

Malignant vs Benign Neoplasms Recognition and Treatment

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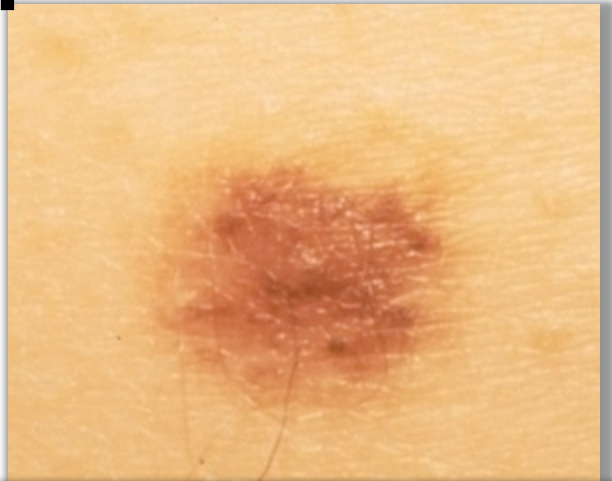
Progression of a Nevi

- Begins as a proliferation of cells derived from melanocytes along the dermal/epidermal junction=Junctional nevus
- Continued proliferation extends into dermis=Compound nevus
- Junctional component may resolve and leave only an intradermal part=Intradermal nevus

Junctional Nevi



Compound Nevi



Intradermal Nevi



Congenital Melanocytic Nevus (CMN)

- Can arise during the first year of life and still be congenital
- Small, large, and giant
- 4-6% chance of developing melanoma within a GIANT CMN



When good moles go bad...Dysplastic and Atypical Nevi

- Dysplastic is a discouraged and controversial term for an atypical looking nevi
- So use ATYPICAL nevi to describe:
 - Marked variegation in color: “fried egg”
 - Loss of normal symmetry
 - Larger than ordinary >6mm
 - Is different histologically from melanoma, but full thickness excision with 0.2 cm margin of normal skin

Atypical Nevi



Dermatofibroma

- Small, firm, flat or papule on lower extremities can range from 2mm-3cm
- Skin colored or brown
- “Dimple sign” when lateral pressure applied
- Etiology not known—post shave or arthropod bite?
- Excise it...or leave it alone

Dermatofibroma



Hemangioma

- Benign tumor of vascular endothelium
- Types we should know:
 - Angiokeratoma of Mibelli: blue-black hyperkeratotic vascular papule over hands or feet in kids
 - Cherry Angiomas: very common, acquired, trunk, upper extrem, middle aged and elderly



Cavernous Hemangioma



Stucco Keratosis



Malignant Lesions

- Pre-malignant: Actinic Keratosis, Bowen's
- Kaposi's
- Basal Cell Carcinoma
- Squamous Cell Carcinoma
- Melanoma

Premalignant: Actinic Keratoses and Bowen's Disease

- Actinic keratoses are sun induced pre cancerous lesions of skin. Elderly pts with light skin color and sun exposure; 2-5% become SCC
- Bowen's Disease or SCC in situ: on ANY skin surface; persistent erythematous slightly indurated plaques with scale

Actinic Keratoses



HIV and Kaposi's sarcoma

- ▶ Homosexual or bisexual men most affected
- ▶ HHV-8
- ▶ Early lesions erythematous macules with a bruise like halo
- ▶ Enlarge with lines of skin cleavage
- ▶ Pink, red, purple, brown
- ▶ Mimic many skin dx
- ▶ Koebner phenom



Sunburn or Actinic Injury

- A tan is a sign of skin damage!!
- A sunburn is the body's reaction to sunlight in excess, ie first degree burn
- Tanning Bed is mostly UVB, doesn't offer protection from UVB damage in the future



Is the Lesion Malignant?

- Has it changed recently?
- Does it have an onset over age 40?
- Is it a lesion they have had since childhood that has recently changed?
- Does it itch?
- Is it the site of a scar or ulcer?
 - Does the ulcer contain hyper-proliferative tissue, non-healing over 6 months? Has it changed?
- Is it an area that does not heal?
- Meet criteria for general risk factors (next slide)

Risk Factors for all skin cancers

- Exposure to carcinogenic agents
 - UV (sunlight, tanning), PUVA, radiation, arsenic, HPV, cigarette smoking
- Genetic syndromes
 - XP, albinism, Basal Cell Nevus syndrome
 - Personal or Family hx of melanoma
- Predisposing clinical scenario
 - Non-healing wound
- Immunosuppression
 - Organ transplant, AIDS

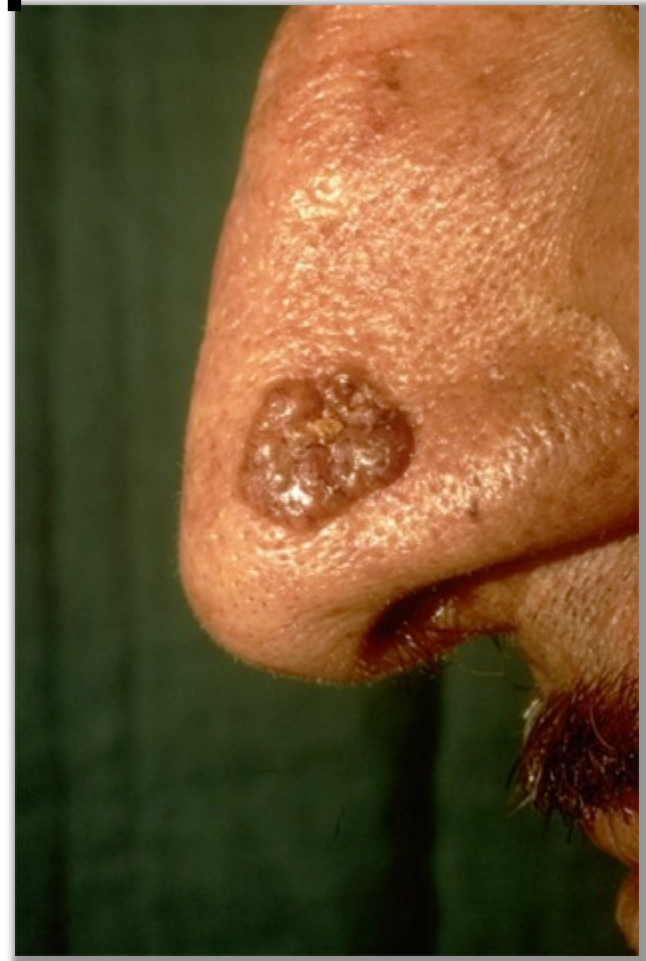
Basal Cell Carcinoma

- Most common skin cancer
- Sun damage
- Locally invasive and rarely metastasize
 - Nodular: pearly papule with telangiectasias
 - Superficial spreading: erythematous slow growing plaques on trunk
 - Morpheaform: resemble scars or normal skin



