



# *Why Aren't DPMs Performing more Biopsies?*



William P Scherer, DPM, MS, DABFAS  
Delray Beach, Florida

# Dr William Scherer Disclosure

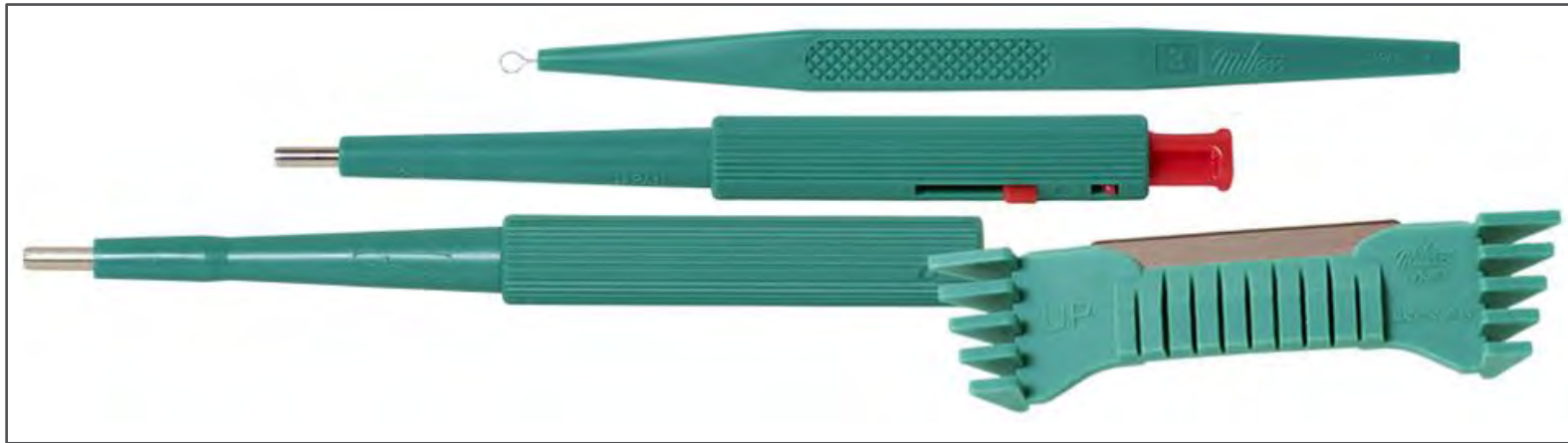
wscherer@bakodx.com



## ***Bako Diagnostics***

Senior Podiatric Medical Advisor  
Clinical Consultant and Speaker

# Various Biopsy Techniques



Punch Biopsy – Shave Biopsy – Curettage Biopsy  
Incisional Biopsy – Nail Unit Biopsy – Ulcer Biopsy  
Web Space - Fine Needle Aspiration Biopsy – Bone Biopsy  
Epidermal Nerve Fiber Density Biopsy

# Why Aren't DPMs Performing more Biopsies?

- Simple answer – they have not been trained to do biopsies
- Dermatology is only a 2-credit course at most schools
- Podiatrists are more focused on musculoskeletal surgery during residency than skin and nail conditions
- Some are concerned that they are creating a wound that could get infected
- Most podiatrists cut lesions out and send to pathology, rather than do a biopsy and then decide on treatment plan

# Biopsy Standard of Care

- Physicians should perform a biopsy "before" they excise a suspicious skin lesion, nail lesion, or soft tissue mass
  - Dermatologists average 500 biopsies per year
  - Podiatrists average 3 biopsies per year
- Podiatrists should consider establishing a laboratory diagnosis of unusual skin or nail conditions before start treatments or excision

# Why Biopsy Skin Lesions?

- Provides objective diagnosis of a condition
  - independent, definitive laboratory histopathological diagnosis
  - reduces differential diagnoses and delays of treatment
- Guides precision targeted treatment options
  - pharmacological therapy (for dermatitis)
  - plastic surgical excision (for neoplasms)
- Increases the variety of treatment options
  - simple excision vs advancement or rotational skin flaps

