Melanoma - An Aide Memoire to Assist Diagnosis

The aim of early detection of melanoma is to improve the cure rate of people who present with a melanoma. The general practitioner as doctor of first contact is the key to early diagnosis. To help diagnose melanoma early the general practitioner needs to have appropriate observational and diagnostic skills and an awareness of the risk factors for melanoma. Melanoma may be found opportunistically during clinical examination for other indications. In the absence of any substantial evidence as to its effectiveness in reducing mortality from melanoma, population-based skin screening cannot be recommended.

Patients who note disturbing skin lesions are frequently in a better position to observe changes and symptoms of skin lesions than their doctors. If a patient expresses concern about a particular lesion, reassurance should be given only when there is no doubt about the nature of the lesion. If there is any doubt, repeat observation after one to three months is essential.

Surgical excision biopsy with a 2 mm margin is the procedure of choice if any signs suggestive of early melanoma are present. Partial biopsies i.e. shave or punch biopsies are **not** appropriate except when excision biopsy is not possible. Locally advanced melanoma when recognised, is best referred for specialist care without biopsy.

PRACTICE POINTS

- The history of a skin lesion is very important. A history of change in size, shape or colour is an important clue to the diagnosis of melanoma. Intermittent itch is sometimes a symptom. Pain and/or bleeding are rare and indicate an advanced melanoma.
- Physical examination should assess the skin surface with high-quality illumination to detect lesions of which the patient is unaware. Melanoma seldom resembles other pigmented skin lesions - it is an "ugly duckling".
- Not all melanomas are black - variation in colour and multiple colours e.g. brown, tan, pink and areas of depigmentation are often indicators of malignancy; they are frequently present in melanoma and are useful in clinical diagnosis.
- For suspicious lesions, depending on the skill level of the GP, biopsy or referral should be considered.
- A period of observation (preferably for one to two months, but for a maximum of three months) may be appropriate for clinically doubtful pigmented skin lesions. When waiting for the longer period, photography of the lesion is recommended to be used as a baseline to observe/compare any changes over the three months – warning patients not to wait, but to seek review if there are obvious changes before the three months. Another approach is to use a dermoscopy image capture device to detect change over this time.
- Locally advanced melanoma should be referred to a specialist surgeon or where possible, to a specialist melanoma clinic, without biopsy.

CLINICAL DIAGNOSIS

General practitioners should be aware of the appearance and clinical types of melanoma. In most cases the diagnosis of melanoma is based on the ABCDE method of clinical diagnosis:

A- asymmetry
B- border irregularity
C- colour variation NB - black is not essential and may not be present in some melanomas, eg. amelanotic or some nodular melanomas
D- diameter greater than 6 mm. However melanoma can be diagnosed when less than this diameter
E- evolution and/or elevation eg. lesions may enlarge and a flat lesion may become raised in a matter of a few weeks.

The bottom line is that general practitioners should strongly consider excision of lesions that are unusual, new, changing or difficult to diagnose.

Many melanomas will be diagnosed by the patient in the general observation of their own body. All patients and especially those at high risk should be encouraged to undertake regular self examination using a mirror or involving a partner or carer in the process and be advised to be suspicious of new or changing lesions on the skin.

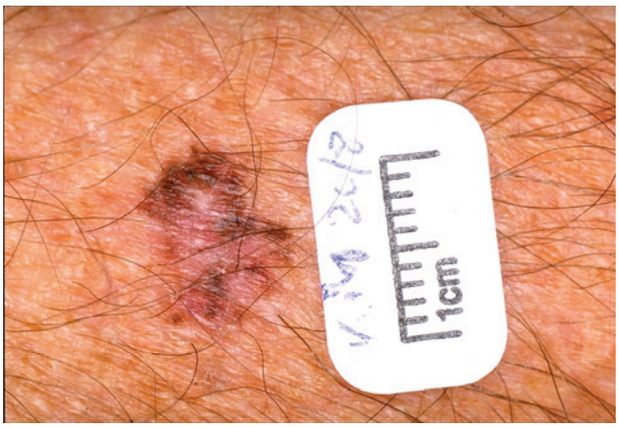
AUSTRALIAN CANCER NETWORK

This aide-memoire has been developed to assist the diagnostic process and help improve the outcome of clinical management of melanoma.

