**Dermoscopy**

Australasian College of Dermatologists
G.P Training Module

**Synonyms**
- Dermoscopy
- Dermatoscopy
- Epiluminescence microscopy
- Skin surface microscopy
- Incident light microscopy
- Oil immersion microscopy
- In vivo cutaneous surface microscopy

**Definition**

Non-invasive in vivo technique
10X magnification & bright illumination

Transparent medium or Polarised filter

...minimise skin surface reflectance

**Dermoscopy**

Allows visualisation of subsurface structures and colours not readily observed with naked eye examination

“Dermoscopy opens up a world of colour and structure that can't be seen with the naked eye”

Robert Johr M.D.

Dx = Benign junctional nevus

Dx = Benign junctional nevus

Uniform pigment network fades at periphery

Epidermis
Dermo-epidermal junction
Superficial dermis
**Atypical pigment network**
Pseudopods
Peripheral black dots
Blue-grey veil

**Brief history of dermoscopy**
1893 Diaskopie (Unna)
1916 Binocular dermatoscope (Zeiss)
1958 First portable dermoscope
1989 First consensus meeting
1991 First atlas (Kreusch)
2001 Polarised light dermoscopy

*Almost 500 peer-reviewed publications on dermoscopy in the last 5 years*

**Diagnostic algorithms**
- 1987 Pattern Analysis (Pehamberger)
- 1994 ABCD Method (Stolz)
- 1996 Menzies Method
- 1998 7 point checklist (Argenziano)
- 2004 3 point checklist (Soyer)
- 2007 C.A.S.H algorithm (Kopf)

**Value of dermoscopy**
- Diagnostic aid for both: benign and malignant lesions
- Diagnosis of early melanoma
- Differentiation of melanoma from benign pigmented lesions e.g. naevi, seborrhoeic keratoses etc
- Acral skin & nail apparatus also

*Most valuable in diagnosing benign lesions that may otherwise require biopsy e.g. dark junctional naevi, angiomas, seborrhoeic keratoses

**Value of dermoscopy**
- Improves diagnostic accuracy
- 10-27% improvement in Dx of melanoma
- Improves benign to malignant ratio
- Reduces need for biopsy

*Value is significantly influenced by observer experience

Limitations of dermoscopy

- Very early melanoma
- ‘Featureless’ melanoma
- Amelanotic melanoma
- Nodular or primarily dermal lesions
- Extremely dark lesions

Some formal training optimal
Learning curve to overcome
Histopathology still gold standard

Sequential monitoring

Digital dermoscopic monitoring enables detection of melanomas very early in their evolution before they have developed typical clinical characteristics


Novel uses

- Inflammatory dermatoses e.g psoriasis
- Infections e.g scabies
- Nail fold vasculature e.g scleroderma
- Hair shaft disorders e.g monilethrix
- Nail plate discolouration e.g. subungual haemorrhage

Elements

Hand-held monocular instrument
Similar to otoscope
L.E.D illumination
Polarised or non-polarised light
Contact (wet) or non-contact (dry)
Immersion fluid for contact dermoscopy
Camera for documentation
Digital-ELM (D-ELM) systems for archival
### Colours

<table>
<thead>
<tr>
<th>Colour</th>
<th>Layer</th>
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<tbody>
<tr>
<td>Black</td>
<td>Stratum corneum</td>
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<tr>
<td>Dark brown</td>
<td>Superficial epidermis</td>
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<tr>
<td>Light brown</td>
<td>Deep epidermis</td>
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<tr>
<td>Grey-blue</td>
<td>Papillary dermis</td>
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<td>Steel blue</td>
<td>Reticular dermis</td>
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<tr>
<td>Red</td>
<td>Vasculature</td>
</tr>
<tr>
<td>White</td>
<td>Depigmentation or scar</td>
</tr>
<tr>
<td>Yellow</td>
<td>Hyperkeratosis or sebaceous glands</td>
</tr>
</tbody>
</table>

### Polarised light dermoscopy

**Advantages**
- No immersion fluid necessary
- Non-contact (most DermLites)
- Quicker

**Vascular structures**
- Milky-red areas
  - ...seen more easily

**Disadvantages**
- Blue-grey veil
- Regression structures
- Milia-like cysts
  - ...seen less easily
Dx = Invasive SSM

Blue-grey veil

Dx = Invasive SSM with regression

Blue-grey dots or peppering
“Regression structures”

