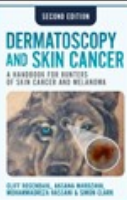


Chaos Clues and Exceptions

An algorithm for pigmented skin lesions

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*These posters are formatted to be used as a companion to the book 'Dermatoscopy and Skin Cancer', 2nd edition, SCION Publishing Ltd (2025)



Step 1:

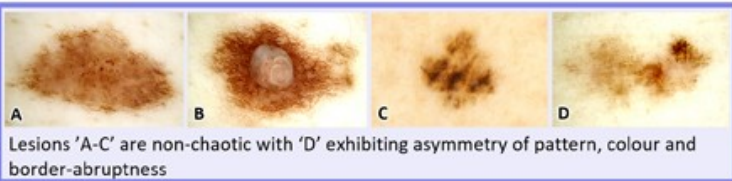
Is it a lesion of concern?
Can I make a confident specific benign diagnosis by dermatoscopic pattern-recognition? If the answer is "no", then apply the algorithm

There are 5 benign lesion-categories which cover most skin lesions, pigmented or non-pigmented, encountered in routine practice:



Step 2:

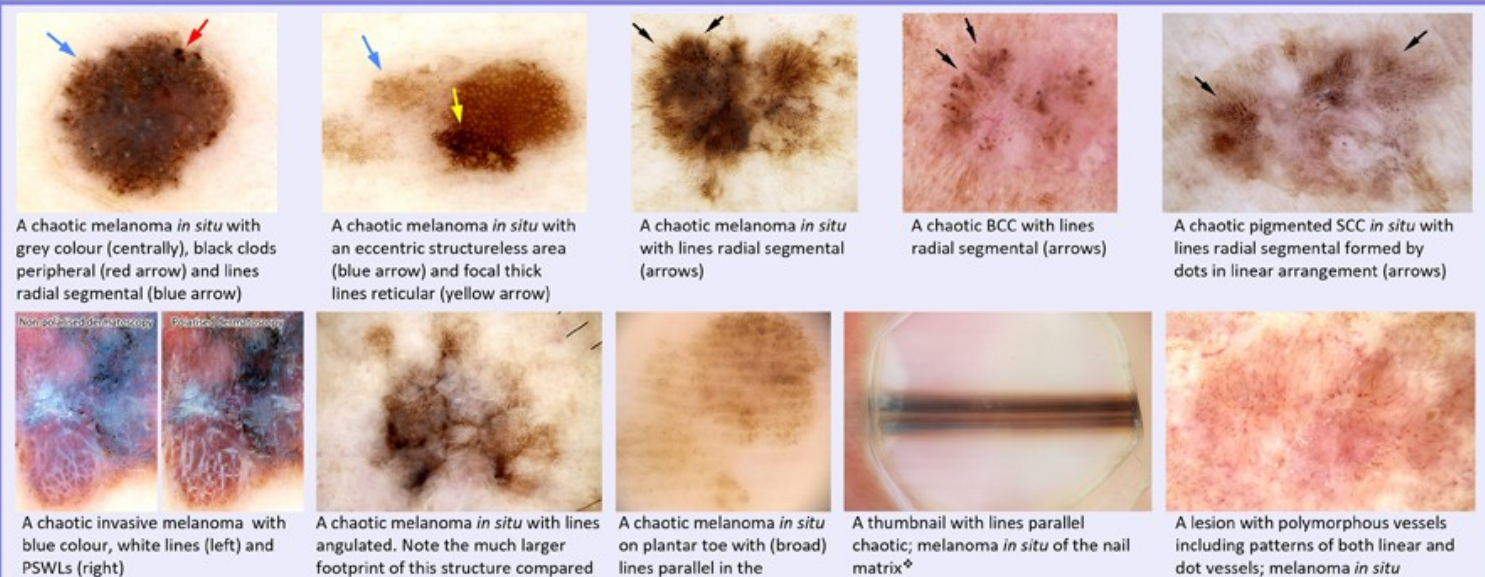
Is there dermatoscopic chaos?
Defined as asymmetry of any, or all of: **pattern, colour** or **border-abruptness** (shape does not matter)



Lesions 'A-C' are non-chaotic with 'D' exhibiting asymmetry of pattern, colour and border-abruptness

Step 3:

Is there one or more of 9 specified clues to malignancy?
Suggestion: specifically look for *grey colour first* – it will be present in most pigmented malignancies. Also deliberately look for an *eccentric structureless area*. If present, with experience, the other clues should be evident



