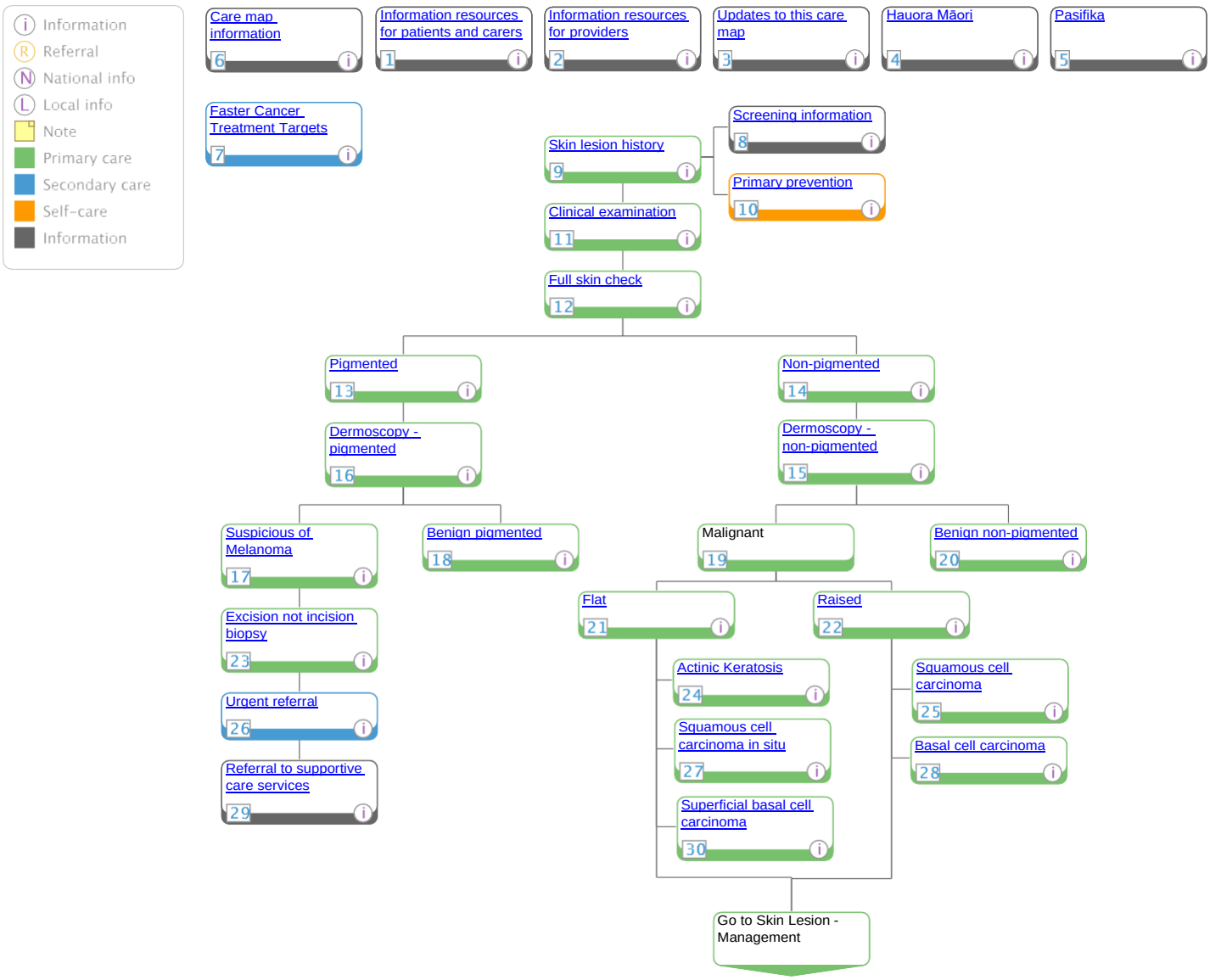
Skin Lesion - Diagnosis

Medicine > Dermatology > Skin Lesions



1. Information resources for patients and carers

Resources:

