/Standards New Zealand 4399:2017).
• public awareness campaigns supporting UV index awareness, sun protective behaviours and detection of melanoma at an early stage in a range of settings (HPA and Melanoma Network of New Zealand 2017, Ministry of Health 2019).

1.1.3 All adults, particularly those aged 50 years and over, are advised to:
• regularly examine their skin (including skin not normally exposed to the sun) so they improve their awareness of any changes
• get someone else to check areas that are difficult to see, such as their back
• seek advice from a primary health care professional, surgeon, dermatologist or nurse specialist about suspicious lesions. Smartphone applications should not be a substitute for a skin examination by a medical practitioner.

1.1.4 Information aimed at reducing melanoma deaths focuses on:
• all adults; particularly males aged 50 years and over
• raising awareness of melanoma in Māori and other ethnic minorities, including the specific features of nodular and acral lentiginous melanoma (Sneyd and Cox 2011).

1.1.5 Information developed for or provided to patients and their families/whānau aligns with core messages in the New Zealand Skin Cancer Primary Prevention and Early Detection Strategy 2017 to 2022 (HPA and Melanoma Network of New Zealand 2017).

References


Quality statement 1.2: Training of primary health care professionals

<table>
<thead>
<tr>
<th>Description</th>
<th>Primary health care professionals are trained to recognise skin lesions suspicious for melanoma.</th>
</tr>
</thead>
</table>
| Rationale   | Primary health care professionals play an important role in the opportunistic discovery of melanoma and non-melanoma skin cancer as part of their everyday practice. Therefore, it is essential they have the competence to identify lesions suspicious of melanoma. 

The use of dermatoscopy as part of a full skin examination increases the likelihood of identifying thin and in-situ melanoma and reduces the unnecessary removal of benign lesions (Kittler et al 2002). Therefore it is expected that all specialist general practitioners are trained in dermatoscopy either during their vocational training or as part of their continuing professional development*. All primary and secondary practitioners involved in the provision of skin cancer care, particularly early melanoma detection and follow up of care of melanoma patients should have training in clinical dermatoscopy. 

Novel artificial or augmented intelligence tools based on convolutional neural networks are available to assist in the classification of suspicious skin lesions. Clinical validation is incomplete in local settings and such tools should be used with caution; they are likely to be increasingly useful for triage of high-risk lesions alongside expert dermatoscopic analysis to enhance current clinical practices (Ferrante di Ruffano et al 2018, Haggenmüller et al 2021).  

* Endorsed by Royal New Zealand College of General Practitioners (RNZCGP)  

<table>
<thead>
<tr>
<th>Good practice points</th>
<th>1.2.1 All primary health care professionals are knowledgeable about the most precise methods to estimate a patient’s risk of melanoma, and about subtypes of melanoma.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.2.2 All primary health care professionals are alert for skin lesions with malignant features in the context of physical examinations performed for other reasons.</td>
</tr>
<tr>
<td></td>
<td>1.2.3 All primary health care professionals involved in early detection of melanoma should be trained in the use of the dermatoscope and regularly undertake refresher training (Harkemanne et al 2021).</td>
</tr>
<tr>
<td></td>
<td>1.2.4 As part of diagnosing a skin lesion, clinicians arrange to carry out a full skin check by themselves or another healthcare professional (Aitken et al 2009).</td>
</tr>
<tr>
<td></td>
<td>1.2.5 Telemedicine and e-referral systems should be implemented to allow accurate triage and therefore expedite management of atypical pigmented lesions.</td>
</tr>
<tr>
<td></td>
<td>1.2.6 Validated artificial intelligence tools are used alongside expert dermatoscopic analysis to enhance current clinical best practice.</td>
</tr>
<tr>
<td></td>
<td>1.2.7 All allied professionals who come into contact with people’s skin have access to training in recognising skin changes suggestive of melanoma and in advising patients with suspicious lesions to see a health care professional (Melanoma Taskforce 2012).</td>
</tr>
<tr>
<td></td>
<td>1.2.8 Population-based skin screening is not recommended at this time in the absence of substantive evidence as to its effectiveness in reducing mortality (Johansson et al 2019).</td>
</tr>
</tbody>
</table>
References


### Quality statement 1.3: People at increased risk of melanoma

<table>
<thead>
<tr>
<th>Description</th>
<th>People at increased risk of melanoma are identified and offered management appropriate to their level of risk.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale</td>
<td>While identification of those at increased risk for melanoma provides the potential to focus early detection and prevention, at present, it is not possible to identify the absolute risk of an individual developing melanoma. There is no evidence to compare the relative effectiveness of specific surveillance techniques for high-risk patients with those for average-risk patients. Increased age, skin phototype and sun damage are important risk factors for melanoma. Other factors that should be considered in clinical risk assessment include a personal history of melanoma, familial melanoma, large numbers of naevi, FAMM syndrome, previous non-melanoma skin cancer and immunosuppression (for example, in organ transplant recipients) (HPA and Melanoma Network of New Zealand 2017). Large CMN &gt;20 cm in diameter have an increased risk of developing melanoma and neurocutaneous melanocytosis (Hale et al 2005; Krengel et al 2006). Sequential digital epiluminescent microscopy (SDELM) relies on taking and storing macroscopic and dermoscopic images of lesions of concern and repeating photos of these specific lesions over time to look for change. SDELM has been studied extensively over the past two decades. SDELM with short term monitoring (three months between images) has a sensitivity of 94% in diagnosing melanoma (excluding lentigo maligna which needs longer intervals) and specificity of 84% (Altamura et al 2008). SDELM not only allows the diagnosis of melanoma at an earlier stage than clinical examination alone but can also detect melanoma before they exhibit characteristic dermoscopic changes – one study demonstrated that 11% of changed lesions seen through SDELM over a three-month period were melanoma with none of them demonstrating classical dermoscopy features (Menzies et al 2001). SDELM has been shown to diagnose 20-50% of lesions that traditional epiluminescent microscopy could not diagnose with a single examination and melanoma diagnosed by SDELM are shown to be significantly thinner than those diagnosed by other means (0.41mm average vs 0.62mm Breslow thickness) (Haenssle et al 2010).</td>
</tr>
</tbody>
</table>
| Good practice points | 1.3.1 Health care professionals assess patients for future risk of melanoma using validated risk factors and a model that integrates personal risk factors into an overall index of risk. Appropriate and validated risk factors and model are provided at the website of the Melanoma Institute Australia ([www.melanomarisk.org.au](http://www.melanomarisk.org.au)). Note: New Zealanders will need to enter ‘Tasmania’ as the ‘Region in Australia most lived in’ to ensure they receive an appropriate risk profile. An alternative validated New Zealand based calculator is available using a bestpractice account (login and password required) at [http://www.melnet.org.nz/uploads/Bestpractice_Melanoma-RPT.pdf](http://www.melnet.org.nz/uploads/Bestpractice_Melanoma-RPT.pdf) (Sneyd et al 2014).  
1.3.2 Individuals with two or more first-degree relatives with a history of melanoma at younger than 40 years of age and those found to have melanoma and/or multiple atypical naevi are examined carefully and:  
  - are placed under the long-term care of a health care professional who is competent in skin surveillance using dermoscopy and digital dermatoscopy monitoring |
• are considered for referral to regional clinical genetics services for further assessment, genetic counselling and discussion about genetic testing (rarely indicated) particularly those with multiple atypical naevi, are considered for baseline total body photography and high-quality sequential digital dermatoscopy imaging at 6- to 12-month intervals to detect new and changing lesions (Salerni et al 2012).

• patients at high risk for melanoma should be encouraged to have high quality photographic images of all portions of their body. These are used by the patient to monitor for new or changing moles between skin checks. Provision of sequential digital epiluminescent microscopy (SDELM) should be considered best practice in clinics providing specialist services for skin malignancy screening.

References


## Quality statements 2: Timely Access to Services

### Quality statement 2.1: Timely Access to Services

<table>
<thead>
<tr>
<th><strong>Description</strong></th>
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</thead>
<tbody>
<tr>
<td>Patients referred urgently with a high suspicion of melanoma receive their first cancer treatment within 62 days of receipt of referral.</td>
</tr>
<tr>
<td>Patients referred urgently with a biopsy-confirmed or high suspicion of melanoma (including locally recurrent and metastatic melanoma and excluding melanoma in situ) have their FSA within 14 days of receipt of referral.</td>
</tr>
<tr>
<td>Urgent diagnostic excision for lesions suspicious for melanoma occurs within 14 days of specialist assessment or image-based triage. Image-guided core or FNA biopsy of suspected tumour occurs within 14 days of the request being received.</td>
</tr>
<tr>
<td>Patients with a confirmed diagnosis of melanoma (including locally recurrent or metastatic melanoma and excluding melanoma in situ) receive their first cancer treatment within 31 days of the decision to treat.</td>
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<table>
<thead>
<tr>
<th><strong>Rationale</strong></th>
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</thead>
<tbody>
<tr>
<td>Timely access to quality cancer management is important to support good health outcomes for New Zealanders and to reduce inequities.</td>
</tr>
<tr>
<td>Key components of successful cancer management include early recognition and reporting of symptoms, expertise in identifying patients requiring prompt referral and rapid access to investigations and treatment.</td>
</tr>
<tr>
<td>A suspicion of melanoma or melanoma diagnosis is very stressful for patients and their family/whānau. It is important that patients, family/whānau and GPs know how quickly patients can receive treatment. Long waiting times may affect local control and survival benefit for some patients with melanoma, and can result in delayed symptom management for palliative patients.</td>
</tr>
<tr>
<td>The standards in this cluster ensure that:</td>
</tr>
<tr>
<td>• patients receive quality clinical care</td>
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<tr>
<td>• patients are managed through the pathway, and experience well-coordinated service delivery</td>
</tr>
<tr>
<td>• delays are avoided as far as possible</td>
</tr>
<tr>
<td>Shorter waits for cancer treatments is a government health target for all radiation treatment patients and chemotherapy patients. The FCT indicators adopt a timed patient pathway approach across surgical and non-surgical cancer treatment, and apply to inpatients, outpatients and day patients.</td>
</tr>
<tr>
<td>Timely access to services is especially important to address inequities. It is well demonstrated that Māori tend to wait longer for cancer care and have worse outcomes. A major goal of these standards is to address this issue.</td>
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<tr>
<td>Good practice points</td>
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</table>
Quality statements 3: Investigation, diagnosis and staging

Quality statement 3.1: Patient access to trained health care professionals

<table>
<thead>
<tr>
<th>Description</th>
<th>Patients have access to:</th>
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<tbody>
<tr>
<td></td>
<td>• health care professional trained in early detection and diagnosis of melanoma, including the use of dermatoscopy</td>
</tr>
<tr>
<td></td>
<td>• health care professional trained in surgical skills required to undertake excision and direct closure of in-situ or thin melanoma</td>
</tr>
<tr>
<td></td>
<td>• health care professional trained in triage and referral of patients with lesions of uncertain diagnosis, thicker melanoma and lesions at sites where surgery is difficult</td>
</tr>
<tr>
<td></td>
<td>• melanoma CNS or nurse who specialises in cancer care to coordinate all aspects of their care between secondary and primary care. This health professional should be a member of the MDM.</td>
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</table>

| Rationale | Early detection of melanoma requires differentiating lesions with minor atypical features and/or documented changes from benign lesions. Trained health care professionals can detect thinner (that is, more favourable prognosis) melanomas than the patient or another layperson might be able to detect. Where health care professionals are trained in the technique, dermatoscopy improves diagnostic accuracy and reduces removal of benign lesions that do not have suspicious features (Swetter et al 2019). Care coordination intended to improve equitable access to services and resources, improve communication and the transfer of information between services; recognising the complexity of the cancer journey. The coordination role includes provision of information and education and acts a single point of contact for patients and their family/whānau. |
### Good Practice Points

<table>
<thead>
<tr>
<th>Good practice points</th>
<th>Details</th>
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<tbody>
<tr>
<td>3.1.1</td>
<td>In primary health care practices, access to at least one designated primary health care professional trained in the dermatoscopic diagnosis and management of melanoma. Practices with solo practitioners who do not have this training should promptly refer patients to a trained clinician.</td>
</tr>
<tr>
<td>3.1.2</td>
<td>Assessment includes family history, ethnicity, history of change, symptoms and the time course of symptoms.</td>
</tr>
<tr>
<td>3.1.3</td>
<td>For the purpose of detecting melanoma, the whole skin surface is examined under good lighting.</td>
</tr>
<tr>
<td>3.1.4</td>
<td>High-quality digital macroscopic and dermatoscopic images of lesions suspicious for melanoma are used to obtain second opinions and for clinicopathological correlation.</td>
</tr>
<tr>
<td>3.1.5</td>
<td>Sequential digital dermatoscopic imaging may be used to detect changes in suspicious flat melanocytic lesions lacking dermatoscopic features of melanoma when monitored short-term (that is, over 3 months).</td>
</tr>
<tr>
<td>3.1.6</td>
<td>Suspicious raised lesions should be excised and not monitored.</td>
</tr>
<tr>
<td>3.1.7</td>
<td>Health care professionals should not rely solely on the use of automated instruments to diagnose primary melanoma.</td>
</tr>
<tr>
<td>3.1.8</td>
<td>Regional cancer centres employ a melanoma nurse specialist. The nurse will have the appropriate training and knowledge to provide patients and their family/whānau information specific to the process involved in diagnosis and treatment of melanoma.</td>
</tr>
<tr>
<td>3.1.9</td>
<td>Information provided is free, easily accessible and meets the needs of the individual. Such information is accurate, unbiased, culturally appropriate and is evidence-based practice.</td>
</tr>
</tbody>
</table>

### References


Quality statement 3.2: Excision of melanocytic lesions

| Description | The preferred biopsy technique for excision of melanocytic lesions suspected of being melanoma is a narrow complete excision biopsy, with 2-mm margins, that encompasses the entire lesion and is of sufficient depth to avoid transection at the base. All tissue specimens are sent for formalin-fixed paraffin-embedded histopathology. |
| Rationale | Histopathological diagnosis requires evaluation of the architecture and cytology of the entire lesion. |
| evaluation of the architecture and cytology may not be achievable using the following procedures: |
| partial biopsies of atypical lesions may miss a small focus of melanoma. |
| partial biopsies with a punch device are at risk of sampling error. |
| shave biopsies prevent accurate measurement of a Breslow thickness. This may affect future management decisions regarding width of wide local excisions and suitability for SNB. |
| wide initial excisions, or complex wound closures should not occur because the use of flaps or significant undermining disrupt the lymphatics thereby reducing the accuracy of SNB and may compromise future reconstruction. |
| a greater than 2-mm margin on the initial excisional specimen will increase the difficulty of the closure after further wide local excision and may complicate assessment of adequacy of margins as a radial measure from the scar (Swetter et al 2019). |
| Good practice points |
| 3.2.1 Suspicious lesions should be excised within 2 weeks of being identified. Alternatively, if the patient is referred to a melanoma specialist for excision, this should be actioned as soon as the biopsy result is available. |
| 3.2.2 The clinical request form accompanying specimens submitted for biopsy is important for the accurate diagnosis of skin lesions. It should include a history, the specimen site, the type of biopsy and clinical/dermatoscopic description of the lesion. Where possible, especially for borderline lesions, clinical and dermatoscopic images, and/or an annotated diagram highlighting specific areas of concern within the lesion, are included. |
| 3.2.3 A synoptic melanoma report (such as those developed by the Royal College of Pathologists of Australasia (RCPA) or the College of American Pathologists (CAP) is strongly recommended for routine use (refer Appendix 2.2 and 2.3 for the RCPA and CAP form). |
| 3.2.4 Partial/incomplete sampling (incisional biopsy) is acceptable in select clinical circumstances, such as facial or acral location, very large lesion or low clinical suspicion or uncertainty of diagnosis. |
| 3.2.5 When an incisional biopsy, rather than an excisional biopsy, is taken, this must be highlighted on the pathology form and a request for longitudinal sectioning should be made. |
3.2.6 Narrow-margin excisional biopsy may be performed if an initial partial biopsy is inadequate for diagnosis or microstaging, but it should not generally be performed if the initial specimen meets the criteria for consideration of SLNB.

