

# Non melanoma skin cancers

## Prediction without pigment













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Tess Kent

GP registrar

# Risk factors

- Fitzpatrick skin types I and II
- Sun exposure
- Exposure to artificial UV
- Arsenic exposure
- Immunosuppression
- Skin exposed to radiation therapy
- Smoking
- HPV infection

Score	Description	Female	Male
0-6	<b>Pale white skin</b> Extremely sensitive skin, always burns, never tans <i>Example: red hair with freckles</i>		
Type I			
7-13	<b>White skin</b> Very sensitive skin, burns easily, tans minimally <i>Example: fair skinned, fair haired Caucasians, northern Asians</i>		
Type II			
14-20	<b>Light brown skin</b> Sensitive skin, sometimes burns, slowly tans to light brown <i>Example: darker Caucasians, some Asians</i>		
Type III			
21-27	<b>Moderate brown skin</b> Mildly sensitive, burns minimally, always tans to moderate brown <i>Example: Mediterranean and Middle Eastern Caucasians, southern Asians</i>		
Type IV			
28-34	<b>Dark brown skin</b> Resistant skin, rarely burns, tans well <i>Example: some Hispanics, some Africans</i>		
Type V			
35+	<b>Deeply pigmented dark brown to black skin</b> Very resistant skin, never burns, deeply pigmented <i>Example: darker Africans, Indigenous Australians</i>		
Type VI			

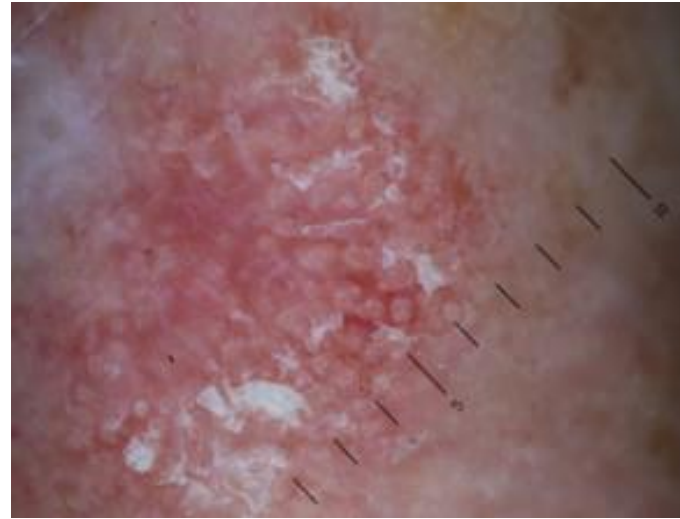
# SCC subtypes

## Actinic keratoses

- Premalignant
- Appear on frequently sun exposed areas
- Red brown colour. Surface scale. Rough feeling.

## Bowen's disease

- Intraepithelial squamous cell cancer
- 3 - 5% progress to invasive SCC.
- Appear on frequently sun exposed areas
- Erythematous slow growing plaque. Occasional crust on top



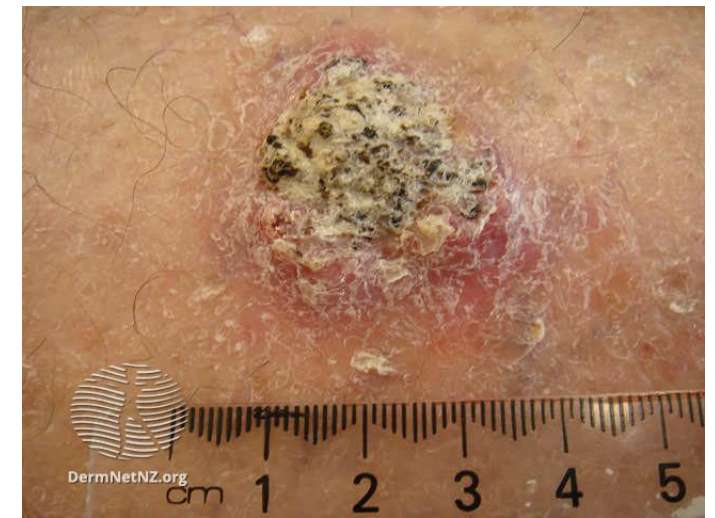
# SCC subtypes

## Keratoacanthoma

- Low grade malignancy
- Rapidly growing lesion. Dome shaped with central depression filled with keratin
- Mostly appear on the head, forearms, hands
- Without treatment, the lesion stops growing + gradually regresses

## SCC

- 30% of NMSC
- Incidence 387 per 100,000
- 4% of patients have metastases
- Typically raised firm red/flesh coloured plaque/papule. Tender, non healing, itchy, scaly. Can ulcerate or form a horn
- Most common in chronically sun exposed areas



# BCC subtypes

## BCC

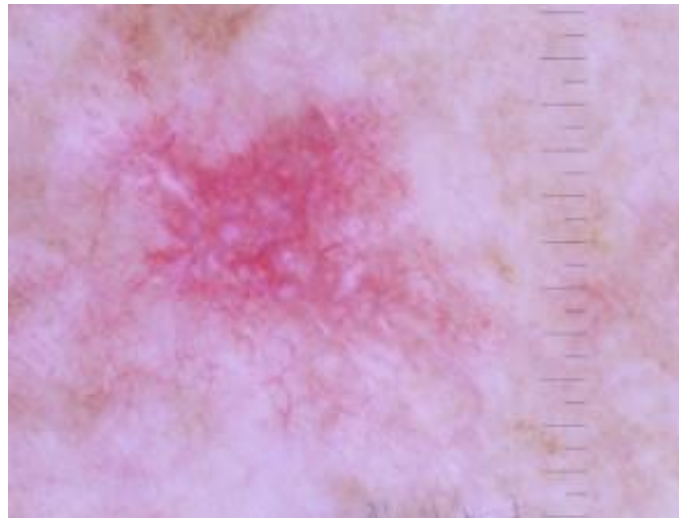
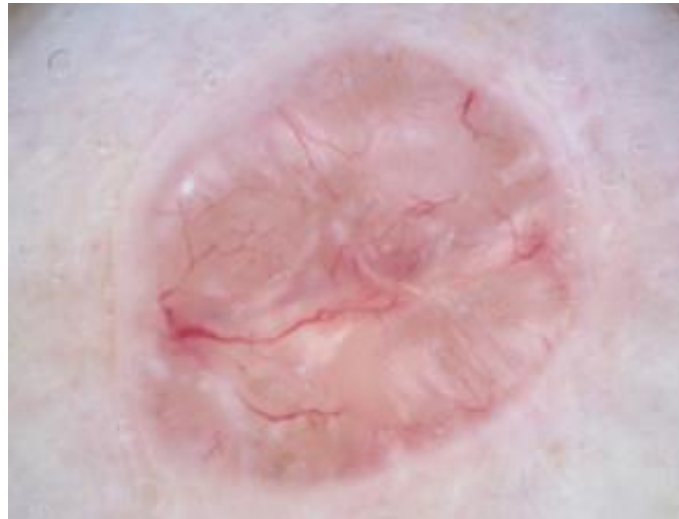
- Most common NMSC
- BCC annual incidence 770 per 100,000
- Rarely metastasise (0.0028%-0.1% of cases)
- Most common in chronically sun exposed areas
  - > 50% of BCCs occur on the head or neck

## *Nodular*

- Most common. 60%-80%
- Firm and painless nodules, with a flesh-coloured, translucent, pearly appearance with a rolled border

## *Superficial*

- Second most common. 10%-30%
- Flat, pink. Typically appear as well-circumscribed, erythematous plaque or patch with scale, thin rolled border. Can be ulcerated.