Dx = Seborrhoeic keratosis

Milia-like cysts

Dysplastic naevus


Macro

NPCD

Blue-grey veil

PNCD

PCD

Dysplastic naevus


NPCD = non-polarised contact dermoscopy e.g. Heine Delta-20
PCD = polarised contact dermoscopy e.g. DermLite Fluid II
PNCD = polarised non-contact dermoscopy e.g. DermLite Pro

PNCD

PCD

Regression structures

NPCD

Congenital naevus


Seborrhoeic keratosis


NPCD

Blue-grey veil

PNCD

PCD

NPCD

NPCD

Comedo-like opening

Which instrument?

- Heine Delta-20®
  - Non-Polarised dermoscopy
- Welch-Allyn Episcope™
- DermoGenius
  - Polarised dermoscopy
- DermLite
- Heine Delta 20 + Nikon Coolpix 4500

Cost

- Handheld dermoscopes
  - $AUD 400.00 - 1900.00
- Basic DermLites (polarised) cheapest
Computerised image analysis

- SolarScan (Polartechnics/C.S.I.R.O)
- MoleMax III (University of Vienna)
- Fotofinder

Digital dermoscopy
Macroscopic imaging
Data storage and retrieval
Monitoring
Diagnostic support

Computerised systems

- Still require clinical judgement
- Still require dermoscopy skills
- Quality of imaging not necessarily superior to handheld instruments

Handling tips

1. Consider dry dermoscopy when examining a large number of lesions
2. Move to wet dermoscopy if uncertain
3. Ensure good contact between the glass plate and the skin surface
4. Avoid excess pressure (compresses and obscures vessels)

Which immersion fluid?

- Oil e.g. olive, mineral, Nozoil
  *messy to apply and stain clothes
- Alcohol or aqueous-based e.g. Codan
  *easier to apply, evaporate quickly
- Gel e.g. KY gel, ultrasound gel
  *don't run, preferable near eyes or on nail plates
Handling tips
5. Position the patient for comfortable examination
6. The eye must be close to the lens
7. Focus the lens where applicable
8. Be liberal with immersion fluid

Dermoscopic terminology
Pigment network
Typical = regular calibre lines & holes, fades at periphery
Atypical = non-uniform, ends abruptly, broadened
Inverse = white lines, brown/red holes
Pseudonetwork = diffuse facial pigmentation interrupted by follicular openings (unique to facial skin)

Pigment network
1. typical
2. atypical
3. inverse
4. pseudonetwork

Terminology cont’d
Dots <0.1mm, brown, black, blue or grey
Globules >0.1 mm, brown, black or red
Blotches brown or black, structureless
Pepper = fine blue-grey granules of melanin
Pseudopods peripheral finger-like projections with bulbous endings
Radial streaming peripherally radiating lines
Branched streaks alternate term for radial streaming and or pseudopods
Blue-grey veil confluent bluish pigmentation with overlying white ground-glass haze

Blue-grey veil
Blue-grey veil
Blue-white veil synonymous terms
‘Most significant dermoscopic finding of invasive melanoma’
51% sensitivity
97% specificity

Compact orthokeratosis

Heavily pigmented melanocytes

Terminology cont’d

Regression structures
Structureless areas
Cobblestone globules
Starburst pattern
Parallel patterns

scar-like depigmentation with peppering
regions devoid of structures
crowded polygonal globules
symmetrical and radially streaks
parallel pigmentation within furrows or ridges on acral skin

Terminology cont’d

Terminology cont’d

Cobblestone globules
Regression structures

Starburst pattern

Patterns on acral skin

Mulvehy J, Puig S et al Arch Dermatol 2004
**Vascular terminology**

- **Lacunes**: large red-blue-black globular structures
- **Hairpin**: elongated and looped
- **Dotted**: small pin sized vessels
- **Comma**: comma or tadpole-shaped
- **Glomerular**: highly convoluted resembling the glomerular apparatus of the kidney

*Argenziano et al. Arch Dermatol 2004*

**Vessels (cont’d)**

- **Coronal**: peripheral and wreath-like
- **Corkscrew**: irregular and thickly coiled
- **Arborizing**: branching, variable luminal diameter
- **Polymorphous**: multiple morphologies including comma, dotted, corkscrew, glomerular, linear irregular etc