3.2.7 Excisional biopsies must be performed considering the need for future wide local excision. Excision biopsies on the extremities should be longitudinally orientated following the direction of lymphatic flow. In most cases, this will also facilitate the closure should a wide local excision be subsequently required.

3.2.8 The use of skin flaps and grafts to close diagnostic excisional biopsy defects should be avoided.

3.2.9 Practitioners should record the number needed to excise (query melanoma) to melanoma ratio (severe atypia/MIS/melanoma).

3.2.10 Use of ‘derm dotting’ by applying coloured nail varnish via a toothpick or a fine brush on the areas showing dermatoscopically concerning features can help pathologists make more accurate diagnoses.

References


# Quality statement 3.3: Histopathological reporting

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Melanoma is reported histopathologically and staged histopathologically, clinically and radiologically in accordance with the latest (8th edition) AJCC Cancer Staging Manual 2017 (Amin et al. 2017). The pathology report for the diagnosis of primary cutaneous melanoma and lymph node metastases is structured and includes a minimum data set for TNM staging and other variables thought to affect clinical behaviour and survival.</td>
</tr>
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<table>
<thead>
<tr>
<th>Rationale</th>
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<tr>
<td>Formal staging of cancer is fundamental in providing clinicians and patients with prognostic information, developing treatment strategies and directing and analysing clinical trials. Staging of cutaneous melanoma continues to evolve through identification and careful analysis of potential prognostic factors (Gershenwald et al. 2017).</td>
</tr>
<tr>
<td>Pathologic assessment of a tissue biopsy is a critical aspect in the multidisciplinary management of melanoma patients. Such assessment establishes a definitive diagnosis in most cases, and provides information that, to a major extent, influences patient prognosis and directs the next stages of management.</td>
</tr>
<tr>
<td>Consistency of reporting is improved by the use of discrete data elements. Structured pathology reports are more likely to be complete and therefore more usable for clinicians’ purposes, which also improves decision-making for melanoma treatment. This type of reporting also allows for easy retrieval of data elements for a variety of uses, including audit, the NZCR and research. Synoptic reports may include a ‘comments’ or ‘microscopic’ section, which allows description of an unusual morphology and immunohistochemical stains.</td>
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<tr>
<th>Good practice points</th>
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<tbody>
<tr>
<td>3.3.1 The AJCC guidelines are adopted.</td>
</tr>
<tr>
<td>3.3.2 The lesion is sectioned and examined histologically after formalin fixation and paraffin embedding.</td>
</tr>
<tr>
<td>3.3.3 For accurate assessment of T1a, T1b and T2 lesions, at least three levels (not simply serial sections) of the biopsy tissue are examined. Breslow thickness in lesions in and around the 1-mm mark is critical for T1–T2 staging. Three to six levels are commonly obtained, and multiple are recommended.</td>
</tr>
<tr>
<td>3.3.4 Pathologists reporting melanocytic lesions and melanoma have undergone adequate training, participate in regular continuing medical education in this field and have ready access to a second opinion for difficult cases.</td>
</tr>
<tr>
<td>3.3.5 A synoptic melanoma report for melanoma primaries such as that developed by the RCPA or CAP is strongly recommended for routine use to support national consistency and the NZCR database (refer Appendix 2.2 and 2.3 for the RCPA form and CAP form for fields required).</td>
</tr>
<tr>
<td>3.3.6 An indication as to whether the case has been reported to the NZCR is included on the report.</td>
</tr>
</tbody>
</table>
3.3.7 Recommendations based on the current literature for diagnostic, prognostic and therapeutic molecular testing are as follows:

- ancillary diagnostic molecular techniques (for example, CGH, FISH, GEP) may be used to assist diagnosis for equivocal melanocytic neoplasms.
- routine molecular testing, including GEP, for prognostication is discouraged until better use criteria are defined. The application of molecular information for clinical management, for example, sentinel lymph node eligibility, follow-up and/or therapeutic choice is not recommended beyond a clinical study or trial.
- testing of the primary cutaneous melanoma for oncogenic mutations (for example, BRAF, NRAS) is not recommended in the absence of metastatic disease. There is insufficient evidence to recommend routine molecular profiling assessment for baseline prognostication. Evidence is also lacking around the use of molecular classification to alter patient management beyond current guidelines (for example, NCCN and AAD). The criteria for and the utility of prognostic molecular testing, including GEP, in aiding clinical decision-making (for example, SLNB eligibility, surveillance intensity and/or therapeutic choice) needs to be evaluated in the context of clinical studies or trials.
- BRAF testing should be performed for stage III and IV patients if it will impact future management, that is, use of BRAF/MEK inhibitors.

References

Quality statement 3.4: Time to pathological diagnosis

**Description**
A diagnosis of melanoma is reported in 5 working days in 80% of cases, and 90% of cases should have a final report in 10 working days. Cases requiring molecular studies or additional departmental consultation are excluded from this metric; however, these cases should have a provisional report and/or notification to the requesting clinician within 10 working days. Pathology departments should maintain a tracking system to monitor cases awaiting diagnosis and match diagnosis with request when received back in the department.

**Rationale**
A diagnosis of melanoma is an important first step in management and, as for all malignant diagnoses, a timely report is highly desirable. A target of five working days for 80% of cases allows for courier transport, adequate fixation of the specimen before sectioning, tissue processing and special stains (not for molecular testing where necessary), and finally examination by the pathologist, transcription and report release (Royal College of Pathologists of Australasia 2020). Additional immunohistochemical or molecular testing and referral to other colleagues in the same department, city or overseas for confirmation/expert opinion of the lesion may take longer than the prescribed limits. If the case is likely to take more than 10 days to report, an initial report or other communication to the clinician should be issued in the interim, followed by a supplementary or amended report.

**Good practice points**
3.4.1 A final report is produced within 5 working days in 80% of cases.
3.4.2 A final report is produced within 10 working days 90% of cases.
3.4.3 A final report is produced within 15 working days in 98% of cases.
3.4.4 Where there are delays in producing a final report (for example, in the case of an expert opinion being sought), a provisional report or notification is provided within 5 working days.

**Reference**
## Quality statement 3.5: Sentinel node biopsy reporting

<table>
<thead>
<tr>
<th>Description</th>
<th>The current MIA or RCPA protocol fields are recommended for processing and reporting SNB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale</td>
<td>SNB is a very strong prognostic and staging technique; its use is supported by the literature, including by the AJCC (Amin et al 2017, Wen et al 2021). The protocol used to process and report SNB should achieve the best possible detection rate.</td>
</tr>
</tbody>
</table>
| Good practice points | 3.5.1 Latest RCPA or CAP guidelines should be followed for processing sentinel lymph nodes.  
3.5.2 Reporting of the sentinel node is synoptic/structured to allow key elements to be easily identified for MDM review. The MIA fields are recommended (refer Appendix 2.4).  
3.5.3 A synoptic sentinel node report is strongly recommended for routine use to support national consistency and the NZCR database. |

### Reference
Quality statement 3.6: Radiological staging

**Description**
Radiological staging should be requested dependent on melanoma TNM status, level of risk and intended treatment.

Oligometastasis may be resectable or treated with radiotherapy. Asymptomatic metastases may be appropriate for immunotherapy with a curative intent. In New Zealand access to this is dependent on radiologically evaluable unresectable or metastatic disease.

If patient factors/co-morbidities deem patients unfit for any further treatment, do not perform routine staging.

For ongoing surveillance refer to Quality Statement 6.3

**Rationale**
The available literature assessing various imaging techniques is limited; most studies are of retrospective design and are difficult to compare due to variability in both methodology and patient groups assessed (Cancer Council Australia Melanoma Guidelines Working Party 2019). These recommendations are made accepting that individual centre’s resources and protocols may differ but should be considered as best practice.

**Body imaging**
PET-CT has improved diagnostic accuracy over CT alone, particularly for the detection of extracerebral distant metastatic disease (Xing et al 2011). A small retrospective study comparing staging PET-CT with CT alone found major therapy changes in 52% of patients based on PET-CT findings, particularly with regard to surgical management (Schüle et al 2016).

Routine radiological staging for asymptomatic patients with stage 0, I and II disease is generally not recommended due to low rates of true-positive findings and comparatively high rates of false-positive findings (Barsky et al 2014; Bikhchandani et al 2014; Orfaniotis et al 2012; Vural Topuz et al 2018; NCCN 2019). A reasonably large percentage of recurrence is local (nodal, satellite or in transit) and is often detected by the patient or clinician (Swetter et al 2018).

For thick melanomas (that is, T4, stage IIB and C disease), there are conflicting views in the literature. There is little evidence to support significant benefit of initial staging with PET-CT or CT due to low yield and high false-positive rates; although there are suggestions that PET-CT may play a role in early identification of distant metastases and consequent upstaging during initial staging workup (Arrangoiz et al 2012; Danielsen et al 2016, Yılmaz et al 2020, Ravichandran et al 2020). Additionally, there may be inherent value in establishing a baseline for future surveillance (Ravichandran et al. 2020). In some high-risk clinical situations, baseline PET-CT may add value with regard to altering the proposed treatment/therapy. The recent National Institute for Health and Care (NICE) guidelines (July 2022) now suggest considering baseline staging CT imaging for stage IIB disease and offering staging CT imaging for stage IIC disease.
Rationale (continued)

Ultrasound of the draining nodal basins can provide a useful adjunct to clinical examination in selected clinical situations, such as high-risk stage II patients with equivocal clinical examination, obesity or failed/declined SNB. There is evidence that US can detect lymph node metastasis with a reasonable degree of accuracy, with literature supporting increased sensitivity of US compared with clinical examination (Bafounta et al 2004; Machet et al 2005).

For patients with positive sentinel lymph nodes with low nodal tumour volume, there is little evidence to support the value of baseline cross-sectional imaging. In particular, staging imaging in this group has a high false-positive rate, which may lead to inappropriate further investigation and/or interventions (Holtkamp et al 2017). However, the rate of relapse in this group is not negligible, and it may be that the volume of loco-regional or distant metastatic disease is below the threshold for imaging detection at initial diagnosis (Wagner et al 2011). Therefore, follow-up surveillance imaging should be considered at an appropriate time interval based on risk of recurrence.

In patients with high-risk stage III disease (stage IIIB, C and D disease), baseline PET-CT detection of occult metastasis may upstage the patient which can have significant implications for further management. In a small retrospective study by Groen et al (2019), 18% of patients with stage III disease were upstaged to stage IV.

Patients with stage IV disease may present clinically or as an unexpected finding on imaging (with or without a history of melanoma). If widespread metastatic disease is identified on CT, PET-CT is unlikely to add value.

Brain imaging

It is widely accepted that MRI is superior to CT for the detection of cerebral metastases and is therefore preferable.

The AJCC recognises patients with central nervous system metastases as having the worst prognosis of all melanoma patients with distant metastatic disease (M1d category) (Amin et al 2017).

The incidence of developing brain metastases increases with TNM stage. The risk of cerebral metastasis in stages I and II disease is low, and routine staging is generally not recommended. Patients with stage III disease, macroscopic nodal and/or in-transit disease have been associated with increased risk of brain metastases (Samlowski et al 2017). In stage IV disease, the risk of concurrent cerebral and extracerebral metastasis at diagnosis is higher and has been reported in up to 20% of patients (Vosoughi et al 2018). There is a small subgroup of patients with metastatic disease involving only the brain.
Good practice points

3.6.1 All staging imaging investigations should be completed within 2 weeks of referral.

3.6.2 **Stages 0 (MIS), I and IIA**
For patients with stage 0 (MIS), I or II (A) disease, excluding SNB (where indicated), baseline cross-sectional imaging is not routinely recommended in asymptomatic patients.

3.6.3 **Stages IIB or C**
In patients with high-risk stage II disease with thick melanomas (T4 and stage IIB or C disease), baseline imaging investigation may be appropriate and should be discussed at a melanoma MDM. Initial staging with PET-CT can be considered following MDM discussion.

3.6.4 **Stage IIIA**
For patients with stage IIIA under clinical/US observation, initial cross-sectional imaging is not recommended due to low true-positive findings and high false-positive rates. Surveillance imaging is recommended to detect progression (discussed further in section 6.3). If completion lymphadenectomy is planned baseline PET-CT is recommended.

3.6.5 **Stage IIIB, C and D**
For patients with stage III (B, C and D) disease, baseline imaging with PET-CT and dedicated imaging of the brain is recommended if potential upstaging may influence treatment/therapy. MRI brain is preferred over contrast-enhanced CT.

3.6.6 **Stage IV**
Contrast-enhanced staging CT of the chest, abdomen and pelvis should be performed. Neck CT should be added if the primary is in the head, neck or upper trunk. Dedicated brain imaging is recommended. MRI brain is recommended over contrast-enhanced CT.

Baseline PET-CT for stage IV disease should be guided by the MDM and recommended in certain clinical circumstances, such as if:

- there is oligometastatic metastatic disease demonstrated on conventional CT that would be amenable to surgery or radiotherapy
- there are equivocal findings on conventional CT that could potentially change treatment decisions.

3.6.7 An US of the lymph node basins draining the primary site may be considered if physical examination is equivocal, limited by body habitus, or SNB has failed or was declined. Although the sensitivity of US is higher than clinical examination, it is no substitute to SNB (this is discussed further in section 6.4). Negative nodal basin US is not a substitute for biopsy of clinically suspicious lymph nodes.

