Optimal Biopsy Techniques

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DISCLOSURES
I do not have any relevant relationships with industry.

Optimizing your biopsy (results!)

• Consider the disease process
• Think about where to biopsy
• Choose the type of biopsy
• Give pertinent clinical information
• Avoid pitfalls

Recommendations for diagnostic biopsy of suspected melanoma

• Preferred biopsy technique: narrow excisional/complete biopsy with 1- to 3 mm margins (punch, shave, excision)
• Partial/incomplete sampling (incisional biopsy) is acceptable in certain clinical instances
  – facial or acral location
  – very large lesion (LM type melanoma)
  – low clinical suspicion or uncertainty of diagnosis

Swetter et al., JAAD 2019

Shave ≠ superficial

Recommendations for diagnostic biopsy of suspected melanoma

• When performed on the extremities, diagnostic elliptical/fusiform excisional biopsies should generally be oriented longitudinally (i.e., axially)

Swetter et al., JAAD 2019
What about suspected atypical nevi?

• Aim for a complete biopsy with 1-2 mm margins around the periphery of the lesion

• This technique may reduce the need for re-excision, depending on the degree of atypia noted on pathology

Biopsies for inflammatory processes

• In general, punch biopsies are preferred to shaves

• If more than one morphology, do more than one biopsy

How to biopsy alopecia?

<table>
<thead>
<tr>
<th>Alopecia</th>
<th>Recommended biopsy technique</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emollient alopecia</td>
<td>Medium punch biopsy of 1.5 cm, 1-2 cm from involved area.</td>
<td>For all forms of alopecia, avoid the areas adjacent to the hair follicles. Care should be taken during the surgical procedure to avoid damage to the hair follicles.</td>
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<tr>
<td>Nonscarring alopecia</td>
<td>For scarring alopecia with well-defined patches: punch biopsy of an involved area.</td>
<td>For all forms of alopecia, avoid the areas adjacent to the hair follicles. Care should be taken during the surgical procedure to avoid damage to the hair follicles.</td>
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</tbody>
</table>

How to biopsy alopecia:

- In general, punch biopsies are preferred to shaves
- If more than one morphology, do more than one biopsy

HOVERT processing for hair biopsies

- For optimal preservation of fine hair shafts, a higher magnification can be achieved.
- Care should be taken during the surgical procedure to avoid damage to the hair follicles.
Techniques for processing hair biopsy specimens

Immunobullous diseases

- Punch from the edge of the blister or broad shave biopsy recommended for H&E
- Biopsy of perilesional non-affected skin for DIF
- Avoid biopsies of the lower extremities for DIF – may yield false negative results

Potential pitfalls

- Shave biopsy on acral sites – Consider a punch!
- Avoid the big squeeze
- Biopsy of the wrong process – When in doubt, take two (or more) biopsies

The Dermatology Foundation has supported & advanced my research – and patient care.

Thank you!

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