Basal Cell Treatment

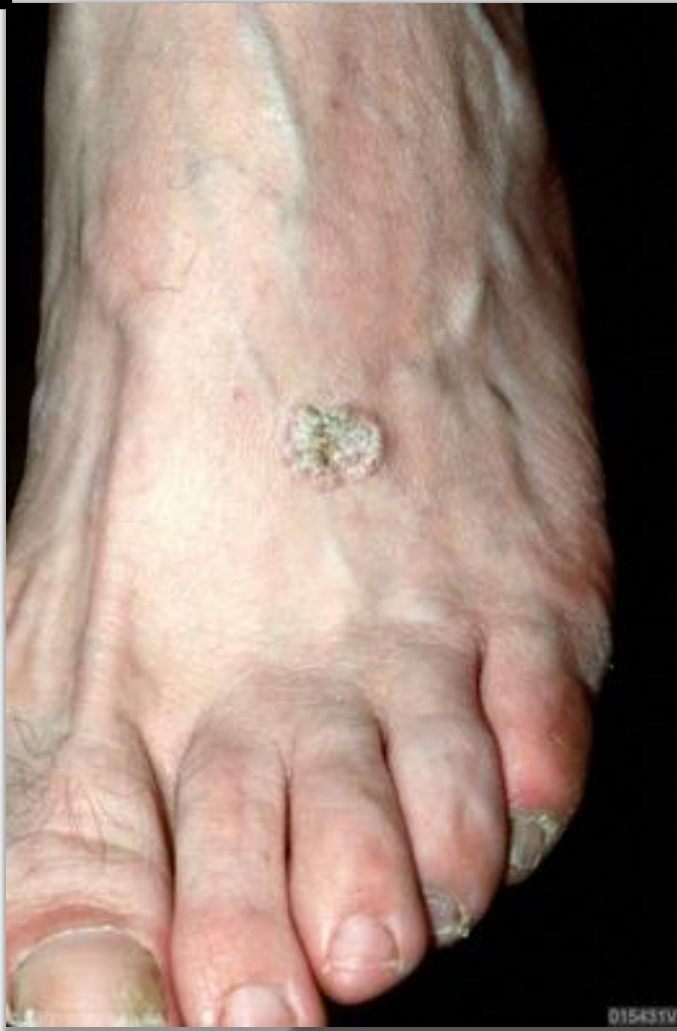
- Excision
- Cryotherapy
- Electrodesiccation and curettage
- Moh's surgery
- Topical (Aldara)



Squamous Cell Carcinoma

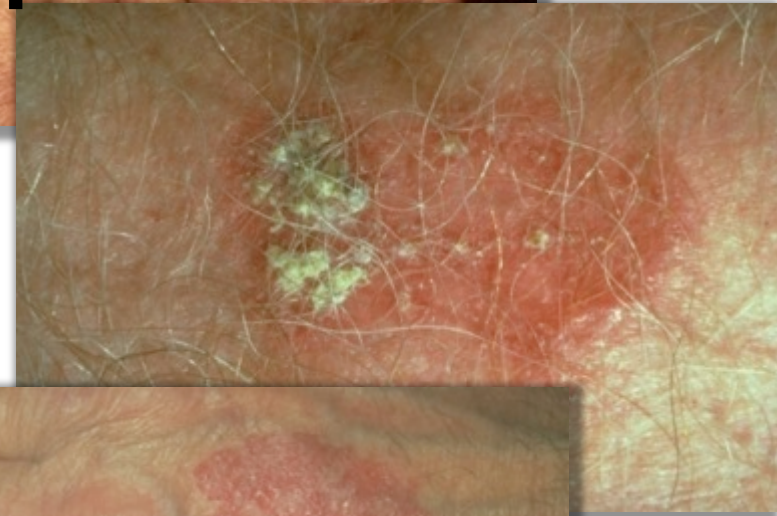
- May resemble BCC, warts, but usually look like an ill-defined red lesion with a rough surface
- More scale on surface—even produce a cutaneous horn
- Verrucous carcinoma are a variant that can occur on feet
- More aggressive than BCC and likely to metastasize

Bowen's or SCC in situ



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- Excision
- Electrodesiccation and curettage
- Moh's
- Cryotherapy
- Topical therapy (Aldara)



Malignant Melanoma

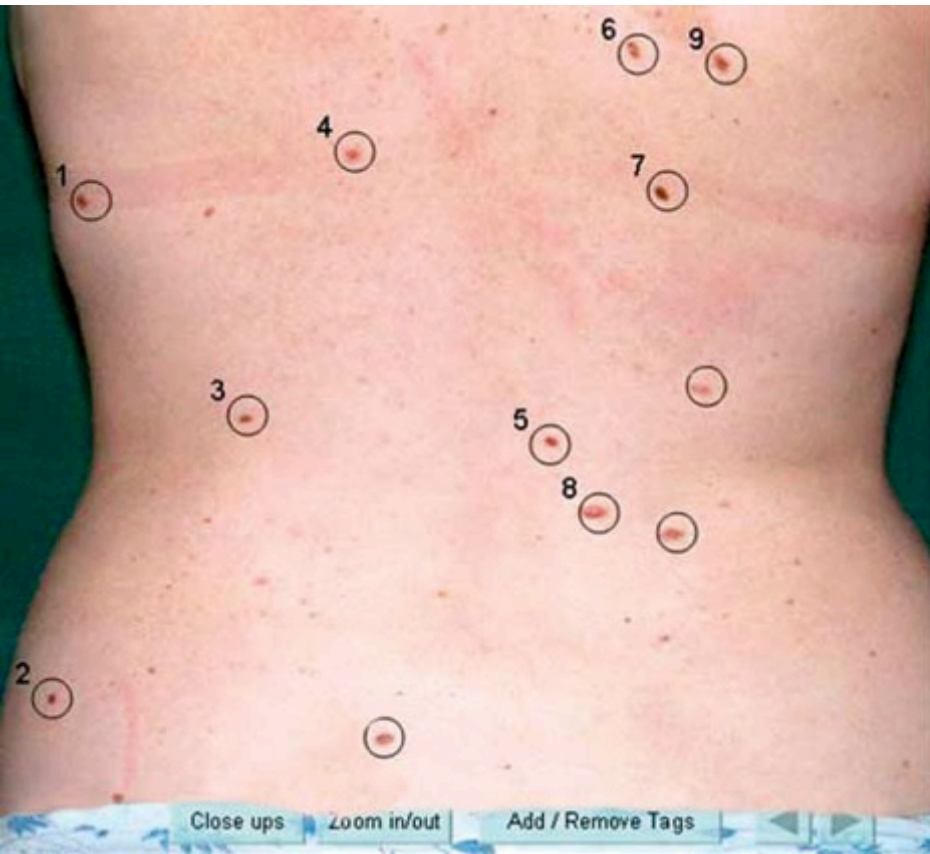
- Most common malignancy in women 25-29 yrs; 1 in 100 for all people
- UVA and mutation in tumor suppressor genes
- Fair complexions, who have atypical nevi, family member with melanoma or self
- Can occur anywhere, but trunk in men, legs in women

Malignant Properties

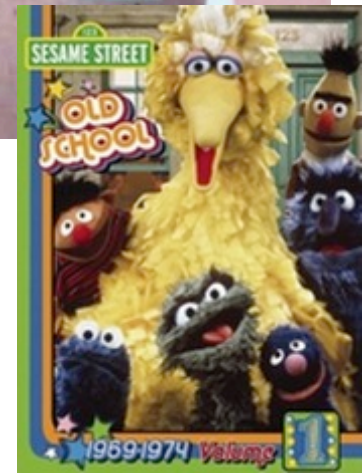
Mostly for Melanoma

- First, think of the ABC's:
 - **A**symmetry
 - **B**order *and* **B**leeding
 - **C**olor
 - **D**iameter
 - **E**volution
 - Family History or Personal History

The “Ugly Duckling” Sign



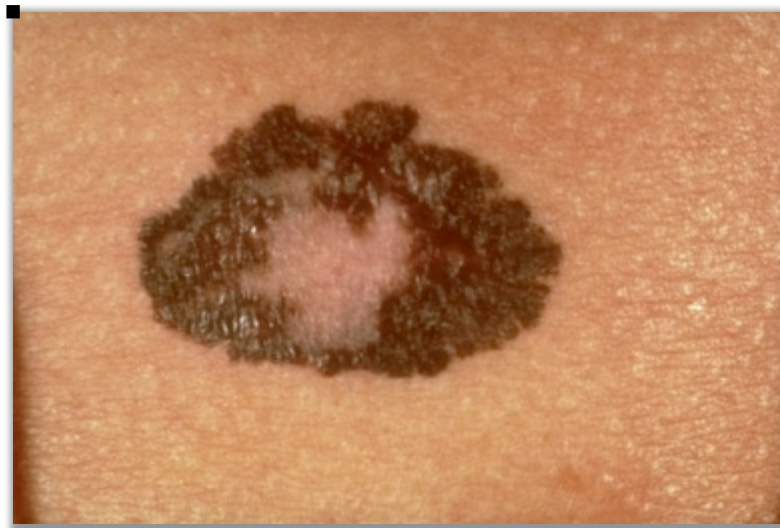
- JAAD: Scope et al Jan 2008



Types of Melanoma

- **Superficial Spreading**
 - Most common, slow enlarge, macular and papular
- **Nodular**
 - Pigmented papule that enlarges and ulcerates, looks like non heal skin ulcer
- **Acral lentiginous**
 - Most common in ethnic skin, non hair bearing skin (nails, palms, soles); subungual!
- **Lentigo maligna**
 - Irregular shaped on sun exposed skin (face)
- **Amelanotic**
 - Non pigmented, may look like pyogenic granuloma, think of non-healing paronychia