# BCC subtypes

## *Morphoeic*

- 5%-10%
- May appear as infiltrated plaque with poorly defined borders and shiny surface
- Most often found on face and neck

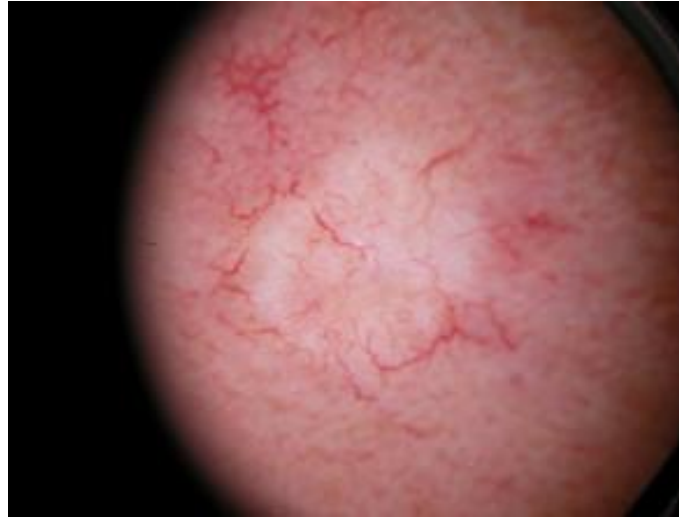
## *Basosquamous*

- Mixed basal cell carcinoma (BCC) and squamous cell carcinoma (SCC)
- Infiltrative growth pattern
- Potentially more aggressive

## *Infiltrative*

- Typically found with pre-existing basal cell carcinomas of other subtypes, especially nodular type
- May appear as a flat or depressed plaque of white, yellow or pinkish colour
- Higher rates of perineural invasion and recurrence

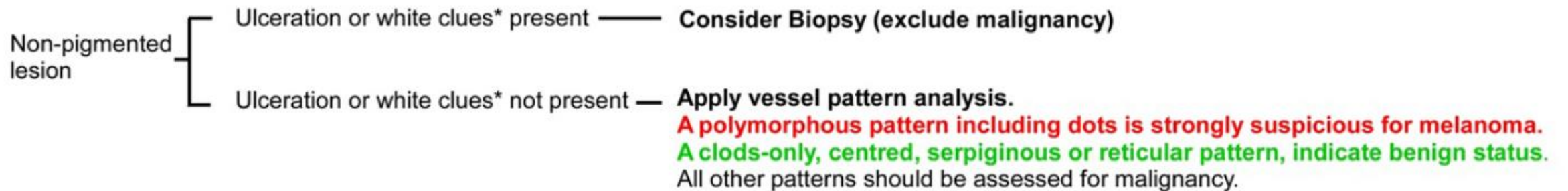
## *Micronodular*



# Prediction without pigment: A decision algorithm for non-pigmented skin lesions

*If you cannot make a confident clinical/dermatoscopic diagnosis of solar or seborrhoeic keratosis, viral wart, dermal naevus or benign cyst then apply this algorithm:-*

## Prediction without Pigment



A **clods-only pattern** must have no vessels within the (red/purple) clods. A **centred** pattern must have vessels centred in *skin-coloured* clods.

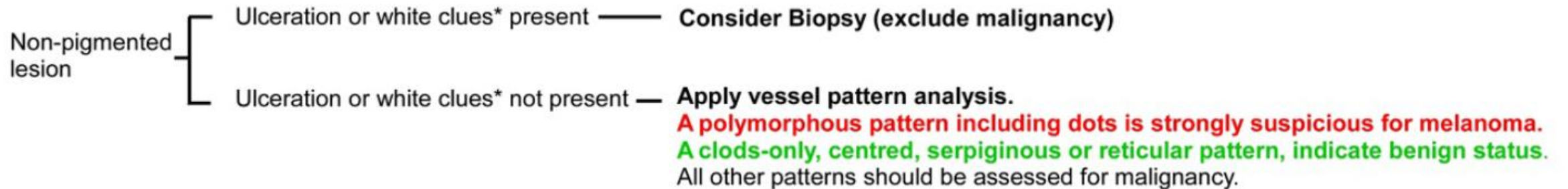
## Clinical factors which take priority over algorithmic assessment

- Any elevated, firm, growing lesions whether pigmented or non pigmented should be excised with suspicion of nodular melanoma

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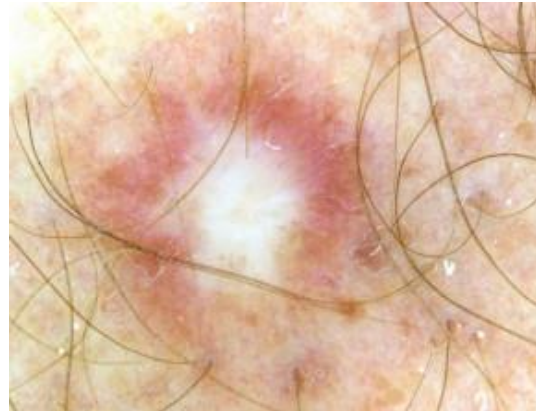
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## Benign lesions

Most benign non pigmented lesions can be placed into 5 groups

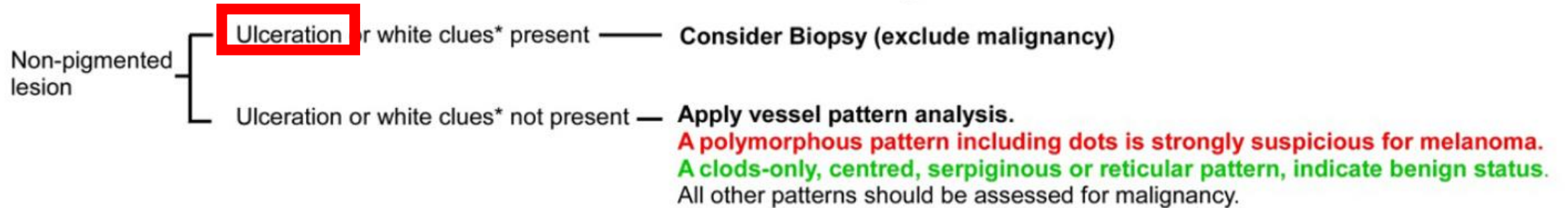
- Naevus
- Benign keratolytic lesion (eg wart, seb K)
- Haemangioma
- Dermatofibroma
- Sebaceous gland hyperplasia



# Prediction without pigment

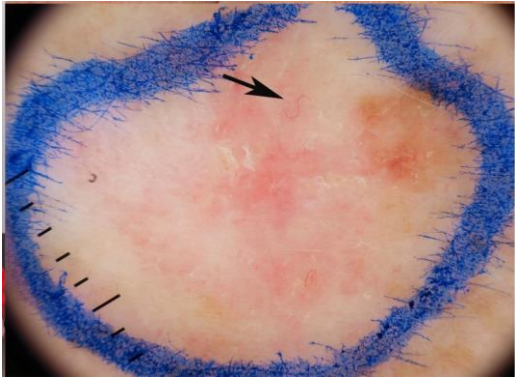
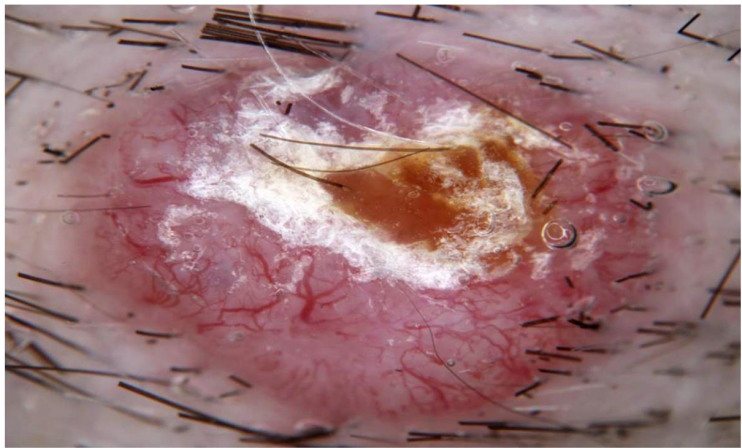
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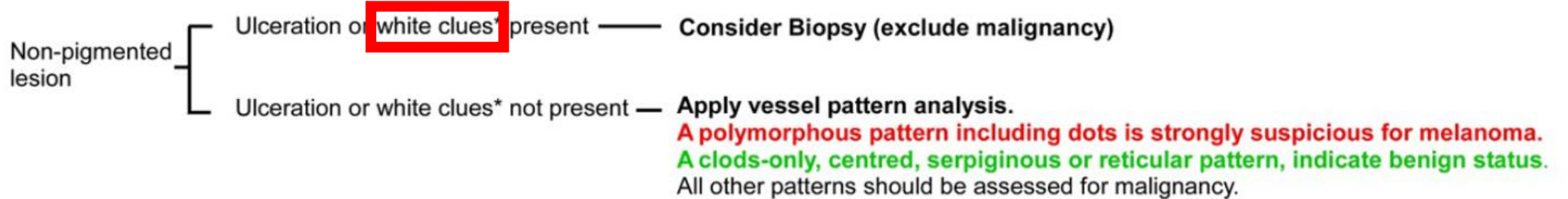
# Ulceration