# Lower Extremity Biopsy Techniques

Downloadable PDF Guidebook

PRACTICE ESSENTIALS™

## LOWER EXTREMITY Biopsy & Collection Techniques



### TABLE OF CONTENTS

- 01 Biopsy Overview
- 02 Exam Room Supplies
- 03 Onychodystrophy/Onychomycosis
- 04 Nail Specimen Collection
- 05 Punch Biopsy
- 06 Ulcer Biopsy
- 07 Nail Unit Biopsy
- 08 Epidermal Nerve Fiber Density Biopsy
- 09 Shave Biopsy
- 10 Saucerization Biopsy
- 11 Curettage Biopsy
- 12 Incisional Biopsy
- 13 Fine Needle Aspiration
- 14 Bone Biopsy

## 12 Incisional Biopsy

### INDICATION

An incisional biopsy removes a small piece of tissue from a suspicious lesion using a scalpel to cut through the entire dermis and removing a wedge of lesional tissue.

A 3:1 ellipse orientation to the biopsy will reduce dog ears at the corners of the incision and minimize tension at the surgical site. The typical incisional biopsy ranges in size from 3mm to 9mm in length and 1mm to 3mm in width.

### DIFFERENTIAL DIAGNOSIS

Actinic Keratosis	Melanoma	Pigmented Lesions
Basal Cell Carcinoma	Neoplasm	Skin Tumors
Kaposi's Sarcoma	Neoplastic Ulcers	Squamous Cell
Macules (flat lesions)	Papules (elevated lesions)	Verruca

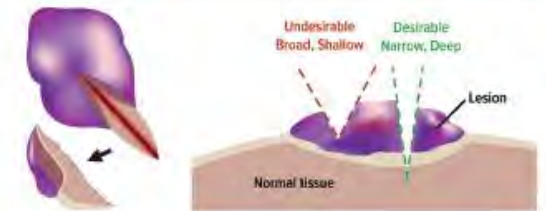
### MATERIALS NEEDED

- #15 scalpel
- Forceps
- 70% isopropyl alcohol wipe
- 1cc lidocaine with epinephrine in a 3cc syringe, 27g or 30g needle
- Hemostatic agent (35% aluminum chloride or Monsel's solution) or Suture
- Topical antibiotic
- Gauze pad
- Bandage

### INSTRUMENT



### PROCEDURE



This technique is thought of as a more aggressive method of sampling than a standard punch biopsy with acquisition of a larger amount of lesional tissue.

1. Prepare biopsy site with 70% isopropyl alcohol wipe for 10 seconds.
2. Administer local anesthesia fanned out into the dermis beneath the lesion and biopsy site with 1cc lidocaine with epinephrine in a 3cc syringe, 27g or 30g needle.
3. Plan an elliptical 3:1 ratio incisions to include a section of the most representative area of the lesion with 30-degree angulation at both edges of the biopsy.
4. Keep the scalpel perpendicular with the skin surface and enter the skin to the level necessary to acquire the deepest most lesion.
5. Grasp the specimen with forceps and remove the biopsy using a scalpel to undermine the deep margin of the biopsy sample.
6. Place the biopsy into formalin fixative.
7. Apply hemostatic agent (35% aluminum chloride) or wound closure, if necessary, to biopsy site.
8. Apply topical antibiotic and bandage.

### FIXATIVE

Formalin vial

# Biopsy Observations and Advice

- Biopsy the newest, darkest, elevated area of the lesion
- Do not include normal tissue with biopsy
  - except bullous lesions, then include area of attachment
- Chronic ulcers (> 1 month) should be biopsied and cultured
- Ablative procedures are contraindicated without a biopsy
- Do not let biopsy specimens dry out
- Gout crystals should be sent in Alcohol, not formalin
- Create a biopsy kit for each treatment room
  - do not make a big deal about performing biopsy to patients