- SCAN Your Skin handout (Skin Cancer College Australasia)
- Cancer Society Patient Information Sheets - Sun Protection
- BCC and SCC - What to Expect During Each Stage of Treatment and Beyond (The Australian Cancer Council patient information)
- Understanding Skin Cancer - A guide for people with cancer, their families and friends (The Australian Cancer Council patient information)
- Cryotherapy Treatment of Skin Lesions (patient information)

Te Ara Whānau Ora Brochure

- Te Ara Whānau Ora Brochure

2. Information resources for providers

Resources:

- SCAN Your Skin consumer handout (Skin Cancer College Australasia)
- CHAOS and CLUES (a dermatoscopic algorithm for pigmented skin malignancy)
- Dermatoscopy in routine practice
- Prediction without Pigment (a decision algorithm for non-pigmented skin malignancy)
- How to use fluorouracil and imiquimod for non-melanoma skin cancer in a general practice setting
- Guidance on how to take good pictures for clinical use
- Skin Cancer College Australasia

3. Updates to this care map

Date of publication: October 2017.

This care map has been developed in line with consideration to evidenced based guidelines.
For further information on contributors and references please see the care map's Provenance.

4. Hauora Māori

Māori are a diverse people and whilst there is no single Māori identity, it is vital practitioners offer culturally appropriate care when working with Māori Whānau. It is important for practitioners to have a baseline understanding of the issues surrounding Māori health.

This knowledge can be actualised by (not in any order of priority):

- acknowledging Te Whare Tapa Whā (Māori model of health) when working with Māori Whānau
- asking Māori clients if they would like their Whānau or significant others to be involved in assessment and treatment
- asking Māori clients about any particular cultural beliefs they or their Whānau have that might impact on assessment and treatment of the particular health issue (Cultural issues)
- consider the importance of whānaungatanga (making meaningful connections) with their Māori client / Whānau
- knowledge of Whānau Ora, Te Ara Whānau Ora and referring to Whānau Ora Navigators where appropriate
- having a historical overview of legislation that has impacted on Māori well-being

For further information:

- Hauora Māori

5. Pasifika

Pacific Cultural Guidelines (Central PHO) 6MB file

Our Pasifika community:

- is a diverse and dynamic population:
  - more than 22 nations represented in New Zealand
  - each with their own unique culture, language, history, and health status
  - share many similarities which we have shared with you here in order to help you work with Pasifika patients more effectively

The main Pacific nations in New Zealand are:

- Samoa, Cook Islands, Fiji, Tonga, Niue, Tokelau and Tuvalu

Acknowledging *The FonoFale Model (pasifika model of health)* when working with Pasifika peoples and families.

Acknowledging general pacific guidelines when working with Pasifika peoples and families:

- Cultural protocols and greetings
- Building relationships with your pasifika patients
- Involving family support, involving religion, during assessments and in the hospital
- Home visits
- Contact information

Pasifika Health Service - Better Health for Pasifika Communities:

- the Pasifika Health Service is a service provided free of charge for:
  - all Pasifika people living in Manawatu, Horowhenua, Tararua and Otaki who have long term conditions
  - all Pasifika mothers and children aged 0-5 years
- an appointment can be made by the patient, doctor or nurse
- the Pasifika Health Service contact details are:
  - Palmerston North Office - 06 354 9107
  - Horowhenua Office - 06 367 6433
- Better Health for Pasifika Communities brochure

Additional resources:

- Ala Mo'ui - Pathways to Pacific Health and Wellbeing 2014-2018
- Primary care for pacific people: a pacific health systems approach
- Tupu Ola Moui: The Pacific Health Chart Book 2004
- Pacific Health resources
- Central PHO Pasifika Health Service

6. Care map information

In scope:

- Diagnosis of skin lesions

References:

See Provenance Certificate for full list of references.