3.6.8 Contrast-enhanced brain MRI is preferred over contrast-enhanced CT due to improved diagnostic accuracy if diagnosing brain metastases early will alter management of the patient.

3.6.9 If low-dose CT is performed as part of the PET-CT examination, it is not of diagnostic quality for detection of brain metastases. Additional diagnostic quality brain imaging may therefore be required depending on the type of CT imaging acquired during PET-CT.
References


Quality statements 4: Multidisciplinary care

Quality statement 4.1: Multidisciplinary meetings

**Description**
Patients with the following should be discussed at a MDM:
- complex reconstruction cases, including MIS
- stages II (B and C) cases if management decisions are not straightforward
- stages III and IV cutaneous melanoma cases
- desmoplastic melanoma
- melanoma in people under 25 years of age
- non-cutaneous melanoma.

The outcome of the MDM is documented and communicated to the treating clinician, GP and patient.

**Rationale**
International evidence shows that multidisciplinary care is a key part of providing best-practice treatment and care for patients with cancer. Cancer MDMs are part of the philosophy of multidisciplinary care. Effective MDMs result in positive outcomes for patients receiving the care, for health professionals involved in providing the care and for health services overall. Benefits include improved treatment planning, improved equity of patient outcomes, more patients being offered the opportunity to enter relevant clinical trials, improved continuity of care and less service duplication, improved coordination of services, improved communication between care providers and more efficient use of time and resources (Thompson and Williams 2019).

Patients with advanced melanoma can be complex to manage due to several factors, including variation in presentation, the potential involvement of any organ and the unpredictable course of their disease progression. Recent advances and controversies in melanoma management reinforce a need for carefully considered treatment pathways to optimise care.

The collection and presentation of accurate patient information at MDMs and comprehensive feedback to patients are fundamental to high-quality care.
### Good practice points

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>4.1.1</td>
<td>Minimum core membership of a melanoma MDM consists of a general surgeon and/or plastic surgeon, a pathologist, a radiation oncologist, a medical oncologist, a radiologist and a CNS and/or a CNC. Ideally other MDT members are encouraged to be involved, including dermatologists, nurse practitioners, GPs, geriatricians, Māori and Pacific liaison, adolescent and young adult key workers and palliative care liaison members.</td>
</tr>
<tr>
<td>4.1.2</td>
<td>The melanoma MDM process within each hospital and region is documented, including: appointment of MDM members, referral pathways, meeting frequency and videoconferencing links between regional and provincial hospitals, where appropriate.</td>
</tr>
<tr>
<td>4.1.3</td>
<td>Details of patients discussed at the MDM and their appropriateness for available clinical trials are recorded on a standardised MDM template.</td>
</tr>
<tr>
<td>4.1.4</td>
<td>A dedicated CNS, CNC or other health professional is appointed to coordinate written and verbal outcomes.</td>
</tr>
<tr>
<td>4.1.5</td>
<td>Adequate support staff and resources are available to the MDM. Smaller provincial MDTs or treating clinicians present patients to regional MDMs in person or via teleconferencing.</td>
</tr>
<tr>
<td>4.1.6</td>
<td>The MDM records and discusses patients with stage T1b melanoma and above if required.</td>
</tr>
<tr>
<td>4.1.7</td>
<td>The MDM records information in a database that can be collated and analysed locally, regionally and nationally.</td>
</tr>
<tr>
<td>4.1.8</td>
<td>Treating clinicians record reasons for not following treatment plans recommended by the MDM.</td>
</tr>
<tr>
<td>4.1.9</td>
<td>Recommendations from MDM discussions are available as an electronic record and accessible to other members of a patient’s health care team within 2 working days.</td>
</tr>
<tr>
<td>4.1.10</td>
<td>All Māori patients and their family/whānau are offered an opportunity to access Whānau Ora assessments and cultural support services.</td>
</tr>
<tr>
<td>4.1.11</td>
<td>All patients diagnosed with melanoma are offered referral to a supportive care service such as the Cancer Society as part of the continuum of standard care (Ministry of Health 2010).</td>
</tr>
</tbody>
</table>

## References


**Quality statements 5: Treatment**

**Quality statement 5.1: Re-excision of histologically confirmed melanomas**

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Histologically confirmed melanomas are re-excised, with additional clinical margins determined by Breslow thickness. Lesions with histological staging AJCC T1b or higher are referred to an appropriately trained and experienced surgical specialist for consideration of SNB staging at the time of the re-excision (see Quality Statement 5.3).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide excision with evidence-based clinical margins aims to provide enduring local control and cure patients without occult lymphatic or haematogenous spread. Excision margins for invasive melanoma are evidence based, with data from multiple prospective RCTs (Veronesi et al 1988, 1991; Balch et al 1993; Cohn-Cedermark et al 2000; Khayat et al 2003; Utjés et al 2019). These were measured margins often from a scar after a complete excision though did include some residual melanoma. There are no randomised control trials to assess safe pathological margins. Decisions as to need for a further re-excision if the wide local excision has residual melanoma should be based on the initial pathology, margins already achieved and patient factors. Generally, these studies have excluded head, neck and acral melanoma. Amelanotic melanoma and desmoplastic may need wider excision as the margin can be difficult to see clinically. Excision margins for invasive melanoma of less than 1 cm are associated with higher local, regional and distant recurrence rates (Haydu et al 2016; MacKenzie et al 2016). For melanoma 2 mm or less, there is not strong evidence that margins &gt;1 cm improve local recurrence or survival (Veronesi et al 1991). A large multicentre trial is currently underway after an initial feasibility study (Moncrieff et al 2018). Excision margins &gt;2 cm for melanoma do not appear to influence survival (Utjés et al 2019; Cohn-Cedermark et al 2000). Evidence for depth of excision in invasive melanoma is less robust, but expert consensus is that this should include tissue down to but not including deep fascia unless this is clinically involved. For subungual melanoma, difficulty in obtaining adequate deep margins has led to the recommendation for amputation at the next proximal interphalangeal joint. There is some evidence that more conservative surgery may give equivalent results in MIS of the nail unit (Cochran et al 2014; Duarte et al 2015).</td>
</tr>
</tbody>
</table>
### Rationale (continued)

For T1b and thicker melanomas, SNB is the best staging and prognostic test. It allows potential access to adjuvant immune or targeted therapy and may confer a survival advantage in some patients.

The appropriate use criteria published by the American College of Mohs Surgeons in 2012 included lentigo maligna melanoma and melanoma in situ as an indication for the use of Mohs micrographic surgery (MMS) in mask and head and neck areas, it was deemed “uncertain” on the torso and extremities (Ad Hoc Task Force 2012). This technique was first described by Zitelli’s group in 1997 (Zitelli 1997).

Staged excision is an alternative when MMS is not an option for the management of melanoma. It involves serial step radial sectioning through the specimen with rapid paraffin-fixed slide processing and pathologist review.

Accurate mapping of the melanocytic lesion by the pathologist in conjunction with the surgeon allows for precise margin analysis with subsequent targeted serial surgical excision of areas not clear of melanoma.

In a population of head and neck melanoma and melanoma in situ, Moyer et al reported in 2016 that 74% of the lentigo maligna subtype had a mean margin from lesion to clearance for melanoma in situ of 9.3mm and 13.7mm for invasive melanoma. Only 41% of melanoma in situ lesions and 3% with an invasive component were cleared with 5mm margins. 74.5% of melanoma in situ were clear with 10mm margins and 52% for invasive melanoma. They reported a 5-year recurrence rate of 1.4% increasing to only 2.2% at 10 years (Moyer et al 2016).

### Good practice points

<table>
<thead>
<tr>
<th>5.1.1</th>
<th>All doctors who undertake re-excision of melanoma are appropriately trained and experienced.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1.2</td>
<td>Margins may be modified by clinical site or patient co-morbidities.</td>
</tr>
<tr>
<td>5.1.3</td>
<td>Re-excision of melanoma in situ to 5–10 mm clinical margins and AJCC T1a cases of melanoma to 10 mm clinical margins can be performed as a local anaesthetic procedure by either an appropriately trained and experienced primary health care doctor or a melanoma specialist.</td>
</tr>
<tr>
<td>5.1.4</td>
<td>Lesions meeting histological staging AJCC T1b or higher are referred to an appropriately trained and experienced surgical specialist for consideration of SNB staging at the time of the re-excision.</td>
</tr>
<tr>
<td>5.1.5</td>
<td>Excisions have vertical edges and extend to, but do not include, the deep fascia, as clinically appropriate.</td>
</tr>
<tr>
<td>5.1.6</td>
<td>Precise measurement of clinical margins is mapped out from the edge of the scar or remaining lesion with a ruler before the definitive excision.</td>
</tr>
<tr>
<td>5.1.7</td>
<td>For in situ or invasive melanoma of lentigo maligna sub-type, management could be considered with margin-controlled surgery such as Mohs or staged excision with rushed paraffins. Staged excision can be performed by any surgeon or dermatologist, in concert with the local histopathologist increasing its utility at a population level.</td>
</tr>
<tr>
<td>5.1.8</td>
<td>Patients are provided with information about surgical excision risks: wound infection, haematoma, failure of skin graft and flap, numbness, scarring, seroma and lymphoedema and the possibility that further surgery will be required.</td>
</tr>
<tr>
<td>5.1.9</td>
<td>Patients undergoing surgery are offered the choice for their tissue to be disposed of by standard methods or utilising appropriate tikanga processes.</td>
</tr>
<tr>
<td>5.1.10</td>
<td>Patients are informed about melanoma in general and increased risks for new melanoma and advised to undergo regular full-body skin checks.</td>
</tr>
</tbody>
</table>
5.1.11 Appropriate data collection systems are in place to collate, publish and audit data on post-surgery complications.

5.1.12 Clinicians adhere to the guidelines listed in the following table:

<table>
<thead>
<tr>
<th>Breslow thickness</th>
<th>Additional clinical margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naevus with severe cytological or architectural atypia</td>
<td>5 mm</td>
</tr>
<tr>
<td>Melanoma in situ (Tis)</td>
<td>5–10 mm</td>
</tr>
<tr>
<td>&lt;1.0 mm (T1)</td>
<td>10 mm</td>
</tr>
<tr>
<td>1–2 mm (T2)</td>
<td>10–20 mm</td>
</tr>
<tr>
<td>2–4 mm (T3)</td>
<td>20 mm</td>
</tr>
<tr>
<td>&gt;4 mm (T4)</td>
<td>20 mm</td>
</tr>
</tbody>
</table>

References


Quality statement 5.2: Desmoplastic/neurotropic melanoma

<table>
<thead>
<tr>
<th>Description</th>
<th>The MDM discusses the potential role of radiation treatment to improve local control in patients with desmoplastic/neurotropic melanoma.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale</td>
<td>Desmoplastic melanoma account for 1–4% of all primary cutaneous melanoma and exhibit different biological behaviour to non-desmoplastic melanoma. They have lower rates of sentinel node and distant metastasis (Dunne et al 2017; Hughes et al 2021). However, they also have an increased risk of local recurrence (6–15%) (Chen et al 2008; Guadagnolo et al 2014; Strom et al 2014). Desmoplastic melanoma most commonly occur in males, older patients, and on the head and neck and there is an increased risk (30–60%) of neurotropism (Quinn et al 1998; Hughes et al 2021). Currently, there have been no RCTs examining the excision margins required to minimise local recurrence in desmoplastic melanoma; however, studies have confirmed that local recurrence is strongly related to involved resection margins (Chen et al 2008; Guadagnolo et al 2014; Strom et al 2014; Hughes et al 2021). There are no published RCTs investigating the role of adjuvant radiotherapy in desmoplastic melanoma. Observational studies have reported a local recurrence benefit from adjuvant radiotherapy in desmoplastic melanoma with neurotropism and inadequate histological margins (Chen et al 2008; Guadagnolo et al 2014; Strom et al 2014; Varey et al 2017; Hughes et al 2021).</td>
</tr>
</tbody>
</table>
| Good practice points | 5.2.1 Radiation treatment is considered for patients with desmoplastic melanoma where the melanoma is unresectable or where the clinical margins are <8 mm (Varey et al 2017).  
5.2.2 Radiation should be considered for head and neck primary sites and in other sites where the melanoma has marked neurotropism or is >4 mm thick (Chen et al 2008; Guadagnolo et al 2014; Strom et al 2014).  
5.2.3 SNB should still be considered in patients with desmoplastic melanoma based on their clinical and histopathological risk factors and discussion at a melanoma MDM. |

References


### Quality statement 5.3: Sentinel node biopsy technique

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNB staging is offered to patients with T1b or thicker melanoma who could benefit from the procedure and is performed by surgeons trained and experienced in the technique. SNB in melanoma is carried out using triple localisation with preoperative lymphoscintigraphy and SPECT scan. Intra-operative localisation is performed with blue dye and a gamma probe.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies have shown that the SNB technique is useful for identifying small lymph node metastases in patients with T1b and above melanoma. There is an expected nodal positivity rate for intermediate thickness melanoma of approximately 20% (Morton et al 2014). SNB allows for accurate staging, prognostic information, improved regional control and potential access to adjuvant treatment (Madu et al 2017; Wong et al 2018; Dummer et al 2016) (Adjuvant trials – see med onc references – EORTC 18 071, COMBI–AD, EORTC1325/Keynote 054 study) (Cancer Council Australia Melanoma Guidelines Working Party 2019; Dummer et al 2012; National Collaborating Centre for Cancer 2015; NCCN 2019, Wen et al 2021; Rivalland et al 2022). Thin melanomas (&lt;1mm) are the most common form of melanoma and can usually be cured through surgical removal of the primary tumour. The expected rate of node positivity in thin melanoma is 5.2%, increasing to 8% in those &gt;0.8 mm, where the benefit of SNB starts to outweigh the false-negative rate and risk (Han et al 2013; Wong et al 2018; Gershenwald and Scolyer 2018). The AJCC staging system has identified an improved prognosis for patients with thin melanoma &gt;0.8 mm who had a SNB when negative compared with those who did not undergo SNB (Gershenwald et al 2017). Thick melanomas (&gt;4 mm) are more likely to undergo haematogenous metastasis. There are few studies focusing on the use of SNB in patients with thick melanomas. However, recent evidence of relapse free survival (RFS) with adjuvant treatments suggests full staging with SNB will allow informed discussion about adjuvant treatments (Eggermont et al 2015, 2018; Long et al 2017; Weber et al 2017; Seth et al 2020). There is no survival benefit proven for completion lymphadenectomy for micro-metastatic nodal disease, although the largest and most recent trial (MSLT II) had a mean SNB deposit of only 1.11 mm in the observation group (interquartile range 0.23–1.38 mm) (Faries et al 2017; Leiter et al 2016, 2019).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Good practice points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5.3.1</strong> SNB staging is considered for all patients with melanoma T1b or thicker. SNB should be used for patients with thick melanomas for accurate staging to facilitate regional control or potential access to adjuvant treatment.</td>
</tr>
<tr>
<td><strong>5.3.2</strong> In order to make an informed choice about SNB, patients are provided with information about the likelihood of the SNB being positive based on the histological features of their melanoma and utilisation of the MIA sentinel node positivity nomogram (Melanoma Institute Australia 2021). Clinicians inform patients of the role of SNB, the technique itself, its limitations, potential complications and alternative management options if it is declined. This discussion is facilitated by both the primary clinician and the surgeon who performs SNB.</td>
</tr>
</tbody>
</table>
5.3.3 Pre-operative lymphoscintigraphy and SPECT is carried out to identify which draining lymph node fields contain the sentinel node(s). Technetium-99 nanocolloid is injected intradermally either side of the middle of the scar. Dynamic and static lymphoscintigrams are obtained.