**2 step algorithm**

- **Pigmented lesion**
  - **Melanocytic**
  - **Non-melanocytic**
  - **Benign**
  - **Malignant**

*ABCD rule*  
*7 point checklist*  
*Menzies method*  
*3 point checklist*
Step 1
Classify as melanocytic or otherwise

- Pigment network
- Pseudonetwork (facial skin)
- Globules
- Streaks
- Homogenous blue pigmentation
- Parallel pattern (acral skin)

Melanocytic Criteria
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

Uniform pigment network
Fades at periphery

Dx = Benign junctional naevus

Atypical pigment network
Symmetrically distributed black dots

Dx = Junctional naevus

Melanocytic Criteria
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

Atypical pigment network
Black dots & blotches

Dx = Dysplastic naevus

Melanocytic Criteria
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

Inverse network

Dx = 0.7 mm Level II SSM

Inverse network
Atypical pigment network
- Multiple colours
- Peripheral brown dots
- Pseudopods
- Blue-grey veil

Dx = 0.8 mm Level III naevoid melanoma

Melanocytic Criteria
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

Eccentric inverse network
- Typical pigment network
- Multicomponent pattern
- Regression structures
- Polymorphic vessels
**Dx = Hypomelanotic Invasive SSM**

- Milky pink areas
- Atypical vessels
- Faint tan pigmentation

**Melanocytic Criteria**
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

**Dx = Hypomelanotic LII 1.2mm SSM**

- Marginal typical pigment network
- Multicomponent
- Multiple colours
- Atypical vessels
- Horn cysts

**Melanocytic Criteria**
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

**Dx = Solar lentigo (facial)**

- Pseudonetwork
- Moth eaten border

**Melanocytic Criteria**
- Pigment network
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

**Dx = Dermatofibroma**

- Lacy peripheral pigment network
- Central scar-like area

"Despite having a pigment network, dermatofibromas are non-melanocytic & are one exception to this rule"

**Dx = Benign compound naevus**

- Diffuse brown globules
- Symmetry of structures

**Melanocytic Criteria**
- Pigment network
- Pseudonetwork
- Streaks
- Homogenous blue
- Parallel pattern

**Dx = Evolving benign compound naevus**

- Peripheral brown globules
- Central reticular network

**Melanocytic Criteria**
- Pigment network
- Pseudonetwork
- Streaks
- Homogenous blue
- Parallel pattern
**Branched streaks/radial streaming**
- Blue-grey veil
- Multiple colours
- Black blotches

**Melanocytic Criteria**
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

**Dx = Invasive SSM**

**Radially arranged streaks & pseudopods**
- Starburst pattern

**Melanocytic Criteria**
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

**Dx = Spitz naevus**

**Parallel furrow pattern**

**Melanocytic Criteria**
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue

**Dx = Benign acral naevus**

**Diffuse homogenous blue pigmentation**

**Melanocytic Criteria**
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue
- Parallel pattern

**Dx = Blue naevus**

**Parallel lattice pattern**

**Melanocytic Criteria**
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue

**Dx = Benign acral naevus**
Patterns on acral skin

A. Parallel furrow
B. Parallel furrow and globules
C. Parallel furrow (thick)
D. Parallel globules
E. Lattice
F. Fibrillar
G. Fibrillar or filamentous
H. Homogenous
I. Globular
J. Reticular
K. Parallel Ridge

Ridge pattern = consider melanoma
Look for eccrine gland openings

Non-melanocytic lesions
defying the 2 step rule

Network-like structures
- Seborrheic keratosis, solar lentigo, dermatofibroma, accessory nipple

Globules
- Seborrheic keratosis, pigmented BCC
dermatofibroma, talon noir (subcorneal haemorrhage)

Streaks
- Seborrheic keratosis, pigmented BCC

Homogenous blue
- Kaposi sarcoma, radiation tattoo, pigmented BCC

Mulvehy J, Puig S et al Arch Dermatol 2004

Miyazaki JAAD 2005;53:230-6

If a lesion lacks positive melanocytic & non-melanocytic criteria, then by default it should be deemed to be melanocytic.

In particular featureless melanoma should be considered.

Non-melanocytic

Melanocytic or not?

