Case-Based Approach to Common Dermatologic Neoplasms

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Disclosure of Relevant Financial Relationships

- I **do not** have any relevant financial relationships, commercial interests, and/or conflicts of interest regarding the content of this presentation.

Goals/Objectives

- Recognize common benign growths
- Recognize common malignant growths
- Useful clues & examination for evaluating melanocytic nevi and when to be concerned for melanoma/atypical moles
- How to perform a basic skin biopsy and which method/type to choose
- Basic treatment/when to refer

Key Questions & Physical Examination Findings for a Growth

History

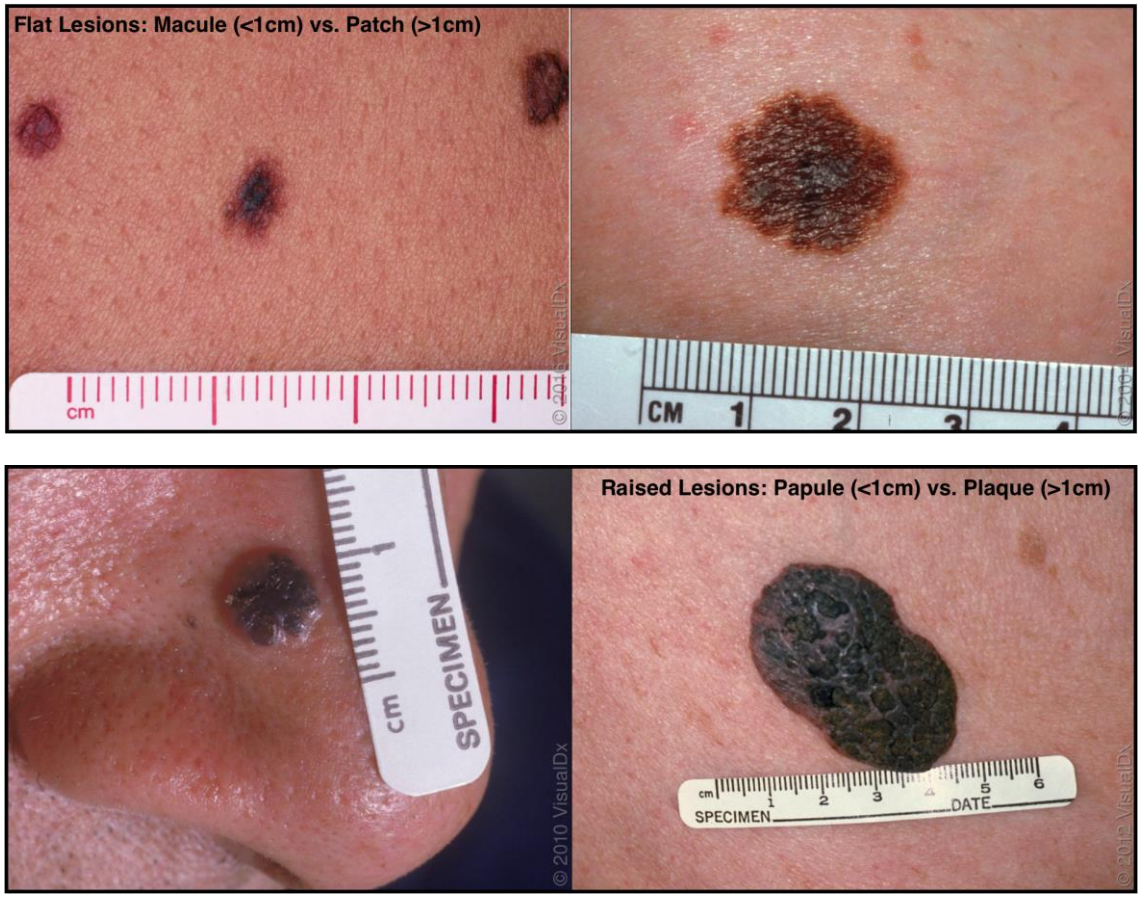
- How long has the lesion been present?
  - years, months, weeks
- Has it changed?
  - Size
  - Shape
  - Color
  - Symptoms – pain, bleeding, itch?
  - Over what time frame?
- PMH:
  - prior skin cancers
    - SCC/BCCs vs. melanoma
  - blistering sunburns in childhood
  - tanning bed use
  - sunbather
  - FH melanoma in 1st degree relatives

