

Recommendations

Recommendations by chapter		Grade	Refs
1	Prevention of melanoma		
	1. Sunburn be avoided and UV protection (physical methods complemented by sunscreens) adopted	B	2
	2. Sunscreens be used to complement but not to replace physical methods of UV protection	C	17, 19
	3. Risks associated with exposure to tanning booths and sunbeds be explained	C	8
	4. As brief sun exposures are needed to maintain vitamin D levels, total lack of sun exposure is not advised without vitamin D supplementation	C	10
2	Population screening for melanoma		
	1. In the absence of substantive evidence as to its effectiveness in reducing mortality from melanoma, population-based skin screening cannot be recommended	C	46
3	Identification and management of high-risk individuals		
	1. Clinical assessment of future risk of melanoma take into account: <ul style="list-style-type: none"> • person's age and sex • history of previous melanoma or non-melanoma skin cancer • family history of melanoma • number of naevi (common and atypical) • skin and hair pigmentation • response to sun exposure • evidence of actinic skin damage 	B	1–6
	2. Individuals at high risk of melanoma and their partner or carer be educated to recognise and document lesions suspicious of melanoma, and to be regularly checked by a clinician with six-monthly full body examination supported by total body photography and dermoscopy as required	C	8
	Good practice point <ul style="list-style-type: none"> • Prophylactic removal of non-suspicious lesions is not recommended since it is unlikely to increase survival and therefore may incur unnecessary procedures and give false reassurance as many new melanomas in high-risk individuals will occur outside pre-existing naevi 		

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Recommendations by chapter	Grade	Refs
3 Identification and management of high-risk individuals continued...		
3. Screening for a genetic mutation such as the CDKN2A gene be contemplated only after a thorough clinical risk assessment (the patient is at personal high risk of melanoma), confirmation of a strong family history of melanoma (there is a significant probability of a family mutation), and appropriate genetic counselling	C	9–14
4 Classification of melanoma		
1. That the current AJCC/UICC classification system be used for staging patients with melanoma	B	3
5 Clinical diagnosis		
1. Training and utilisation of dermoscopy is recommended for clinicians routinely examining pigmented skin lesions	A	21–30, 50
2. Consider the use of sequential digital dermoscopy imaging to detect melanomas that lack dermoscopic features of melanoma	B	34–37
3. Consider the use of baseline total body photography as a tool for the early detection of melanoma in patients who are at high risk for developing primary melanoma	C	42–50
<p>Good practice points</p> <ul style="list-style-type: none"> • Examination for melanoma detection requires examination of the whole skin surface under good lighting • A careful clinical history of specific changes in the lesion, any symptoms and their time course is critically important in assessing whether a lesion may be melanoma, particularly for melanomas that have absent or unusual clinical features for melanoma • Where there is a low index of suspicion for early, non-invasive melanoma a short period of observation aided by measurement, a clinical photo or dermoscopic imaging may be appropriate • All patients seeking advice about pigmented lesions be encouraged to regularly check their skin with the aid of a mirror or a partner and advised about the changes to look for in early melanoma 		

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6	Biopsy		
	1. The optimal biopsy approach is complete excision with a 2mm margin and upper subcutis	C	1, 2, 3, 6
	2. Partial biopsies may not be fully representative of the lesion and need to be interpreted in light of the clinical findings	C	7
	3. Incisional, punch or shave biopsies may be appropriate in carefully selected clinical circumstances, for example, for large facial or acral lesions, or where the suspicion of melanoma is low	C	13–16, 18
	Good practice point		
	<ul style="list-style-type: none"> It is advisable to review unexpected pathology results with the reporting pathologist 		
7	Histopathological reporting of cutaneous melanoma		
	1. The essential components of a histopathological report: <ul style="list-style-type: none"> Breslow thickness margins of excision (microscopic) mitotic rate/mm² level of invasion (Clark) ulceration 	A	1–7
	2. The following components of a histological report are of prognostic or other value: <ul style="list-style-type: none"> vascular invasion, local metastases, microsatellites and in-transit metastases, tumour-infiltrating lymphocytes, regression, desmoplasia, neurotropism, associated benign melanocytic lesion, solar elastosis, predominant cell type, histological growth pattern, growth phase and immunohistochemistry 	C	8–24
	3. Histological criteria, review of the primary melanoma and clinicopathological correlation be used for distinguishing between persistent primary melanoma and local metastasis	C	25–27
	4. The synoptic report be used in conjunction with, but not as a replacement for, the descriptive report	C	28, 29

