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Approach to longitudinal melanonychia

By Vixey Silva, DO, Kendall Buchanan, MD, FAAD, and Ashfaq Marghoob, MD, FAAD



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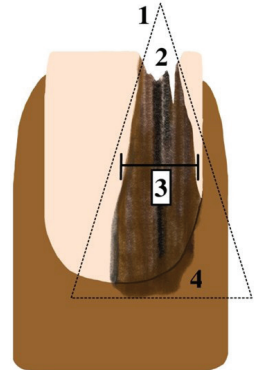
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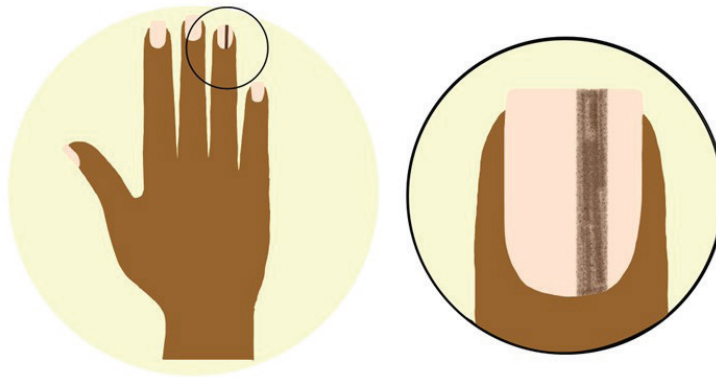
Prior to dermoscopic evaluation of melanonychia, the following clinical features raise suspicion for melanoma:

1. **Triangle sign:** Width of the band at the proximal nail fold may be greater than the width at the distal
2. Melanonychia with associated nail dystrophy
3. Band width greater than 6 mm in diameter, or a band that covers more than half of the nail plate
4. **Hutchinson's sign:** Pigment extends to the eponychium and/or hyponychium



Additional findings: Single nail involvement, older adult, rapid growth with ulceration, associated pain, or bleeding.

1. Determine if the pigment is melanocytic with your dermatoscope



- Melanin inclusions will present as tiny granules that can be visualized under dermoscopy

2. Determine the color of the melanocytic lesion

Schematic image	Dermoscopic image


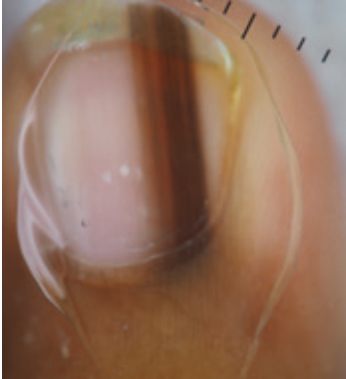
Description: The presence of a **gray**, homogenous, longitudinal band can be associated with various conditions. Evaluate the number of affected nails to help narrow differential diagnosis.


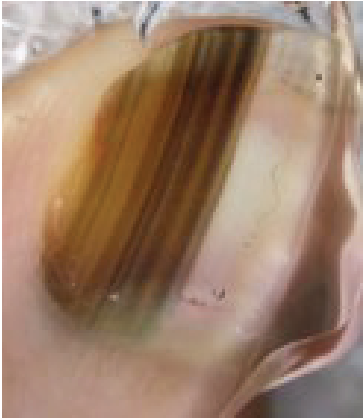
- **Single** nail: solar lentigo
- **Multiple** nails: ethnic pigmentation, drug induced, inflammatory conditions, frictional melanosis, Laugier-Hunziker, and other lentiginosis

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3. If the color is brown or black, use the table below to help you identify features of a benign or malignant lesion

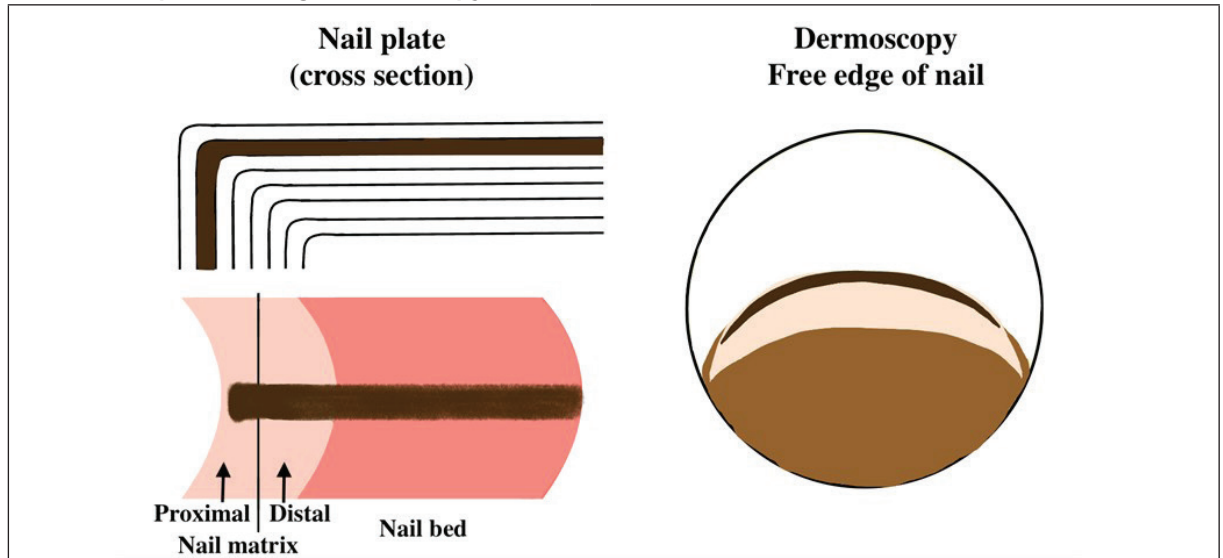
Benign nevus	
Schematic image	Dermoscopic image
	