5.3.4 Lymphoscintigrams are reported by radiologists and nuclear medicine specialists trained and experienced in the technique.

5.3.5 SNB is performed by surgeons trained and experienced in the technique.

5.3.6 SNB is performed within 18 hours of lymphoscintigraphy.

5.3.7 Incisions are marked out with consideration of completion lymphadenectomy access, should this be required.

5.3.8 All patients with a positive SNB receive MDM discussion regarding the choice of observation versus completion lymphadenectomy or access to adjuvant treatment.

5.3.9 Where SNB is not performed in patients with T1b (or over) melanoma, active clinical and radiological surveillance is offered unless comorbidities preclude (US 4–6 monthly for 2 years).

5.3.10 Appropriate data collection systems are in place to collate, report and audit post-surgery complications.

References


### Quality statement 5.4: Therapeutic/Completion lymphadenectomy

<table>
<thead>
<tr>
<th><strong>Description</strong></th>
<th>An oncological therapeutic lymphadenectomy is offered to all patients with clinically evident nodal disease after appropriate staging and discussion at a melanoma MDM.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rationale</strong></td>
<td>Management of the nodal bed in patients with high-risk melanoma has moved from elective node clearance in all to therapeutic clearance in those with clinical or radiological detectable disease and sentinel node biopsy in those without. Therapeutic nodal dissection for clinically involved nodes is associated with 5-year survival of 30-50% which outweighs all other forms of treatment currently and thus is accepted and recommended. (Dummer et al 2012, 2016; National Collaborating Centre for Cancer 2015; NCCN 2022; Cancer Council Australia Melanoma Guidelines Working Party 2019, Smithers et al 2021) Sentinel node biopsy has been used to distinguish stage III patients at an earlier point in their disease process, providing excellent prognostic information and allowing the latest staging (see AJCC: Melanoma of the skin staging 8th edition) to stratify patients much more effectively as seen by the improved survival in those classified in the earlier stages. There is a continued move towards less nodal surgery, with a further shift from nodal clearance in all patients with a positive sentinel node to a surveillance approach after two large trials (MSLT II and DeCOG-SLT) showed no difference in overall survival. However, these two trials either excluded or had few patients with high-risk sentinel node disease i.e. disease volume &gt;2mm, extranodal spread, more than 3 positive nodes or patients with micro satellitosis. Recent New Zealand retrospective studies (Williams et al 2022, 2023) have shown a higher mean volume of sentinel node disease (2.55mm) as well as an increased rate of positive non sentinel nodes on completion dissection (22.2% v 11.5%). Research will become available as to the safety of surveillance in these high-risk groups (Broman et al 2020). In the meantime, all patients with positive sentinel nodes should be discussed at an MDM and the patient made aware of the pros and cons of completion lymph node dissection versus surveillance. This is particularly important while New Zealand patients are not able to access funded adjuvant immunotherapy after a positive SNB. Radiological surveillance is a key part of the observation and needs to be available if this is the preferred pathway. The previously used terms of micro and macroscopic disease in lymph nodes have been variable in meaning. High volume melanoma centres contributing to the literature likely have much easier access to high quality USS in clinic or at the time of their lymphoscintigraphy, thus converting patients to ‘macroscopic’ nodal disease leading to a nodal clearance rather than sentinel node biopsy. The 8th edition of the AJCC melanoma staging replaces these terms with the more appropriate ‘clinically occult’ and ‘clinically evident’ i.e. found on clinical examination or imaging. What histological size of a deposit in a positive sentinel node relates to this is still unclear. We have suggested 5mm or greater nodal disease would potentially be radiologically detected pre-op and thus, until the evidence of safety of observation in this group becomes available, a discussion between lymph node clearance and observation with serial US should be had in this group.</td>
</tr>
</tbody>
</table>
### Rationale

Broman et al 2021 have shown in a small number of matched high-risk patients who were observed versus had a complete lymph node dissection (n= 51) that although there were higher number of SLN-basin recurrences this was not significant, and most recurrences were outside the SLN basin. There were no significant differences in distant metastasis, distant metastasis free survival or death due to melanoma.

In keeping with the move towards less nodal surgery, less iliac nodal dissection is being performed although there is a paucity of published prospective evidence comparing survival or morbidity of inguinal versus ilioinguinal node dissection. In the MSLT II trial, there was no difference in lymphoedema rates between the two procedures. Iliac nodes are positive in 30–39% after an ilioinguinal node dissection for macroscopic disease, decreasing to 9.3% after a positive sentinel node only. PET-CT before groin dissection may highlight positive iliac / obturator node disease but is not sensitive to small volume disease. Lymphoscintigraphy prior to the SNB may also give information on where the secondary tier nodes lie. (Verwer et al 2018; Faries et al 2017; Cancer Council Australia Melanoma Guidelines Working Party 2019; Spillane et al 2011, 2013; Kretschmer et al 2001; Kissin 1987; Allan et al 2008; Glover et al 2014; Jonk et al 1988).

Nodal harvest numbers for therapeutic node dissection have been investigated (Spillane 2011, Martin 2022). These numbers reflect both the extent of operative dissection and of pathological analysis.

There is RCT evidence that radiation after a lymph node dissection for patients considered to be at intermediate to high risk of recurrence in the nodal region decreases the risk of recurrence but does not improve overall survival (Henderson et al 2015).

Surveillance of patients with resected positive sentinel node disease may be better focussed on distant spread, with cross sectional imaging. These patients are also at risk of nodal disease which may potentially be found at a smaller size on US. US is more user dependent, time consuming, and in New Zealand, is a limited resource.

High risk patients are more likely to receive adjuvant immunotherapy internationally but this is not yet publicly funded in NZ. Reports are showing that in this group distant recurrences are more common than locoregional recurrences, even in those without complete lymph node dissection. Locoregional recurrences being more often found clinically and distant disease with cross sectional imaging. (Owen et al 2020 and Rauwerdink 2020).

### Good practice points

<table>
<thead>
<tr>
<th>Good practice points</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4.1</td>
<td>Unless high-risk features such as extranodal spread, multiple positive nodes or an immune-suppressed patient are present, patients with SNB disease of &lt;5 mm are recommended for observation with node field US every 6 months for the first 3 years by an experienced sonographer</td>
</tr>
<tr>
<td>5.4.2</td>
<td>Therapeutic node dissection is offered to patients with clinically evident nodal metastases or patients with positive SN’s who do not wish to or cannot be appropriately followed up with US where clinically indicated.</td>
</tr>
<tr>
<td>5.4.3</td>
<td>All patients who are being considered for a completion lymphadenectomy receive a whole-body PET-CT beforehand.</td>
</tr>
<tr>
<td>5.4.4</td>
<td>Lymphadenectomy is performed by trained and experienced surgeons.</td>
</tr>
<tr>
<td>5.4.5</td>
<td>Operation notes fully describe the anatomical boundaries of the lymphadenectomy and lymph node levels removed.</td>
</tr>
<tr>
<td>5.4.6</td>
<td>Therapeutic neck lymphadenectomies are tailored to individual patients’ metastatic disease and the site of the primary melanoma and may include radical, modified radical or selective neck lymphadenectomy with or without a parotidectomy.</td>
</tr>
</tbody>
</table>
5.4.7 A therapeutic axillary lymphadenectomy includes levels I–III.

5.4.8 A therapeutic inguinal lymphadenectomy involves skeletonisation of the femoral vessels and removal of pudendal nodes, nodes anterior to the external oblique and Cloquet’s nodes in the femoral canal.

5.4.9 An ilioinguinal node dissection is performed for PET-CT positive or for biopsy proven melanoma metastases in inguinal and pelvic nodes in the absence of distant disease. Iliinguinal node dissection to be performed if the second-tier node of a positive SNB (not deemed appropriate for observation) is in the iliac chain on lymphoscintigraphy.

5.4.10 A therapeutic iliac and obturator lymphadenectomy involves skeletonisation of the iliac vessels and obturator nerve from at least the common iliac artery bifurcation to the inguinal ligament.

5.4.11 For high-risk nodal disease adjuvant radiation treatment should be considered. See Quality Statement 5.5.

5.4.12 Patients must have access to a lymphoedema therapist to prescribe and fit compression garments and provide education about pre- and post-operative lymphoedema management.

5.4.13 Appropriate data collection systems are in place to collate, report and audit data on post-surgery complications.

References


• Henderson MA, Burmeister BH, Ainslie J, et al. 2015. Adjuvant lymph-node field radiotherapy versus observation only in patients with melanoma at high risk of further lymph-node field relapse after lymphadenectomy (ANZMTG 01.02/TROG 02.01): 6-year follow-up of a phase 3, randomised controlled trial. Lancet Oncol 16(9): 1,049–60.


• Spillane A, Allan C, Haydu L, et al. 2013. We need a trial to evaluate whether patients with involved inguinal lymph nodes should have inguinal or ilio-inguinal lymphadenectomy; an overview of the proposed trial Anzmtg 01.12 Eagle Fm Protocol. *Asia-Pacific Journal of Clinical Oncology* 9(Suppl. 3): 155.


<table>
<thead>
<tr>
<th><strong>Quality statement 5.5: Adjuvant and neoadjuvant therapy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>All patients with resected stage III/IV melanoma or stage II (B or C) melanoma are:</td>
</tr>
<tr>
<td>• discussed at a melanoma MDM (if management decisions are not straightforward)</td>
</tr>
<tr>
<td>• considered for adjuvant radiotherapy and/or adjuvant systemic treatment or enrolment in clinical trials</td>
</tr>
<tr>
<td>• neoadjuvant therapy (i.e., systemic treatment prior to curative intent surgery) is a rapidly evolving area for locally advanced melanoma. Enrolment into clinical trials should be encouraged.</td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
</tr>
<tr>
<td>Systemic therapies have been shown to improve disease-free survival in patients with resected stage III and IV melanoma (Eggermont et al 2015, 2018; Long et al 2017; Weber et al 2017; Seth et al 2020). This is not currently funded in New Zealand and participation in clinical trials should be encouraged (Te Aho o Te Kahu, 2022).</td>
</tr>
<tr>
<td>There is randomised trial evidence that radiation after a lymph node dissection for patients considered at intermediate to high risk of recurrence in the nodal region can decrease the risk of recurrence by approximately 15% but does not improve overall survival (Henderson et al 2015).</td>
</tr>
<tr>
<td>There are a number of clinical trials investigating the role of neoadjuvant systemic treatment with immune checkpoint inhibitor or BRAF/MEK targeted treatments. These studies have shown a high correlation between pathological response to high relapse-free survival (Rozeman et al 2019, Blank et al 2022, Long et al 2019). The recent SWOG1801 trial is the first randomised phase II clinical trial to demonstrate an improved event-free survival with neoadjuvant pembrolizumab compared to adjuvant pembrolizumab in resectable stage IIIC and IVB melanoma (Patel et al 2022). The long-term survival outcomes from these neoadjuvant studies are awaited and the optimal neoadjuvant regimen is yet to be established. While this is a rapidly evolving area, currently there is insufficient data to use these treatments in resectable disease outside of clinical trial settings.</td>
</tr>
</tbody>
</table>
5.5.1 Adjuvant systemic therapy is discussed in the following situations:
- selected stage II B/C patients
- stage III patients (except IIIA if microscopic lymph node metastasis is <1 mm) (offered 12 months of adjuvant checkpoint inhibitor therapy)
- stage III patients expressing BRAF V600-activating mutation (except IIIA if microscopic lymph node metastasis is <1 mm) (offered 12 months of adjuvant checkpoint inhibitor therapy or BRAF/MEK inhibitor therapy)
- stage IV patients with resected disease (offered 12 months of adjuvant checkpoint inhibitor therapy).

5.5.2 Adjuvant post-operative radiation therapy is discussed in the following situations (Henderson et al 2015):
- palpable (macroscopic) metastatic nodal involvement of one or more parotid nodes, two or more neck or axillary nodes or three or more groin nodes
- extranodal spread (of tumour)
- a maximum metastatic node diameter of ≥3 cm in the neck or ≥4 cm in the axilla or groin.

References


- Henderson MA, Burmeister BH, Ainslie J, et al. 2015. Adjuvant lymph-node field radiotherapy versus observation only in patients with melanoma at high risk of further lymph-node field relapse after lymphadenectomy (ANZMTG 01.02/TROG 02.01): 6-year follow-up of a phase 3, randomised controlled trial. *The Lancet Oncology* 16(9): 1,049–60.