Physical Examination

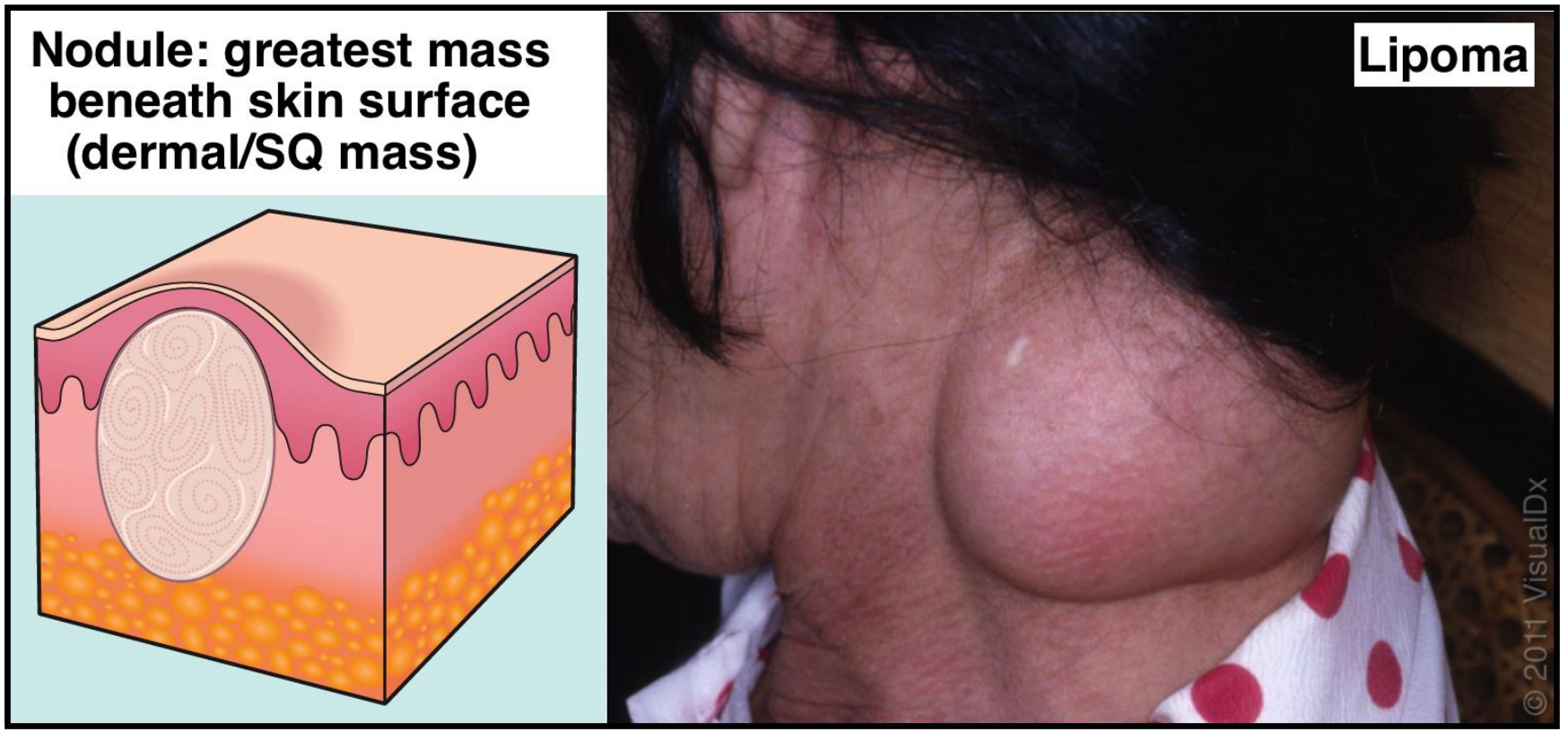
- Describing a growth
  - **flat or raised?**
    - flat – **macule** (<1cm) or **patch** (>1cm)
    - raised – **papule** (<1cm) or **plaque** (>1cm)
      - **nodule** if deep (majority of lesion in dermis/SQ)
  - **secondary descriptive features**
    - scaly (hyperkeratosis, retention of strateum corneum)
    - crusty (dried serum, blood, or pus on surface)
    - eroded or ulcerated (partial vs. full thickness epidermal loss)
    - color (skin colored, red, pigmented, pearly)
    - feel (hard or soft, mobile or fixed)
    - size: i.e. 6 x 4mm
- Look at the rest of the skin/region of skin
  - look for similar growths for comparison
    - ugly duckling sign
  - chronic sun exposed areas vs. intermittent sun exposed areas
  - does it occur within background sun damage?

