

The Cancer Society of New Zealand recognises the value in activities that raise awareness of early detection and skin cancer prevention. Skin cancers are mostly preventable, yet New Zealand has one of the highest rates of skin cancer in the world. More investment is urgently needed in prevention and early detection measures as this will save lives, is cost effective and will significantly reduce demands on our health system.

Based on current evidence, the Cancer Society does not recommend:

- Population screening for skin cancers (melanoma or keratinocytic cancer).
- Screening skin checks occurring outside clinical settings (such as at community events), as these can involve examination of single lesions without a full body examination and inadequate follow-up and referral.
- Smartphone applications by individuals to self-diagnose melanoma.

## Background

There are two main types of skin cancer, melanoma and keratinocytic cancer (basal cell carcinoma and squamous cell carcinoma). In NZ in 2015, 378 people died from melanoma<sup>2</sup> and 157 from keratinocytic cancer<sup>4</sup>, yet most skin cancers are potentially preventable by reducing exposure to excessive ultraviolet radiation<sup>6</sup>. For melanoma, tumour thickness is the most important factor in survival after a melanoma diagnosis; in general, the thinner the lesion, the better the prognosis, reinforcing the need for early detection<sup>7, 8</sup>. Recognition of early signs and early seeking of medical advice are key factors in early detection, effective treatment and survival from skin cancer, particularly melanoma<sup>9, 10</sup>. It is important for individuals to be aware of changes in their skin and promptly see their doctor if they notice a new spot or changes in an existing spot, scaly red patches that may bleed easily, or non-healing sores.

## Self-examination for detection of melanoma

Most melanomas are first detected by the individual concerned, or by a partner or other family member<sup>12, 13</sup>.

## Self-examination recommendations

The general public is encouraged to become familiar with their skin and should **regularly** check all body areas, including those not normally exposed to the sun. Help should be sought from others to check body areas that are difficult to see (such as the back, scalp and back of the neck).

If there are any new spots, changes in an existing spot (shape, colour, size) or other skin changes, then advice should promptly be sought from a doctor. Features of skin cancers include: Asymmetrical/irregular in shape, Border irregularity, Colour variation, Different from the rest of the skin, Evolving (change in growth, new, Elevated or painful), Firm and Growing over weeks and months (ABCDEFG).

There is no specific technique or recommended frequency for self-examination, but we encourage people to do regular (at least monthly) skin checks.

Individuals who are concerned about skin cancer should discuss their skin cancer risk and need for medical checks or self-examination.

People over the age of 50, particularly men, should be especially diligent when it comes to recognising changes to their skin. Significantly more men than women develop and subsequently die as the result of melanoma<sup>3</sup>.

## Screening for skin cancer

For melanoma, there is a lack of high-quality evidence demonstrating the benefit of a population-based screening programme for reducing morbidity or mortality from melanoma<sup>14, 15</sup>. Thus, a population-based screening program for melanoma is not recommended by the Cancer Society or other cancer prevention agencies in Australia and elsewhere<sup>14, 16</sup>. Keratinocytic cancers, in the vast majority of cases are not life-threatening or serious enough to cause long-term illness and so population-based screening is not recommended.

Although there are no known serious risks from screening for skin cancer, there is insufficient high-quality evidence on whether this does more good than harm in the adult general population<sup>15, 17</sup>. Possible harms include misdiagnosis, over diagnosis, unnecessary biopsies, false reassurance and over treatment<sup>15</sup>.

## Screening recommendations

### The Cancer Society of New Zealand recommends:

- General practitioners develop surveillance programmes for patients at high-risk of melanoma. To estimate risk use the model developed using a large case-control study of NZ melanomas<sup>1</sup>.
- Clinicians/general practitioners who identify patients at increased risk for skin cancer provide advice on sun protection measures and offer a full body skin examination and an appropriate management plan with follow up based on their individual level of risk. Recommendations are also provided by the risk predictor model above.
- General practitioners should assess patients who are concerned and develop appropriate management programmes based on their level of risk.
- Melanoma is uncommon in Māori and Pasifika, but people of these ethnic groups are more likely to be diagnosed with thicker and more serious melanomas than non-Māori<sup>5</sup>. This is due to rarity of the disease and subsequent reduced awareness and delay in diagnosis. Increased awareness among these groups and health practitioners will aid in early detection and improve the overall outcome for Māori and Pacific people.