7. Faster Cancer Treatment Targets

Faster Cancer Treatment Targets

The Faster Cancer Treatment (FCT) health target builds on the significant improvements that have been made in the quality of cancer services over recent years. It provides a lens across the whole cancer pathway to ensure people have prompt access to excellent cancer services.

Faster cancer treatment health target:

- 85 percent of patients receive their first cancer treatment (or other management) within 62 days of being referred with a high suspicion of cancer and a need to be seen within two weeks by July 2016, increasing to 90 percent by June 2017. [3]

For more information:

- faster cancer treatment programme

8. Screening information

Population screening for melanoma has not been shown to reduce mortality from melanoma so the Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand does not recommend routine screening for the general population. This is an area of ongoing international research and the above position may change.

The current position is similar to prostate cancer. Inform patients of benefits and risks and they can make an informed choice to be screened or not. Risks include anxiety, cost and possibly unnecessary procedures. Benefits include possible early detection with better outcomes and skin cancers that are easier to treat.

Risk assessment and prognostication are regularly used in medicine to guide management decisions. It is generally believed that screening of high-risk people by total skin examination for early detection is more feasible, cheaper, has fewer false positive screens and lower patient anxiety (Williams et al 2011) compared to population screening. Risk prediction can be complex.

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, one could use the 10 point questionnaire in the SCAN Your Skin handout (which has been used to take a history) or alternatively BPAC has developed a risk predictor model 2016 (launch BPAC icon in MedTech - see 'skin/melanoma risk assessment').

9. Skin lesion history

Any particular patient concerns especially **SCAN** features:

- **S**ORE - Scaly, itchy, bleeding, tender, or wound that has not healed in 6 weeks
- **C**HANGING - size, shape, colour or texture
- **A**BNORMAL - looks or feels different, stands out compared to others
- **N**EW - Especially after 40, pink +/- brown, nodular

Complete 10 questions in SCAN Your Skin handout to take **FULL** history. This completes risk stratification.
See 'Screening information' box for screening recommendations - for high risk, yearly full skin checks are recommended.

Further history to be considered:

- occupational or recreational UV exposure
- immunosuppression
- sun bed use

- more than 100 moles, more than 5 atypical moles - increases the risk of melanoma. Consider total body photography and yearly full skin checks. Guidance on how to take good pictures for clinical use.

Taking and storing of images - best practice suggests:

- using a dedicated device for this purpose
- downloading directly onto computer via card reader or USB cable to desktop (i.e. not cellphone, cloud, email)
- advising patient the image is stored on a secure server

10.Primary prevention

Sun hygiene:

- daily broad spectrum SPF 50+ sunscreen to exposed areas all year round
- hats, sun protective clothing
- avoid peak of day - UV index
- Cancer Society Patient Information Sheets on sun protection

Vit D:

- will get adequate through sunscreen, 3 mins pd in summer and 25 mins pd in winter to produce enough daily Vit D
  - research studies from NIWA scientists in 2014 reveal that persons of darker skin type do not need much more sun exposure to generate sufficient Vit D from the sun, than paler skin types
- consider supplements and food sources:
  - food sources containing Vitamin D include:
    - oily fish (e.g. tuna, salmon, mackerel)
    - liver
    - lamb
    - eggs

Sunbed:

- avoid completely

Diet:

- rich in fruit and vegetables

11.Clinical examination

Clinical examination as described below:

- location
- flat or raised
- surface texture
- pigmented/non-pigmented
- **ABCDE:**
  - **A**symmetry
  - **B**order
  - **C**olours
  - **D**iameter
  - **D**ifferent
  - **EFG - e**levated, firm, growing rapidly - clues for nodular melanoma

Training in dermoscopy will improve accuracy.