Superficial Spreading

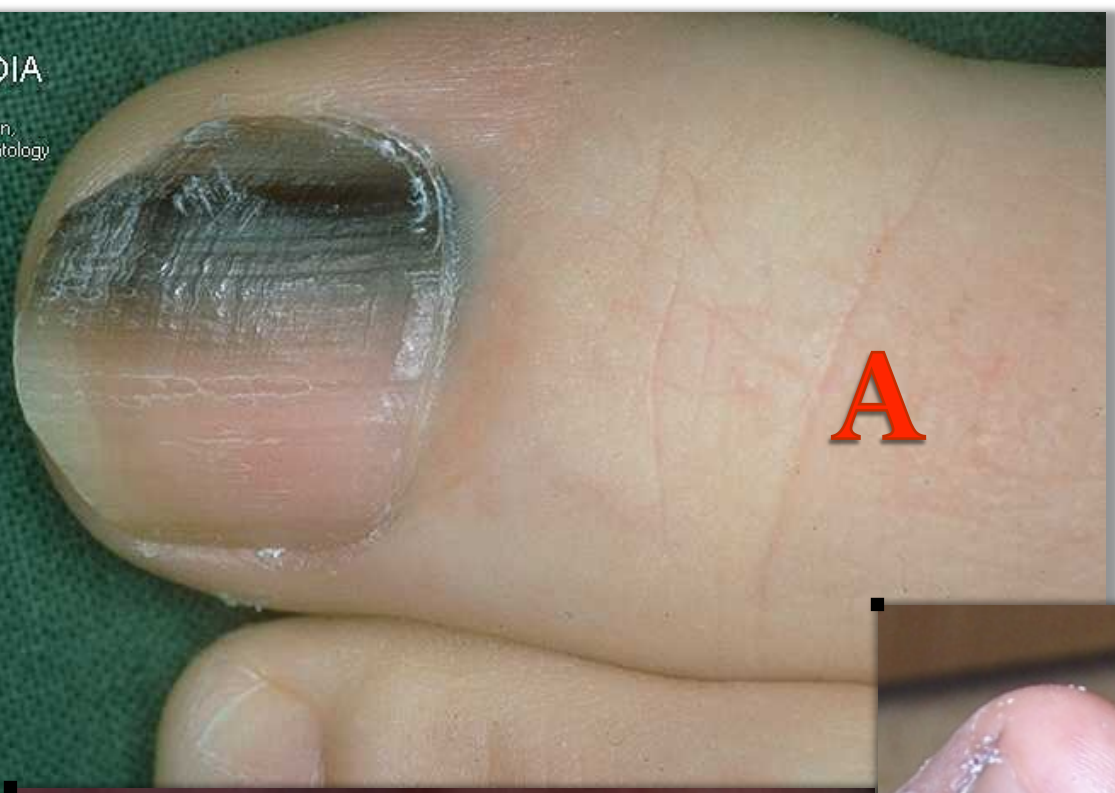


Nodular



ABC's of *Subungual Melanoma*

- Age (5th to 7th decade of life is peak)
- Brown to Black band with breadth of 3mm or greater with variegated borders
- Change in the nail band *or* lack of change with treatment
- Digit most commonly involved (thumb, hallux)
- Extension of pigment into proximal nail fold or lateral nail fold
- Family or personal history of melanoma



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What is your diagnosis?



What is your diagnosis?



Above picture from Vlahovic et al Adv Skin Wound Care Dec 2009



Above picture courtesy of Gary Bauer, DPM

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What is your diagnosis?



Picture courtesy of Gabrielle Gagliardi, DPM

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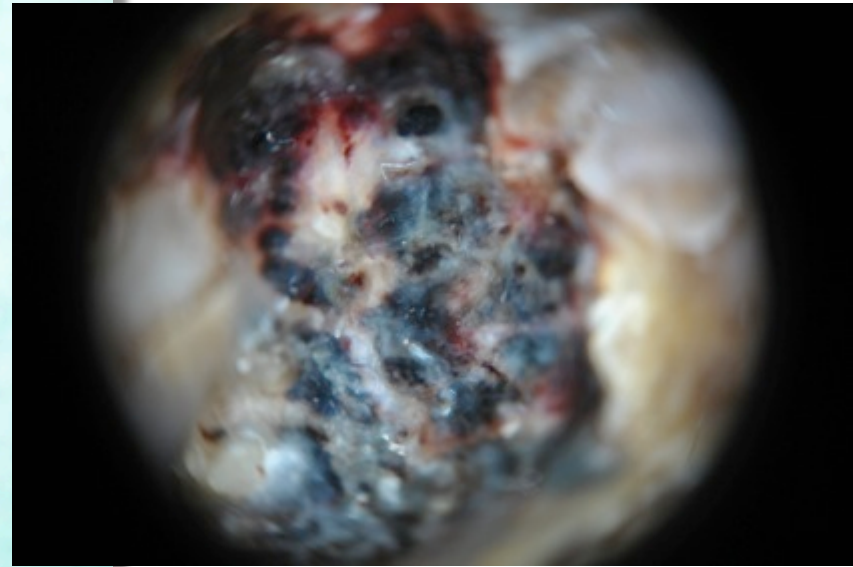
What is your diagnosis?



Picture courtesy of Zach Ritter, DPM

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What is your diagnosis?



Dermatoscope picture

Surgical Planning

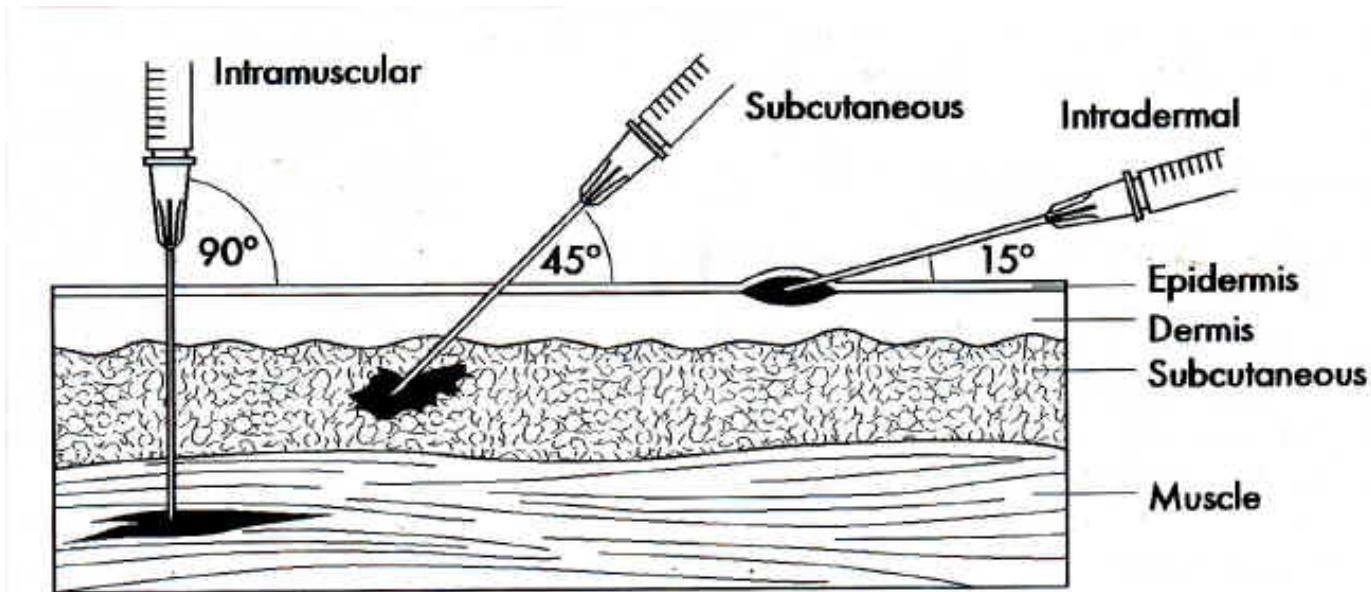
- For a “rash” or dermatosis, biopsy the most advanced lesion
- If 1-4 mm, excise totally if anatomic area allows it; or consider staged procedure
- If larger lesion, get thickest portion of area with some normal surrounding skin
- It’s all about the DEPTH of your specimen!! Imagine the skin levels as you do the procedure
- TAKE PHOTOS!!!!