2 step algorithm

Pigmented lesion

Melanocytic

Non-melanocytic

Benign    Malignant

ABCD rule
7 point checklist
Menzies method
Pattern analysis
3 point checklist

Seborrhoeic keratosis

- Comedo-like openings
- Milia-like cysts
- Hairpin vessels
- Fingerprinting
- Ridges and fissures (crypts)
- Network-like structures
- Moth eaten & sharply demarcated border
- "Fat fingers"

Dx = Seborrhoeic keratosis

"The wobble sign"

Dermal naevus wobbles whilst seb K won't

**Solar lentigo**

- Pseudonetwork
- Moth eaten border
- Finger-printing
- Network-like structures

**Pigmented solar keratosis**

- Overlapping features with lentigo maligna
- Lacks specific dermoscopic features
- Pseudonetwork – broken up
- Annular-granular structures
- Rhomboidal structures

Zalaudek I et al. JAAD 2005;53:1071-74

**Benign lichenoid keratosis**

- Peppering
- Finger-printing

**Dx = solar lentigo**

**Dx = pigmented solar keratosis**

**Dx = pigmented solar keratosis**
Fingerprinting Peppering

Dx = benign lichenoid keratosis

Pigmented BCC
blue-grey ovoid nests
leaf-like structures
spoke-wheel areas
blue-grey globules

Dx = Pigmented BCC
Spoke wheel structures
Network-like structures

Dx = Pigmented BCC

Dx = Pigmented BCC
arborising telangiectasia
ulceration

Pigmented BCC
arborising telangiectasia
Arborising telangiectasia
Blue grey ovoid nest

Dx = Pigmented BCC

Haemangioma
red-blue lacunes

Dx = Haemangioma

Arborising telangiectasia
Ulceration

Dx = Basal cell carcinoma

Dermatofibroma
variable central
dotted vessels
central scar
delicate peripheral
lacy network

Dx = Haemangioma

Red lacunes
Once the lesion has been defined as melanocytic, classify as benign or malignant.

Remember, if you can’t confidently identify the lesion as benign – some form of active intervention should be taken.

### 2 step algorithm

**Pigmented lesion**

- **Melanocytic**
  - Benign
  - Malignant

- **Non-melanocytic**

### Dermoscopy algorithms

- **1990 First Consensus meeting**
- 22 unique patterns and structures
- 8 variations on the pigment network
- Cumbersome to learn
- Algorithms designed to help organise

### Pattern Analysis

**Melanocytic lesions are defined by colours and structures**

**Symmetrical distribution – benign**

**Benign global patterns**

- Reticular, globular, cobblestone, starburst, homogenous, starburst or parallel

**Melanoma local features**

- Dots, globules, blotches, radial streaming/pseudopods, regression structures, blue-grey veil, (polymorphic vessels)

**With experience, most will use their instinct based on integrating all the features or ‘gestalt’**

**Step 2**

Once the lesion has been defined as melanocytic, classify as benign or malignant.

Remember, if you can’t confidently identify the lesion as benign – some form of active intervention should be taken.
Benign lesions

- Few colours
- Architectural order
- Symmetry of pattern
- Homogeneity

Benign naevi

- Common melanocytic naevi
  junctional, compound & dermal
- Blue naevus & combined naevus
- Spitz naevus
- Congenital naevus
- Dysplastic naevus

Benign naevus patterns

- Uniform pigment network
- Uniform pigment network
- Minor asymmetry of structures
- Globular pattern
Symmetry of structures
Peripheral reticular network
Patchy central brown globules
Dx = Benign compound naevus

Faint tan homogenous pigment
Peripheral comma-shaped vessels
Dx = Benign intradermal naevus

Homogenous blue pigment
Dx = Blue naevus

Regular pigment network
Focal homogenous blue blotch
Dx = Combined naevus

Starburst pattern
Symmetric peripheral globules
Blue-black colour
Dx = Spitz naevus

Symmetry of structures
Cobblestone-globular pattern
Dx = Benign congenital naevus
Peripheral rim of globules

Sign of evolving naevi
80% will show enlargement if followed
Not limited to Spitz naevi

Kittler H et al. Frequency and characteristics of enlarging common melanocytic naevi. JAAD 2000;136:316-20