CHAOS and CLUES is an excellent algorithm to safely assess pigmented lesions (see 'dermoscopy - pigmented' box)

Prediction without Pigment for non-pigmented lesions (see 'dermoscopy - non-pigmented' box)

Perform a full skin check when diagnosing a skin cancer or make a follow-up appointment

Photograph: 1. location 2. close up. 3. dermoscopy photo as able. Guidance on how to take good pictures for clinical use.
Taking and storing of images - best practice suggests:

- using a dedicated device for this purpose
- downloading directly onto computer via card reader or USB cable to desktop (i.e. not cellphone, cloud, email)
- advising patient the image is stored on a secure server

12.Full skin check

As part of diagnosing a skin cancer, a clinician should also carry out a full skin check:

- **i**t is recommended that an initial full skin check takes 30 mins, with subsequent checks 15 mins
- Bring a patient back for a follow-up appointment if time does not permit.

A full skin check includes:

- a full history
- scalp to toe examination
- treatment/referral options
- education on early detection SCAN Your Skin consumer handout (Sore, Changing, Abnormal, New)
- colours of melanoma: black, brown, grey, blue, pink, red, white
- education on amelanotic, acral, nodular and non sun-exposed melanomas
- sun hygiene (see 'Primary prevention' box)

Suggested routine:

- good lighting
- down to underwear, sheet for modesty, chaperone
- no make-up
- whole skin surface including:
  - scalp
  - interdigital area
  - acral sites
- enquire about lesions under underwear and examine with consent

If trained - dermoscopy all pigmented and non-pigmented lesions unless confident clinical benign diagnosis (to diagnose featureless melanoma)

13.Pigmented

Pigmented lesions:

- the colours of melanin are black, brown, grey or blue
- **remember all pigmented neoplasms listed below have non-pigmented variants**
- **Melanocytic:**
  - naevi

- melanoma
- lightly pigmented melanoma 30%
- amelanotic melanoma 2%

- **Non-Melanocytic pigmented lesions:**
  - 5% of basal cell carcinoma (BCC)
  - 5% squamous cell carcinoma (SCC) in situ:
    - SCC rare
    - pigmented Actinic Keratosis (AK) fairly common on face
  - solar lentigo, seborrheic keratosis, lichen planus like keratosis
  - haemangiomas, haemorrhage
  - genital, lip and oral lentigines; ink spot lentigo
  - dermatofibroma - usually light brown, round, present long term, no change
  - tattoo, stasis purpura
- benign pigmented lesions can be safely assessed and excluded using CHAOS and CLUES

The most common benign pigmented lesions are:

- seborrheic keratosis
- angiomas
- dermatofibromas
- **NB: with practice and dermoscopy, these lesions can be confidently excluded**

14.Non-pigmented

Non-pigmented lesion (NPL):

- lack the colours of melanin (black, brown, grey, blue)
- colours are white, yellow, orange, pink or red, either singly or in combination
- for some NPL the diagnosis with naked eye is easier
- for other lesions that are difficult to diagnose with the naked eye, there are specific dermoscopic features seen that improve diagnostic accuracy
- the method Prediction without Pigment (a decision algorithm for non-pigmented skin malignancy) is used
- separate NPLs into Flat and Raised (see 'Flat' and 'Raised' boxes below)
- dermoscopy reduces incomplete excisions when a dermoscope is used to assess the lateral border at time of excision

15.Dermoscopy – non-pigmented

Dermoscopy - non-pigmented lesion (NPL):

- assessment of NPL by dermoscopy is harder
- the method Prediction without Pigment (a decision algorithm for non-pigmented malignancy) is used
- dermoscopy has been shown to reduce incomplete excisions when a dermoscope is used to assess the lateral border at time of excision

16.Dermoscopy - pigmented

Dermoscopy - pigmented lesion:

- Australasian guidelines recommend Dermoscopy for those routinely assessing and treating pigmented skin lesions
- **CHAOS and CLUES** is an excellent algorithm to assess pigmented lesions - it can be learnt in a 4-8 hr course:

