Beau’s lines
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Beau’s lines and Onychomadesis

Beau’s lines result from a temporary arrest of proximal nail matrix proliferation and appear as transverse grooves, often deeper in the central nail plate, that move distally with nail growth. Onychomadesis also results from a temporary arrest in nail matrix activity, and the proximal nail plate is detached from the proximal nail fold by a whole-thickness sulcus. Causes of onychomadesis are the same as those for Beau’s lines but are more severe. Multiple Beau’s lines or onychomadesis in the same nail indicates repetitive insults. The time of the insult leading to Beau’s lines can be dated by measuring the distance of the groove from the proximal nail fold. Local trauma, such as from manicures or onychotillomania, or related to local cutaneous disease, particularly dermatitis, periungual erythema, and paronychia, are causes of Beau’s lines. Beau’s lines at the same levels in several nails suggest a systemic cause. Most common among these are drugs (especially chemotherapy), high fever, viral illness, surgery, and peripheral ischemia. Onychomadesis in children often relates to recent coxsackievirus infection.

Relation Between Resultant Clinical Manifestations and Location of Pathologic Change

<table>
<thead>
<tr>
<th>Matrix Location</th>
<th>Clinical Manifestations</th>
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</thead>
<tbody>
<tr>
<td>Proximal matrix</td>
<td>Beau’s lines, Pitting, Longitudinal striations, Longitudinal fissures, Longitudinal grooves</td>
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<tr>
<td>Distal matrix</td>
<td>True leukonychia, Koilonychia</td>
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<tr>
<td>Proximal and distal matrix</td>
<td>Onychomadesis, Melanonychia</td>
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<tr>
<td>Nail bed</td>
<td>Longitudinal erythronychia, Onycholysis, Splinter hemorrhages</td>
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<tr>
<td>Nail bed and hyponychium</td>
<td>Apparent leukonychia</td>
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<tr>
<td>Proximal nail fold</td>
<td>Paronychia, Periungual erythema and hemorrhage</td>
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</tbody>
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Causes of Beau’s Lines and Onychomadesis:
- Trauma
- Manicure
- Onychotillomania
- Dermatologic diseases
- Eczema
- Erythroderma
- Paronychia
- Systemic conditions
- Use of certain drugs
- High fever
- Viral illness (hand-foot-and-mouth disease; measles)
- Surgery
- Peripheral ischemia