Surgical Planning

- Relaxed skin tension lines
- An untouched primary lesion dependent on DDx---papules better than macules
- Edge of lesion vs Center
- Stay away from old blisters, but if no choice, get surrounding “good” skin
- Shave and Curettage are not appropriate for skin dermatitis

Inject Intradermally...

- Place needle almost flat against skin, bevel up. Insert needle
- Slowly inject agent; watch for wheal to appear. If it does not, withdraw needle slightly and reinject. Do not aspirate before injecting. Do not massage site after injecting.
- Withdraw needle quickly at the same angle as it was inserted. Dispose of needle without recapping



Shave Biopsy

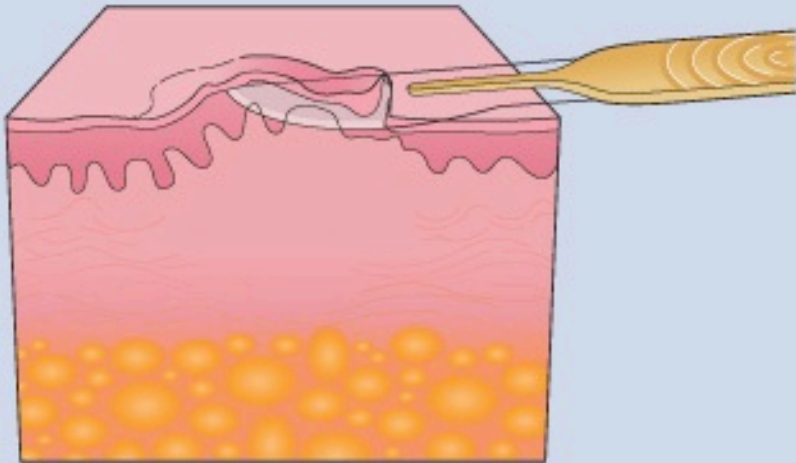
- Indications: Nevi (Moles) flat and papular
- Benign, EXOPHYTIC growths
 - Plantar lesions are ENDOPHYTIC (ie warts)
- Not helpful or appropriate for skin rashes
- Unless you have experience in doing a deeper shave (saucerization), it will not give you the depth or level of invasion that an incisional/excisional will give
 - I personally would not do on a suspected melanoma on the lower extremity

Technique

- Intradermal technique of local anesthesia
- Blade parallel with skin; can use #15 blade or autoclaved disposable shaving blade
- Topical hemostatic agent (Aluminum chloride) and cauterize
- Pigmentation remains 25%

SHAVE BIOPSY

A



B



From Bologna's Dermatology



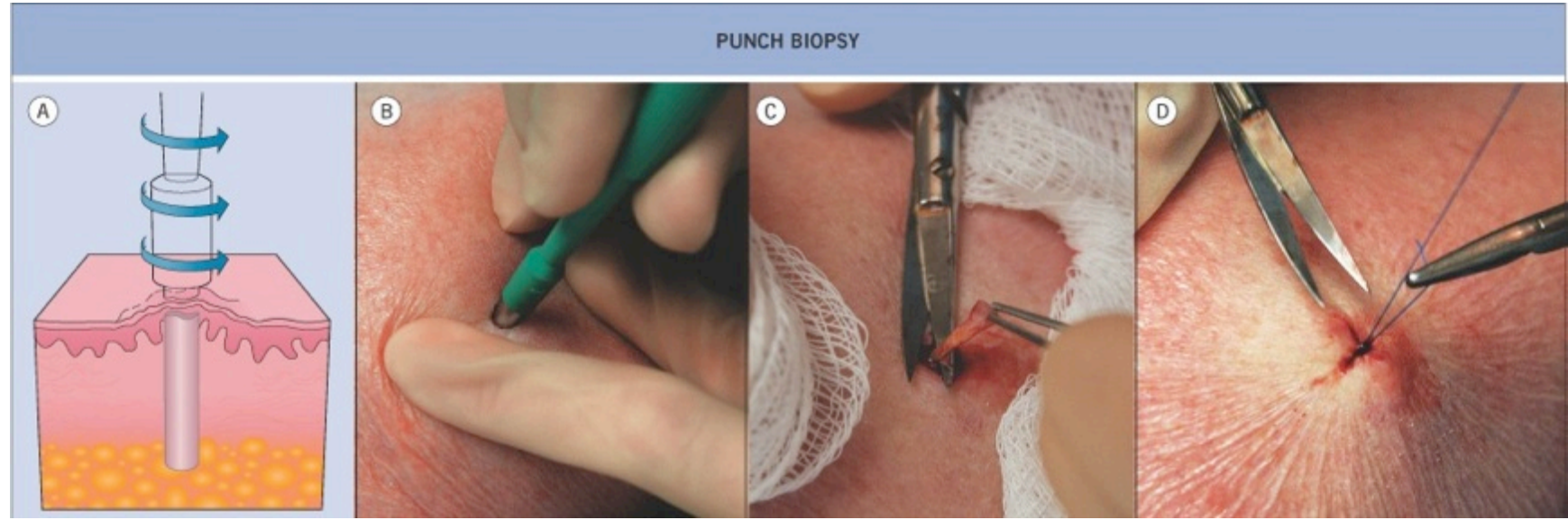
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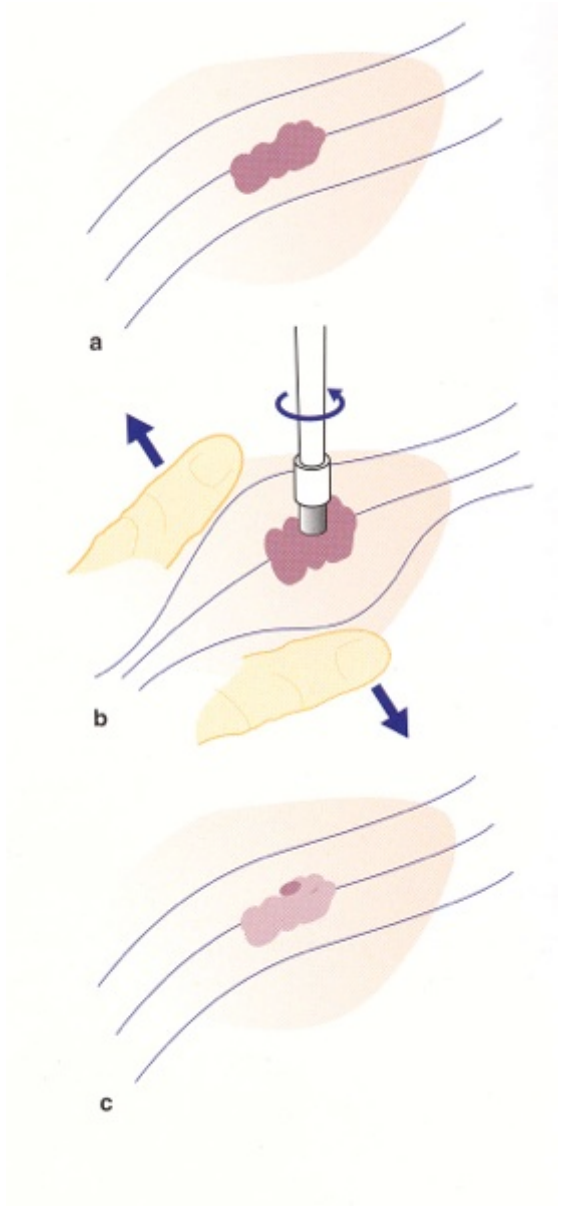


Punch Biopsy

- Indications: Skin rashes, small lesions that can be excised, wounds
- Infiltrate with local, apply tension perpendicular to skin lines,
- disposable punch (3 or 4 mm usually)
 - Anything less may not give enough info
- Suture considering relaxed skin tension lines
- If sending blister for immunofluorescence, do not send in formalin, call lab re: media



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From Bologna's Dermatology



What's
wrong with
this
picture??