- this will make you **a safer GP** with more melanomas diagnosed and fewer unnecessary excisions
- General Practitioners who sub-specialise in skin cancer, diagnose melanoma with greater accuracy

CHAOS and CLUES:

- is a management based algorithm
- the outcome is malignant or benign

Dermoscopy if trained
Pigmented:

- CHAOS and CLUES
- Pattern(s), symmetrically combined
- Colours, symmetrically combined
- CHAOS if pattern or colour asymmetrically combined
- Look for 9 CLUES suggesting pigmented malignancy - any CLUE malignant:
  - grey or blue structures
  - eccentric struclureless (any colour except skin coloured)
  - thick lines reticular or branched
  - polymorphous vessels especially if including dot vessels
  - white lines
  - black dots or clods peripheral
  - lines radical or pseudops segmental
  - polygons
  - lines with parallel (ridges) or chaotic (nails)

See CHAOS and CLUES poster for 4 exceptions to the above and assessment of acral and nail lesions
Dermoscopy in routine practice article

Pigmented basal cell carcinoma (BCC) will be diagnosed as malignant with CHAOS and CLUES. With experience one comes to recognise the dermoscopic features of BCC as described in box 'Basal cell carcinoma'.

17.Suspicious of Melanoma

For melanoma, a high suspicion of cancer is defined by

Either:

- skin lesion **AND** 3 or more of the following features:
  - A - asymmetry
  - B - border irregularity
  - C - colour variations/multiple colours
  - D - different from other lesions (ugly duckling)
  - E - evolving, changing
- **risk factors:**
  - personal history of melanoma
  - family history of 2nd and 1st degree relatives diagnosed with melanoma

OR:

- dermoscopy of skin lesion is suspicious for melanoma
- Suspicious of melanoma (DermNet NZ) may:

- be obvious, be feature-poor, be featureless and/or small and can occur on sun exposed skin, scalp, acral or non sun-exposed regions

Especially consider nodular and lightly pigmented/amelanotic melanoma

18.Benign pigmented

Benign pigmented lesion:

- 3 of the most common are:
  - seborrheic keratosis
  - angioma
  - dermatofibroma

Excluding these is an excellent goal as they are common:

- Seborrheic Keratosis (DermNet NZ):
  - extremely common
  - harmless warty spot that:
    - can be flat or raised
    - commonly appear stuck on
    - can range from skin to yellow coloured and shades of brown
  - dermoscopically can have a diverse morphology, although common patterns exist and diagnosing these will significantly reduce unnecessary excisions
  - dermoscopy pattern analysis:
    - flatter lesions can have reticular or curved lines/circles
    - raised lesions have white, skin coloured, orange, brown coloured clods
    - in flat types - border can be scalloped
    - in raised, border is sharp
    - looped or coiled vessels
  - dermoscopy metaphoric:
    - milia like cysts
    - comedo like openings
    - fissures (crypts) and ridges
    - hairpin vessels
    - sharp edmaraction/scalloped margin
    - fingerprint-like areas
  - very commonly excised as suspicious for melanoma
  - all lesions excised **MUST** be submitted for histology

- Angioma (DermNet NZ):
  - most common are haemangioma and cherry angioma
  - dermoscopically these classically have:
    - red-blue or red-black clods/lacunes clods only
    - red-blue or red-black
  - some will show whiteish veil or scar like depigmentation (structureless)
  - these lesions will not be chaotic and hence CHAOS and CLUES will exclude them from excision
  - if any other vessels are present other than clods/structureless then the lesion needs excision

- Dermatofibroma (DermNet NZ):
  - fairly common benign dermal nodule usually singly or a few
  - usually <10mm
  - traditionally thought to be reactive e.g. an insect bite
  - clinically present as a firm dermal nodule
  - tethering to the overlying epidermis produces dimpling on lateral compression
  - dermoscopy:
    - classically has a central white scar like region with fine light brown reticular/circles pattern peripherally
    - one can find polarising specific white lines centrally

20.Benign non-pigmented

Benign non-pigmented:

- Flat:
  - seborrheic keratosis
  - angiomas
  - dermatofibroma - go to 'Benign pigmented' box
  - pink naevi
  - inflammatory diseases
  - viral wart

- Raised:
  - Seborrheic keratosis
  - pyogenic granuloma
  - sebaceous gland hyperplasia
  - molluscum contagiosum
  - viral wart
  - dermal naevus

If uncertain, consult a colleague, consider biopsy or refer for diagnosis.