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Recommendations by chapter	Grade	Refs
7 Histopathological reporting of cutaneous melanoma continued...		
5. Pathology reports should include information from sentinel lymph biopsies, derived from multiple histological sections of sentinel nodes (including sections stained with H&E and immunohistochemically for melanoma-associated antigens including S-100)	C	35–38
6. Non-sentinel lymph nodes should be carefully examined and reported	D	39
8 Appropriate investigations		
1. Following the diagnosis of primary cutaneous melanoma (stage I, II) routine investigations are not required for asymptomatic patients	D	1–9, 11–13
2. Routine investigations, including radiology, are not indicated for patients following the diagnosis of a positive sentinel lymph node in the absence of symptoms suggestive of metastatic disease	D	3, 5–25
3. Following the diagnosis of locoregional melanoma, patients require a detailed history and physical examination. Investigations, including radiology, are indicated for symptoms suggestive of metastatic disease. CT scan of the chest, abdomen and pelvis or whole-body PET scan may be performed for the workup of otherwise asymptomatic patients prior to definitive therapy where the detection of occult metastatic disease would influence management	D	3, 5–25
4. Patients suspected of having lymph node metastasis from cutaneous melanoma should undergo fine needle aspiration biopsy, with ultrasound or radiological guidance when required, to confirm the presence of stage III disease	D	3, 5–25
5. Investigations, including serum LDH, CT, MRI, and/or PET scan, are indicated for symptoms suggestive of metastatic melanoma	D	20, 24–31
6. Following the diagnosis of metastatic melanoma, no further investigations are required unless surgical therapy is planned and the detection of additional sites of distant disease would result in a change in management	D	20, 24–31

Recommendations by chapter	Grade	Refs
9 Congenital melanocytic naevi		
Small and medium congenital melanocytic naevi		
1. Prior to puberty, decisions regarding removal of these lesions be based on cosmetic considerations alone	C	3–6, 11, 13–17
2. Parents or patients be informed that the evidence regarding risk in adult life does not support routine prophylactic removal of these lesions	C	3–6, 11, 13–17
3. Patients report any suspicious changes in these lesions	C	3–6, 11, 13–17
4. Biopsy or removal of any lesions showing suspicious features be undertaken	C	3–6, 11, 13–17
Large congenital melanocytic naevi more than 20cm in diameter		
5. Lifetime surveillance be undertaken whether or not any surgery has been performed. This could include baseline photography and three-monthly evaluation for the first year of life, followed by six-monthly evaluation for the next three years, and then yearly evaluation	C	7–13, 17
6. Parents or patients report immediately any concerning changes that occur between follow-up visits	C	7–13, 17
7. Biopsies be undertaken immediately of any areas which show suspicious features	C	7–13, 17
Good practice points		
<ul style="list-style-type: none"> • All decisions regarding surgical management involve prolonged discussion with the parents, and later the patient, covering estimated risk of melanoma, what is involved in the surgery, the number and length of hospitalisations, possible morbidity of the procedures, and likely end cosmetic result • MRI of the brain be undertaken in patients with large CMN in an axial distribution and those with multiple large scattered lesion, if the facilities are available. Some features of neurocutaneous melanosis, such as hydrocephalus, are amenable to treatment 		