# Prediction without pigment

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## Prediction without Pigment



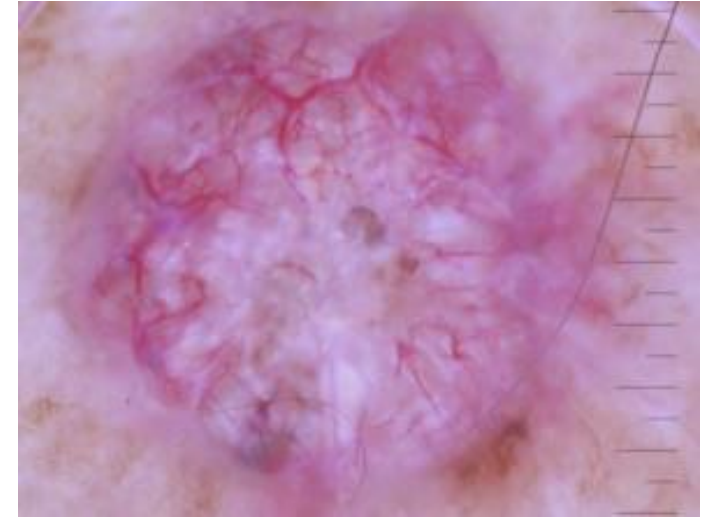
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# White clues

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## White lines

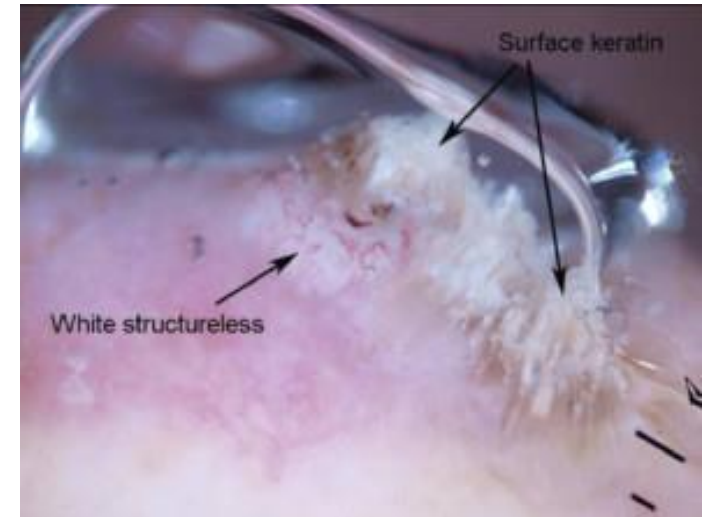
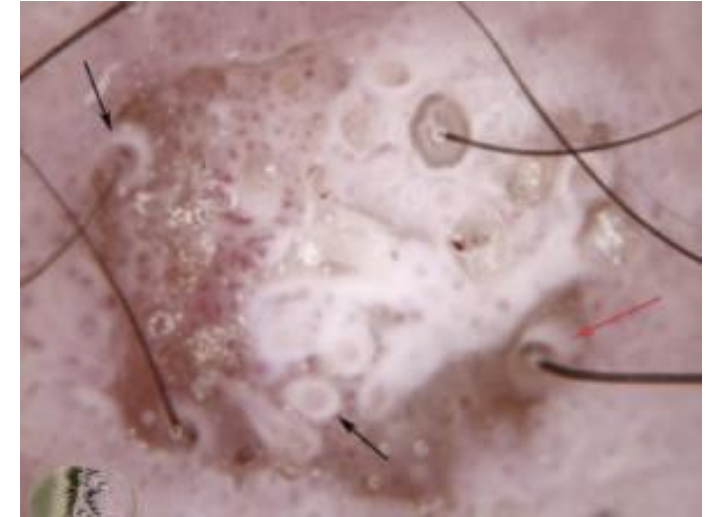
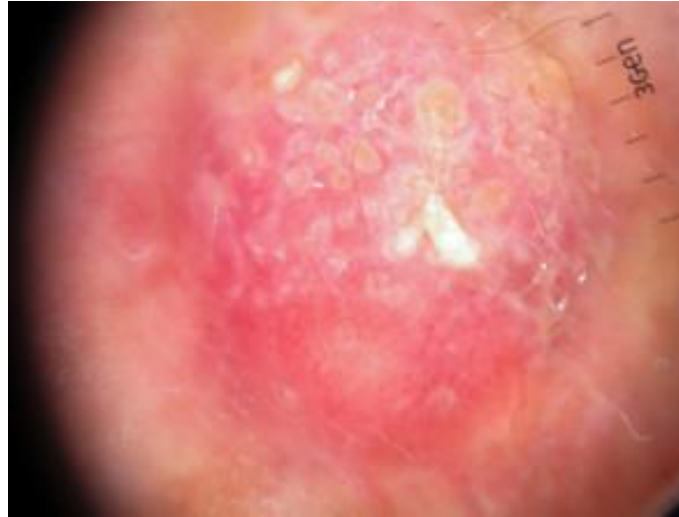
- Must be whiter than perilesional skin
- Straight + perpendicularly oriented without crossing



# White clues

## Keratin clues

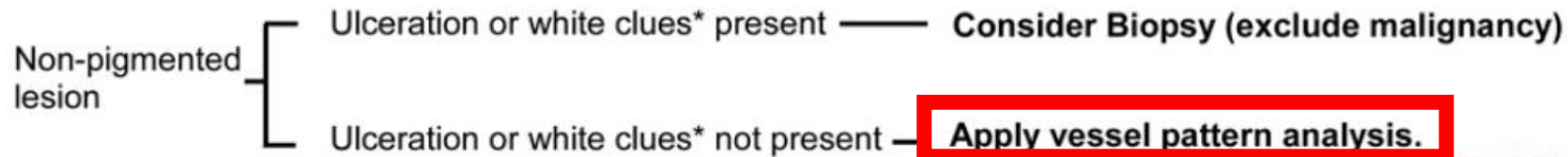
- Scale
- White structureless areas
- White circles



# Prediction without pigment

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## Prediction without Pigment