21.Flat

Flat:

- Actinic Keratosis (AK)
- Bowen's/squamous cell carcinoma (SCC) in situ
- superficial basal cell carcinoma (BCC)
- melanoma, melanoma metastasis
- Spitz Naevus (histology to decide)

22.Raised

Raised:

- basal cell carcinoma
- squamous cell carcinoma
- melanoma, melanoma metastasis

- spitz naevi (histology to decide)
- merkel cell carcinoma

23. Excision not incision biopsy

NOTE: Do not do a punch, shave, or incisional biopsy for a suspected melanoma, it needs to be fully excised.

Please take a photograph prior to excision - see guidance on how to take good pictures for clinical use

If concerned melanoma, acceptable for a full excision biopsy in primary care:

- minimum of a 2mm margin, incision plane is perpendicular to the skin surface down to subcutaneous fat (i.e. not angling in towards the lesion)
- use a dermoscope to map the lateral margins
- important to ensure a healthy deep margin often going down to the deep fascia which has the added benefit of ease of closure
- learn to perform layered closure
- orientate the lesion with a suture placed in specimen e.g superior
- do not need to stop aspirin - for information see Perioperative management of patients on oral anticoagulants

Taking and storing of images - best practice suggests:

- using a dedicated device for this purpose
- downloading directly onto computer via card reader or USB cable to desktop (i.e. not cellphone, cloud, email)
- advising patient the image is stored on a secure server

24. Actinic Keratosis

Actinic Keratosis arise on chronically sun damaged skin:

- Grade 1: mild; pink or grey marks with slight scale or gritty to touch
- Grade 2: moderate; thicker hyperkeratosis and easily detected
- Grade 3: **severe**; hypertrophic, thick keratin
- **Field change**: confluent areas ≥ several cm, with range of features form any or all of the grades of AK

Dermoscopy:

- pigmented:
  - typically brown
  - structureless with scale
  - 4 dot clods/rosettes
- non-pigmented:
  - scale
  - 4 dot clods
  - erythema
  - face “strawberry pattern”/white circles on a pink background.

Individually they have low invasive malignant potential but are a marker of 6-fold increased risk of non-melanoma skin cancer.
Grade 3 may be difficult to distinguish from early squamous cell carcinoma (SCC).
If lesion bleeds, is painful, grows significantly or becomes protuberant, treat as SCC.
Lip and ear are high risk sites.

25. Squamous cell carcinoma

Squamous cell carcinoma (SCC):

- presents as a firm nodule with central keratin+/- ulceration, or an inflamed plaque
- it is related to cumulative sun exposure e.g. outdoor work or recreation
- with smokers, one can also see flat plaques on the lower lip
- these patients often also have Actinic Keratosis (AK) or SCC in situ co-existing or as the precursor
- Keratoacanthoma presents similarly as a rapidly growing well organised nodule
- histology is required to differentiate

A solitary cutaneous horn may be a well differentiated SCC and requires excision

The risk of SCC rises with higher grade lesions, in those with ≥ 10 actinic keratoses, chronic immunosuppression (transplant patients, long term Rx for inflammatory bowel, arthritic or autoimmune disease), high cumulative sun exposure, sunbed use, photosensitising drugs e.g. hydrochlorothiazide, and increasing age.