<p>Description: Regular, parallel, brown lines with uniform spacing and thickness. Pigment is limited to one or few colors, with equal band width proximally and distally.</p> <p>Pearls: (1) Dermoscopy shows regular, parallel lines without disruption. (2) More common in children and young adults. (3) Single nail involvement more common although multiple nail involvement can occur.</p>	

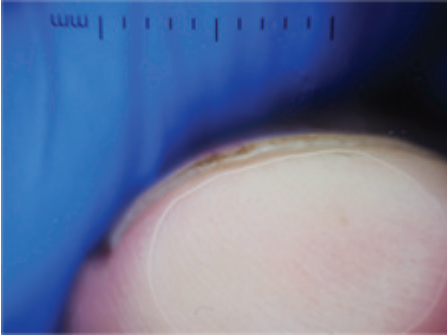
Melanoma	
Schematic image	Dermoscopic image
	
<p>Description: Longitudinal band with multiple colors or shades of brown and black. Individual lines are irregular in spacing and thickness.</p> <p>Pearls: (1) Look for Hutchinson's sign: extension of pigmentation onto periungual skin, often at the proximal nail fold. (2) Common locations include the index finger, thumb, and great toe. (3) More likely to have adult onset.</p>	

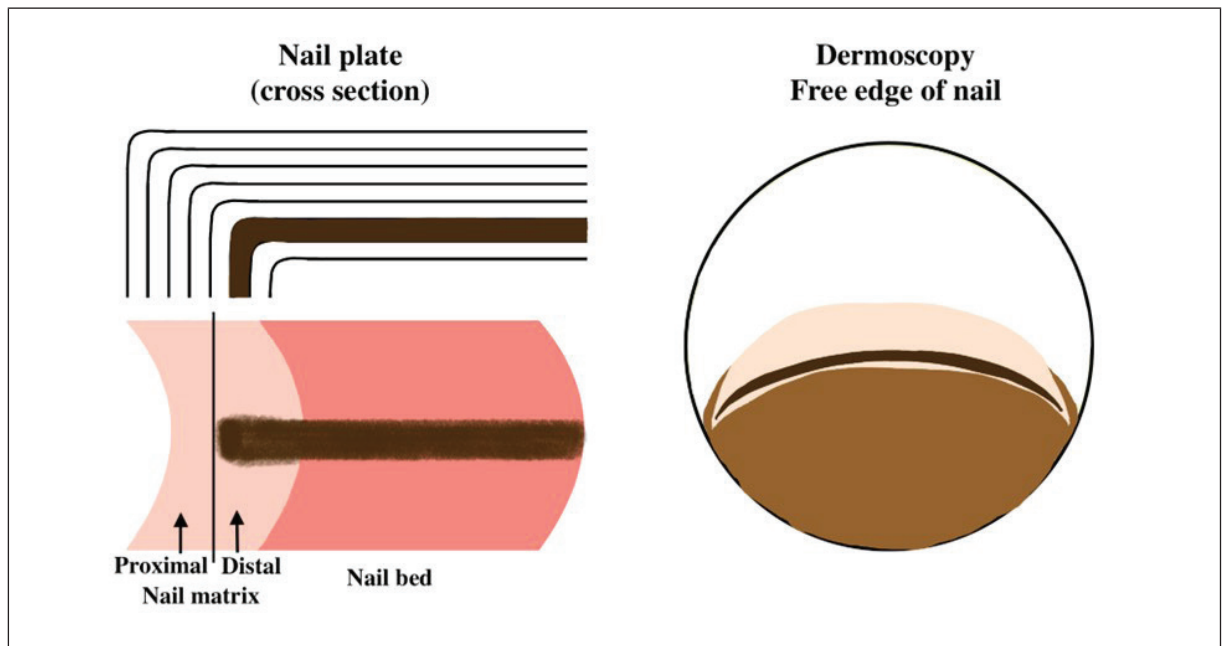
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Additional tips: Free edge dermoscopy




Description	Dermoscopic image
<p>Melanonychia in the proximal matrix will have pigment appear in the upper part of the free nail edge</p>	



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Description	Dermoscopic image
<p>Melanonychia in the distal matrix will have pigment appear in the lower part of the free nail edge.</p>	
<p>Pearls: Melanoma typically arises from the nail matrix and should be biopsied when suspected. For nail matrix biopsies, excise the lesion horizontally, not longitudinally to allow for better sampling of the lesion's full width and to minimize nail dystrophy.</p>	

Additional tips: Common melanonychia mimickers

<p>Onychomycosis</p>	<p>Some fungi can synthesize melanin, producing a yellow-to-brown, longitudinal discoloration of the nail that can mimic melanonychia. There will be no visible melanin inclusion bodies in onychomycosis.</p> <p>Pearls: (1) Reverse triangular pattern: Fungi typically migrate distally to proximally, resulting in wider distal discoloration compared to the proximal segment (opposite of melanoma). (2) Ruin appearance: Subungual hyperkeratosis with distal irregular termination of the nail plate has a high specificity for onychomycosis.</p>
<p>Subungual hematoma</p>	<p>Trauma to the nail can result in hemorrhage which collects under the nail plate, appearing red to maroon or even black, potentially mimicking melanonychia.</p> <p>Pearls: (1) Look for proximal globules and distal filamentous streaking. (2) As the nail grows outward from the nail matrix, the hematoma will appear to move distally toward the free edge of the nail. (3) A clear proximal margin will appear at the base of the nail within a few weeks or months as a new, unaffected nail grows in.</p>

Acknowledgement

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References

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