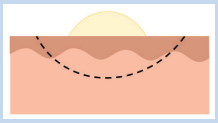
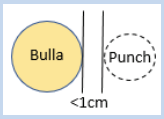
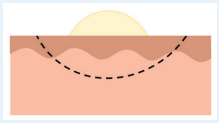
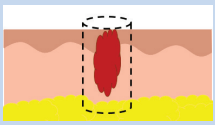
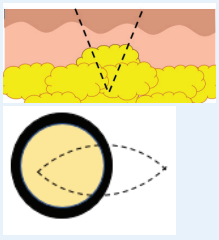
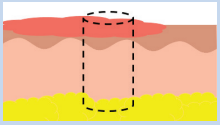
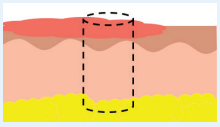
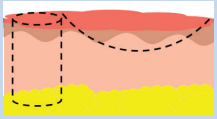
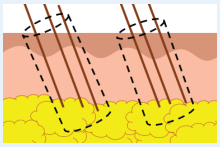
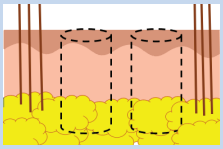
Biopsy techniques

by Jen Seyffert, DO, and Puja Kathrotiya, MD

Disease	H&E Transport: Formalin		DIF Transport: Normal saline, Michel, Zeus, or LN2		Comments Culture: Non-bacteriostatic saline EM: 2.5% glutaraldehyde solution Flow cytometry: fresh specimen on saline soaked gauze or RPMI medium
Autoimmune bullous disease	Saucerized intact bulla, OR Broad saucerization of peripheral bulla		Perilesional skin <1cm from bulla		Avoid lower extremities. Trunk skin is preferred. Saline is superior to other DIF transport mediums if delivered to lab within 48 hours.
Epidermolysis bullosa	Saucerized intact bulla, OR Broad saucerization of peripheral bulla				Avoid blisters >12hrs old. Can induce fresh blister on nearby clinically uninvolved skin
Vasculitis	Punch or deep shave of lesion >72hrs old		Punch or deep shave of acute lesion<24hrs old		Specimens should show both post capillary venule and deep plexus
Panniculitis	Deep incisional biopsy at edge of necrotic focus				6mm punch is the smallest size that can be divided for culture and H&E.
Lupus	>4mm Punch biopsy of lesion >6 months old that is still active		Punch biopsy of lesion >6 months old that is still active		
Dermatomyositis	>4mm Punch biopsy of lesion >6 months old that is still active		Punch biopsy of lesion >6 months old that is still active		
SJS/TEN/SSSS	Shave or punch biopsy of acute lesion including full thickness of epidermis				Can submit desquamating sheets
Scarring Alopecia	Two >4mm punch biopsies of a lesions >6 months old that are still active		>4mm punch biopsy of a lesion >6 months old that is still active		Two biopsies: 1 for vertical and one for horizontal sectioning. Avoid active advancing border Place punch at same angle as emerging hairs
Pattern Alopecia or Telogen Effluvium	Two >4mm punch biopsies from an established area of alopecia				Two biopsies: 1 for vertical and one for horizontal sectioning. Submit transverse section or intact specimen for lab to section with HoVert or Tyler techniques

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Biopsy techniques *(continued)*

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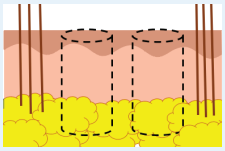
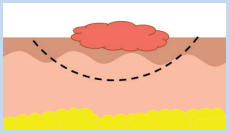
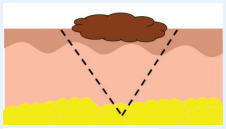
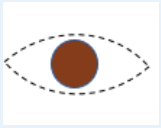
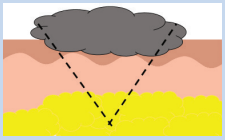
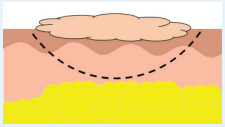
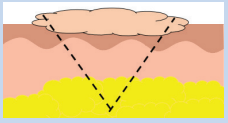
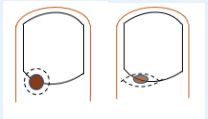
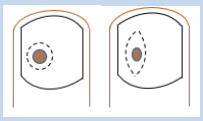
Disease	H&E Transport: Formalin	DIF Transport: Normal saline, Michel, Zeus, or LN2	Comments Culture: Non-bacteriostatic saline EM: 2.5% glutaraldehyde solution Flow cytometry: fresh specimen on saline soaked gauze or RPMI medium
Alopecia Areata or Syphilis	Two >4mm punch biopsies of active lesions with recent onset 		Two biopsies: 1 for vertical and one for horizontal sectioning. Submit intact
NMSC	Shave or punch biopsy with enough depth to demonstrate invasive pattern and detect perineural invasion 		Use more superficial shave techniques on convex sites or thin facial skin
Suspected Melanoma	Complete excisional removal  		Saucerization is acceptable Consider scoring or tagging at 12 o'clock for orientation
DFSP	Deep incisional biopsy 		
CTCL	Broad shave biopsy below the depth of DEJ 		Broad shaves are superior to punch biopsies Consider sending specimens from multiple anatomic sites
Primary Cutaneous B-Cell Lymphoma	Deep incisional biopsy 		Punch biopsy or saucerization are superior to shave biopsies
Nail Matrix	Punch biopsy or horizontal distal matrix elliptical excision with Vicryl closure 		Total or partial nail plate avulsion is usually done prior to nail matrix biopsy. Punch biopsy <3mm does not need sutured closure
Nail Bed	Punch biopsy or longitudinal elliptical excision with Vicryl closure 		Nail plate avulsion is usually done prior to nail bed biopsy, but is not necessary

1. Bolognia, Jean L., Jorizzo, Joseph L., Schaffer J V. *Dermatology*. Third. Elsevier; 2012.
2. Elston DM, Stratman EJ, Miller SJ. CONTINUING MEDICAL EDUCATION Skin biopsy Biopsy issues in specific diseases. *J Am Dermatology*. 2016;74:1-16. doi:10.1016/j.jaad.2015.06.033

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