Dysplastic naevi

- May share clinical features (ABCD criteria) with melanoma
- Risk marker for melanoma
- Frequently large i.e. diameter 10mm+
- Very broad morphologic spectrum
- Cytological and architectural atypia ranges from mild to severe
- Can be difficult to distinguish from early melanoma

Miyazaki JAAD 2005;53:230-6
Dysplastic naevi

At the more atypical end of the spectrum
- Regression structures
- Broadened network
- Abrupt network cut-off
- Asymmetric pigment pattern

Blue-grey veil, pseudopods, radial streaming usually absent

Dx = dysplastic naevus

Dysplastic naevi

Patchy reticular network

Dx = dysplastic naevus

Melanoma

Multi-coloured
Architectural disorder
Asymmetrical multi-component patterns with 3+ structures
Heterogeneity

Melanoma

Regrowth structures
Central brown dots

Dx = dysplastic naevus
**ABCD Rule**

- **Asymmetry**\(^2\) axes: \((0-2) \times 1.3\)
- **Border sharpness**: \((0-8) \times 0.1\)
- **Colours**: \(L^B, DB, B, R, W, BG\): \((1-6) \times 0.5\)
- **Dermoscopic structures**: \(\text{dots, globules, structureless, network, branched streaks}\): \((1-5) \times 0.5\)

- **TDS <4.75** benign
- **TDS >5.45** malignant

*Ignore* regression + vascular structures

*Most tedious*

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**Menzies method**

**Negative features** (presence ≠ melanoma)
- Symmetry of structures
- Single color

**Positive features** (any 1 feature = suspicious)
- B-W veil
- Multiple colors (5-6)
- Streaks
- Pseudopods
- Scar-like depigmentation
- Broadened network
- Dots - brown, black or blue-grey

---

**7 point checklist**

**Major criteria**
- Atypical pigment network
- Blue-white veil
- Atypical vascular pattern

**Minor criteria**
- Irregular streaks
- Blotches
- Dots/globules
- Regression

**Score of 3 or more = melanoma**

---

**3 point checklist**

**Asymmetry of structures**
- Atypical network
- Blue-white structures

**2 of 3 features…suspect malignancy**

---

**C.A.S.H. algorithm**

**Colour**: \(L^B, DB, \text{black, red, white, blue}\)
- 1-6

**Architectural disorder**: (none, mild, mod, marked)
- 0-3

**Symmetry**: (symmetry in 2 axes, 1 axis, biaxial asymmetry)
- 0-2

**Homo/heterogeneity**: (dots/globules, streaks, bwv, regression structures, single colour>10%, polymorphic vessels)
- 0-7

**Total C.A.S.H. score (TCS) > 8** (melanoma)

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Dx = Invasive Superficial spreading melanoma

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**Dx** = Invasive Superficial spreading melanoma
Dx = In situ superficial spreading melanoma

- Multi-component pattern
- Extensive regression
- Radial streaming
- Blue-grey veil

Dx = Invasive superficial spreading melanoma

- Blue-white veil
- Multi-component pattern
- Regression structures
- Radial streaming/pseudopods
- Scar-like depigmentation

Dx = Invasive superficial spreading melanoma

- Blue-white veil
- Multi-component pattern
- Regression structures
- Peripheral dots/globules
- Atypical pigment network

Dx = 0.4 mm LII SSM

- Blue-white veil
- Regression
- Branched streaks
- Atypical vessels

Dx = 0.35mm SSM

- Focally broadened network
- Radial streaming
- Architectural disorder

Dx = 2.3 mm LIII amelanotic nodular melanoma

- Polymorphic vessels (glomerular, hairpin & comma)
- Central pseudonetwork
Is it benign?

Remember...

Menzies two criteria for benignity
- Symmetry of pattern
- Single colour

3 point checklist allows one of...
- Asymmetry
- Atypical pigment network
- Blue grey structures

Which lesions to examine?

Assess as many lesions as possible
Assess any changed lesion
Assess any lesion causing concern
Assess any distinct lesions (ugly duckling)
Assess all clinically suspicious lesions

Which lesions to excise?

High risk patient with changed lesion
Architectural, shape or colour change
Pigmented lesion with extensive regression
Dermoscopically equivocal lesions
Amelanotic/hypomelanotic lesion with atypical vessels or milky red globules
Spitzoid lesions

Special locations

- Face
  - Lentigo maligna
  - Modified by pseudonetwork
- Glabrous skin
  - Acral lentiginous melanoma
  - Parallel ridge pattern
- Nails
  - Subungal melanoma
  - Disruption of parallelism

Which lesions to excise?