*Where opportunistic screening is undertaken, patients should be informed about the potential benefits and risks of screening and the likely implications of a positive or negative result as well as their right to a second opinion should they choose<sup>11</sup>.*

### The Cancer Society of New Zealand does not recommend:

- Population-based (mass) screening for melanoma or keratinocytic cancers.
- Opportunistic screening by health professionals as routine practice. However, general practitioners should remain alert for skin lesions with malignant features in the context of physical examinations performed for other reasons: Asymmetry, border irregularity, colour variability, diameter greater than 6 mm, elevation/evolution or rapidly changing lesions are features associated with an increased risk for skin cancers<sup>14</sup>.

## Aids to clinical diagnosis of melanoma

### Dermoscopy

Dermoscopy is a technique using a hand-held magnifying device to improve the visualisation of diagnostic features of lesions that cannot be seen by the naked eye. When used by experienced clinicians, this been found to increase diagnostic accuracy<sup>18</sup>. The use of dermoscopy by trained and experienced health professionals is recommended by the *Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand*<sup>19</sup>.

### Total body photography

Total body photography is an additional aid used particularly for individuals at high risk of melanoma<sup>20-24</sup>. While no randomised-controlled trials have been undertaken, more recent studies have confirmed that the use of total body photography detects early stage melanoma<sup>25</sup>. Further technological advancements have led to research currently being conducted in the area of 3D digital imaging.

## Sequential serial monitoring

Australian clinical practice guidelines recommend the use of short-term sequential digital dermoscopic imaging to assess individual melanocytic lesions of concern that lack dermoscopic features of melanoma [19]. For high risk patients (determined by a risk predictor model), long-term sequential digital dermoscopic imaging should be used instead. Furthermore, routine use of other automated instruments has not been recommended for clinical diagnosis of primary melanoma.

## Risk Predictor Model

Although many risk factors for melanoma are well described (Appendix 3), many of them are non-modifiable and their multiple interactions make risk prediction complex. Just because a person has two risk factors for melanoma does not necessarily mean they have a higher chance of developing melanoma than a person with one or zero risk factors. It depends on the individual and the interaction of risk factors. Therefore, using a list of risk factors is of no use when estimating an individual's risk of melanoma - a risk predictor must be used.

However, estimation of an individual's probability of developing melanoma within a specified time, by consideration of their personal combination of risk factors, allows the doctor and patient to discuss an evidence-based management plan, including appropriate strategies for prevention, surveillance and early diagnosis. Dependent on level of risk, this may be just a heightened index of suspicion from both doctor and patient, or for example, include annual total body photography or referral for regular skin examinations by a physician trained and competent in skin surveillance.

To calculate this probability, an updated risk predictor model (RPM) for melanoma has been developed, using data from a new large case-control study of New Zealand melanomas and based on the preliminary RPM<sup>1</sup>. The model has been available to health professionals with access to the BPAC (Best Practice Advocacy Centre) patient management system since 2016. Individual access to BPAC for the purpose of accessing the risk prediction tool can be obtained by contacting BPAC directly.

## Skin cancer detection apps

Smart phone applications to detect melanoma, intended for use by the general public are becoming increasingly common. Current evidence suggests that these are generally inaccurate at diagnosing melanoma and should not be used to replace a skin examination by a qualified medical practitioner. The Cancer Society does not recommend the use of smartphone applications to self-diagnose skin cancer.

## Commercial mole mapping services

'Mole mapping' refers to a combination of technologies, including dermoscopy, total body photography and digital serial monitoring. The Cancer Society does not endorse or recommend commercial mole mapping services, but does acknowledge, that mole mapping may be used as a form of surveillance (ongoing assessment).

For individuals who choose to use one of these services, the Cancer Society recommends they consider the following issues:

- What services are offered? (such as total body skin examination or only an examination of particular spots/ areas of concern?)
- Who provides the service? (such as, what type/level of training has the provider undertaken?)
- Are results audited?
- How much will it cost? (Costs beyond the initial consultation, charge for storing images, charges for follow-up visits?)
- What follow-up will be provided? (such as, will a letter be sent to the consumer's GP with results?)