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10	Lentigo maligna		
	1. Biopsy is indicated for changing pigmented lesions on the face	C	3, 6
	2. Where lentigo maligna is histologically confirmed, complete excision is the preferred management	C	5, 6
	3. Radiotherapy is an alternative treatment option for patients where surgical excision is problematic or best avoided	C	3–6
	4. Cryotherapy is a form of treatment that may occasionally be useful in patients with severe comorbidities or in those in whom surgery is not a possible option	D	6
	5. Topical treatment modalities for lentigo maligna cannot be recommended at this time	C	6
	Key point		
	<ul style="list-style-type: none"> For some patients with lentigo maligna, observation for change utilising macroscopic and dermoscopic photography and measurement is an acceptable alternative to immediate excision, with a biopsy indicated for changing lesions 		
11	Treatment of primary melanoma		
	1. After initial excision biopsy; the radial excision margins, measured clinically from the edge of the melanoma, be:		5, 13
	1. (pTis) Melanoma <i>in situ</i> : margin 5mm	C	
	2. (pT1) Melanoma < 1.0mm: margin 1cm	B	
	3. (pT2) Melanoma 1.0–2.0mm: margin 1–2cm	B	
	4. (pT3) Melanoma 2.0–4.0mm: margin 1–2cm	B	
	5. (pT4) Melanoma > 4.0mm: margin 2cm	B	
	2. Caution be exercised for melanomas 2–4mm thick, because evidence concerning optimal excision margins is unclear. Where possible, it may be desirable to take a wider margin (2cm) for these tumours depending on tumour site and surgeon/patient preference	B	5–7
	3. Acral lentiginous and subungual melanoma are usually treated with a minimum margin as set out above, where practicable, including partial digital amputation usually incorporating the joint immediately proximal to the melanoma	D	1, 14–16

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Recommendations by chapter	Grade	Refs
11 Treatment of primary melanoma continued...		
<p>Good practice points</p> <ul style="list-style-type: none"> • Excisions should have vertical edges to ensure consistent margins • Caution be exercised for melanomas thicker than 2mm, because evidence concerning optimal excision margins is unclear. Where possible, it may be desirable to take a wider margin (2cm) for thicker tumours depending on tumour site and surgeon/patient preference • Excision biopsy of the complete lesion with a narrow (2mm) margin is appropriate for definitive diagnosis of primary melanoma. Lesions excised with a margin less than those defined above should be re-excised as soon as practicable to achieve these margins • Depth of excision in usual clinical practice is excision down to but not including the deep fascia unless it is involved • Where tissue flexibility is limited, a flap repair or skin graft is sometimes necessary subsequent to an adequate margin of removal • Treatment of most melanomas can be achieved on an outpatient or day-surgery basis, under local anaesthesia, unless nodal surgery is required • Melanoma (i) is a risk factor for new primary melanoma(s) and (ii) also has the potential to recur or metastasise. Patients should be appropriately managed and followed-up for these aspects, as discussed elsewhere in these guidelines • Patients should be informed that surgical excision may be followed by wound infection, haematoma, failure of the skin graft or flap, risk of numbness, a non-cosmetic scar and the possibility of further surgery • Some tumours may be incompletely excised despite using the above-recommended margins. These include melanomas occurring in severely sun-damaged skin and those with difficult-to-define margins (e.g. amelanotic and desmoplastic melanomas). In these categories, the presence of atypical melanocytes at the margins of excision should be detected by comprehensive histological examination (including immunohistochemical staining) and followed by wider excision. The possible use of staged Mohs excision has been proposed in such situations 		

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Recommendations by chapter	Grade	Refs
11 Treatment of primary melanoma continued...		
<ul style="list-style-type: none"> Amelanotic melanoma can present significant difficulties for defining a margin with up to one third of subungual and nodular melanomas being non-pigmented. This may dictate choice of a wider margin, or further re-excision, where practicable For patients with deeper invasive melanomas (> 1mm thick), referral to a specialised melanoma centre should be considered to ensure that best practice is implemented and for the collection of national outcome data. This may present logistic difficulties in regional and remote areas, but specialist care is recommended The AJCC/UICC (2001)²⁰⁻²³ system has been recommended for melanoma staging. Sentinel node biopsy (SNB) is an important prognostic factor for melanoma²⁴ but there is debate about its use in treatment.²⁴⁻²⁶ SNB should be considered in patients with primary melanomas > 1.2mm thick, who want to be as informed as possible about their prognosis. SNB should be performed before wider local excision 		
12 Management of regional lymph nodes		
1. Patients with a melanoma greater than 1.0mm in thickness be given the opportunity to discuss sentinel lymph node biopsy to provide staging and prognostic information	C	2, 4, 10, 12
2. SLNB be performed only following a full discussion of the options with the patient, in a unit with access to appropriate surgical, nuclear medicine and pathology services	C	2
3. Patients who have positive sentinel lymph node biopsy be offered completion lymphadenectomy, or be referred to a specialist centre for discussion of further treatment options	C	4
4. Therapeutic node dissection be offered to all patients with evidence of metastatic nodal disease after excluding stage IV disease using appropriate investigations	C	16

