Onychomycosis: Tips for Improved Diagnosis and Treatment

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Traditional Methods of Diagnosis

- **Microscopy**
  - Easy, low-cost
  - Rapid results
  - Low sensitivity
  - Dependent on expertise

- **Fungal Culture**
  - + viability and identity of organism
  - Weeks for results
  - High false negative rate

- **Histology**
  - Rapid, high sensitivity
  - Ability to diagnose other nail disorders
  - - viability and identity of organism


Molecular Biology

- Polymerase chain reaction (PCR).
  - Easy, rapid results.
  - Widely available.
  - High sensitivity and specificity.
  - Ability to detect identity of the organism.
  - Mixed infections.

- No ability to detect viability.
  - Contaminants.

## Cure Rates for Topicals

<table>
<thead>
<tr>
<th>Therapy</th>
<th>FDA Approved Dose</th>
<th>Complete Cure</th>
<th>Mycologic Cure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ciclopirox 8% solution</td>
<td>48 weeks + debridement</td>
<td>5.5 and 8.5%</td>
<td>29% and 36%</td>
</tr>
<tr>
<td>Efinaconazole 10% solution</td>
<td>48 weeks</td>
<td>15.2 and 17.8%</td>
<td>53.4% and 55.2%</td>
</tr>
<tr>
<td>Tavaborole 5% solution</td>
<td>48 weeks</td>
<td>6.5 and 9.1%</td>
<td>31.1% and 35.9%</td>
</tr>
</tbody>
</table>


## Cure Rates for Systemics

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<tbody>
<tr>
<td>Itraconazole 100 mg, 200mg</td>
<td>200 mg/day for 3 months</td>
<td>14% and 22%</td>
<td>54% and 44%</td>
</tr>
<tr>
<td>Terbinafine 250 mg</td>
<td>250 mg/day for 3 months</td>
<td>38%</td>
<td>70%</td>
</tr>
</tbody>
</table>


Lipner SR and Scher RK. Long-standing Onychodystrophy in a Young Woman. JAMA. 2016 Nov 8;316(18):1915-1916

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