Atypical blue naevi
Atypical dermatofibromas
Lesions lacking clinico-dermoscopic correlation
Presence of inverse network

Face

All pigmented lesions on the face will show a pseudonetwork which is due to follicular openings
A reticular net is not seen because the rete ridges are effaced
Lentigo maligna (in situ melanoma) has a set of unique dermatoscopic features
Lentigo maligna

- Asymmetric pigmented follicular openings
- Rhomboidal structures
- Pseudonetwork
- Annular-granular pattern

Dx = Lentigo maligna

Acral lentiginous melanoma

- Parallel ridge pattern = probable melanoma
- Ridges are broader than furrows

Dx = Lentigo maligna

Pseudonetwork
Annular granular pattern
Rhomboidal structures

Pseudonetwork
Annular granular pattern
Fingerprinting
Black blotches

Dx = Lentigo maligna

APFO
**Parallel ridge pattern**

**Melanocytic Criteria**
- Pigment network
- Pseudonetwork
- Globules
- Streaks
- Homogenous blue

**Nail apparatus melanoma**

‘Irregular dermoscopy pattern’
- Broad pigmented band made up of lines of varying pigment, width and spacing
- Lines may end abruptly
- Disrupted parallelism
- Small blood spots not uncommon
- Nail dystrophy in advanced cases


**Nail apparatus melanoma**

Micro-Hutchinson’s sign

‘Disruption of parallelism’


**b. Non-pigmented lesions**

- Dermal naevus
- Non-pigmented BCC
- Bowen’s disease
- Non-pigmented solar keratosis
- Sebaceous hyperplasia
- Hypomelanotic/amelanotic melanoma
Dermal naevus
- Terminal hairs
- Milial cysts
- Comma vessels

Faint tan homogenous pigment
Peripheral comma-shaped vessels

Dx = Benign intradermal naevus

Non-pigmented BCC
- Ulceration
- Shiny-pink background
- Arborising telangiectasia

Light pink background
Arborising telangiectasia

Dx = Nodular basal cell carcinoma

Bowen’s disease (SCC in situ)
- Hyperkeratosis
- Glomerular & dotted vessels

Dx = Nodular basal cell carcinoma
Non-pigmented solar keratosis

- Erythema (pink-red pseudonetwork)
- White-yellow hyperkeratosis
- Yellow keratotic follicular plugs +/- halo
- Wavy perifollicular vessels

‘Strawberry appearance’ in 95% cases

Sebaceous hyperplasia

- Yellowish follicular keratotic plugs
- Pink-red pseudonetwork

‘Strawberry appearance’


Hypomelanotic & amelanotic melanoma

Great mimic with several variants
- Nodular melanoma
- Pseudo-inflammatory
- Regressed melanoma

Dx = Bowen’s disease (SCC in situ)

Clumped glomerular vessels

Dx = Sebaceous hyperplasia

Aggregated central yellow globules
Marginal coronal vessels

Dx = Sebaceous hyperplasia

Aggregated yellow globules
Coronal vessels

**Dx = Amelanotic nodular melanoma**

**Dx = Dermatitis-like hypomelanotic melanoma**

**Hypomelanotic halo melanoma**

**Dermoscopy**

- Variable pigment network
- Inverse network
- Milky-red or pink veil
- Dispersed atypical vasculature
  - e.g. linear irregular, dotted, hairpin & corkscrew
- Milky-red globules
- Regression structures

**Hypomelanotic melanoma**

- Marginal pigment network
- Milky pink veil
- Inverse network
- Atypical vessels
- Regression structures

**Dx = 0.4 mm LII hypomelanotic melanoma**
Dx = 0.62 mm LID melanoma

Extensive regression
Peripheral brown globules
Scattered atypical vessels

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Further Reading

Major texts/atlas
Handbook of Dermoscopy [Mulvehy]
Dermoscopy: The Essentials [Johr]
An atlas of surface microscopy of pigmented skin lesions:
Dermoscopy [Menzies]
An atlas of dermoscopy [Marghoob]

Websites
http://www.dermoscopy.org
http://www.emedicine.com/derm/topic557.htm