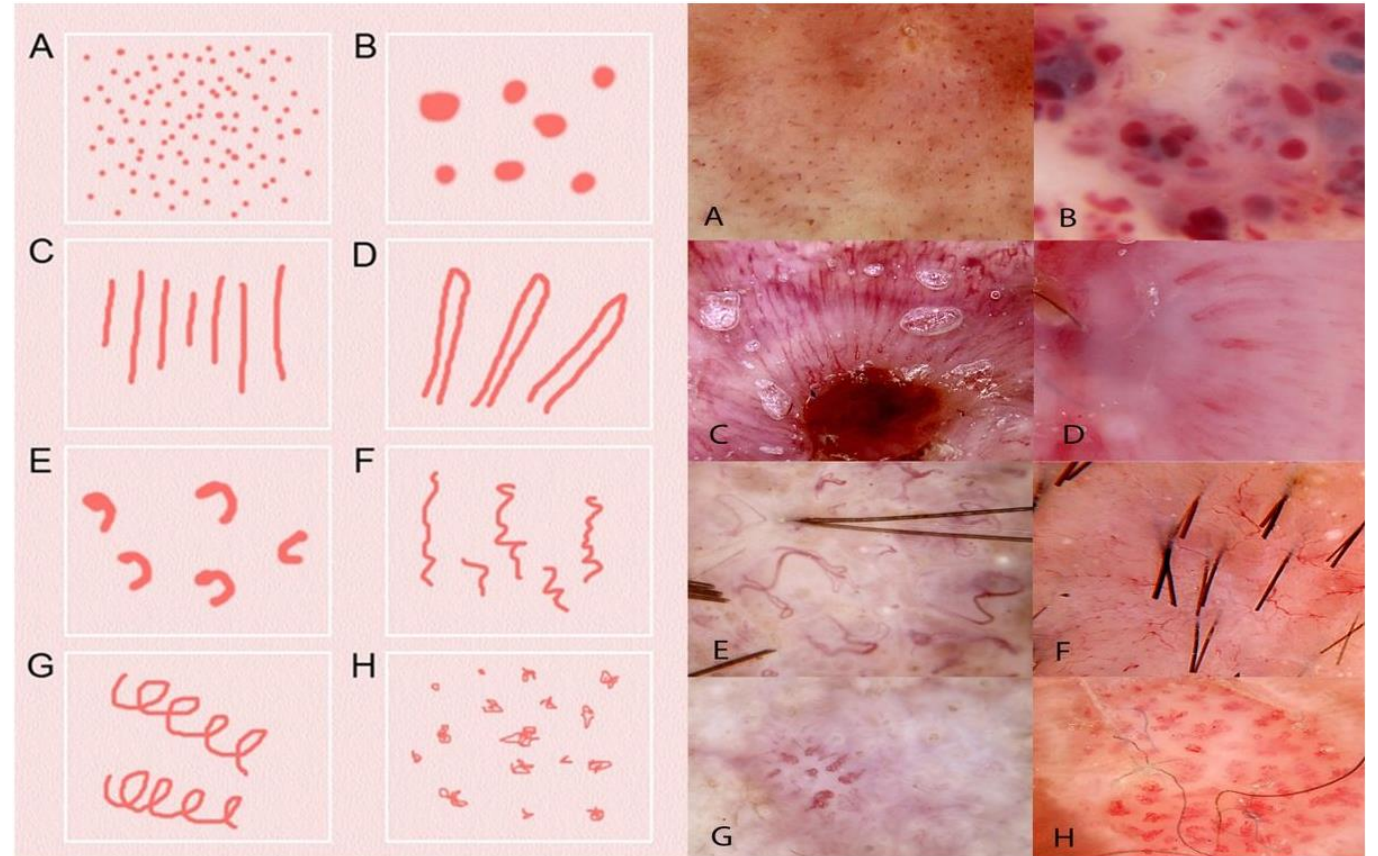
**A polymorphous pattern including dots is strongly suspicious for melanoma.**  
**A clods-only, centred, serpiginous or reticular pattern, indicate benign status.**  
All other patterns should be assessed for malignancy.

A **clods-only pattern** must have no vessels within the (red/purple) clods. A **centred** pattern must have vessels centred in *skin-coloured* clods.

# Vessel clues

## Vessel structures:

- Dots
- Clods
- Linear - straight
- Linear - looped
- Linear - curved
- Linear - serpentine
- Linear - helical
- Linear - coiled