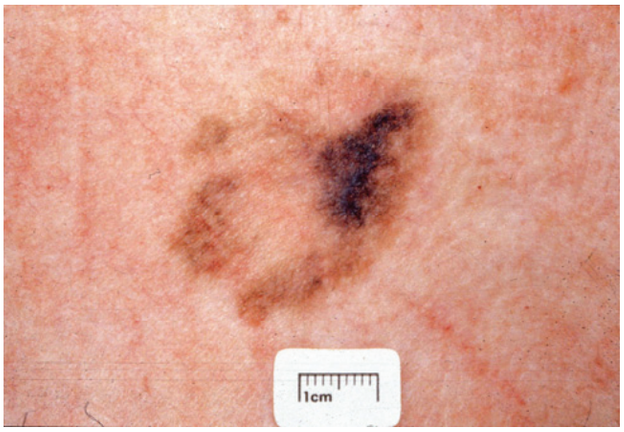
Cancer Council Australia

CLINICAL APPEARANCE

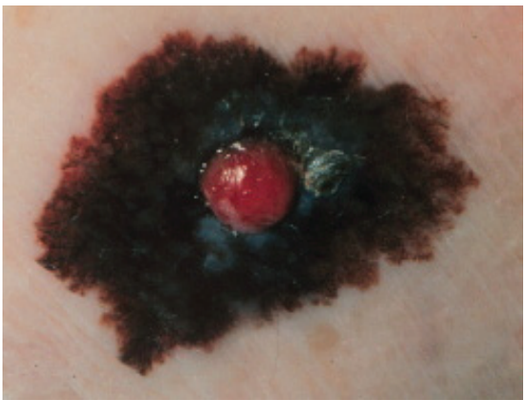
Some typical melanomas are shown below:



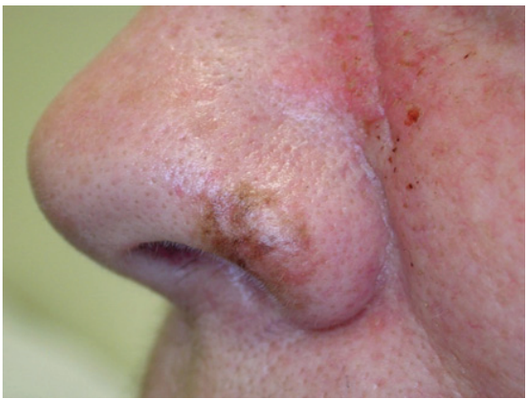
Melanoma - Early (Flat phase)



Superficial Spreading Melanoma (SSM)



Superficial Spreading Melanoma (with an amelanotic nodular component)