Punch technique: leg





When the punch is being drilled in the skin, you should feel the resistance of the dermis give way to the fluffiness in the subcutaneous fat. You should especially be aware of the depth of the subcutaneous fat when on the dorsum of the foot and around the ankle. Also consider the shallowness of the tissue when biopsying a nail.



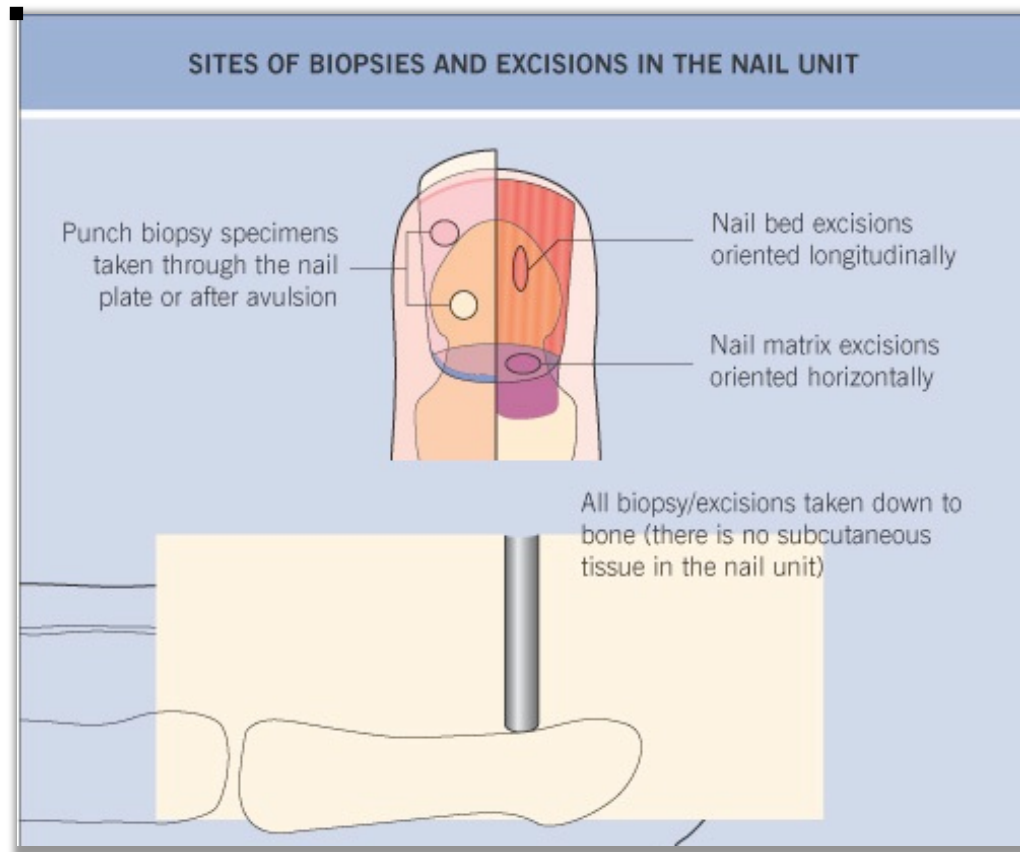
Don't crush the specimen!!!

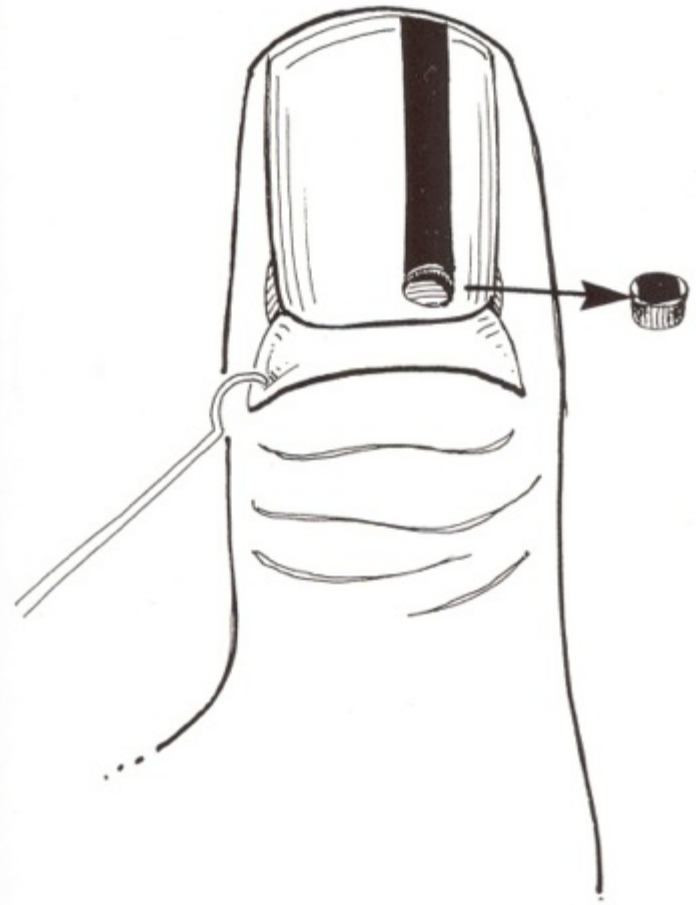
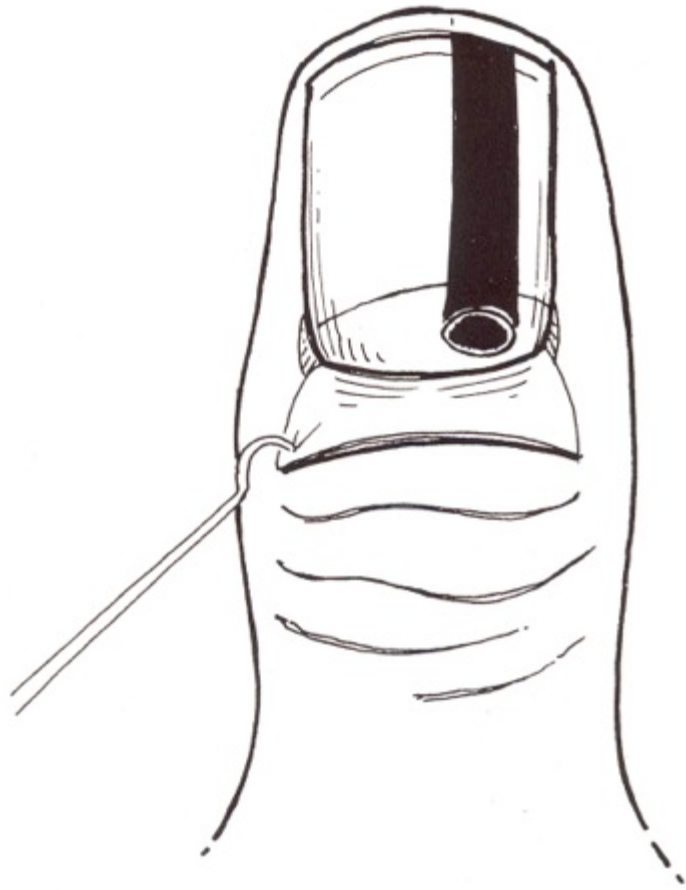
Why biopsy a nail?