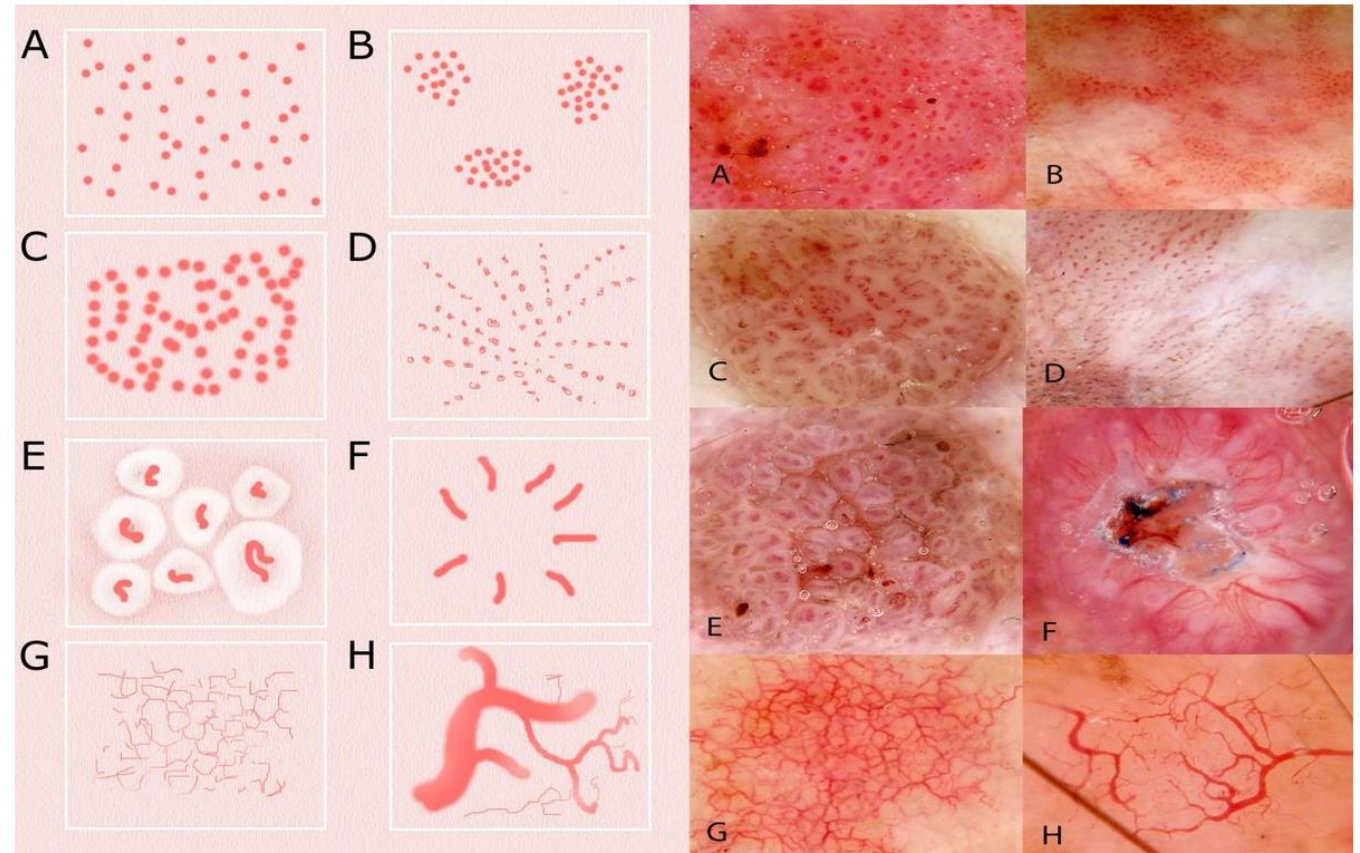




# Vessel clues

## Vessel arrangement

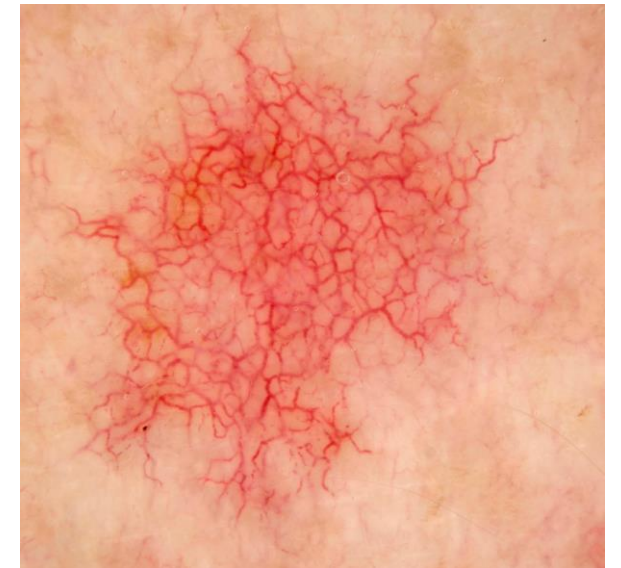
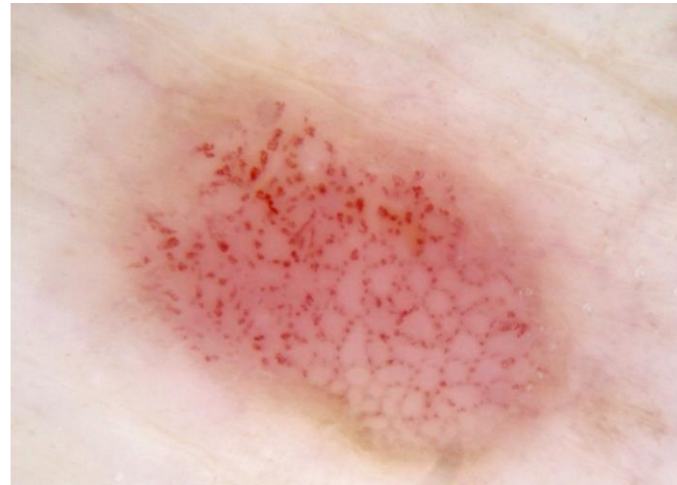
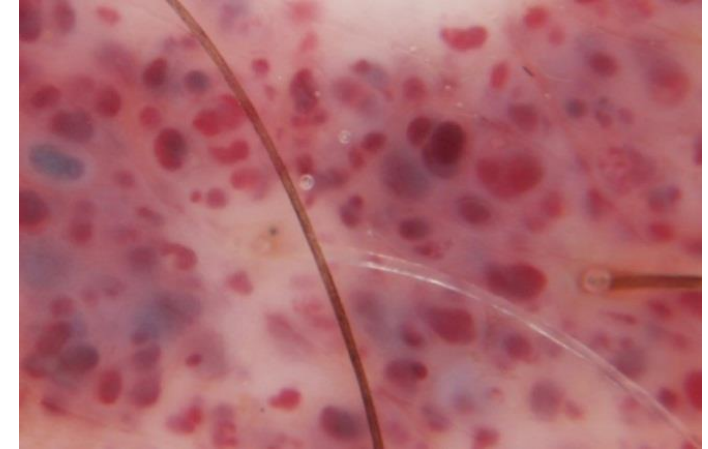
- Random
- Clustered
- Serpiginous
- Linear
- Centred
- Radial
- Reticular
- Branched



# Vessel clues

There are 4 monomorphous vessel patterns which are consistent with a benign diagnosis

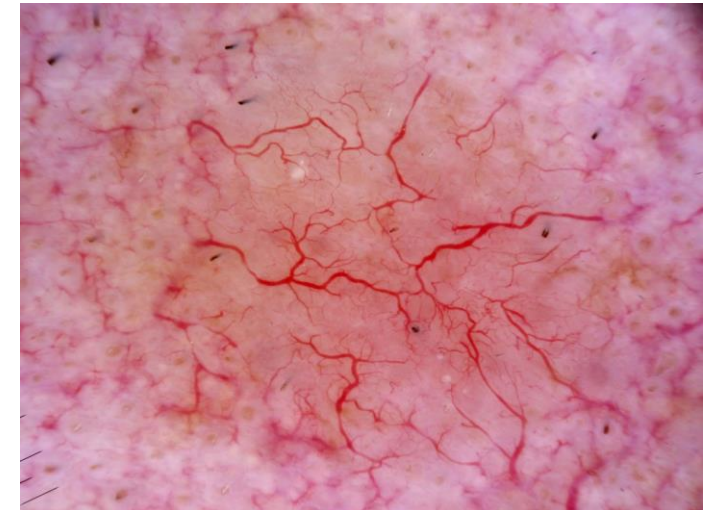
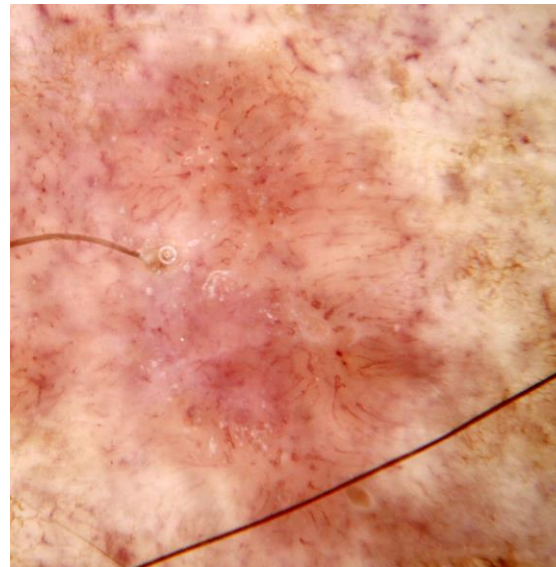
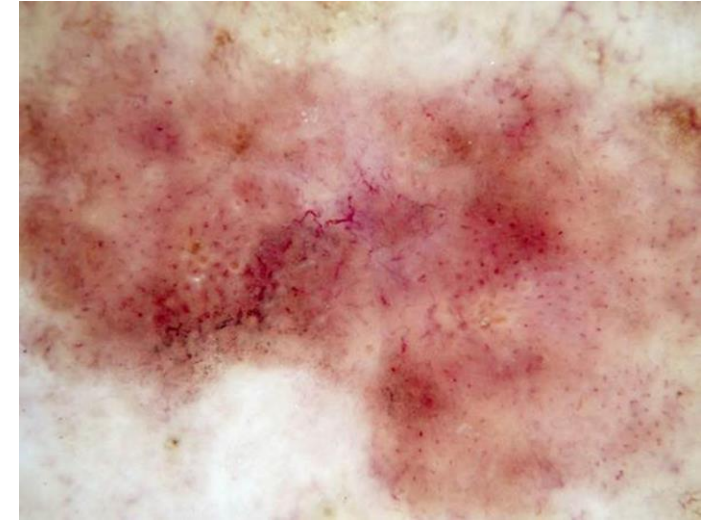
1. A pattern of red and/or purple clods only
  - Haemangioma
2. A pattern of centred vessels only
  - Verruca, congenital nevus, seborrheic keratosis
3. A pattern of serpiginous vessels only
  - Clear cell acanthoma
4. A pattern of reticular vessels only
  - Isolated patches on sun damaged skin and telangetasia