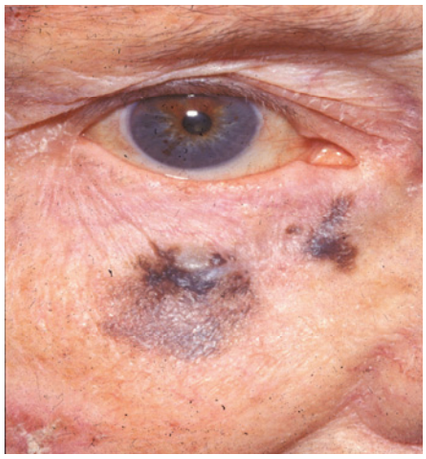


Lentigo Maligna

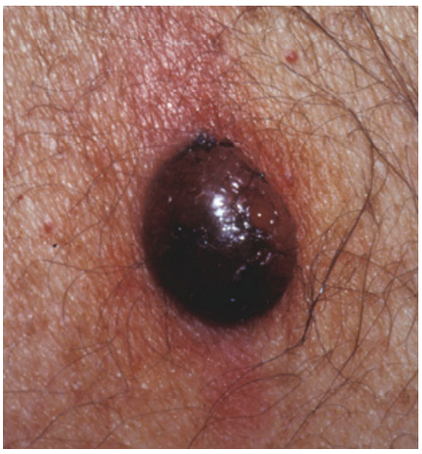
UNUSUAL VARIANTS

Atypical melanoma is a common cause of misdiagnosis and results in a disproportionate number of deaths from melanoma. Melanoma without pigment, "amelanotic melanoma", can be a problem because of the absence of one of the usual diagnostic criteria (pigmentation). This diagnosis must be kept in mind for any persistent, enlarging or rapidly growing nodule on the skin and excision biopsy is the diagnostic method of choice.

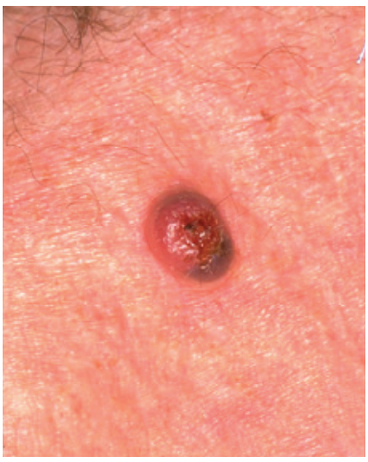
Nodular melanoma (NM) is usually a firm, raised, uniformly coloured and frequently non-pigmented nodule, that is enlarging and becoming more raised. It accounts for about 15% of melanomas but comprises more than 60% of melanomas >3mm in thickness.



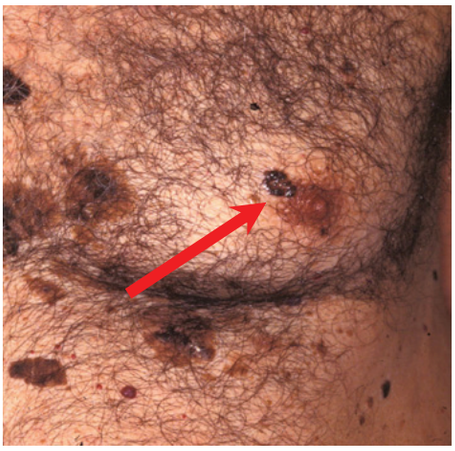
Lentigo Maligna Melanoma (LMM)



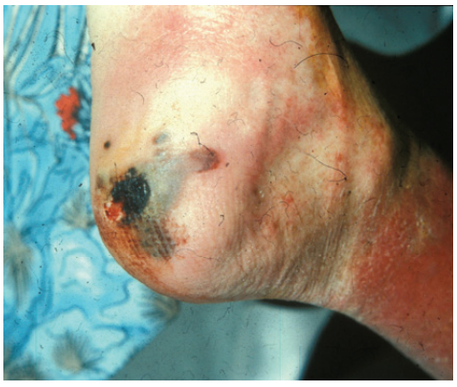
Nodular Melanoma



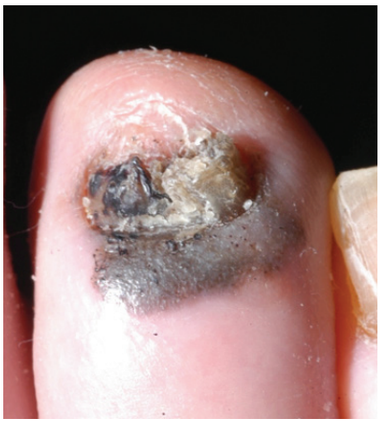
Amelanotic Melanoma



"Ugly Duckling"