Primary Lesion

- Describing a growth
  - **flat or raised?**
    - **flat** – **macule** (<1cm) or **patch** (>1cm)
    - **raised** – **papule** (<1cm) or **plaque** (>1cm)

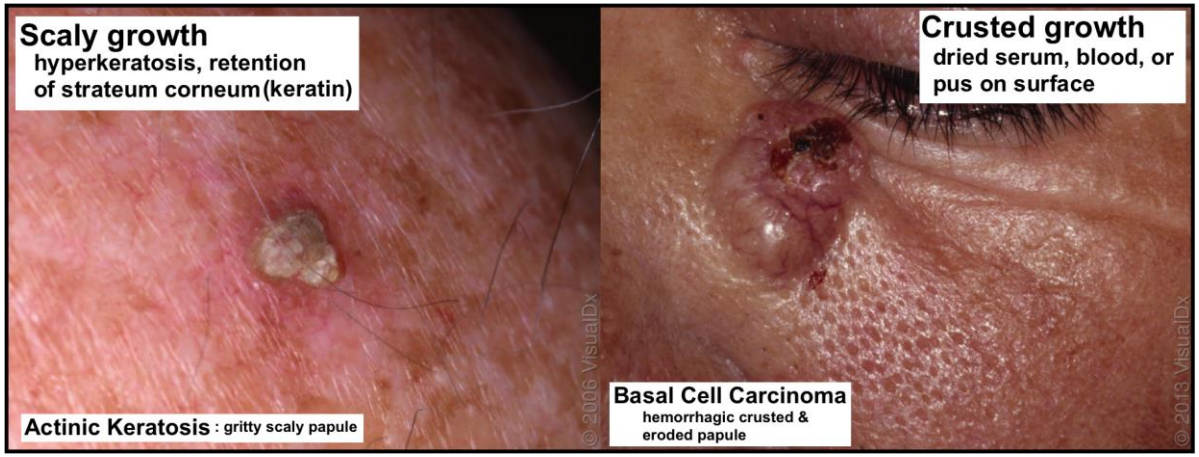


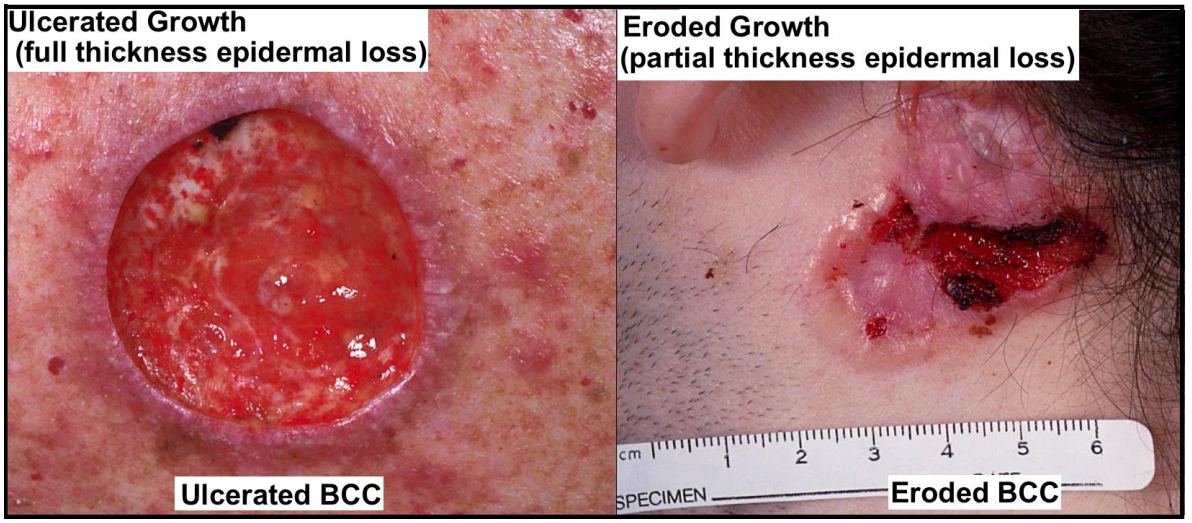
Primary Lesion



Secondary Descriptive Features

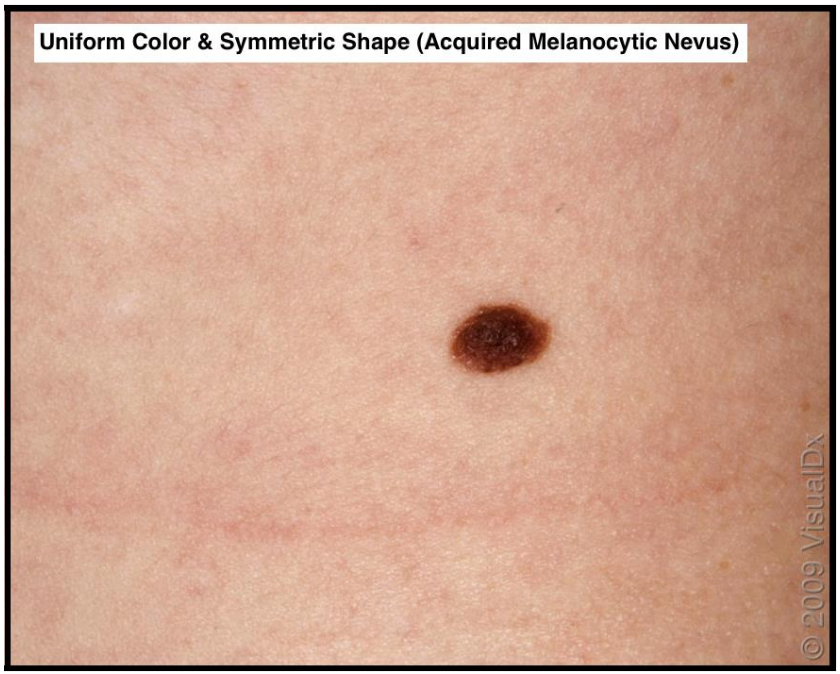