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Recommendations by chapter	Grade	Refs
12 Management of regional lymph nodes continued...		
<p>Good practice points</p> <ul style="list-style-type: none"> • A therapeutic node dissection includes a full levels (I to III) clearance in the axilla. A therapeutic neck dissection may include a superficial parotidectomy as clinically indicated • Patients with inguinal node metastases be considered for clearance of the intra-pelvic iliac and obturator nodes when the staging investigation demonstrates evidence of involvement • Elective clearance of the pelvic nodes be considered when there is gross macroscopic disease in the inguinal node field or there are three or more histologically positive nodes below the level of inguinal ligament • Patients with lymph node metastases be offered discussion with a multidisciplinary team with a view to enrolment in clinical trials 		
13 Management of locoregionally recurrent melanoma		
1. Persistent melanoma be excised completely	C	1
2. Adjuvant radiation therapy be considered for close or positive margins unsuitable for re-excision	C	2
3. Local metastasis, in transit metastases and satellitosis may be managed using a variety of local treatments	C	3, 4
4. Prophylactic isolated limb perfusion (ILP) is not recommended	A	5
5. Recurrence on a limb with multiple or rapidly progressive lesions not suitable for local treatments is best managed with ILP using melphalan under hyperthermic conditions if technically possible	A	6
6. ILI may be substituted for ILP	C	7
7. Recurrence involving multiple or rapidly progressive lesions that are unsuitable for regional drug therapy be managed on an individual basis by a multidisciplinary team proficient in a range of local treatments	C	3, 4

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Recommendations by chapter	Grade	Refs
13 Management of locoregionally recurrent melanoma continued...		
<p>In the context of locoregionally recurrent melanoma:</p> <p>8. SLNB be considered if the nodal basin has not been dissected and if there is no clinical evidence of nodal involvement</p>	D	9
<p>9. Lymph node dissection be performed for clinically involved nodes with no previous dissection, following confirmation of melanoma, preferably by fine needle biopsy</p>	C	2, 8, 9
<p>10. Postoperative adjuvant radiation therapy be considered for adverse pathological findings, though the value remains uncertain</p>	C	10
<p>11. Clinical recurrence in a previously dissected nodal basin be managed by excision if possible, followed by radiation therapy (unless given previously)</p>	C	2,10
14 Adjuvant systemic therapy of melanoma		
<p>1. Observation is acceptable management for patients with resected stage I–III melanoma</p>	B	1, 2
<p>2. These patients be considered for enrolment in clinical trials of adjuvant therapy. Sentinel lymph node biopsy is mandatory staging for the stratification of patients on adjuvant therapy trials. Trials of adjuvant therapy include an observation-only control arm</p>	B	1, 2
<p>3. Patients with high-risk disease be considered for adjuvant therapy with high-dose interferon-alpha</p>	B	1, 2
<p>4. Because the toxicity associated with high-dose interferon is considerable, the risks and benefits of therapy in individual patients be carefully reviewed before proceeding</p>	B	1, 2
<p>5. Patients be treated in an experienced medical oncology facility, monitored closely for toxicity related to treatment with interferon, and dose adjusted based on the degree of toxicity</p>	B	1, 2