Quality statement 5.6: Patients with loco-regionally recurrent, locally advanced and stage IV melanoma

<table>
<thead>
<tr>
<th>Description</th>
<th>Patients with loco-regionally recurrent, locally advanced or stage IV melanoma are seen or discussed by melanoma specialists experienced in the care of melanoma patients and part of a melanoma MDM. Patients should be staged as per Quality Statement 3.6.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale</td>
<td>Systemic treatment with anti-PD1 based immune therapy or BRAF/MEK inhibitors has been shown to improve outcomes in resectable and unresectable stage III and IV disease (Seth et al 2020). Anti-PD1 based combination immunotherapy has increased average survival of advanced melanoma from 6-9 months to five-year survival of 50% (Larkin et al 2019, Tawbi et al 2022). Approximately 40-50% of patients treated with immunotherapy have durable responses measured in years. Approximately 40% of advanced melanoma are driven by an activating mutation in BRAF. Molecularly targeted therapy inhibitor BRAF/MEK can be used with improved median progression-free survival of 11-15 months (Robert et al 2019, Ascierto PA et al 2021, Drimmer et al 2018). BRAF/MEK inhibitors are currently not funded in New Zealand and enrolment into clinical trial is encouraged (Te Aho o Te Kahu 2022). In select cases, surgery has been shown to be effective in palliating symptoms and, in patients with oligometastatic disease, it may improve overall survival (Bello 2019). Radiation treatment has been shown to be effective in controlling microscopic disease, palliating symptoms and decreasing recurrence of melanoma after surgery (Henderson et al 2015). Stereotactic radiation treatment of melanoma brain metastases gives high rates of local control (Nieder et al 2014).</td>
</tr>
<tr>
<td>Good practice points</td>
<td>Surgery</td>
</tr>
<tr>
<td>5.6.1 Where there are multiple dermal recurrences: surgical excision/ablation, and/or systemic checkpoint inhibitor or targeted therapies are considered as first line treatment. Where these have failed or are not appropriate, intralesional or topical treatments may be appropriate.</td>
<td>5.6.1 Where there are multiple dermal recurrences: surgical excision/ablation, and/or systemic checkpoint inhibitor or targeted therapies are considered as first line treatment. Where these have failed or are not appropriate, intralesional or topical treatments may be appropriate.</td>
</tr>
<tr>
<td>5.6.2 ILL should be considered in patients who have failed all other treatment options (currently provided by Te Whatu Ora Waitematā).</td>
<td>5.6.2 ILL should be considered in patients who have failed all other treatment options (currently provided by Te Whatu Ora Waitematā).</td>
</tr>
<tr>
<td>5.6.3 Isolated clinical recurrence in a previously resected node field is considered for resection when possible. If, on staging PET-CT, there is distant disease, checkpoint inhibitor immunotherapy or targeted therapy should be trialled first if clinically appropriate.</td>
<td>5.6.3 Isolated clinical recurrence in a previously resected node field is considered for resection when possible. If, on staging PET-CT, there is distant disease, checkpoint inhibitor immunotherapy or targeted therapy should be trialled first if clinically appropriate.</td>
</tr>
<tr>
<td>5.6.4 For patients with asymptomatic oligometastatic disease, for example, bowel, liver, lung or adrenal, surgical resection or radiation is considered along with adjuvant treatment options (radiotherapy or systemic treatment).</td>
<td>5.6.4 For patients with asymptomatic oligometastatic disease, for example, bowel, liver, lung or adrenal, surgical resection or radiation is considered along with adjuvant treatment options (radiotherapy or systemic treatment).</td>
</tr>
<tr>
<td>5.6.5 For patients with limited brain metastasis and no or minimal extracranial disease, resection of the brain metastasis is considered.</td>
<td>5.6.5 For patients with limited brain metastasis and no or minimal extracranial disease, resection of the brain metastasis is considered.</td>
</tr>
</tbody>
</table>
5.6.6 For patients with single-level spinal cord compression and minimal or no other metastatic disease, urgent surgical or radiation treatment is considered.

**Radiation oncology**

5.6.7 Stereotactic radiation treatment is considered for patients with a single or a small number of brain metastases and minimal or controlled extracranial disease (Nieder et al 2014).

5.6.8 Radiation to the tumour bed cavity after resection of a brain metastasis could be considered (Mahajan et al 2017). Whole brain radiation treatment has not been shown to improve survival outcomes following local treatment of brain metastases from melanoma (Mahajan et al 2017).

5.6.9 For patients with multiple brain metastases, whole brain radiation therapy may provide some palliative benefits.

5.6.10 Patients with localised symptoms from melanoma metastases at any site are considered for referral for radiation treatment to these sites.

**Medical oncology**

5.6.11 Where treatment is being considered, patients with advanced melanoma (unresectable stage III or IV disease) should have their tumour assessed for the presence of the BRAF V600 mutation.

5.6.12 BRAF/MEK inhibitor therapy is available for BRAF-mutation-positive patients.

5.6.13 Checkpoint inhibitor immunotherapy should be available for all patients with unresectable stage III or IV disease.

5.6.14 Palliative systemic therapy is considered for patients who are not candidates for, or who have progressed following treatment with immunotherapy, BRAF-inhibitor therapy or appropriate clinical trial systemic therapy.

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**References**


- Henderson MA, Burmeister BH, Ainslie J, et al. 2015. Adjuvant lymph-node field radiotherapy versus observation only in patients with melanoma at high risk of further lymph-node field relapse after lymphadenectomy (ANZMTG 01.02/TROG 02.01): 6-year follow-up of a phase 3, randomised controlled trial. *Lancet Oncol* 16(9): 1,049 – 60.


Quality statements 6: Follow-up and surveillance

Quality statement 6.1: Clinical follow-up and surveillance

<table>
<thead>
<tr>
<th>Description</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| Follow-up is carried out by a health care professional experienced in melanoma diagnosis and management. The health care professional may be a specialist, GP, nurse practitioner or a combination working in conjunction with the patient and their family/whānau. | The purpose of follow-up is to:  
  - detect recurrence early  
  - detect new primary melanoma  
  - provide ongoing patient education regarding self-examination and safe sun exposure  
  - provide psychosocial support  
  - detect lymphoedema.  

Until recently, there have been no completed RCTs comparing various follow-up schedules, therefore follow-up recommendations have been based on expert opinion. It is generally accepted that those with more advanced disease should have more frequent follow-up, however, there is no international consensus, and schedules vary dramatically between countries (Cancer Council Australia Melanoma Guidelines Working Party 2019; Francken et al 2005, 2008; Nieweg and Kroon 2006; Dicker et al 1999; Speijers et al 2010; Francken and Hoekstra 2009; Marsden et al 2010; Swetter et al 2019; Turner et al 2011).

Less frequent follow-up visits are recommended than in earlier guidelines. The MELanoma FOLLOW-up (MELFO) study is a recently published randomised trial and has provided some support for this, showing the less frequent follow-up group reported significantly less cancer-related stress with the recurrence rate being the same in both groups (Damude et al 2016).

Less frequent follow-up visits are now recommended in the Cancer Council Australia Melanoma Guidelines Working Party 2019 based on recurrence patterns and hazard rates. This provides a rational basis for timing and duration of follow-up (Leiter et al 2012; Salama et al 2013).

Overall studies in stages I–III disease show 80% of recurrences occur within the first 3 years. The risk for recurrence for all stages after 10 years decreases to approximately 1% (Cancer Council Australia Melanoma Guidelines Working Party 2019). However, for stage I melanoma, almost 25% of melanoma-related deaths occur after 10 years. Those with melanoma 0.9–1.0mm thick being at significantly greater risk than those with melanoma 0.8 mm or thinner (Lo et al 2018).

The risk varies significantly between patients (Müller et al 2019, Pastor-Tomás et al 2020) and the risk factors may be different to first primary melanoma risk factors (Müller et al 2019, Cust et al 2020). There is little benefit in long term extension of follow-up beyond 10 years (Cancer Council Australia Melanoma Guidelines Working Party 2019) except for patients with additional risk factors (see 6.1.6) and these patients should be provided access to long-term dermatologic exams and encouraged to perform 3-monthly regular self-examination. Selection of patients for long term surveillance will be aided as risk assessment tools are developed and certified (Vuong et al 2014, Cust et al 2020).

**Good practice points**

6.1.1 Clinical surveillance consists of a review of systems for signs or symptoms of disease recurrence, physical examination of the excision scar and surrounding skin, regional and distant lymph node examination, and head-to-toe dermatoscopic skin examination.

6.1.2 Follow-up visits should involve a thorough history focusing on symptoms that can indicate recurrent disease. For example: new skin lesions, palpable tumours in lymph node fields and unexplained systemic complaints such as fatigue, shortness of breath, headache or gastrointestinal symptoms.

6.1.3 Follow-up visits should include examination of the primary melanoma site and a physical examination for lymphadenopathy. Particular attention should be given to the in-transit pathway, that is, the skin between the site of the melanoma and the draining lymph node field(s).

6.1.4 Establish a monitoring process for patients at risk of lymphoedema development:

- Closely monitor any symptoms, especially during first year after surgery (Hyngstrom et al., 2013).
- It is recommended to use Bio-Impedance method to identify the condition at a subclinical stage (Hidding et al., 2016; Ridner et al., 2019).
- Raise awareness among patients and educate regarding any symptoms during follow up.
- Ensure access to early interventions if symptoms are detected and/or there is 5% to 10% increase in limb volume (Rockson et al., 2019)

6.1.5 Recommended follow-up protocols assessing for disease recurrence/metastatic spread are as follows:

- stage IA melanoma should be assessed annually for 10 years.
- stage IB, IIA melanoma should be assessed 6 monthly for 2 years and then annually until the 10th anniversary.
- stage IB and above melanoma with no SNB should receive 6 monthly US of draining node fields for 2 years.
- stage IIB-IIIC, IIIA-D melanoma should be assessed 4 monthly for 2 years, 6 monthly in the third year and annually thereafter until the 10th anniversary.
- stage IV melanoma should be assessed as for stage III, with additional visits as per clinical requirements.

6.1.6 Follow-up frequency and duration may vary depending on the patient’s needs and risk assessment. It may be appropriate to follow-up stage I melanoma beyond 10 years because of the late mortality in this group (Lo et al 2018) and higher risk patients, including those over 65 years of age, high risk sites (acral, scalp and neck) and nodular subtype (Green et al 2012).
Any person diagnosed with melanoma in situ should be offered biennial complete dermatoscopic skin check for at least 10 years for early identification and treatment of new suspicious skin lesions. Lifelong annual surveillance is recommended for patients with multiple melanomas, atypical mole syndrome, multiple naevi (especially >100 naevi) and/or atypical naevi (Gandini et al 2005), for whom digital dermatoscopic surveillance is also recommended. Lifelong biennial skin checks are also recommended for patients over 65 years, Fitzpatrick skin type I or II, significant actinic keratosis, or a history of epithelial cancers such as BCC’s or SCC’s (Müller et al 2019). Risk for subsequent melanomas can be calculated through the Melanoma Institute of Australia subsequent primary melanoma risk calculator (Melanoma Institute Australia 2021).

A written follow-up plan should be made with the patient and given to the patient and their GP. A lead clinician should be nominated and made known to the patient and GP. Ideally, this would change from a hospital-based clinician to a primary health care clinician once hospital-level care has been completed (Nashan et al 2004, Murchie et al 2010, Francken et al 2010).

The lead clinician should be responsible for maintaining and actioning the patient’s melanoma follow-up, investigation requests and results. Recalling and corresponding with the patient may be delegated to other health care providers.

Follow-up should provide patients with clinically appropriate reassurance and psychosocial support. Many patients experience anxiety before and during their follow-up visits. Some patients may require additional follow-up visits for reassurance (Rychetnik et al 2013).

References


### Quality statement 6.2: Patient self-examination

<table>
<thead>
<tr>
<th>Description</th>
<th>Patient self-examination is taught and is an integral part of melanoma follow-up.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale</td>
<td>Patient education in self-skin examination is an integral component of the follow-up schedule and facilitates earlier detection of disease recurrence. The Yale Melanoma Unit, the MELFO Study and the 2008 Australia New Zealand Guidelines deem self-skin examination as an important tool in detecting recurrence. In Australia, 75% of patients detect their own recurrence; the worldwide mean is 62% (Ruark et al 1993; Francken et al 2005, 2007; Jillella et al 1995). Interestingly, when self-skin examination was not included in the modelling analysis of the Melanoma Institute of Australia data, the numbers of patients in whom there was a delay in recurrence diagnosis rose from 1 to 4.5% (Turner et al 2011). Patient education in self-skin-examination should therefore be an integral component of the follow-up schedule.</td>
</tr>
</tbody>
</table>
| Good practice points | 6.2.1 Patients should be provided with written information and shown how to self-examine their skin and regional lymph nodes. Recommend following the ABCDEFG rule, or alternatively the SCAN rule.  
6.2.2 Patients using smart phone teledermatoscopy as part of their self-examination should be encouraged to use validated applications.  
6.2.3 Patient adoption of smartphone applications to communicate suspicious lesions to the lead carer is encouraged. Studies have confirmed that patients are accepting of and capable of taking high-quality dermatoscopic images at home to facilitate teledermatology (Janda et al 2019; Manahan et al 2015; Wu et al 2015; Horsham et al 2016). |
References


# Quality statement 6.3: Follow-up cross-sectional imaging

## Description

Follow-up cross-sectional imaging (CT or PET-CT) is determined by stage, symptoms/clinical findings and suitability for therapy.

Oligometastasis may be resectable or treated with radiotherapy. Asymptomatic metastases may be appropriate for immunotherapy with a curative intent. In New Zealand access to this is dependent on radiologically evaluable unresectable or metastatic disease.

If patient factors/co-morbidities deem patients unfit for any further treatment, do not perform routine surveillance.

## Rationale

These recommendations are made accepting that individual centre’s resources and protocols may differ but should be considered as best practice.

Refer Appendix 3 for example follow up schedule

## Body imaging

The optimal cross-sectional imaging (PET-CT or CT) surveillance regime for high-risk melanoma remains controversial, and there is currently no international consensus. Even in high-risk melanoma patients, there are no high-quality data to indicate improved survival outcomes following routine follow-up cross-sectional imaging.

It is generally agreed that PET-CT has superior diagnostic accuracy over conventional CT (Xing et al 2011). In those clinical settings where CT findings are equivocal or there are clinical findings highly suspicious for recurrence, PET-CT results may alter the treatment course, particularly when surgery is being considered (Schüle et al 2016). There are, however, no prospective data that directly compare the two modalities with regard to the magnitude of differences in survival outcomes.

For patients with thick melanomas (that is, T4 tumours), baseline staging with PET-CT is controversial, due to low yield and high false-positive rate (as discussed in Quality Statement 3.6). There are, however, significant relapse rates, particularly in patients with stage IIC disease. In a retrospective study of pathologic stage II patients by Lee et al (2017), 46% of stage IIC patients relapsed, and of those, 52% of first relapses were systemic. Imaging detected relapse in 31% of these patients. Stage IIC patients notably relapsed earlier with a higher proportion of systemic metastases (especially in lung and brain) when compared to other stage II subgroups. Bleischer et al 2020 retrospective cohort study of Stage II melanoma patients reported that 27% of patients recurred and 27% of those recurrences were detected by surveillance imaging. Of those who recurred with Stage IIC melanoma, imaging detected recurrence in 44%. The National Institute for Health and Care (NICE) guidelines (July 2022) suggest considering baseline staging and surveillance CT imaging for stage IIIB disease and offering staging and surveillance imaging for Stage IIC disease.
Rationale (continued) From the limited data available, baseline staging cross-sectional imaging in patients with a positive SLN (stage IIIA with low nodal tumour volume) appears to be of little benefit, with low yield and high rates of false-positive tests (Holtkamp et al 2017; Lewin et al 2018; Scheier et al 2015). This can lead to further unnecessary investigations, some of which may be invasive/morbid. However, the rate of recurrence in this group is not insignificant. Although a high percentage of first relapses are loco-regional and often detected by the patient or clinician, a less intensive PET-CT surveillance regime in this group has been shown to detect asymptomatic recurrence/progression with 70% sensitivity and 87% specificity (Lewin et al 2018).