- Describing a growth
  - scaly (hyperkeratosis)
  - crusty (dried serum, blood, or pus on surface)
  - eroded or ulcerated

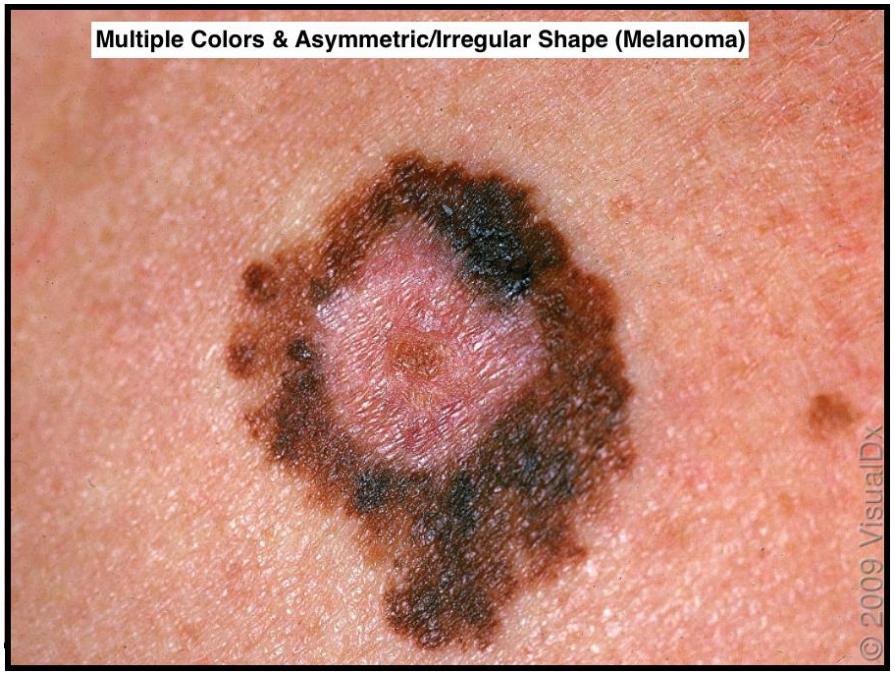




Secondary Descriptive Features

- Describing a growth
  - color (skin colored, red, pigmented, pearly, or multiple colors)
  - shape (irregular or symmetric)