A chaotic melanoma *in situ* with grey colour (centrally), black clods peripheral (red arrow) and lines radial segmental (blue arrow)

A chaotic melanoma *in situ* with an eccentric structureless area (blue arrow) and focal thick lines reticular (yellow arrow)

A chaotic melanoma *in situ* with lines radial segmental (arrows)

A chaotic BCC with lines radial segmental (arrows)

A chaotic pigmented SCC *in situ* with lines radial segmental formed by dots in linear arrangement (arrows)

A chaotic invasive melanoma with blue colour, white lines (left) and PSWLs (right)

A chaotic melanoma *in situ* with lines angulated. Note the much larger footprint of this structure compared to the co-existing reticular lines

A chaotic melanoma *in situ* on plantar toe with (broad) lines parallel in the dermatoglyphic ridges

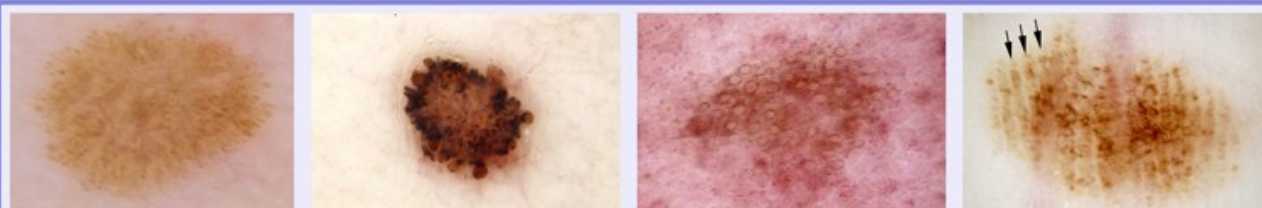
A thumbnail with lines parallel chaotic; melanoma *in situ* of the nail matrix

A lesion with polymorphous vessels including patterns of both linear and dot vessels; melanoma *in situ*

NOTE: any longitudinal melanonychia, chaotic or not, arising in a single nail after puberty, with progressive widening, requires consideration of nail matrix biopsy.

Step 4:

Is there one or more of 4 specified exceptions?
No lesion of concern which has escaped excision biopsy based on chaos and clues should be spared without first considering exceptions!
Note- the first two exceptions are relevant to all skin lesions but the second two are site-specific



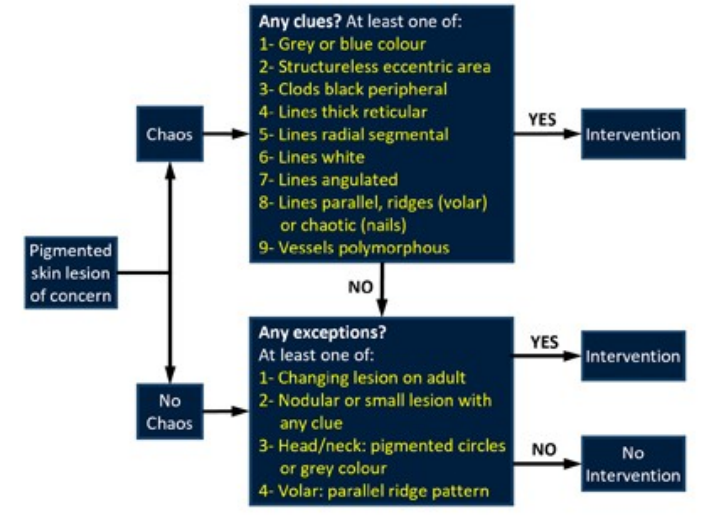
A non-chaotic lesion on a 58-year-old with peripheral clods indicating the dermatoscopic exception of a changing lesion (adult); melanoma invasive

A 3mm non-chaotic lesion on a 61-year-old with the same exception as the previous case plus the exception of a small and a nodular lesion with any clue (grey colour); nodular melanoma

An arguably non-chaotic lesion on the ear of a 52-year-old with the exception of pigmented circles on the head/neck; melanoma *in situ*

A non-chaotic lesion on the plantar foot of a 50-year-old with the exception of parallel ridge pattern on volar skin (arrows); melanoma *in situ*

Abbreviations
BCC: basal cell carcinoma
SCC: squamous cell carcinoma
PSWL: polarising-specific white lines



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