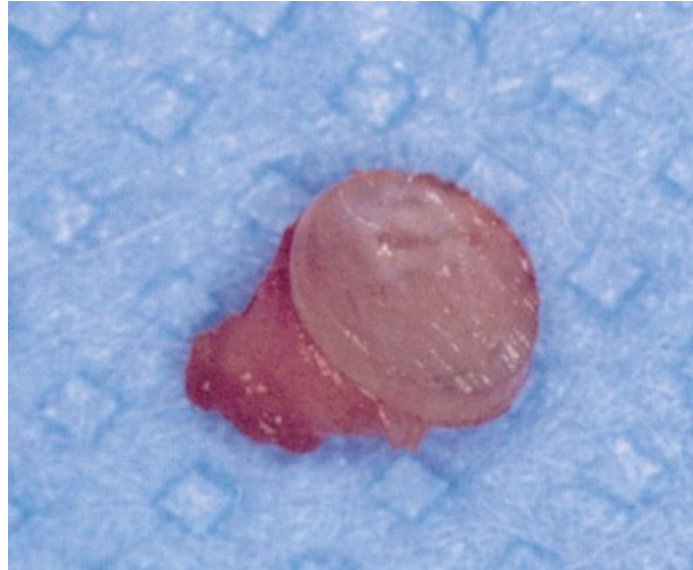
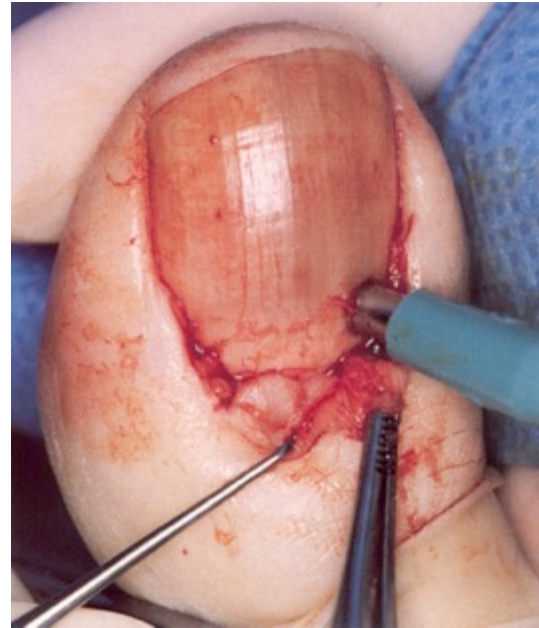
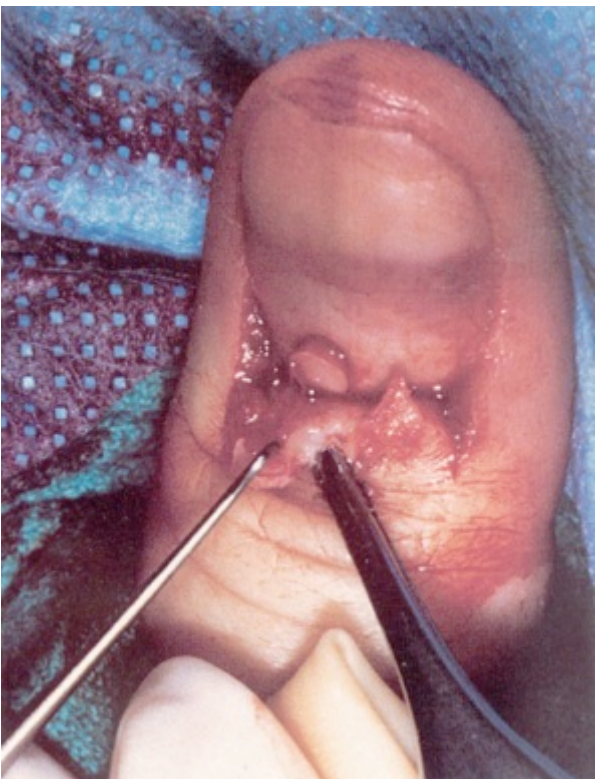
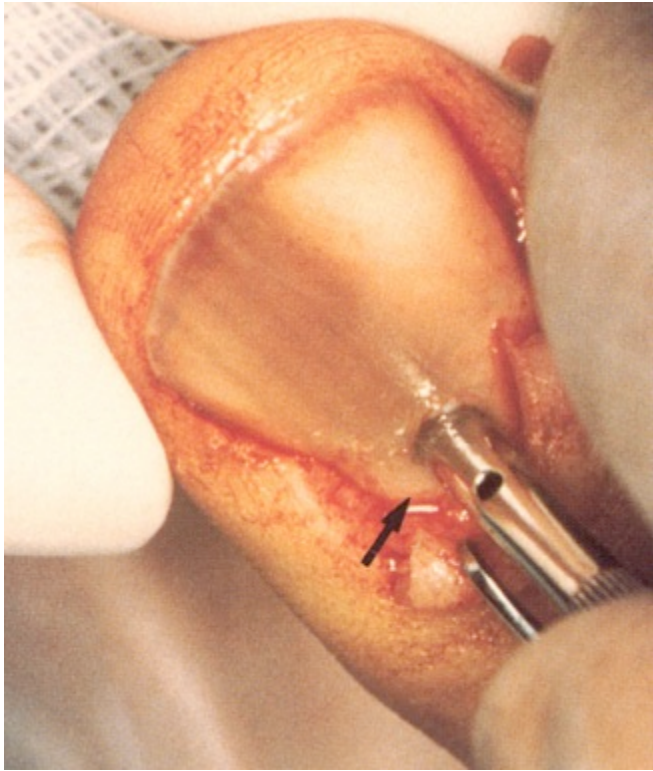
- Subungual melanomas and nevi can appear as a longitudinal pigmented streak in a nail.
- Known as longitudinal melanonychia until a pathologic diagnosis formed
- In caucasians, suspect melanoma until proven otherwise
- In AA, use ABC's of melanoma to determine if you should biopsy

Biopsy techniques for nails

- Punch
- Avulsion with nail bed excision







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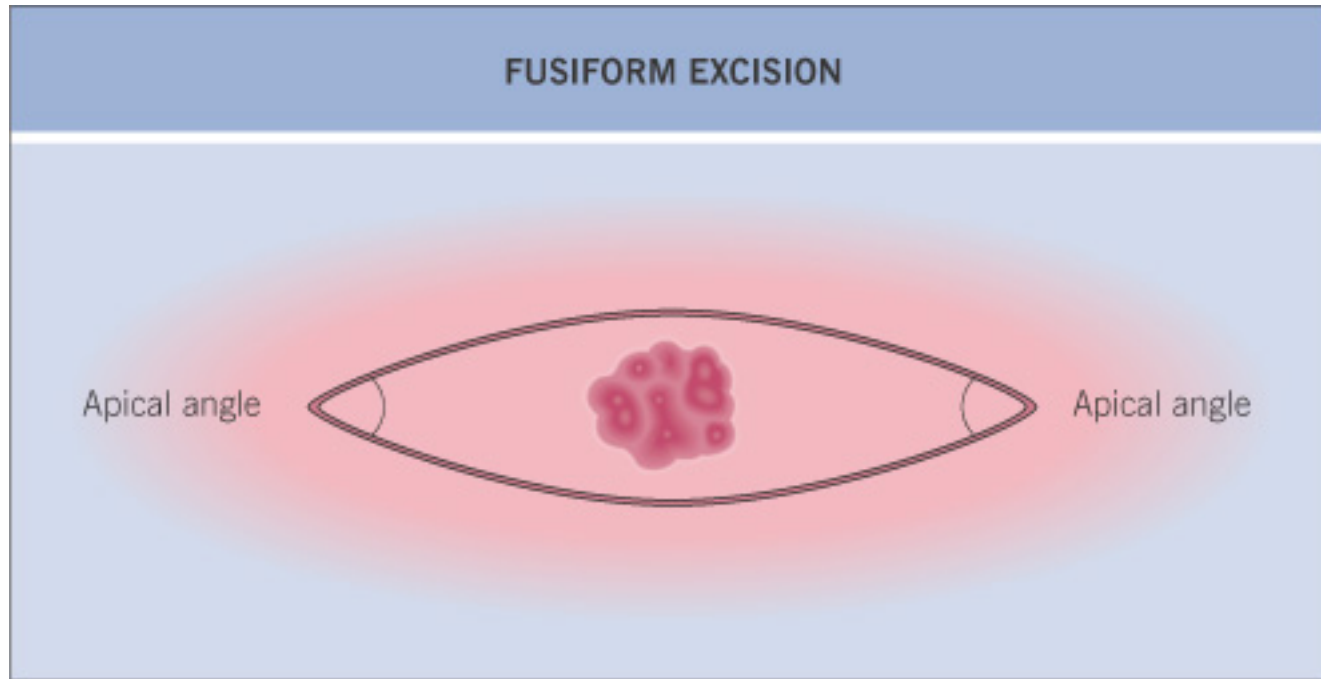
What would you do?