# Vessel clues

## Polymorphous patterns

- Any polymorphous pattern which includes dots raises suspicion for melanoma





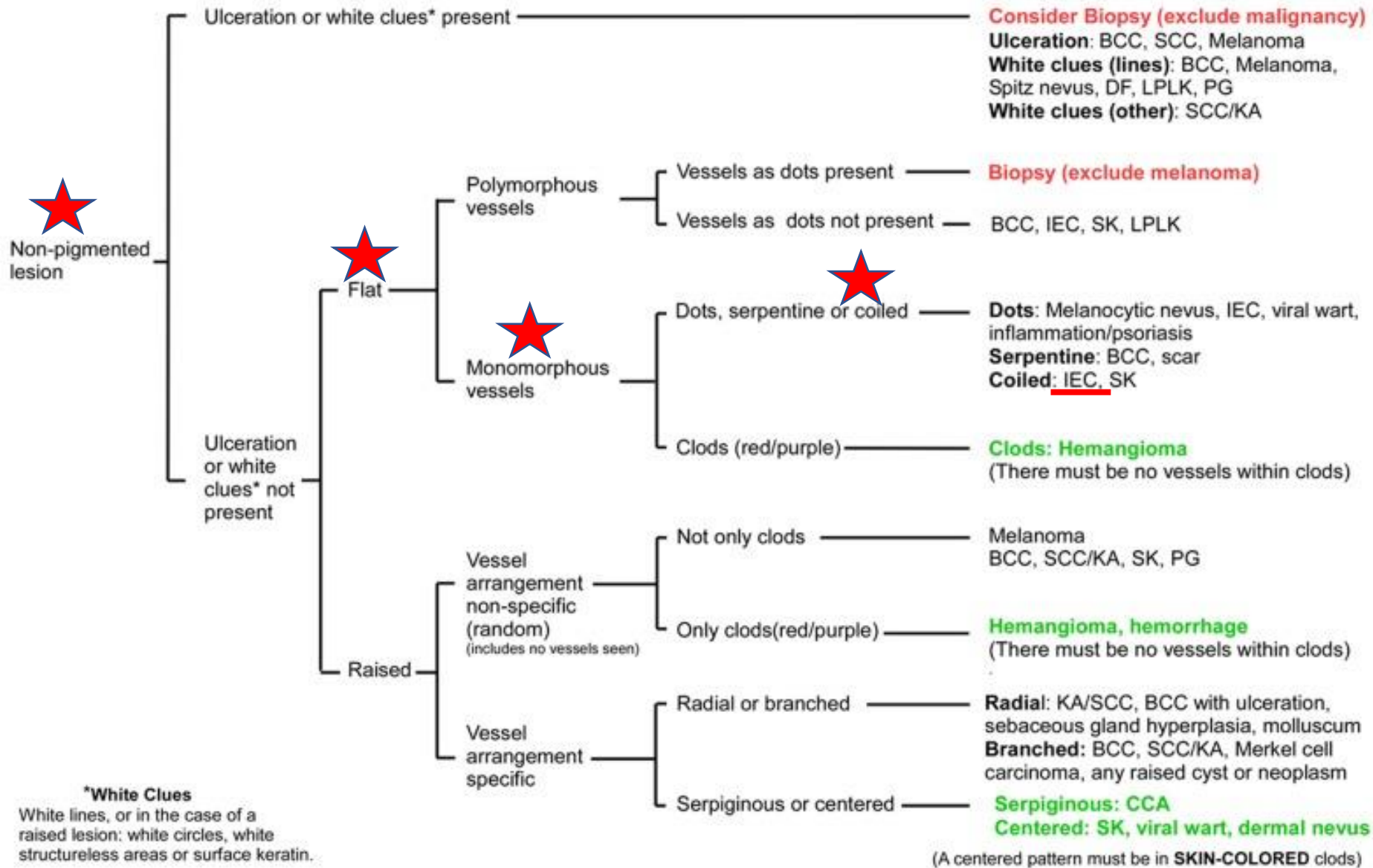
# Case 1

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Maria is a 65 year old woman who attends for her first skin check



## Prediction without Pigment



# Management

## Topical field treatments

Appropriate for SCC *in situ* at sites of poor wound healing, although ulceration and delayed healing can also occur with these options

### 1. *Efudix (5-fluorouracil)*

If using field treatment, max treatment area is 500 cm<sup>2</sup> (23 cm × 23 cm)

Cure rates

- AKs = 70%
- iSCC = 85%

### 2. *Aldara (imiquimod 5%)*

PBS criteria for solar keratosis = Patient must require topical drug therapy on the face and scalp as field treatment for clinically visible and subclinical lesions where other standard treatments are inappropriate

Cure rates

- AKs = 45 – 75%
- iSCC = 73%

### 3. *Photodynamic therapy*

Cure rates

- iSCC = 85%

## Curettage + cautery

Lesional treatment

Suitable for small well-demarcated lesions.

Should be used with caution at sites of poor wound healing (eg distal lower limbs in older people)

Cure rate

- iSCC = 90%

## Cryotherapy

Lesional treatment

Suitable for small well-demarcated lesions

Should be used with caution at sites of poor wound healing (eg distal lower limbs in older people)

Cure rates

- Actinic keratoses = 69% - 98.8%
- Bowens = 86%

AKs = 1 x FTC of 3 – 15 seconds depending on location + thickness

Bowens = 2 x FTC of 15 – 30 seconds

Healing within 10 days

Risk of hypopigmentation + scarring increased when treating Bowens

## Excision

Consider for

- iSCC with that has deep extension down hair follicles
- Hypertrophic or hyperkeratotic lesions
- Lesion that fails to respond to topical therapy, or that recurs after treatment

Cure rate

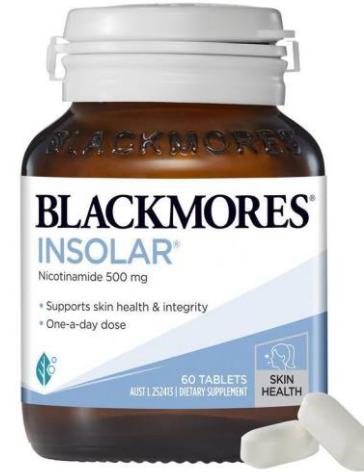
- iSCC = 90 – 98%

# Chemoprevention

## B3 (nicotinamide)

- Nicotinamide may be a useful chemopreventive adjunct to sun protection and sunscreen use in high risk, immune-competent individuals with a history of multiple keratinocyte cancers.
- Reduced numbers of new SCCs + BCCs by 23% and AKs by 13% compared with placebo
- 500mg PO BD

Synthetic retinoids



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

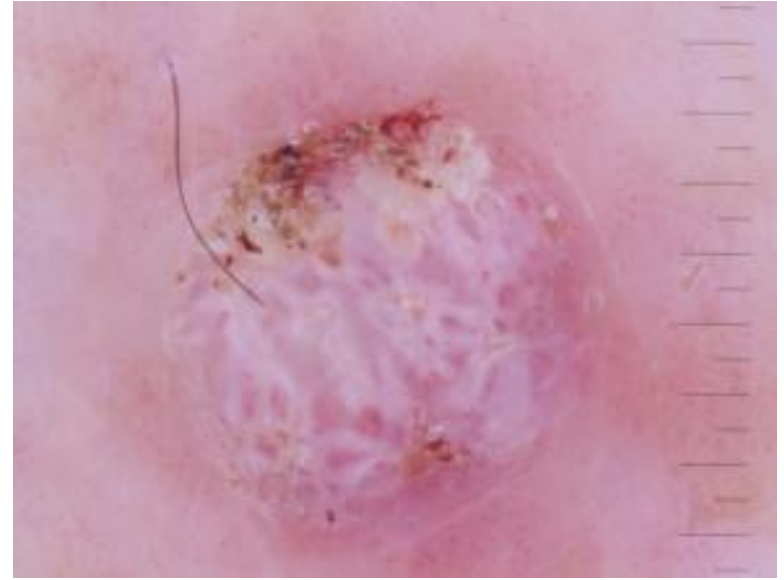
## A Phase 3 Randomized Trial of Nicotinamide for Skin-Cancer Chemoprevention

Andrew C. Chen, M.B., B.S., Andrew J. Martin, Ph.D., Bonita Choy, M.Med., Pablo Fernández-Peñas, Ph.D., Robyn A. Dalziel, Ph.D., Catriona A. McKenzie, M.B., B.S., Richard A. Scolyer, M.D., Haryana M. Dhillon, Ph.D., Janette L. Vardy, M.D., Anne Krickler, Ph.D., Gayathri St. George, M.Sc.Med., Niranthari Chinniah, M.B., B.S., Gary M. Halliday, D.Sc., and Diona L. Damian, Ph.D.