# Punch Biopsy Instruments



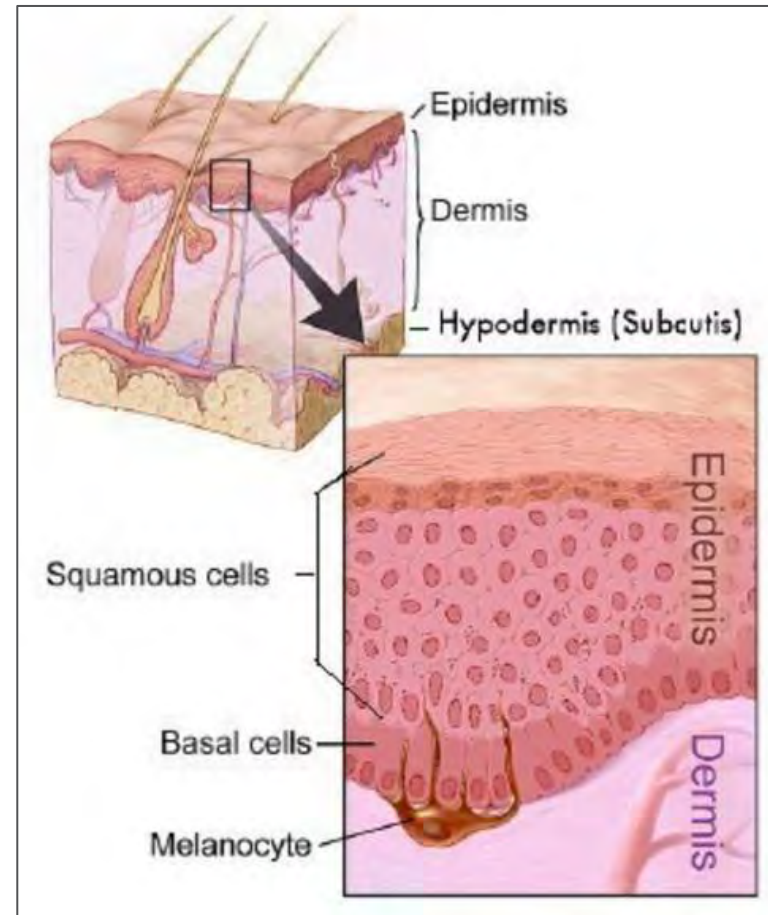
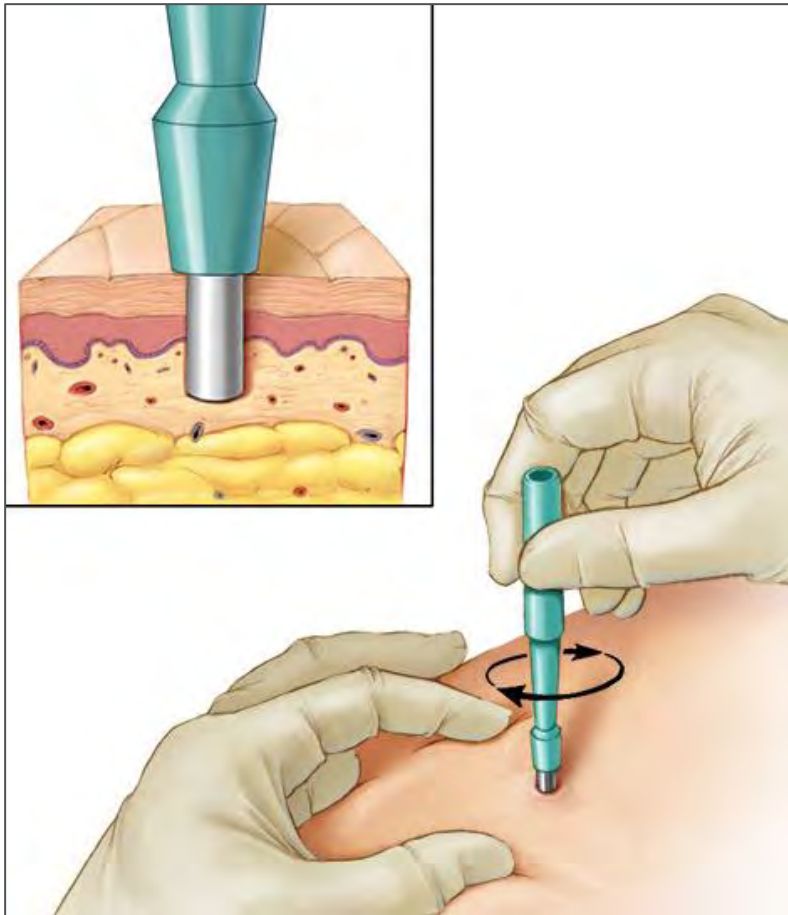
# Punch Biopsy - Inflammatory Skin

## Sample Dermal and Subcutaneous Tissue

- Punch biopsy – obtain a “small part” of a condition (dermatitis)
  - 2mm punch with or without plunger (1 punch vs 2 punches)
  - 3mm punch recommended for pigmented lesions (may need suture)
- Gentle motion, do not literally punch hard into skin