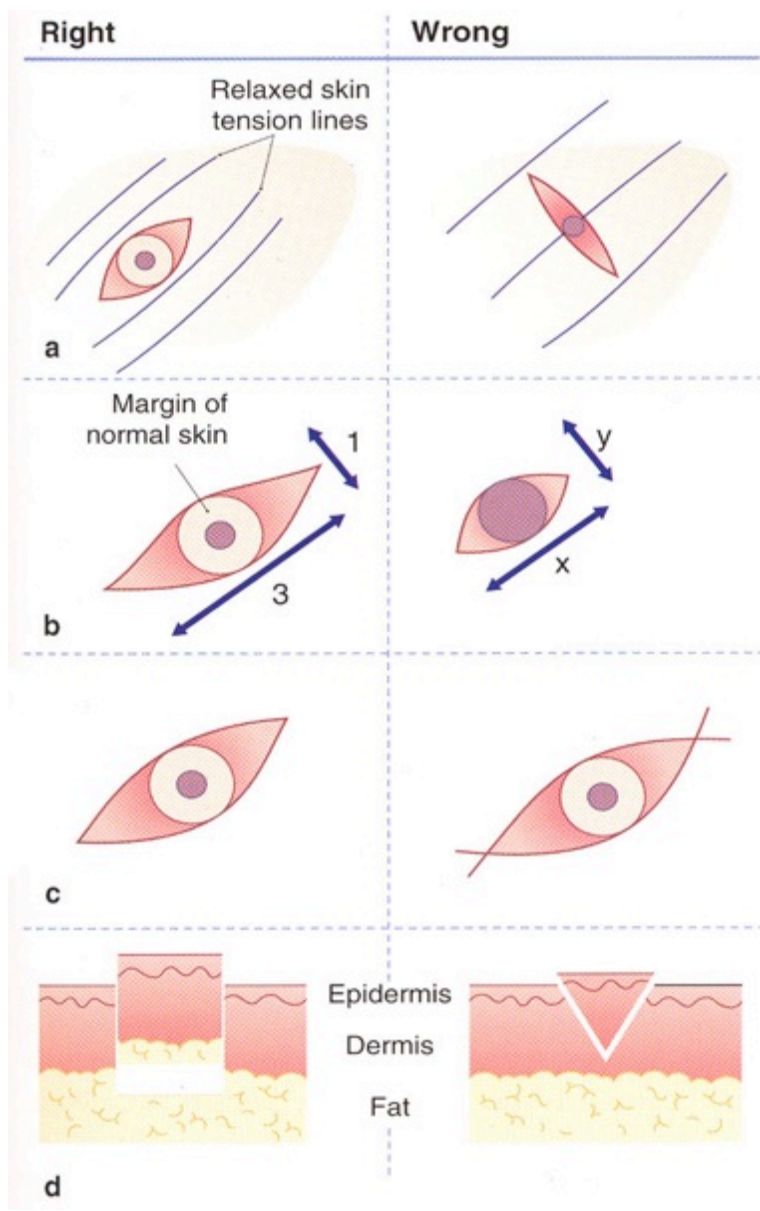
Excisional

- Basic elliptical has length 3x as long as the width; can use 2 mm margin for first excision
- Great for moles that are suspicious; goes down to fat; complete excision
- Consider relaxed skin tension lines for best scar outcome
- If you suspect a melanoma arising from a nevus, this is the best technique to use

Excisional



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Always apply 3:1 rule to avoid "dog ears"!!!



Excision: lateral leg

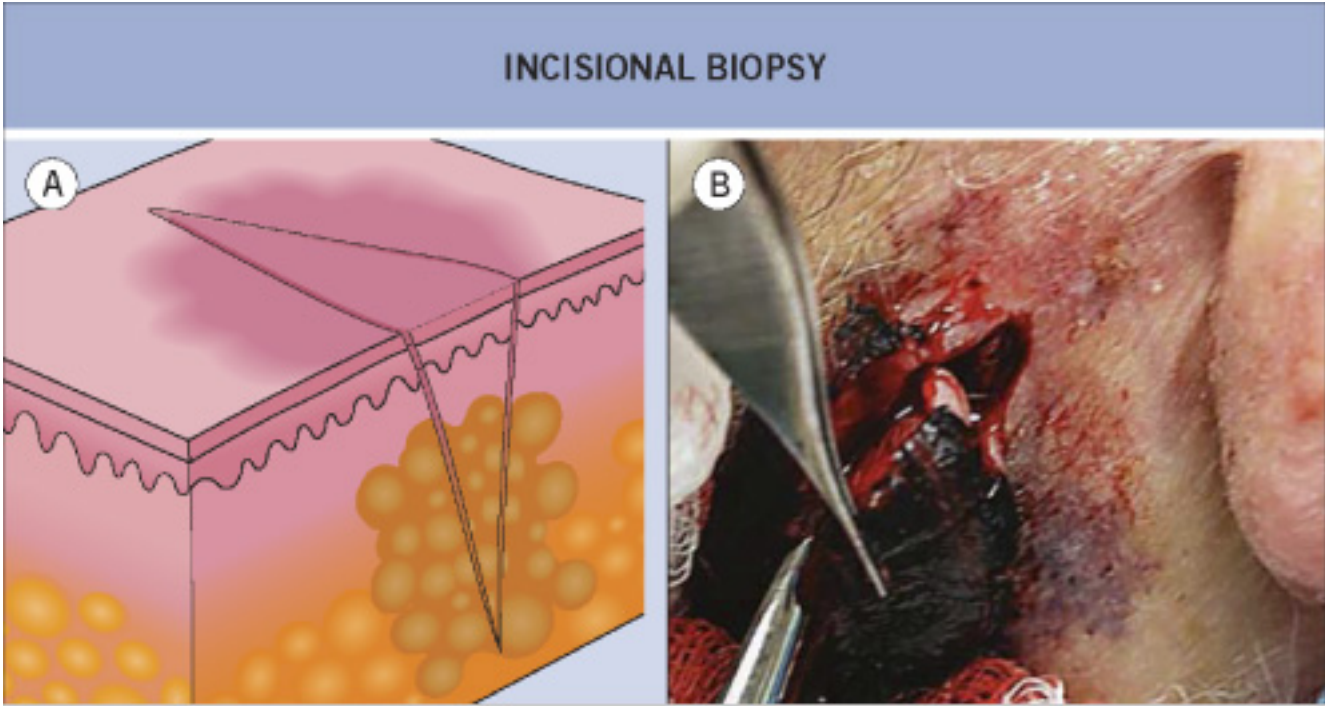


Incisional

- Incomplete excision down to fat
- Indicated in lesions that are too large to remove with the excisional technique with narrow margins
- Thickest portion of the lesion with a portion of normal skin
- For melanomas, incisional and excisional are preferred (NCCN & AAD guidelines)

Why include a margin of normal skin?

