

# BIOPSY TECHNIQUES

Biopsy techniques are simple procedures performed to guide patient therapy and should be kept simple. Each procedure will take 5-10 minutes and is typically performed in the office.



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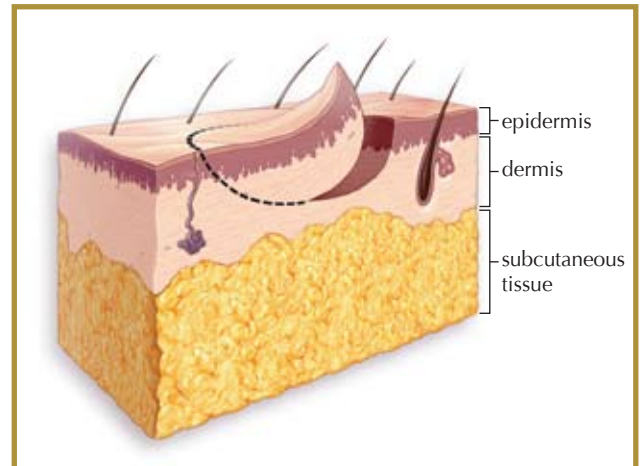
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## The Basics

- Evaluate the patient and the lesion
- Determine if the process is involving the epidermis, dermis and/or subcutis
- It is recommended each exam room be stocked with biopsy instruments (shave blades, scalpels, and punches), alcohol swabs, prepared syringe with anesthetic, a hemostatic agent (aluminum chloride) and band-aids.
- Regardless of the technique always clean the biopsy site using an alcohol swab
- Anesthesia is given with 1% lidocaine epinephrine using a 30 gauge needle
- Biopsy enough of the lesion so an accurate diagnosis can be made
- A simple band-aid is used to cover the biopsy site (aluminum chloride should be used to stop any bleeding)
- The average wound healing time is 8-12 days.

## Shave Biopsy

- Application:
  - Verruca vulgaris, seborrheic keratosis, actinic keratosis, basal cell carcinoma, squamous cell carcinoma
  - Melanocytic lesions (nevi and malignant melanoma)
  - Some inflammatory diseases (contact dermatitis)
  - Useful for lesions elevated in relation to the surrounding skin and superficial lesions without a dermal component.
- Advantage:
  - Quick
  - Low cost
  - Reasonable cosmetic result depending on depth of shave
  - Ease of wound care
  - No suture to be removed
- Disadvantage:
  - Not adequate for some inflammatory diseases, (arthropod bite reactions, panniculitis (Erythema nodosum))
  - Uneven specimen and depth
  - Difficult to maneuver in some anatomic locations
- Technique:
  - Clean the biopsy site using an alcohol swab
  - Anesthesia is given with 1% lidocaine epinephrine using a 30 gauge needle
  - Use fingers to pinch lesion upward
  - Papules should be shaved to the plane of the skin surface
  - Macules and patches of pigmented (melanocytic) lesions should be removed entirely with a 1-2mm margin
  - Place long shaves on a piece of paper and then place the specimen in the formalin bottle to prevent curling
  - Apply aluminum chloride to stop any bleeding



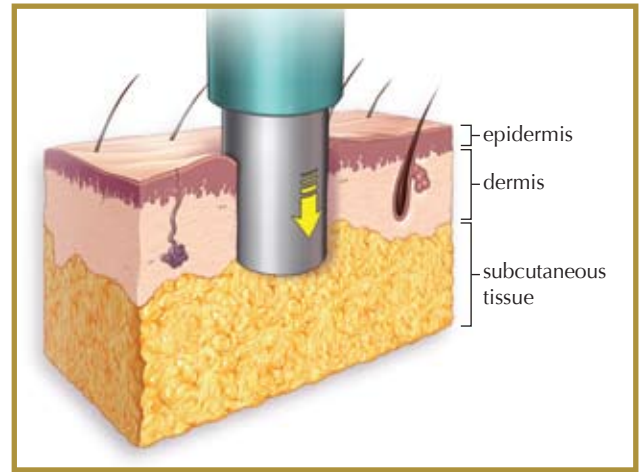
Images courtesy of Arthur Segall, DPM

- The biopsy is now ready to be placed in fixative and sent to your dermatopathologist for diagnostic evaluation.

# Punch Biopsy

(Punch technique is used when more than superficial dermis is needed)

- Application:
  - Lesions with a dermal and subcutaneous component
  - Excellent for inflammatory diseases including panniculitis (Erythema nodosum)
  - Not recommended for melanocytic lesions unless the entire lesion can be removed
- Advantage:
  - Disposable and non-disposable
  - Good cosmetic result if sutured
  - Ease of wound care
- Disadvantage:
  - Require more healing time
  - More costly if suture is used
  - Suture removal
- Technique:
  - Clean the biopsy site with an alcohol swab
  - Anesthesia is given with 1% lidocaine epinephrine using a 30 gauge needle
  - A 3 mm punch or greater is recommended to perform the biopsy
    - When taking a biopsy for panniculitis, use an 8 mm punch and optimize fat retrieval
  - Stretch the skin opposite to skin tension lines so the defect will be oval in shape
  - Using a punch, apply pressure and twist in a drilling motion
  - Make sure the punch includes subcutaneous tissue
  - Do not squeeze the forceps too hard when picking up the tissue
  - Apply aluminum chloride to stop the bleeding
  - Suture with Prolene or Nylon if needed (Vicryl for deeper dissolving)



Images courtesy of Arthur Segall, DPM

- The biopsy is now ready to be placed in fixative and sent to your dermatopathologist for diagnostic evaluation.

## Punch Biopsy for epidermal nerve fiber density testing

- When scheduling a patient for ENFD testing always request an ENFD transport kit at 866-369-6071 at least 2 days prior to the scheduled biopsy. The fixative is required to be kept cold during transport therefore can only be shipped Monday thru Thursday.
- Perform the punch biopsy as instructed above keeping in mind the below exceptions:
  - Two 3 mm punch biopsies are taken- one from the distal calf (10 cm proximal to the lateral malleolus) and one from the dorsal foot.
  - Handle the tissue gently by the reticular dermis only. Forceps should never contact the upper layers of the skin as this may cause crush artifact and damage the nerve fibers.
  - The specimen must never be allowed to air dry on gauze.
  - The specimen must be submerged in special PLP fixative immediately and kept cold during transport. Never use formalin fixative when performing epidermal nerve fiber density testing.
- Refer to our complete Tissue collection, fixation and shipping instructions online at [www.podiatricpathology.com](http://www.podiatricpathology.com)

Epidermal nerve fiber density test kits are available to be shipped within 24 hours. Call 866-369-6071 to request a kit.



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