## Case 2

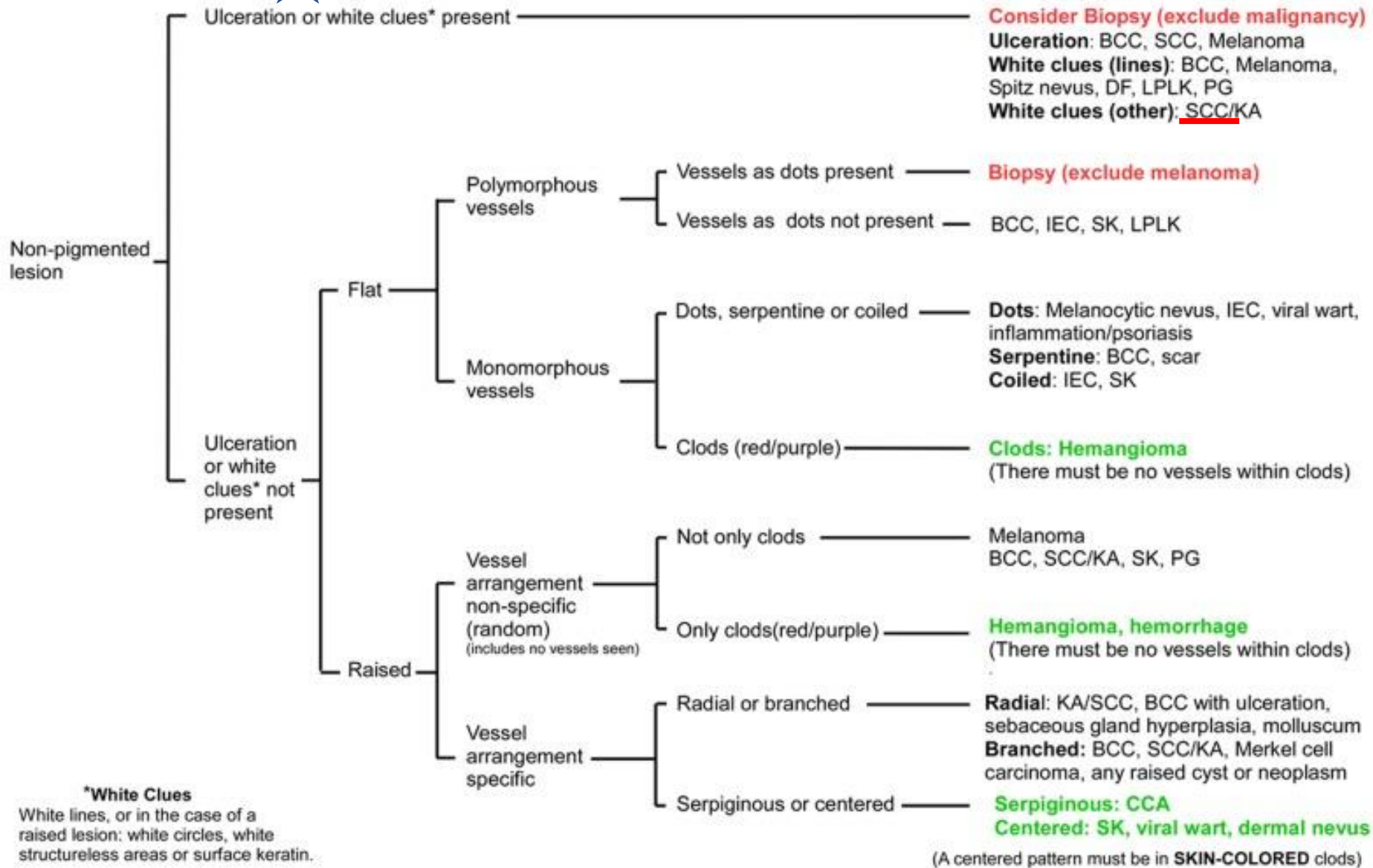
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Pauline is a 50 year old woman who has noticed this lesion on her right upper arm which has been steadily growing over the past 4 months. It is painful and bleeds intermittently





## Prediction without Pigment



**\*White Clues**  
 White lines, or in the case of a raised lesion: white circles, white structureless areas or surface keratin.

# Management

## Excision

- Clinical margins 3 – 6mm
  - Well differentiated + <10 mm = 4mm
  - Undifferentiated + <10mm = 4mm, >10mm = 6mm

## Risk factors for poor prognosis

Size >2 cm in diameter

Tumour depth > 4 mm

Recurrent lesion

High-risk anatomic location

Perineural invasion or lymphovascular invasion

Poorly differentiated subtype

Immunosuppression



# Management

## Keyloid/hypertrophic scars

- Usually occur between 10 – 30 years
- More common in people with darker skin (Fitzpatrick type III – VI)
- More common to occur upper back, central chest, upper arms, shoulders, breasts



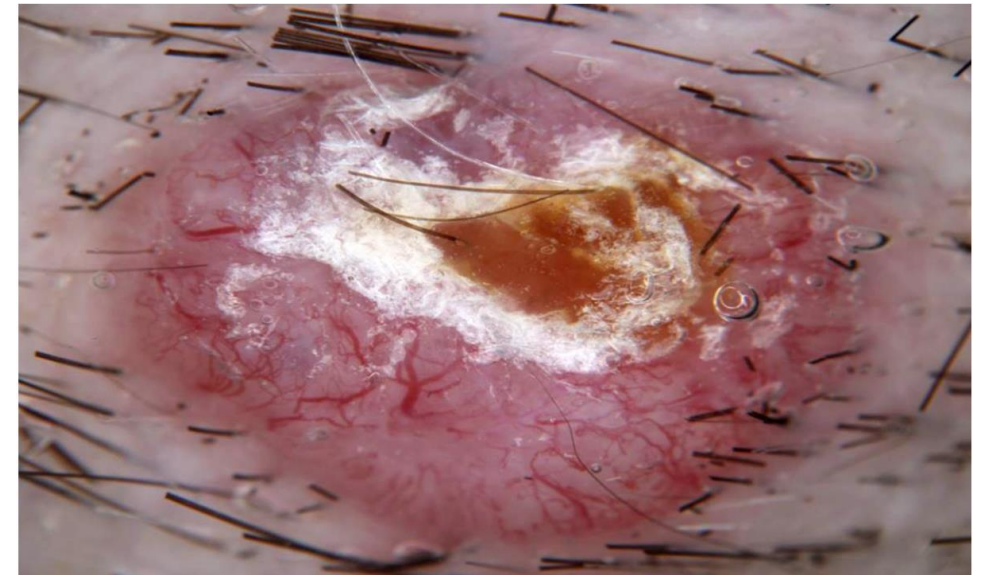
## Scar minimisation techniques

1. Procedure planning
2. Paper tape (eg micropore)
3. Support strapping
4. Silicon gels (Eg dermatix, Cica-Care, Mepiform)
5. Massage