- Excisional vs Punch vs Shave by Stell et al 2007
 - Punches have a high positive lateral margin rate
 - Unless you do a “punch excision”
 - Shaves have a high positive deep margin rate
 - Shows inadequate sampling
 - Saucerization technique gives deeper specimen, but remember the thickness of the skin plantarly!
 - Really consider not doing this for a suspected plantar melanoma; although it has been shown useful for “thin” melanomas
 - Most common biopsy sent to paths
 - NCCN and AAD prefer Excisional first (or incisional if too large) for suspected melanoma for best chance at proper staging



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Assisting the Dermatopathologist...

- On the requisition sheet, provide the following info:
 - Age, sex, type of biopsy, site (laterality, too)
 - Duration of lesion biopsied and of disease, Size, Description of lesion (color, distribution pattern)
 - Your clinical diagnosis and differential diagnosis
 - Anything else that you feel would aid in diagnosis (photos, drug history, etc)

What next?

- Tell patient about site care and pain control
- Return for suture removal and review of path diagnosis in 10-14 days

Figuring out the Path report

- Communication is crucial between you and the dermatopathologist
 - If you have questions, don't hesitate to call
- In situ=superficial lesion
- May say wider excision recommended
- May ask for another specimen to do immunofluorescence staining (for melanoma and vesicles)
- Depth/margins/mitotic rate

Clark's, Breslow's, and 5 year survival rate

- Breslow's Depth is the most important prognostic indicator per AJCC guidelines
- Clark's has little value beyond 1mm thickness
- Clark Level I= tumor cells in epidermis only (melanoma in situ)
 - 100% cured with adequate excision
- Clark Level II=tumor cells into dermis (but do not fill papillary dermis)
 - 95-99% 5 year survival with Breslow depth <0.75 mm

Clark's, Breslow's, and Survival

- Clark Level III=tumor cells into and fill papillary dermis
 - 5 yr survive 90% with depth of 0.76-1.49mm
- Clark Level IV=tumor cells into reticular dermis
 - 5 yr survive 75% with depth of 1.50-4.00 mm
- Clark Level V=tumor cells through dermis and into subcutaneous fat
 - 5 yr survive <50% with depth >4.00mm

New AJCC guidelines

- Ann Surg Oncol 2010
- Tumor
 - thickness, ulcerated or not ulcerated?, mitotic rate
- Node
 - Nodal micrometastases staining
- Metastasis
 - Site or sites of distant metastases

Melanomaprognosis.org

Once the biopsy results return: Treatment

- General guidelines for surgical margins for total excision
 - In situ: 5mm border of normal skin
 - Breslow's depth of <1mm wide excision with 1cm normal margins
 - 1-2mm depth should have 1-2 cm margins
 - 2-4mm should have 2 cm margins
 - >4mm should have 2 cm+ margins

http://www.nccn.org/professionals/physician_gls/PDF/melanoma.pdf

Need for further surgery

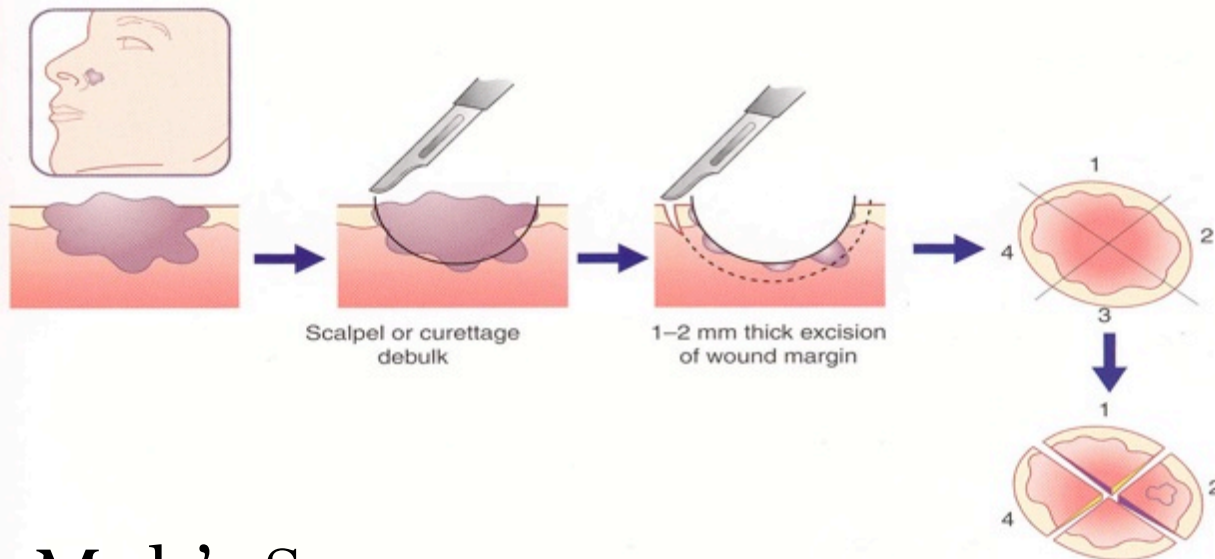
- Now you need to do a sterile procedure for a total excision!
 - Can still be an office based procedure
- Keep in mind a diagnosis of melanoma will follow that patient indefinitely—especially in cases of life insurance

Working with other docs...

- Need a graft? Get plastics or use a skin substitute
- Staged closure? Dermaclose
- Need a consult for full body check with dermatology
- Moh's surgery
- Oncology consult and eval when needed

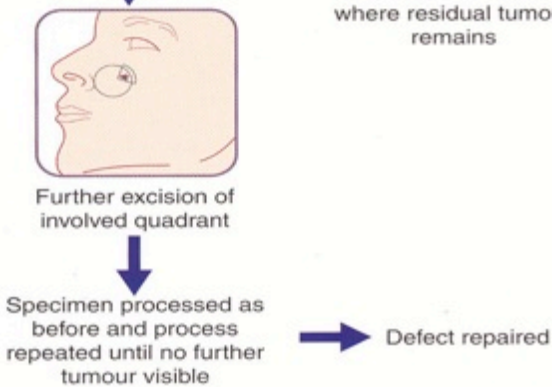
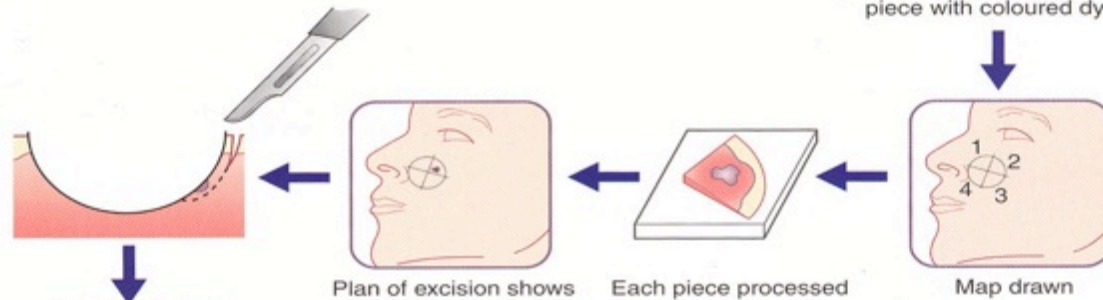
Moh's Surgery

- Treatment of choice for difficult skin tumors; has 98% 5 year cure rate
- Dermatological surgeon or Plastic surgeon who is Moh's fellowship trained
- Serial excision & histologic exam; then repeat process until margins clear and close wound
- Can be used for digital and pedal malignant lesions to avoid amputation...as long as nodes are clear
- For Basal Cell, Squamous Cell, Verrucous carcinoma (low grade squamous)



Moh's Surgery

Saucer shaped piece of tissue excised to include entire cut margin. Specimen cut into suitably sized pieces and specimen orientation maintained by marking the margins of each piece with coloured dyes



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Post Moh's surgery

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