Squamous cell carcinoma of the limbs (DermNet NZ)

Squamous cell carcinoma of the ear (DermNet NZ)

Squamous cell carcinoma of the lip (DermNet NZ)

Squamous cell carcinoma on the face (DermNet NZ)

Patient resources:

- BCC and SCC - What to Expect During Each Stage of Treatment and Beyond (The Australian Cancer Council patient information)
- Understanding Skin Cancer - A guide for people with cancer, their families and friends (The Australian Cancer Council patient information)

26. Urgent referral

Referral to include:

- patient NHI
- patient DOB
- size and site photo (place ruler next to lesion for photo)
- duration and growth pattern
- clinical diagnosis
- Indication of whether histology punch or excision has been performed
- immunosuppression present - yes or no
- list of conditions
- list of drugs
- indication of bleeding problems

27. Squamous cell carcinoma in situ

Squamous cell carcinoma (SCC) in situ:

- well demarcated, erythematous scaly plaque with an irregular border
- arise in chronically sun-damaged individuals and sites e.g:
  - lower leg
  - head and neck

- dorsal hand regions

Dermoscopy:

- monomorphous
- coiled/glomerular or less often dot vessels
- occasionally erythema (red or pink structureless area)
- scale
- can have brown coloured structureless regions
- can have a pattern of circles on the face - if white consider SCC, if grey can be lentigo maligna - seek review.

Patient resources:

- BCC and SCC - What to Expect During Each Stage of Treatment and Beyond (The Australian Cancer Council patient information)
- Understanding Skin Cancer - A guide for people with cancer, their families and friends (The Australian Cancer Council patient information)

28. Basal Cell Carcinoma

Basal Cell Carcinoma :

- common skin coloured, pink or pigmented plaque or nodule
- can spontaneous bleed or ulcerate
- most are locally invasive only
- the head is a higher risk site with possible rapid deep growth and metastasis (1 in 10,000).

BCC dermoscopy:

- ulceration/erosion(s)
- often seen as adherent fibre sign
- pink structure-less background
- blue dots/clods (blue-grey ovoid nests or globules)
- brown radial lines converging to a point/line (leaf like areas, spoke-wheels)
- well focussed linear branched vessels (arborizing telangiectasia)

Superficial BCC dermoscopy:

- multiple small erosions
- short fine telangiectasia
- pink structure-less background
- polarising specific white lines can be present

Patient resources:

- BCC and SCC - What to Expect During Each Stage of Treatment and Beyond (The Australian Cancer Council patient information)
- Understanding Skin Cancer - A guide for people with cancer, their families and friends (The Australian Cancer Council patient information)

29. Referral to supportive care services

He Anga Whakaahuru - Supportive Care Framework [5]

Improving the quality of life for those with cancer, their family and whānau through support, rehabilitation and palliative care - the

essential services required to meet a person's physical, social, cultural, emotional, nutritional, informational, psychological, spiritual and practical needs throughout their experience with cancer.

Further information on the Standards and Competencies

Support Services:

1. Primary care services referral:
   - anyone with a possible, probable or definite diagnosis of cancer and are enrolled with a PHO and/or is a resident in the PHO area

   Māori Community Cancer Coordinators - community-based Māori cancer support services:
   - Te Wakahuia (Palmerston North, Manawatu) Phone: 06 3573400
   - Best Care Whakapai Hauora (Palmerston North) 06 3536385 Ext 773
   - Te Rānanga o Raukawa (Otaki, Horowhenua) Phone: 06 3688679
   - Te Kete Hauora (Tararua) Phone: 06 3746860
   - referral form
2. Pae Ora Māori Health Service:
   - kaupapa Māori community and hospital-based navigation service
   - referral form and contact details
3. Cancer Society:
   - for additional support services phone the cancer information nurses on the **Cancer Information Helpline 0800 226 237**
4. Central Region Cancer Services Directory:

The directory provides a list of cancer support services available across MidCentral, Whanganui and Hawke's Bay including:

