

Chaos Clues and Exceptions

An algorithm for pigmented skin lesions

Cliff Rosendahl MBBS, PhD; Aksana Marozava, MD; Mohammadreza Hassani, MD; Simon Clark, MBChB, FRCPA

*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.

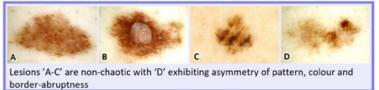
Abbreviations BCC: basal cell carcinoma

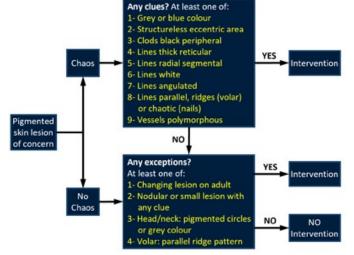
SCC: squamous cell carcinoma
PSWL: polarising-specific white lines



Is there dermatoscopic chaos? Step 2: Defined as asymmetry of any, or

Defined as asymmetry of any, or all of: pattern, colour or border-abruptness (Shape does not matter)

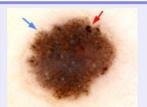




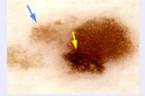
Step 3:

Is there one or more of 9 specified clues to malignancy?

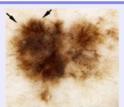
Suggestion: specifically look for *grey colour first* – it will be present in most pigmented malignancies
Also deliberately look for an *eccentric structureless area*. If present, with experience, the other clues should *be evident*.



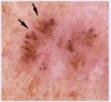
A chaotic melanoma in situ with grey colour (centrally), black clods peripheral (red arrow) and lines radial segmental (blue arrow)



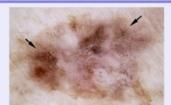
A chaotic melanoma in situ with an eccentric structureless area (blue arrow) and focal thick lines reticular (yellow arrow)



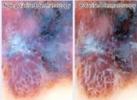
A chaotic melanoma in situ with lines radial segmental (arrows)



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?

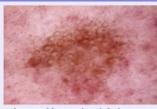
No lesion of concern which has escaped excision biopsy based on chaos and clues should be spared without first considering exceptions! Note- the first two exceptions are relevant to all skin lesions but the second two are site-specific.



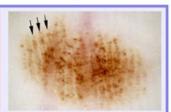
A non-chaotic lesion on a 58-yearold with peripheral clods indicating the dermatoscopic exception of a changing lesion (adult); melanoma invasive



A 3mm non-chaotic lesion on a 61year-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

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