## Skin cancer prevention

The Cancer Society recommends a range of skin cancer prevention strategies: personal, policy and structural interventions, multi-component community interventions and mass media campaigns. More details on recommended prevention strategies are here: <https://wellington.cancernz.org.nz/reducing-cancer-risk/what-you-can-do/sunsmart/what-we-do/>

Personal sun protection strategies:

- **Shade:** Slip into shade where possible. This is the best way to protect yourself. Shade can be provided by buildings, trees or shade structures such as marquees.
- **Clothing:** Slip on some sun protective clothing i.e. a shirt with a collar and long sleeves and trousers or long-legged shorts. A darker, close weave material offers the best protection.
- **Sunscreen:** Slop on broad spectrum sunscreen that has an SPF of at least 30, 20 minutes before you go outdoors. Reapply every two hours or more often if you are swimming or sweating it off.
- **Hats:** Slap on a hat that protects your face, head, neck and ears. Broad brimmed, bucket or legionnaire hats are best.
- **Sunglasses:** Wrap on some close-fitting sunglasses that meet the Australian/New Zealand Standard (labelled as AS/NZS 1067:1:2016).
- **Don't use sunbeds.**
- Consume a diet rich fresh fruit and vegetables as this may help to reduce the risk of skin cancers.

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**Internal review groups:**

Sunsmart Issues Group, Māori Roopu, HPLG.

**Expert reviewers:**

Bronwen McNoe & Professor Tony Reeder, Social and Behavioural Research Unit, University of Otago

Dr Mary Jane Sneyd, Hugh Adam Cancer Epidemiology Unit, University of Otago

Dr Louise Reiche, Dermatologist

**Disclaimer:** expert reviewers are not responsible for the final content of position statements. Views may vary.

# Appendices

## Appendix 1: Screening

Screening involves testing individuals without symptoms, who are at average risk of a particular disease for the purpose of identifying individuals who may have the disease.<sup>11</sup>

*Screening types:*

**Population (or mass) screening:** An organised programme where large (asymptomatic) population groups are tested.

**Opportunistic screening:** Occurs either because it is actively offered by a health professional as part of another examination or as the result of an individual's request.

**Active surveillance programmes:** ongoing assessment of those known to have had a cancer or to be at increased risk of a particular cancer can be offered high risk individuals.

## Appendix 2: Cancer Society criteria for screening

The accepted criteria for screening was established by the World Health Organisation[26] and endorsed by the National Health Committee in NZ:

1. The condition is a suitable candidate for screening.
2. There is a suitable test.
3. There is an effective and accessible treatment or intervention for the condition identified through early detection.
4. There is high quality evidence, ideally from randomised controlled trials, that a screening programme is effective in reducing mortality or morbidity.
5. The potential benefit from the screening programme should outweigh the potential physical and psychological harm (caused by the test, diagnostic procedures and treatment).
6. The health care system will be capable of supporting all necessary elements of the screening pathway, including diagnosis, follow-up and programme evaluation.
7. There is consideration of social and ethical issues.
8. There is consideration of cost-benefit issues.

## Appendix 3: The major risk factors related to the development of melanoma<sup>27</sup>

A risk factor is useful when discussing causation of melanoma, but by itself is of no value in predicting an individual's risk (probability) of developing melanoma. Having 1 or more risk factors does not mean that individuals will develop cancer. Many people have at least 1 risk factor but will never develop cancer, while others with cancer may have had no known risk factors.

Factors that are associated with a higher risk of developing melanoma include:

- older age
- atypical (dysplastic) 'funny looking' moles on your skin
- skin colour (light versus medium or dark skin)
- hair colour (red or blond hair versus black hair)
- skin type (burn easily, never tan)
- skin damage due to sunburn
- large number of moles on your skin (more than 50 moles)

- a personal history of melanoma or keratinocytic cancer
- a family history of melanoma (in parent, brother or sister, child), particularly if more than one relative had a melanoma, if they were young at the time, or any have had multiple melanoma.

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