

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)

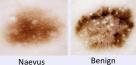
Step 1:

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

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



keratinocytic

Dermatofibroma



Haemangioma

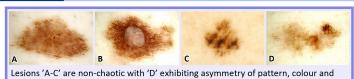


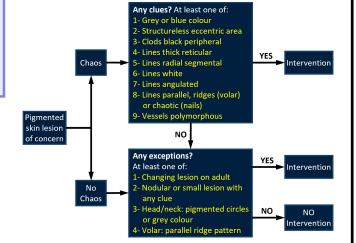
hyperplasia

Step 2:

Is there dermatoscopic chaos?

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





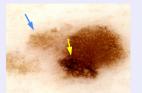
Step 3:

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

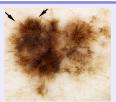
Suggestion: specifically look for grey colour first – it will be present in most pigmented malignancies Also deliberately look for an eccentric structureless area. If present, with experience, the other clues should be evident.



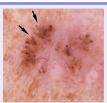
A chaotic melanoma in situ with grey colour (centrally), black clods peripheral (red arrow) and lines radial segmental (blue arrow)



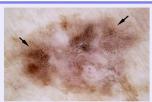
an eccentric structureless area (blue arrow) and focal thick



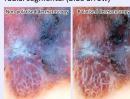
with lines radial segmental



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?

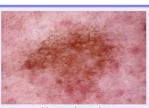
No lesion of concern which has escaped excision biopsy based on chaos and clues should be spared without first considering exceptions! Note- the first two exceptions are relevant to all skin lesions but the second two are site-specific.



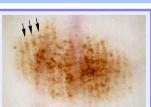
A non-chaotic lesion on a 58-yearold with peripheral clods indicating the dermatoscopic exception of a changing lesion (adult); melanoma invasive



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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