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15	Treatment of disseminated melanoma		
	1. Patients with metastatic melanoma be referred for consideration of chemotherapy and/or palliative care to improve their symptoms	C	3, 6, 11, 12, 15, 16, 37
	2. Patients with localised symptoms from melanoma metastasis be referred for radiotherapy	C	18
	3. To improve survival, patients with limited or no extracranial disease and with favourable prognosis brain metastases be considered for surgical resection and if unresectable, for stereotactic radiosurgery. Patients with unfavourable prognostic metastases receive palliation with surgery, whole brain radiotherapy, chemotherapy, steroids or palliative care	C	19, 23, 28–30
	4. Patients with surgically operable metastases be considered for resection	C	36–45
16	Psychosocial issues		
	1. Structured psychosocial interventions, such as cognitive behavioural group therapy and psycho-education, as well as support groups, be made available to all patients with melanoma to improve their quality of life	B	8–12
	2. Communication skills training be provided to health professionals treating people with melanoma to assist them in effectively providing information, patient-centred care, shared decision-making where desired, empathy and support	C	8, 17, 20–23
	3. If the matter is raised, patients be advised that there is no known (or proven) link between psychosocial factors and survival outcome	C	1, 6, 27–33
	4. Patients be advised that individual or group psychosocial intervention may not improve their overall survival	C	4–7

Recommendations by chapter		Grade	Refs
17	Palliative care		
	1. Palliative care specialists be included in the multidisciplinary melanoma treatment team to: <ul style="list-style-type: none"> • provide assistance with symptom control • support melanoma patients and their families • when necessary, coordinate care of melanoma patients between settings • assist in clarifying goals of care 	A	4, 5 11–14
	2. Referral for palliative care be based on the needs of the patient and family, not just the stage of the disease	C	16–19, 23
	3. Patients and their families with complex needs including physical, psychosocial and spiritual domains be referred to a specialist palliative care team at any stage during the illness	A	12–14, 22, 25, 29
18	Multidisciplinary care		
	1. Multidisciplinary care be considered throughout the management of patients with melanoma	C	7
19	Follow-up		
	1. Self-examination by patients is essential and they should be taught the process. Routine follow-up by the patient's preferred health professional may be appropriate to emphasise sun smart behaviour and perform skin checks	C	14–16
	2. Follow-up intervals are preferably six-monthly for five years for patients with stage I disease, three-monthly or four-monthly for five years for patients with stage II or III disease, and yearly thereafter for all patients. Ultrasound may be used in conjunction with clinical examination only in the follow-up of patients with more advanced primary disease. For patients enrolled in clinical trials, the above recommendations may vary in accordance with the follow-up protocols of these trials	D	20–25
	3. While it is important that clinicians weigh up the advantages and disadvantages of undertaking routine follow-up, individual patient's needs be considered before appropriate follow-up is offered	C	6, 13, 26, 27

Recommendations by chapter		Grade	Refs
20	Clinical trials		
	1. Patients can be informed that they are unlikely to be disadvantaged by participation in an RCT	A	2
	Good practice point		
	<ul style="list-style-type: none"> Given the lack of evidence in treating melanoma, patients be given the opportunity to enter clinical trials 		
21	Treatment of desmoplastic melanoma		
	1. Local wide excision for desmoplastic neurotropic melanoma conforms with the same margins as for other forms of cutaneous melanoma	C	2
22	Mucosal melanoma		
	1. The primary lesion for melanoma of the anorectal region should be managed by sphincter preserving complete local excision in most cases. APR is indicated only for patients with loco-regional disease whose primary tumour cannot be completely resected by a limited procedure	D	2–14
	2. Pelvic node failure as an isolated event is uncommon. Extended pelvic lymphadenectomy is not indicated	D	2–14
	3. There is no evidence to support elective (as compared to therapeutic) inguinal lymphadenectomy	D	2–14
	4. Sentinel node biopsy has been described in a small number of cases but there is no evidence to support its routine use at the present time	D	2–14
	5. The role for radiotherapy (RT) in patients with close/involved margins after wide local excision or abdomino perineal resection is unknown but it may be considered	D	2–14
	6. The care of patients with anorectal melanoma be undertaken by a multidisciplinary team experienced in the management of these patients	D	2–14
	7. Patients with mucosal melanoma of the head and neck are best managed by complete surgical excision. Radiotherapy has not been shown to be of benefit to patients who have undergone a complete resection but may be of benefit in patients who have residual disease	D	17–22