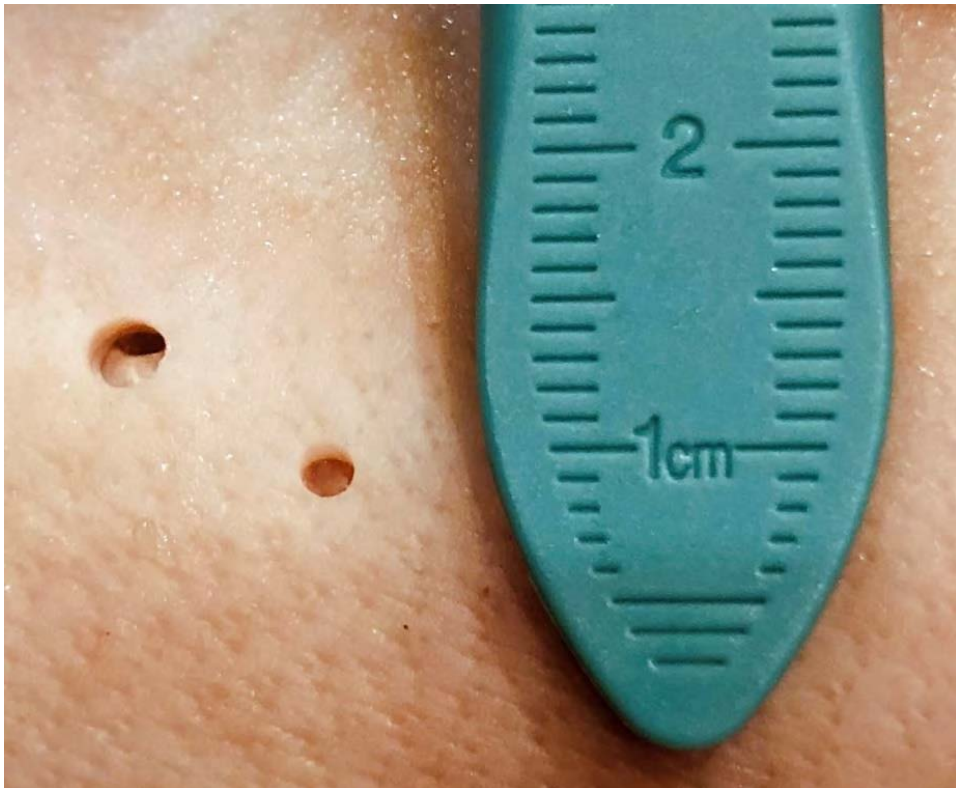
# Punch Biopsy Technique



# Punch Biopsy Technique

- 70% isopropyl alcohol wipe to prepare biopsy site for 10 seconds
- Administer local anesthesia as a raised wheal at the biopsy site
  - 1cc lidocaine with epinephrine, 3cc syringe, 27g or 30g needle
- Gently press punch biopsy into the skin, let the blade do the work
  - rotate punch and press into dermal tissue and subcutaneous fat
  - pull biopsy out, connective tissue may need to be cut
  - place the biopsy into formalin fixative vial
- Apply hemostatic agent (35% aluminum chloride) to biopsy site
  - suture closure if needed
  - apply topical antibiotic and bandage

# Punch Biopsy – 2mm vs 3mm



# Specimen Collection Medium

Skin (punch, tangential, incisional)	Formalin Fixative
Web Space (scraping)	Dry Dermapak (for DNA testing)
Nail (onychodystrophy, onychomycosis)	Dry Keratin Bag (staining + DNA testing)
Nail (matrix)	Formalin Fixative
Aspiration (non-gout)	Alcohol or Formalin or Sterile Cup
Aspiration (gout)	Alcohol
Epidermal Nerve Fiber Density (SFPN)	Zamboni's Fixative, Rinse, Cryoprotectant
Bacteriology (wound, ulcer, infection)	ESwab (aerobes and anaerobes)
Bone (non-infection)	Formalin or Sterile Cup
Bone (infection)	Formalin or Sterile Cup + ESwab

# Why Aren't DPMs Performing more Biopsies?

Question and Answer Session



William P Scherer, DPM, MS, DABFAS