- ethnic and cultural
- accommodation
- disability support
- government health services
- medication
- legal advice

5. Social Workers Oncology
   - We can support you and your family/whānau as you come to terms with your diagnosis and the impact it may have in your day-to-day life, now and in the future
   - for more information and contact details
6. Cancer Psychology Service (Massey): Te Ara Whatumanawa. We work with people and their whānau/family at all stages of the cancer journey, from diagnosis to treatment and beyond.
   - free service
   - 06 3505180
   - referral form
7. Regional Cancer Treatment Service (RCTS):

Cancer treatment services are provided to patients in Taranaki, Whanganui, Tarawhiti, Hawkes Bay and MidCentral District Health Boards by the Regional Cancer Treatment Service (RCTS):

- for more information go to website

30. Superficial basal cell carcinoma

Superficial basal cell carcinoma:

- slowly growing thin erythematous plaques, with a subtle blue tinge
- slightly dry or scaly and may be eroded and crusted
- shiny rim may be detected by stretching the affected skin

Dermoscopy:

- bluish-pink colour, asymmetrical arborizing telangiectasia, slight scaling, white shiny lines / strands or irregular areas, focal ulceration
- multiple small erosions, short fine telangiectasia, pink structure-less background - polarising specific white lines can be present

Patient resources:

- BCC and SCC - What to Expect During Each Stage of Treatment and Beyond (The Australian Cancer Council patient information)
- Understanding Skin Cancer - A guide for people with cancer, their families and friends (The Australian Cancer Council patient information)

Skin Lesion

Provenance Certificate

Overview | Editorial methodology | References | Contributors | Disclaimers

Overview

This document describes the provenance of MidCentral District Health Board's **Skin Lesion** pathway.

This localised pathway was last updated in **October 2017.**

One feature of the "Better, Sooner, More Convenient" (BSMC) Business Case, accepted by the Ministry of Health in 2010, was the development of 33 collaborative clinical pathways (CCP).

The purpose of implementing the CCP Programme in our DHB is to:

- Help meet the Better Sooner More Convenient Business Case aspirational targets, particularly the following:
    - Reduce presentations to the Emergency Department (ED) by 30%
    - Reduce avoidable hospital admissions to Medical Wards and Assessment Treatment and Rehabilitation for over-65-year-olds by 20%
    - Reduce poly-pharmacy in the over-65-year-olds by 10%
- Implement a tool to assist in planning and development of health services across the district, using evidence-based clinical pathways.
- Provide front line clinicians and other key stakeholders with a rapidly accessible check of best practice;
- Enhance partnership processes between primary and secondary health care services across the DHB.

To cite this pathway, use the following format:

Map of Medicine. Medicine. MidCentral District View. Palmerston North: Map of Medicine; 2014 (Issue 1).

Editorial methodology

This care map was based on high-quality information and known Best Practice guidelines from New Zealand and around the world including Map of medicine editorial methodology. It has been checked by individuals with front-line clinical experience (see Contributors section of this document).

Map of Medicine pathways are constantly updated in response to new evidence. Continuous evidence searching means that pathways can be updated rapidly in response to any change in the information landscape. Indexed and grey literature is monitored for new evidence, and feedback is collected from users year-round. The information is triaged so that important changes to the information landscape are incorporated into the pathways through the quarterly publication cycle.

References

This care map has been developed according to the Map of Medicine editorial methodology. The content of this care map is based on high-quality guidelines and practice-based knowledge provided by contributors with front-line clinical experience. This localised version of the evidence-based, practice-informed care map has been peer-reviewed by stakeholder groups and the CCP Programme Clinical Lead.

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MidCentral DHB's Collaborative Clinical Pathway editors and facilitators worked with clinical stakeholders such as front-line clinicians and pharmacists to gather practice-based knowledge for its care maps.

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Disclaimers

Clinical Board Central PHO, MidCentral DHB
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