The approach to cross-sectional imaging surveillance of patients with higher stage III and stage IV disease varies widely. For example, the National Comprehensive Cancer Network (NCCN) in the United States suggests follow-up PET-CT or CT every 3–12 months for 2 years, then 6-12 months for another 3yrs to screen for recurrence or metastatic disease (NCCN 2023). Regarding salvage curative surgery, radiotherapy or emerging systemic therapies, there is some evidence that treatments are more effective in the setting of low tumour volume, making early detection of recurrence and/or distant metastatic disease relevant (Ibrahim et al 2020, Freeman et al 2019; Joseph et al 2018, Leon-Ferre et al 2017). In conjunction with intensive clinical follow-up, the addition of routine cross-sectional imaging does allow earlier detection of recurrent disease (Park et al 2017), but the impact on overall survival is still unclear (Podlipnik et al 2016). Cross-sectional imaging follow-up should be guided by the probability of recurrence at any stage. For patients with asymptomatic stage IIIB, C, D or stage IV disease, more frequent cross-sectional imaging, for example, 3–6 monthly in the first 3 years, should be considered, when the rates of recurrence are highest. Particularly in stage III disease, a sub-stage approach to follow-up regimes may be beneficial (Melanoma Focus 2023, Lewin et al 2018). Recently, it has been reported that CT and PET-CT have reasonable sensitivity and specificity for detection of recurrence over long follow-up periods (Turner et al. 2021). Surveillance CT has also been shown to be cost-effective (Podlipnik et al 2019).

With emerging systemic therapies, routine follow-up cross-sectional imaging also provides assessment of therapeutic response. In particular, the apparently high negative predictive value of PET-CT seems to be reasonably consistent and notably reassuring (Leon-Ferre et al 2017).

In stage IIC, stage IIIB, C, D and stage IV disease, more frequent surveillance imaging (for example, 3, 4 or 6 monthly in the first 3 years) is recommended with the aim of detecting relapse at an earlier time point (Lim et al 2018). This acknowledges that although the actual benefit of earlier imaging detection on survival outcomes is not yet known, there are now more treatment options available.

For younger patients, it is important to consider minimising ionizing radiation dose. This can be achieved by limiting the scan range, using lower dose CT techniques or MRI instead where possible. For example, low dose chest CT with MRI abdomen/pelvis +/- brain MRI. Dose reduction techniques can be employed in PET CT scanning by reducing the radiopharmaceutical dose and using non diagnostic quality low dose CT (Kaste 2011). For pregnant patients, risks to the foetus from CT and MRI vary at different stages of the pregnancy. In lower risk pregnant patients, surveillance may be delayed to the postpartum period. For both these groups, the imaging strategy should be considered specifically for each patient and may need consultation with a radiologist (Melanoma Focus 2023).
Brain imaging

It is widely accepted that MRI is superior to CT for the detection of cerebral metastases.

The AJCC recognises that patients with central nervous system metastases have the worst prognosis of all melanoma patients with distant metastatic disease (M1d category) (Amin et al 2017).

The incidence of developing brain metastases increases with TNM stage. For stage III patients, macroscopic nodal and in-transit disease has been associated with an increased risk of brain metastases (Samlowski et al 2017). There has also been an association between primary tumour ulceration and development of brain metastasis (Zakrzewski et al 2011).

As with relapse at other sites, development of brain metastases generally occurs in the first 3 years (Samlowski et al 2017; Fife et al 2004).

Previously, the poor prognosis of those with brain metastases may have precluded routine surveillance for those at risk. However, with the recent advances in surgery, stereotactic radiotherapy and systemic therapy, there are improved treatment outcomes (particularly in the setting of smaller tumour volume and asymptomatic lesions).

This would suggest that earlier detection increases the treatment options available to patients, although there is little evidence to directly support this.

Given the prognostic implications and treatment options available in low-volume metastatic brain disease, regular surveillance brain imaging is recommended for patients with stage IIC, stage IIIB, C, D and stage IV disease in the first 3 years with less frequent surveillance following this. Contrast-enhanced brain MRI is preferred over contrast-enhanced CT due to improved diagnostic accuracy (particularly if there is previous documented metastatic brain disease).
### Good practice points

**6.3.1 Stage I and II (A and B)**

For patients with stage I or II (A and B) disease, routine surveillance imaging is not recommended if the patient is asymptomatic.

**6.3.2 Stage IIC, III and IV**

In asymptomatic patients, routine follow-up with contrast-enhanced CT of the chest, abdomen and pelvis (± neck) can be considered at 3- to 12-monthly intervals in the first 3–5 years as stratified by clinical stage and time from diagnosis.

Surveillance high-resolution brain imaging (brain MRI or contrast-enhanced CT head) should be considered in high-risk patients at 3- to 12-monthly intervals in the first 3–5 years as stratified by clinical stage and time from diagnosis.

The following is recommended as a guide to follow-up imaging - refer Appendix 3 for a tabulated example follow-up schedule

- stage IIC: CT chest, abdomen and pelvis ± neck and brain MRI or CT head 6 monthly for 3 years. Consider annual surveillance imaging in years 3–5 following diagnosis.
- stage IIIA: CT chest, abdomen and pelvis (± neck) at 6 months and then at 12 months. Annually after that until the third anniversary.
- stage IIIB, C, D and stage IV: CT chest, abdomen and pelvis ± neck and brain MRI or CT head 3–6 monthly for 3 years. Annual follow-up imaging in years 3–5 following diagnosis.

**6.3.3** If a patient develops suspicious clinical or equivocal radiological findings, biopsy-proven local recurrence or distant metastatic disease, PET-CT is recommended if the patient is a candidate for further surgical management, radiotherapy or systemic therapy. When CT has shown widespread metastatic disease and PET-CT will not change the planned management, the latter can be omitted.

**6.3.4** For patients with stage III and stage IV disease on active treatment (systemic therapy or radiotherapy), the follow-up imaging schedule will be determined by the oncology team, likely based on symptomatology and/or for response assessment. The above schedule, however, may be a useful guide to the desirable minimum frequency of imaging.

**6.3.5** In younger or pregnant patients, attempts should be made to minimise exposure to ionizing radiation which may include low dose CT techniques and/or MRI instead. An appropriate imaging strategy should be individualised for these patients, and may require consultation with a radiologist.

### References


## Quality statement 6.4: Ultrasound imaging of draining node basins

<table>
<thead>
<tr>
<th>Description</th>
<th>US imaging of the draining node basin(s) can be considered in a select group of patients, in conjunction with routine clinical follow-up ± cross-sectional imaging as per TNM stage.</th>
</tr>
</thead>
</table>
| Rationale   | These recommendations are made accepting that individual centre’s resources and protocols may differ but should be considered as best practice.  
US of the draining regional lymph node basins may provide a useful adjunct to clinical examination, particularly when clinical examination is limited (such as in obese patients), when SNB has failed or not performed when indicated, or as surveillance of SNB-positive node basins when completion lymphadenectomy is not performed.  
Following the results of the MSLT-II trial, nodal surveillance with US is likely to increase (Faries et al 2017).  
There is evidence that US can detect lymph node metastasis with a reasonable degree of accuracy, with literature to support increased sensitivity of US compared with clinical examination (Bafounta et al 2004; Machet et al 2005).  
Sonographic features suspicious for nodal malignancy as defined by Vassallo et al (1992) remain consistent criteria in the literature for lymph node malignancy and include longitudinal to transverse diameter ratio <2 mm, echogenic central hilum narrowed or absent (suggesting diffuse hypoechoicnecity) and concentric or eccentric widening of the peripheral cortex.  
Nodal size alone is not a good discriminator as small nodes may have malignant features and benign reactive nodes may be notably enlarged. Other suspicious features include peripheral vascularity on colour Doppler sonography and intranodal necrosis (Ahuja et al 2008). A combination of more than one suspicious finding has been shown to increase the sensitivity of detection (Moehle et al 1999).  
The success of sonographic nodal assessment therefore relies on the expertise of the sonographer, requiring a high level of technical skill and knowledge. |
6.4.1 US imaging of the node basin(s) should be performed in a select group of patients, in conjunction with routine clinical examination and appropriate cross-sectional imaging surveillance based on TNM stage:

- patients with stage IB, stage IIA, B or C where SNB is not performed when clinically indicated
- patients with SNB-positive stage III disease where completion lymphadenectomy is not performed
- patients in whom SNB failed
- considered for patients where clinical examination is difficult (for example, obesity).

See Appendix 3 for example follow up schedule.

6.4.2 Recommended frequency of US imaging is 4–6 monthly for 2 years. For those patients undergoing US surveillance who have not had SNB, baseline US is also advised.

6.4.3 There may be more than one draining node basin. For primary tumours in the head and neck, bilateral neck US is advised. In the torso this would be bilateral axilla, neck, inguinal and iliac basins so cross sectional imaging may be more practical with CT neck, chest, abdomen, pelvis down to the upper thigh.

6.4.4 Sonographic features suspicious for malignancy include: longitudinal to transverse diameter ratio <2 mm, loss or narrowing of the echogenic central hilum / diffuse echogenicity, concentric or eccentric widening of the peripheral cortex and peripheral vascularity on colour doppler sonography. A combination of multiple suspicious findings is likely to improve diagnostic accuracy. Equivocal sonographic findings may need short-interval follow-up US or FNA biopsy.

References

## Quality statements 7: Supportive Care

### Quality statement 7.1: Supportive care

<table>
<thead>
<tr>
<th>Description</th>
<th>Patients with melanoma and their families/whānau have equitable and coordinated access to appropriate medical, allied health and supportive care services, in accordance with <em>Guidance for Improving Supportive Care for Adults with Cancer in New Zealand</em> (Ministry of Health 2010).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale</td>
<td>The psychological, social, physical and spiritual needs of cancer patients are many and varied. These needs can to a large extent be met by allied health care teams in hospitals and in the community. Adults with cancer enjoy improved quality of life following needs assessment and provision of supportive care. Non-government organisations, including the Cancer Society and Melanoma New Zealand, perform an important role in providing supportive care.</td>
</tr>
</tbody>
</table>
| Good practice points | 7.1.1 Patients have their supportive care and psychosocial needs assessed using validated tools (such as the 'Distress Thermometer' or a cancer-related distress self-assessment tool) and documented at each stage of their cancer journey and have access to services appropriate to their needs. The 'Distress Thermometer' is a simple widely used screening tool, but deficiencies in its utility as a standalone assessment of psychosocial stress in cancer patients should be recognised (Mitchell 2007, Stewart-Knight et al 2012, Guan et al 2019, Ownby 2019, Jewett et al 2020, Klingenstein et al 2020).  
7.1.2 Information in a language and format appropriate to the patient is offered to each new patient with cancer, and meets the guidelines set out in *Rauemi Atawhai: A guide to developing health education resources in New Zealand* (Ministry of Health 2012).  
7.1.3 Patients have access to mental health services appropriate to their needs. Those experiencing significant distress or disturbance are referred to appropriate specialist health practitioners.  
7.1.4 Māori patients and their family/whānau are offered access to Whānau Ora assessments and cultural support services.  
7.1.5 Māori patients and those from other cultural groups and their family/whānau are offered access to culturally appropriate cancer support services. |
7.1.6 Individually tailored written information in a plain language format is offered to each new patient with melanoma, and cover:
- general background information about melanoma.
- treatment options: specific local arrangements, including information about the MDT and support services, and whom the patient should contact if necessary.
- local self-help/support groups and other appropriate organisations.

7.1.7 Health professionals ensure that patients understand the information provided or refer them on to suitably qualified service providers/advisors who can interpret information for them.

7.1.8 Patients are provided with adequate support and information to make decisions about their future health care in consultation with health care providers and family/whānau.

References


### Quality statements 8: Care Coordination

#### Quality statement 8.1: Care coordination

<table>
<thead>
<tr>
<th><strong>Description</strong></th>
<th>Patients managed by a melanoma MDT have access to a CNS, CNC or other health professional who is a member of the MDM to help coordinate all aspects of their care. Each treatment centre has a melanoma clinical lead to provide necessary leadership, guidance and provision of melanoma care.</th>
</tr>
</thead>
</table>
| **Rationale**   | The cancer journey is complex, and it is not uncommon for a patient to be seen by many specialists and across the public and private sectors. ‘Care coordination’ refers to a system or a role primarily intended to expedite patient access to services and resources, improve communication and the transfer of information between services, address patients’ information needs and improve continuity of care throughout the cancer continuum. Key responsibilities of care coordinators include:  
  - early identification and assessment of patients at greatest need of support.  
  - care coordination (see above).  
  - provision of information, support and nursing care  
  - provision of advice/education to other nurses and health professionals.  
  - ensuring best-practice service provision.  
  - collaboration with other health professionals to improve outcomes for patients.  
  Given the specialist knowledge required and responsibilities involved, care coordinators should be a health professional with special interest in melanoma. |
| **Good practice points** |  
  8.1.1 All patients with melanoma have a nominated single point of contact – ideally a nurse with an in-depth/specialist knowledge of melanoma – to support them to access psychosocial support and information, help them self-manage their disease and provide coordination of their cancer journey e.g., coupling radiology investigations or outpatient visits together.  
  8.1.2 Services provide all patients with this person’s name and contact details, and the care coordinator makes initial contact with the patient within seven days of the initial diagnosis.  
  8.1.3 Tools are developed to specifically meet the needs of Māori (such as Whānau Ora assessments); these tools are used to inform patient treatment plans and care coordination. |
Appendices

Appendix 1: National Melanoma Working Group members

The National Melanoma Cancer Working Group (3rd edition) comprised:

Chair
Dr Susan Seifried, General Surgeon, Te Whatu Ora Nelson Marlborough

Members
Dr AJ Seine, Dermatologist, Skin Centre, Tauranga
Dr Annie Wong, Medical Oncologist, Te Whatu Ora Capital, Coast and Hutt Valley
Dr Bronwen McNee, Senior Research Fellow Preventative and Social Medicine, University of Otago
Dr Chris Adams, Plastic Surgeon, Te Whatu Ora Capital, Coast and Hutt Valley
Dr Chris Boberg, General Practitioner, Skin Check
Dr Dirk Venter, General Practitioner, Venter Medical Ltd
Dr Luke Bradford, Medical Director, Royal New Zealand College of General Practitioners
Dr Richard Massey, Pathologist, Pathology Associates New Zealand
Dr Victoria Francis, Radiologist, Te Whatu Ora Waitemata
Katrina Patterson, Chief Executive Officer, Melanoma Network of New Zealand (MelNet)
Nicola Hobbs, Cancer Nurse Coordinator, Te Whatu Ora Waitaha Canterbury
Appendix 2: Example templates and associated guidance

2.1 Te Whatu Ora Counties Manukau: Skin histology request form
(Courtesy of Counties Manukau District Health Board).
### 2.2 Royal College of Pathologists of Australasia: Primary cutaneous melanoma structured reporting protocol 2nd edition