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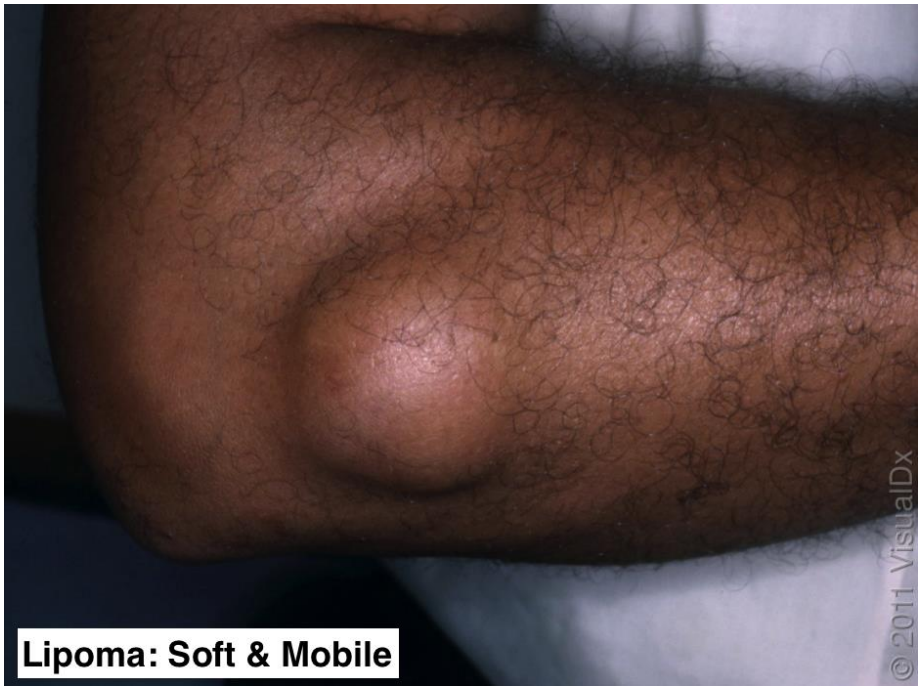
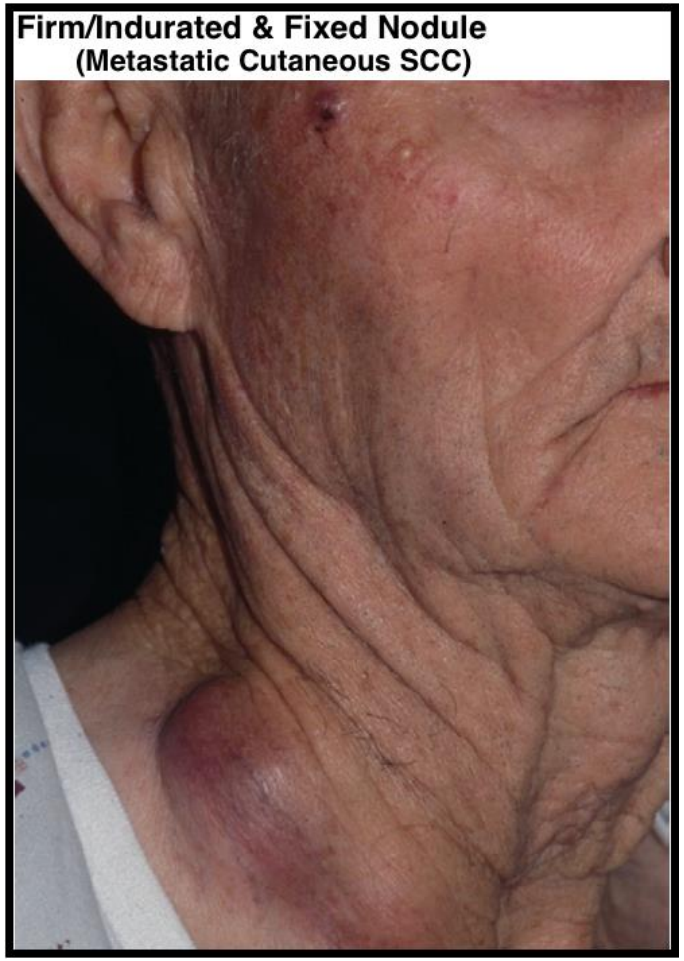
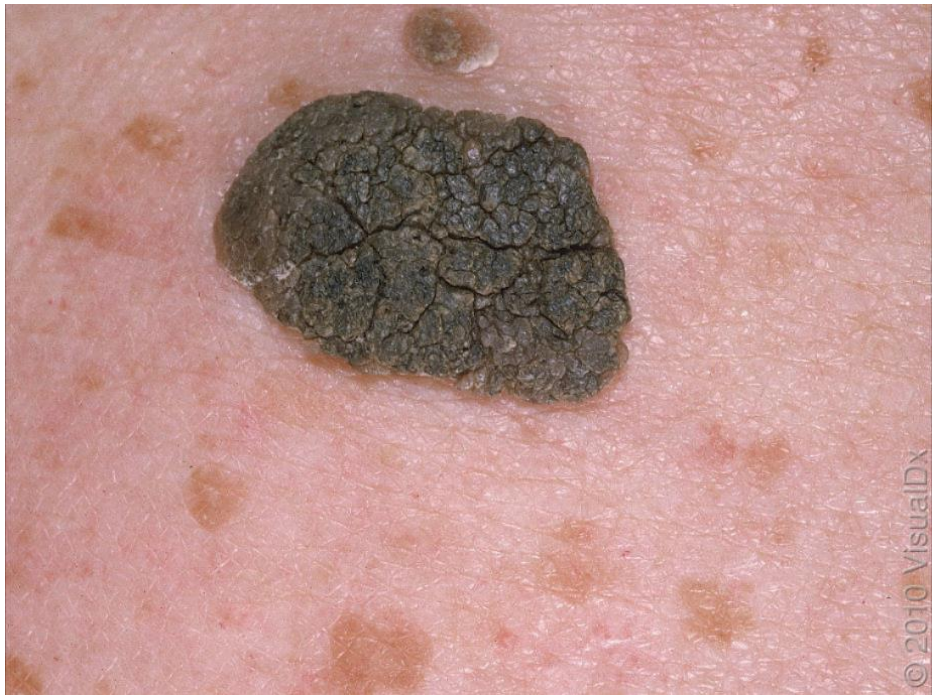
- Describing a growth
  - feel (hard or soft, mobile or fixed)