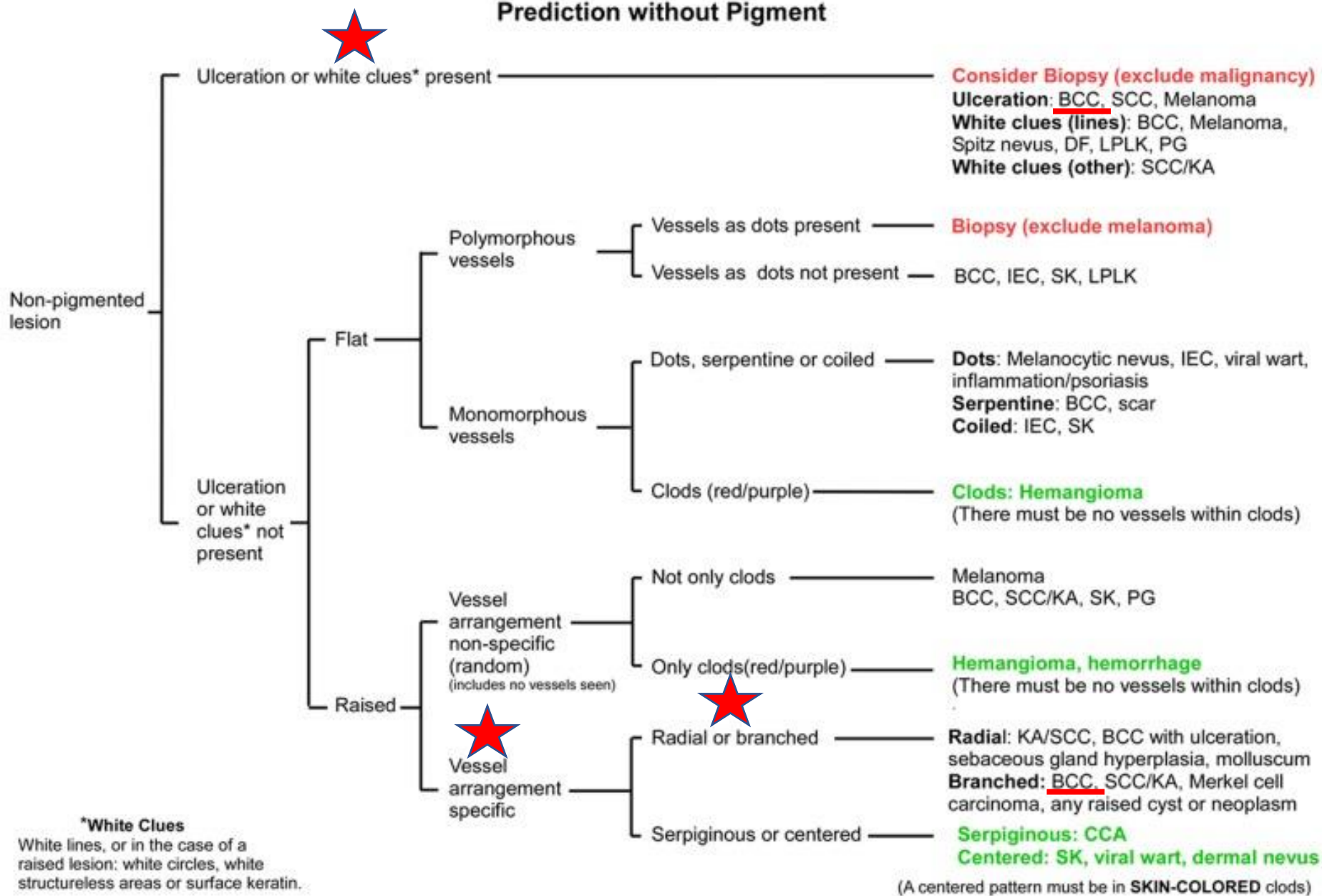


# Case 3

Paul is a 78 year old man who has noticed this lesion on his upper lip for the past 12 months.



## Prediction without Pigment

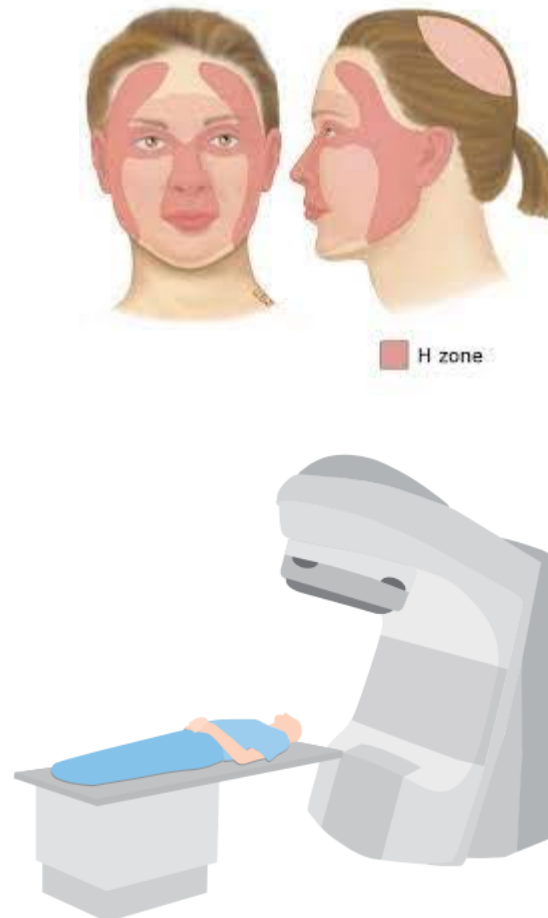


(A centered pattern must be in SKIN-COLORED clods)

# Management

## MOHS

- Location on H-zone of face, genitalia, hands, or feet
- Size  $\geq 10$  mm on cheeks, forehead, scalp, neck, and pretibial sites
- Size  $\geq 20$  mm on trunk or extremities
- Poorly defined borders
- Immunosuppressed
- Recurrent tumours
- Site of prior radiation therapy
- High-risk features on biopsy
  - Poorly differentiated
  - Perineural invasion
  - Vascular or lymphatic involvement
  - aggressive histological subtypes
  - $\geq 2$  mm depth



## Radiation

### Primary treatment

- Surgery not feasible.
- Patient declines surgery
- If surgery will cause unacceptable outcomes

### Adjuvant treatment

- Bone invasion
- Rapidly growing tumour
- Tumour recurrence
- Inadequate margins on excision when further surgery is problematic
- Perineural invasion
- Lymphovascular invasion
- Regional nodal involvement
- aggressive histological subtypes

# Follow up

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All patients with a previous skin cancer should be advised to undergo annual skin examination for life

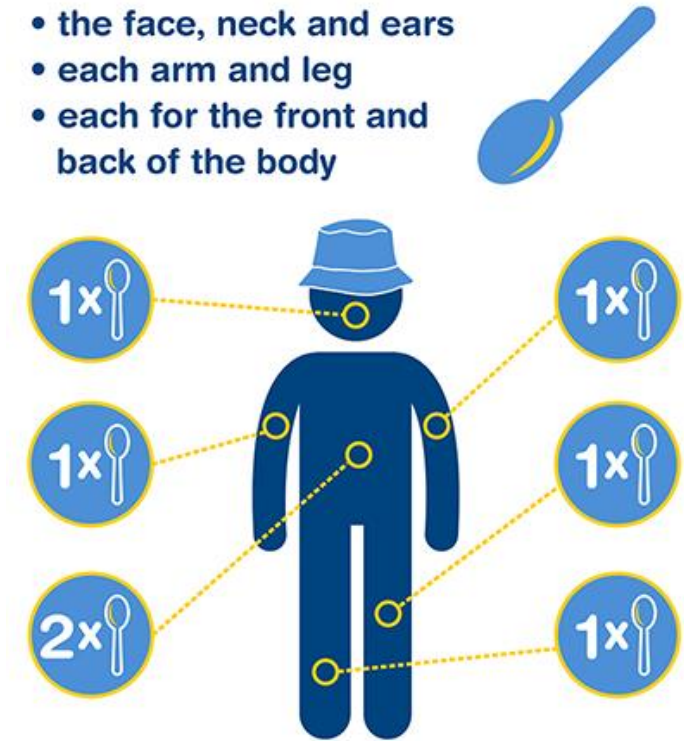
- identify new lesions
- identify recurrent lesions
- identify metastatic disease

30 – 50% of people will have a 2<sup>nd</sup> NMSC within 5 years.

Melanoma risk also increased (especially if NMSC <40 years of age).

Adults should use about **1 teaspoon** for:

- the face, neck and ears
- each arm and leg
- each for the front and back of the body



**When UV is 3 or above be SunSmart**



# References

- Practical skin cancer surgery – Milehaem Hayes
- Dermatoscopy and skin cancer. Cliff Rosendahl and Aksana Marozava
- [https://dermoscopedia.org/Prediction\\_without\\_Pigment](https://dermoscopedia.org/Prediction_without_Pigment)
- Dermnet
- Cancer council Clinical practice guidelines for keratinocyte cancer