#### A guide to Primary Cutaneous Melanoma Histopathology Reporting

**Includes the International Collaboration on Cancer reporting dataset denoted by *"**

<table>
<thead>
<tr>
<th><strong>Clinical details</strong></th>
<th><strong>Macroscopic findings</strong> (cont.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S1.02</strong> Clinical information provided on request form (complete as narrative or use the structured format below)</td>
<td>G2.07 Other lesion(s) Not identified Present</td>
</tr>
<tr>
<td>Tumour site Not provided OR Text</td>
<td>If yes, record macroscopic description of other lesion(s) Text</td>
</tr>
<tr>
<td>Specimen laterality Left Midline Right Not provided</td>
<td>G2.08 Block identification key Text</td>
</tr>
<tr>
<td>Clinical or differential diagnosis Text</td>
<td>G2.09 Other comments Text</td>
</tr>
<tr>
<td><strong>Specimen type</strong> See p2</td>
<td><strong>Microscopic findings</strong></td>
</tr>
<tr>
<td>If re-excision report the following:</td>
<td>G3.01 Microscopic description Text</td>
</tr>
<tr>
<td>Previous laboratory Text</td>
<td><strong>Breslow thickness</strong> (measurement should be to a minimum of 1 decimal point and to a degree of precision as to allow accurate AJCC staging) Indeterminate OR __mm** OR At least: __mm**</td>
</tr>
<tr>
<td>Previous pathology accession number Text</td>
<td><strong>Surgical margin/Tissue edge status</strong></td>
</tr>
<tr>
<td>Findings in previous biopsy</td>
<td><strong>In situ component:</strong> Peripheral margin (*** by melanoma in situ) Cannot be assessed Not involved** Involved**</td>
</tr>
<tr>
<td>History and timing of lesional trauma, biopsy, irritation or treatment with topical agent Text</td>
<td>If not involved, record ***distance of melanoma in situ from closest margin ***locations of closest uninvolved margin if possible Text</td>
</tr>
<tr>
<td>Past history of melanoma Yes/No</td>
<td>If involved, record ***locations of involved margins if possible Text</td>
</tr>
<tr>
<td>If yes, give details (e.g. site, thickness, timing, treatment etc) Text</td>
<td><strong>Invasive component:</strong> Peripheral margin (*** by invasive melanoma) Cannot be assessed Not involved** Involved**</td>
</tr>
<tr>
<td>Evidence of metastatic disease Yes/No</td>
<td>If not involved, record ***distance of invasive melanoma from closest margin ***locations of closest uninvolved margin if possible Text</td>
</tr>
<tr>
<td>If yes, describe and consider recording serum LDH Text</td>
<td>If involved, record ***locations of involved margins if possible Text</td>
</tr>
<tr>
<td>Serum lactate dehydrogenase ___IU</td>
<td><strong>Invasive component:</strong> Deep margin (*** by invasive melanoma) Cannot be assessed Not involved** Involved**</td>
</tr>
<tr>
<td>Other relevant history Text</td>
<td>If not involved, record ***distance of invasive melanoma from closest margin ***locations of closest uninvolved margin if possible Text</td>
</tr>
<tr>
<td>Details of specimen orientation Text</td>
<td>If involved, record ***locations of involved margins if possible Text</td>
</tr>
<tr>
<td>Any clinically or dermatoscopically identified suspicious areas Yes/No</td>
<td><strong>Microscopic findings</strong></td>
</tr>
<tr>
<td>If yes, describe Text</td>
<td>G2.01 Specimen description Text</td>
</tr>
<tr>
<td>Clinical or other relevant diagnostic imaging results Text</td>
<td>G2.02 Specimen dimensions ___x___x___mm</td>
</tr>
<tr>
<td>New primary melanoma or recurrence See p2</td>
<td>G2.03 Specimen orientation Not provided OR Text</td>
</tr>
<tr>
<td><strong>S1.03</strong> Pathology accession number Text</td>
<td>G2.04 Macroscopic primary lesion description Text</td>
</tr>
<tr>
<td><strong>S1.04</strong> Principal clinician caring for the patient Text</td>
<td>G2.05 Macroscopic primary lesion dimensions (length x width x depth; depth is optional) ___x___x___mm OR Indeterminate</td>
</tr>
<tr>
<td><strong>G1.01</strong> Other clinical information received Text</td>
<td>G2.06 Macroscopic primary lesion dimensions (length x width x depth; depth is optional) ___x___x___mm OR Indeterminate</td>
</tr>
</tbody>
</table>
### Synthetic and overview

<table>
<thead>
<tr>
<th>S5.01</th>
<th>PATHOLOGICAL STAGING (AJCC 7TH EDITION)</th>
<th>See p3</th>
</tr>
</thead>
<tbody>
<tr>
<td>S5.02</td>
<td>Regional lymph nodes (N)</td>
<td>See p3</td>
</tr>
<tr>
<td>S5.03</td>
<td>Year and edition of staging system</td>
<td>Text</td>
</tr>
<tr>
<td>G5.01</td>
<td>Diagnostic summary</td>
<td>Text</td>
</tr>
<tr>
<td>S5.04</td>
<td>Overarching comment</td>
<td>Text</td>
</tr>
</tbody>
</table>

### Notes

**Specimen type**
- Not provided
- Re-excision
- Excision
- Punch
- Incision
- Shave
- Curette
- Other (specify)

**New primary melanoma or recurrence**
- New primary
- Recurrence – local
- Recurrence – in-transit metastasis (between primary site and regional node field)
- Recurrence – regional
- Recurrence – distant
- Not stated

#### Clark level
- Confined to epidermis (I)
- Infiltrates but does not fill papillary dermis (II)
- Fills/expands papillary dermis (III)
- Infiltrates into reticular dermis (IV)
- Infiltrates into subcutaneous fat (V)
S3.07 Desmoplastic melanoma component
- Pure desmoplastic melanoma (>90% desmoplastic features)
- Mixed (mixed desmoplastic / non-desmoplastic melanoma)

G3.09 Melanoma subtype
Choose all that apply
- Superficial spreading melanoma
- Nodular melanoma
- Lentigo maligna melanoma
- Acral-lentiginous melanoma
- Desmoplastic melanoma
- Melanoma arising from blue naevus
- Melanoma arising in giant congenital naevus
- Melanoma of childhood
- Naevoidal melanoma
- Persistent melanoma
- Melanoma, not otherwise classified
- Other (specify)

Pathological Staging (AJCC 7th Ed.)##

**T classification**
- TX Primary tumour cannot be assessed
- T0 No evidence of primary tumour
- Tis Melanoma in situ
- T1 Melanomas ≤1.0 mm in thickness
  - T1a Without ulceration and mitosis <1/mm²
  - T1b With ulceration or mitoses ≥ 1/mm²
- T2 Melanomas 1.01–2.0 mm
- T2a Without ulceration
- T2b With ulceration
- T3 Melanomas 2.01–4.0 mm
- T3a Without ulceration
- T3b With ulceration
- T4 Melanomas >4.0 mm
- T4a Without ulceration
- T4b With ulceration

**N classification**
No nodes submitted or found
OR
- NX Regional lymph nodes cannot be assessed
- N0 No regional lymph node metastasis
- N1 1 node
  - N1a micrometastasis*
  - N1b macrometastasis**
- N2 2–3 nodes
  - N2a micrometastasis*
  - N2b macrometastasis**
- N2c in transit met(s)/satellite(s) without metastatic nodes
- N3 4 or more metastatic nodes, or matted nodes, or in transit met(s)/satellite(s) with metastatic node(s)
  - * Micrometastases are diagnosed after sentinel lymph node biopsy and completion lymphadenectomy (if performed).
  - ** Macrometastases are defined as clinically detectable nodal metastases confirmed by therapeutic lymphadenectomy or when nodal metastasis exhibits gross extracapsular extension.


**Note:** The above protocol is the most recent version available as of the time of publication. The most up to date version of the reporting protocol should always be used.

2.3 College of American Pathologists: Protocol for the examination of excision specimens from patients with melanoma of the skin

CAP Approved

Skin + Melanoma 4.1.0.0
Excision

Maximum Tumor (Breslow) Thickness (applicable to invasive tumor only) (Note D)
Specify (millimeters): ___ mm

or

At least (millimeters): ___ mm (explain): ____________________________
___ Cannot be determined (explain): ____________________________

Ulceration (required for invasive tumor only) (Note E)
___ Not identified
___ Present
   + Extent of ulceration (millimeters): ___ mm
   ___ Cannot be determined

Microsatellite(s) (applicable to invasive tumor only) (Note F)
___ Not identified
___ Present
___ Cannot be determined

Margins (Note G)

Peripheral Margins
___ Negative for invasive melanoma
   + Distance of invasive melanoma from closest peripheral margin (millimeters):
     + ___ Specify ___ mm
     + ___ Less than ___ mm
     + ___ Greater than ___ mm
     + ___ Cannot be determined (explain): ____________________________
     + Specify location(s), if possible: ____________________________
___ Invasive melanoma present at margin
   Specify location(s), if possible: ____________________________
___ Negative for melanoma in situ
   + Distance of melanoma in situ from closest peripheral margin (millimeters):
     + ___ Specify ___ mm
     + ___ Less than ___ mm
     + ___ Greater than ___ mm
     + ___ Cannot be determined (explain): ____________________________
     + Specify location(s), if possible: ____________________________
___ Melanoma in situ present at margin
   Specify location(s), if possible: ____________________________
   ___ Cannot be assessed

Deep Margin
___ Negative for invasive melanoma
   + Distance of invasive melanoma from deep margin (millimeters):
     + ___ Specify ___ mm
     + ___ Less than ___ mm
     + ___ Greater than ___ mm
     + ___ Cannot be determined (explain): ____________________________
___ Invasive melanoma present at margin
___ Negative for melanoma in situ
___ Melanoma in situ present at margin
___ Cannot be assessed
Surgical Pathology Cancer Case Summary

Protocol posting date: August 2019

MELANOMA OF THE SKIN: Excision, Re-Excision

Select a single response unless otherwise indicated.

Procedure (select all that apply) (Note A)

___ Excision
___ Re-excision
___ Sentinel node(s) biopsy
___ Lymphadenectomy, regional nodes (specify): ________________________________
___ Other (specify): _______________________________________________________
___ Not specified

+ Specimen Laterality
  + ___ Right
  + ___ Left
  + ___ Midline
  + ___ Not specified

+ Tumor Site (Note B): __________________________

Macroscopic Satellite Nodule(s) (applicable to invasive tumor only)

___ Not identified
___ Present
___ Cannot be determined

Histologic Type (Note C)

___ No residual melanoma identified

Invasive Melanoma

___ Superficial spreading melanoma (low-cumulative sun damage (CSD) melanoma)
___ Lentigo maligna melanoma
___ Desmoplastic melanoma
  + ___ Pure desmoplastic melanoma
  + ___ Mixed desmoplastic melanoma
___ Acral melanoma
___ Melanoma arising in a blue nevus (blue nevus-like melanoma)
___ Melanoma arising in a giant congenital nevus
___ Spitz melanoma (malignant Spitz tumor)
___ Nodular melanoma
___ Nevus melanoma
___ Melanoma, not otherwise classified
___ Other histologic type not listed (specify): ________________________________

Melanoma In Situ (anatomic level I)^

___ Melanoma in situ. superficial spreading type (low-cumulative sun damage (CSD) melanoma in situ)
___ Melanoma in situ. lentigo maligna type
___ Acral melanoma in situ
___ Melanoma in situ arising in a giant congenital nevus
___ Melanoma in situ, not otherwise classified
___ Other histologic type not listed (specify): ________________________________
Mitotic Rate (applicable to invasive tumor only) (Note H)
- None identified
- Specify (mitoses/mm²): _______ mitoses/mm²
- Cannot be determined

+ Anatomic (Clark) Level (applicable to invasive tumor only) (Note D)
- ___ At least level (explain): __________________________
+ ___ II (melanoma present in but does not fill and expand papillary dermis)
+ ___ III (melanoma fills and expands papillary dermis)
+ ___ IV (melanoma invades reticular dermis)
+ ___ V (melanoma invades subcutis)
+ ___ Cannot be determined

Lymphovascular Invasion (applicable to invasive tumor only) (Note I)
- ___ Not identified
- ___ Present
- ___ Cannot be determined

Neurotropism (applicable to invasive tumor only) (Note J)
- ___ Not identified
- ___ Present
- ___ Cannot be determined

+ Tumor-Infiltrating Lymphocytes (applicable to invasive tumor only) (Note K)
- ___ Not identified
- ___ Present, nonbrisk
- ___ Present, brisk
- ___ Cannot be determined

Tumor Regression (Note L)
- ___ Not identified
- ___ Present, involving less than 75% of lesion
- ___ Present, involving 75% or more of lesion
- ___ Cannot be determined

Regional Lymph Nodes (applicable to invasive tumor only) (Note M)
Note: If nodes from more than one nodal basin are included, each nodal basin should be reported separately.
- ___ No lymph nodes submitted or found
- ___ Uninvolved by tumor cells
- Total Number of Lymph Nodes Examined: ______
  Number of Sentinel Nodes Examined (if applicable): ______
  Involved by tumor cells
  Number of Lymph Nodes Involved: ______
  Number cannot be determined (explain): __________________________
  + Location (specify)*: __________________
*Note: Locations may include subcapsular, intramedullary, and other locations.
  Number of Sentinel Nodes Involved (required only if sentinel nodes examined and involved): ______
  Number cannot be determined (explain): __________________________

+ Size of Largest Metastatic Deposit* ______ mm
*Note: Relevant only if larger than sentinel lymph node metastatic deposits.

+ Size of Largest Metastatic Deposit in Sentinel Lymph Node ______ mm

+ Extranodal Extension
Skin - Melanoma 4.1.0.0

Excision

CAP Approved

+ ___ Not Identified
+ ___ Present
+ ___ Cannot be determined

Matted Nodes
___ Not Identified
___ Present

Total Number of Lymph Nodes Examined: ______
___ Number cannot be determined (explain): ____________________________

Number of Sentinel Nodes Examined (if applicable): ______

Pathologic Stage Classification (pTNM, AJCC 8th Edition) (Note N)

Note: Reporting of pT, pN, and (when applicable) pM categories is based on information available to the pathologist at the time the report is issued. Only the applicable T, N, or M category is required for reporting; their definitions need not be included in the report. The categories (with modifiers when applicable) can be listed on 1 line or more than 1 line.

+ ___ Classification assigned in this report includes information from a prior procedure (explain): ____________________________

Note: In general, CAP cancer protocol case summaries are intended to guide reporting on the specimen that the pathologist is evaluating at that time. However, melanoma cases frequently include multiple procedures. Because of this, a prior procedure that was performed may affect the pathologic classification of the tumor.