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Recommendations by chapter		Grade	Refs
22	Mucosal melanoma continued...		
	8. Patients be referred to a specialist unit with experience in head and neck melanoma	D	17–22
	9. Histologically confirmed melanoma of the vulva be managed by wide excision with limited margins (1–2cm). Extensive lesions particularly those centrally located may require extensive/exenterative procedures. In the absence of proven regional lymph node spread lymphadenectomy is not indicated	D	23–30
	10. Patients with vulval melanoma be referred to a specialist unit with expertise	D	32
	Good practice points <ul style="list-style-type: none"> • Any suspicious lesions of the genital tract should be biopsied • As there is a high incidence of systemic disease in these cases, a CT/PET scan is indicated prior to radical surgery 		
23	Occult melanoma		
	1. Patients with metastases and no obvious primary tumour be examined for primary melanomas in obscure sites. If none are found, assume that the primary melanoma has completely regressed	D	1, 2
24	Ocular melanoma		
	1. Ocular melanoma is a complex and uncommon form of melanoma that should be managed in specialised units where eye-conserving therapies are available	C	2
25	Melanoma in children		
	1. The pathology slides of all Spitz-like lesions in children suspected of being malignant be referred to histopathologists who are highly experienced in the differential diagnosis of such lesions	C	8–12
	2. All facets of melanoma treatment and follow-up in adults may be integrated into the treatment and follow-up of children. Parents may be assured that survival in children is at least equivalent and probably better than it is in adults with the same stage of disease	C	15–17, 21–26

Recommendations by chapter	Grade	Refs
26 Melanoma in pregnancy (including hormone replacement therapy and oral contraceptives)		
1. Any naevus that changes during pregnancy and/or has other features suggestive of melanoma be investigated	C	1–3
2. Melanoma in a pregnant woman be treated according to tumour thickness and ulceration, that is, as for a non-pregnant woman	C	25
3. Women of childbearing age who are within five years of primary treatment of a high-risk melanoma should be fully informed of their prognosis when considering pregnancy	C	25
4. Sentinel node biopsy can be performed using only technetium in pregnant women	B	5–8
5. Pregnant women with thicker melanomas and nodal metastases be treated in consultation with specialised centres	C	
6. Hormone replacement therapy and oral contraceptives are not contraindicated in women who have or have not had melanoma	C	32, 37–53
27 Prognostic factors and survival outcomes in cutaneous melanoma		
28 Complementary and alternative medicine		
1. Patients be encouraged to share with their treating clinician(s) their wishes to embark on either a complementary or alternative therapy	C	1–8
2. There is no available evidence to recommend CAM over conventional therapy for adjuvant management of melanoma	C	9
3. Patients are advised to discuss planned CAM therapy with their clinician, to ensure the safety of their action	C	12, 13
<p>Key point</p> <ul style="list-style-type: none"> • There is level IV evidence suggesting patients may derive emotional benefit from CAM therapy 		

Recommendations by chapter	Grade	Refs
29 Melanoma in specific populations in Australia		
<p>Good practice point</p> <ul style="list-style-type: none"> When examining melanocytic lesions in non-Caucasians, it is important to keep in mind the possibility of melanoma. Furthermore, the skin areas examined should include the palms, periungual and subungual skin and especially the soles of the feet 		
30 Melanoma in Māori and melanoma in Pacific peoples in New Zealand		
<p>Good practice points</p> <ul style="list-style-type: none"> Accurate ethnicity data be collected by all service providers Māori-specific cancer services or service components be provided where possible Health practitioners and others providing cancer care receive training and support in culturally competent, patient-centred care Health practitioners consult with Māori patients about final disposal of tissue or body parts surgically removed 		