Acral Melanoma with large amelanotic component (AM)



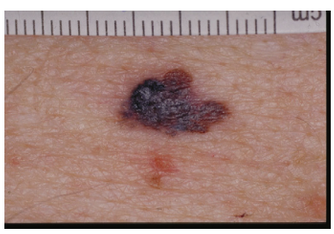
Subungual Melanoma

DERMOSCOPY

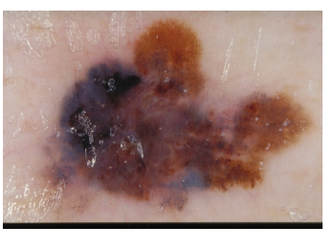
Skin surface microscopy, dermoscopy, is very useful as an aid in the diagnosis of pigmented skin lesions. Dermoscopy represents a form of in vivo microscopy of the epidermis and upper dermis. The technique allows the melanocyte network and melanin pigment to be visualized. General practitioners are encouraged to learn this technique to facilitate accurate melanoma diagnosis, and those who decide to use it should participate in regular training to maintain adequate skills. Biopsy rates can be reduced with appropriate training and experience.

Dermoscope (utilizes liquid at skin interface)

Dermoscope (utilizes cross polarized light)



Melanoma



Melanoma Dermoscope image

TOTAL BODY PHOTOGRAPHY (TBP)

TBP may be used in the follow-up of high risk patients, particularly those with large numbers of melanocytic or dysplastic naevi. Its role in management is still being determined

RISK FACTORS

The main risk factors for melanoma are:

- having a history of previous melanoma
- the presence of many moles (50+) particularly atypical "dysplastic" naevi
- a family history of melanoma (one or more)
- a history of many sunburns
- sun sensitive skin / fair complexion
- patient age and sex (increasing age increases the risk of melanoma and males are at greater risk)

Any patient with a history of a previous melanoma has at least a fivefold increased risk of developing a subsequent melanoma compared with the average population. Whilst the early follow up strategy (during the first few years following diagnosis and definitive treatment) will be particularly directed to monitoring for recurrence of that tumour locally, in the regional node fields and at distant sites, the hazard of a further new primary melanoma needs to be recognized and these patients supervised appropriately, especially in the longer term.

At the present time, genetic testing has no specific value in the clinical management of patients who are at risk for melanoma. Although some genes associated with melanoma have been detected in familial melanoma patients, the prevalence of these gene changes is, as yet, too low to be clinically useful. Genetic testing is, however, of value to those clinicians and patients interested in clinical research studies – so contributing to finding new facts and a basis for new treatments. Referral of high-risk patients to a dermatologist or melanoma clinic for surveillance is appropriate.

PROGNOSIS

The thickness of a melanoma is the strongest predictor of outcome. In general, the thinner the lesion the better the prognosis.

Other features that have been shown to influence prognosis are:

- ulceration
- mitotic rate
- sex
- age
- site

POINTS TO REVIEW

- Achievement of a high level of survival of melanoma patients largely depends on early diagnosis by the primary care clinician.
- Whilst current detection rates for melanoma with conventional diagnostic features are good they can be improved further by increased awareness of the atypical forms of melanoma, especially the amelanotic and sparsely pigmented variants. Dermoscopy can prove a useful adjunct to diagnosis.
- Early diagnosis necessitates careful observation by the general practitioner of the body skin surface, examination of suspicious lesions with good illumination, with dermoscopy if possible, and awareness of the clinical appearance and risk factors for melanoma.
- High risk patients and their partners should be educated to recognise lesions suspicious of melanoma. Regular surveillance is necessary and should be supported by dermoscopy and total body photography as required.
- High risk patients should be managed in consultation with appropriate specialists.

Based on Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand (2008) pre-publication http://www.cancer.org.au/Healthprofession als/clinicalguidelines/skincancer.htm (NHMRC approved 7 November 2008)

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