In order to represent this appropriately in the pathology report, information from prior procedures may be incorporated into the assignment of pathologic classification if it is available. When information from a prior procedure is included in this report, details of that procedure should be documented in the report as well.

TNM Descriptors (required only if applicable) (select all that apply)
___ m (multiple)
___ r (recurrence or retreatment)
___ y (posttherapy or post-neoadjuvant therapy)

Primary Tumor (pT)
___ pTX: Primary tumor thickness cannot be assessed (e.g., diagnosis by curettage)
(explain): ____________________________

___ pT0: No evidence of primary tumor (e.g., unknown primary or completely regressed melanoma)

___ pTis: Melanoma in situ (i.e., not an invasive tumor: anatomic level I)

___ pT1: Melanoma 1.0 mm or less in thickness, ulceration status unknown or unspecified (see Note D)

___ pT1a: Melanoma <0.8 mm in thickness, no ulceration

___ pT1b: Melanoma <0.8 mm in thickness with ulceration OR melanoma 0.8 to 1.0 mm in thickness with or without ulceration

___ pT2: Melanoma >1.0 to 2.0 mm in thickness, ulceration status unknown or unspecified

___ pT2a: Melanoma >1.0 to 2.0 mm in thickness, no ulceration

___ pT2b: Melanoma >1.0 to 2.0 mm in thickness, with ulceration

___ pT3: Melanoma >2.0 to 4.0 mm in thickness, ulceration status unknown or unspecified

___ pT3a: Melanoma >2.0 to 4.0 mm in thickness, no ulceration

___ pT3b: Melanoma >2.0 to 4.0 mm in thickness, with ulceration

___ pT4: Melanoma >4.0 mm in thickness, ulceration status unknown or unspecified

___ pT4a: Melanoma >4.0 mm in thickness, no ulceration

___ pT4b: Melanoma >4.0 mm in thickness, with ulceration

Regional Lymph Nodes (pN) (applicable to invasive tumor only)
___ pNX: Regional lymph nodes not assessed (e.g., SLN biopsy not performed, regional nodes previously removed for another reason)
Quality Statements to Guide Melanoma Diagnosis and Treatment in New Zealand: Draft for Consultation

Note: The above protocol is the most recent version available as of the time of publication. The most up to date version of the reporting protocol should always be used.

2.4 Melanoma Institute Australia: sentinel node biopsy form

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomical site of sentinel node (node field)</td>
<td></td>
</tr>
<tr>
<td>Number of tumour foci</td>
<td></td>
</tr>
<tr>
<td>Intranodal location involved by tumor</td>
<td></td>
</tr>
<tr>
<td>Maximum dimension of largest deposit (mm)</td>
<td></td>
</tr>
<tr>
<td>Maximum tumour penetrative depth (mm)</td>
<td></td>
</tr>
<tr>
<td>% cross-sectional area of sentinel node involved by tumor</td>
<td></td>
</tr>
<tr>
<td>Perinodal lymphatic invasion</td>
<td></td>
</tr>
<tr>
<td>Extranodal spread</td>
<td></td>
</tr>
<tr>
<td>Immunophenotype of tumour</td>
<td></td>
</tr>
<tr>
<td>• S-100</td>
<td></td>
</tr>
<tr>
<td>• HMB-45</td>
<td></td>
</tr>
<tr>
<td>• MelanA</td>
<td></td>
</tr>
<tr>
<td>Nodal naevis cells</td>
<td></td>
</tr>
<tr>
<td>Other comments</td>
<td></td>
</tr>
</tbody>
</table>

(Courtesy of Professor Richard Scolyer, Melanoma Institute Australia.)
# Appendix 3: Example melanoma follow-up schedule

<table>
<thead>
<tr>
<th>Stage</th>
<th>Clinical Follow Up</th>
<th>Radiology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melanoma In Situ IIA</td>
<td>12 monthly GP review for ten years</td>
<td>N/A</td>
</tr>
<tr>
<td>IB, IIA (−ve SNB)</td>
<td>Initial post op review SOPC 6 monthly GP review first two years 12 monthly GP review until year ten</td>
<td>If no SNB and clinically appropriate USS nodal basin 6 monthly for two years (CT instead if on torso)</td>
</tr>
<tr>
<td>IB , IIA (no SNB)</td>
<td>6 monthly SOPC review first two years 12 monthly GP review until year ten</td>
<td>If no SNB and clinically appropriate USS nodal basin 6 monthly for two years (CT instead if on torso)</td>
</tr>
<tr>
<td>IIB (no SNB)</td>
<td>4 monthly review first two years (SOPC/GP) 6 monthly review third year (SOPC/GP) 12 monthly GP review until year ten</td>
<td>No completion dissection: Alternate USS nodal basin with CT chest, abdomen, pelvis 6 monthly for three years Completion node dissection: CT chest, abdomen, pelvis 6 monthly for one year then annual to three years</td>
</tr>
<tr>
<td>IIIA (+ve SNB)</td>
<td>4 monthly review first two years (SOPC/GP) 6 monthly review third year (SOPC/GP) 12 monthly GP review until year ten</td>
<td>CT chest, abdomen, pelvis and MRI brain at three months then 6 monthly for three years then annual for year four and five</td>
</tr>
<tr>
<td>IIC</td>
<td>4 monthly review first two years (SOPC/GP) 6 monthly review third year (SOPC/GP) 12 monthly GP review until year ten</td>
<td>Tailored as indicated by treatment/symptoms/MDT</td>
</tr>
<tr>
<td>IIIB, C, D IV resected</td>
<td>SOPC = Surgical Out-Patient Clinic (Hospital) GP = General Practitioner (Family Doctor)</td>
<td></td>
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<tr>
<td>IV un-resected</td>
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Follow up should include:
- Examination of the primary site and nodal basins along with the lymphatic route
- Annual whole body skin surveillance
- Order appropriate next investigations and give sun protection advice
Appendix 4: Feedback contributors

Feedback from the following parties was evaluated by the New Zealand Melanoma Working Group and included where appropriate:

Institution

First edition
Cancer Society New Zealand
New Zealand Dermatological Society Incorporated
New Zealand Medical Association
New Zealand Nurses Organisation Cancer Nurses College
The Royal Australian and New Zealand College of Radiologists
The Royal College of Pathologists of Australasia
Skin Cancer College of Australasia

Second edition
Cancer Society New Zealand
Skin Cancer College of Australasia
New Zealand Dermatological Society Incorporated
New Zealand Association of General Surgeons

Third edition
Cancer Society New Zealand
The Royal College of Pathologists of Australasia
The Royal New Zealand College of Urgent Care
National Radiation Advisory Group
Individual

First edition
Bronwen McNoe, Senior Research Fellow, Social & Behavioural Research Unit, Department of Preventive & Social Medicine, University of Otago
Dr Jeremy Simcock, Plastic Surgeon, Canterbury District Health Board
Dr Jonathan Mathy, Plastic Surgeon, Auckland Regional Plastic, Reconstructive & Hand Surgery Unit; NZ National Burn Unit and Honorary Associate Professor, University of Auckland School of Medicine
Dr Keith Monnington, Skin Cancer Doctor and Immediate Past President of Skin Cancer College of Australasia
Lee-Ann Creagh, Clinical Nurse Specialist, Waikato Hospital
Linda Buxton, Health Promotion, Otago/Southland Division, Cancer Society
Lucia Bercinskas, Senior Policy Analyst, New Zealand Nurses Organisation
Dr Mark Taylor, Clinical Director of Primary and Integrated Care, Waikato DHB
Dr Stuart Johnson, Lead Anatomic Pathologist, Hutt Hospital (Wellington SCL)
Susan Mary Millmow, Clinical Nurse Specialist/Cancer Care Coordinator, Hutt Valley DHB
Dr Amanda Oakley, Dermatologist, Waikato DHB

Second edition
Dr Amanda Oakley, Dermatologist, Te Whatu Ora Waikato
Dr AJ Seine, Dermatologist, Skin Centre

Third edition
Mr Brandon Adams, Plastic Surgeon, Da Vinci Clinic, Tauranga
Mr Jeremy Simcock, Plastic Surgeon, Te Whatu Ora Waitaha Canterbury
Trish Leathem, Skin Cancer Clinical Nurse Specialist, Te Whatu Ora Counties Manuka
## Appendix 5: Summary of changes

This section describes the clinical changes made in this edition and the previous one. Minor corrections and editorial changes have not been identified.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>• Terminology of ‘non-melanoma skin cancer’ changed to ‘keratinocytic skin cancer’</td>
<td></td>
<td>• Inclusion of statement that information on referral pathways be made available (Description)</td>
</tr>
<tr>
<td>• Sunscreen SPF rating changed from “at least 50” to “at least 30 to 50” (GPP 1.1.1)</td>
<td></td>
<td>• Terminology of ‘thicker’ changed to ‘higher stage’ (Rationale)</td>
</tr>
<tr>
<td>• Shade in public areas broadened to include education spaces and workplaces (GPP 1.1.2)</td>
<td></td>
<td>• Reference to months of the year when UVR protection should be used removed (GPP 1.1.1)</td>
</tr>
<tr>
<td>• Inclusion of statement that national and local government develop and implement comprehensive policies and public awareness campaigns (GPP 1.1.2)</td>
<td></td>
<td>• Sunscreen SPF rating changed from “at least 30 to 50” to “ideally SPF 50”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality Statement 1.3: People at increased risk of melanoma</th>
<th>2022, Second Edition</th>
<th>2023, Third Edition</th>
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</thead>
<tbody>
<tr>
<td>• Inclusion of use of sequential digital epiluminescent microscopy (SDELM) for high-risk patients (Rationale and GPP 1.3.2)</td>
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<tr>
<td>• Additional references: Altamura (2008), Haenssle (2010), Menzies (2001)</td>
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</table>
| Quality Statement 3.1: Patient access to trained health care professionals | Previous GPP 3.1.9 which stated that “the nurse provide appropriate strategies to help the patient self-manage their disease” moved to GPP 8.1.1.  
|---|---|
| Quality Statement 3.2: Excision of melanocytic lesions | Reference to Langer’s lines removed and replaced with statement that excision biopsies on the extremities be longitudinally orientated following the direction of lymphatic flow (GPP 3.2.7)  
| Quality Statement 3.4: Time to diagnosis | Chapter title changed to “Time to pathological diagnosis” (Title) |
| Quality Statement 3.6: Radiological staging | Addition of statement that negative nodal basin US is not a substitute for biopsy of clinically suspicious lymph nodes (GPP 3.6.7)  
Clarification that brain MRI is preferred over CT if diagnosing brain metastases early will alter management of the patient (GPP 3.6.9)  
Description and good practice points significantly reworked to merge recommendations from description into good practice points  
Level of risk added as a dependency for radiological staging (Description)  
Addition of statements addressing oligometastasis, asymptomatic metastases and patient factors/ comorbidities (Description).  
Inclusion of statement about usefulness of PET-CT in establishing a baseline for future surveillance (Rationale)  
Inclusion of information on NICE guidelines (2022) use of CT imaging for staging of IIB and IIC disease (Rationale) |
Quality Statement 4.1: Multidisciplinary meetings

- Geriatrician and Māori and Pacific liaison included as other ideal MDT members (GPP 4.1.1)
- Additional references: Ravichandran (2020), NICE Guidelines (updated to 2022)
- Assessment of patient appropriateness for clinical trials included in details recorded at MDM (GPP 4.1.3)
- Additional references: Te Aho o Te Kahu (2021), Ministry of Health (2012)

Quality Statement 5.1: Re-excision of histologically confirmed melanomas

- New good practice point (5.1.7) to address margin-controlled surgery as a management option for in situ or invasive melanoma of lentigo maligna subtype
- Addition of statement on pathological excision margins and the need for further re-excision if WLE has residual melanoma (Rationale)
- Addition of statement on excision of amelanotic and desmoplastic melanoma (Rationale)
- Inclusion of information on Moncrieff trial (Rationale)

Quality Statement 5.3: Sentinel node biopsy technique

- Additional reference: Rivalland (2022)
- Updated reference: NICE guidelines

Quality Statement 5.4: Therapeutic/completion lymphadenectomy

- Rationale significantly revised
- Statement added that ilioinguinal node dissection be performed if the second-tier node of a positive SNB (not deemed appropriate for observation) is in the iliac chain on lymphoscintigraphy (GPP 5.4.9)
- Good practice point 5.4.13 on mean nodal harvest numbers for therapeutic node dissection removed - for further review and adjustment to minimum numbers as part of 2023 review
- Reference to NZ retrospective studies and future research on surveillance for high risk groups (Rationale)
- Addition of statement that patients with positive sentinel nodes be discussed at MDM and the patient made aware of the pros and cons of management approaches (Rationale)
- Addition of statement on importance of radiological surveillance in observation (Rationale)
<table>
<thead>
<tr>
<th>Quality Statement</th>
<th>Additional References</th>
<th>Changes</th>
</tr>
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<tbody>
<tr>
<td>Quality Statement 5.5: Adjuvant therapy</td>
<td></td>
<td>Chapter title changed to “Adjuvant and neoadjuvant therapy” (Title). Inclusion of neo-adjuvant therapy in description (Description). Neoadjuvant therapy trial data updated (SWOG 1801) (Rationale). Additional references: Patel (2023)</td>
</tr>
<tr>
<td>Quality Statement 5.6: Patients with loco-regionally recurrent, locally advanced and stage IV melanoma</td>
<td></td>
<td>Use of intralesional and topical treatments amended to be as a second-line treatment option only (GPP 5.6.1)</td>
</tr>
<tr>
<td>Quality Statement 6.3: Follow-up cross-sectional imaging</td>
<td></td>
<td>NCCN example of cross-sectional imaging surveillance updated to align with 2022 edition. Addition of statements addressing oligometastasis, asymptomatic metastases and patient factors/co-morbidities (Description). Description and good practice points significantly reworked to merge recommendations from description into good practice points. Data from Bleischer et al 2020 and reference to NICE guidelines added (Rationale).</td>
</tr>
<tr>
<td>Quality Statement 6.4: Ultrasound imaging of draining node basins</td>
<td>GPP 6.4.3 updated to specify imaging for the torso</td>
<td>Terminology of ‘fields’ changed to ‘basins’</td>
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<tr>
<td>Quality Statement 7.1: Supportive care</td>
<td></td>
<td>Additional references: Cancer Society (2018)</td>
</tr>
<tr>
<td>Quality Statement 8.1: Care coordination</td>
<td>Vocation of care coordinator changed from clinical nurse specialist to a health professional with special interest in melanoma (Rationale)</td>
<td>Example of how care could be coordinated provided (GPP 8.1.1)</td>
</tr>
<tr>
<td>Appendices</td>
<td>Example melanoma follow-up schedule added (Appendix 3)</td>
<td>Link to RCPA reporting form updated (Appendix 2.2)</td>
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