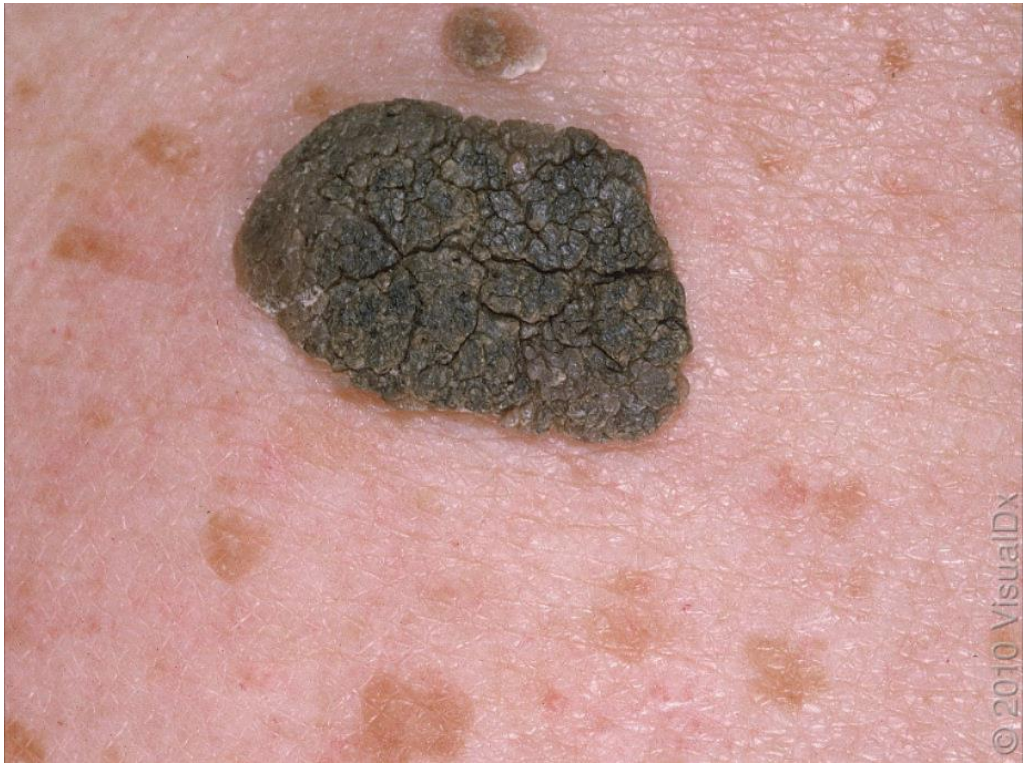
Case One

- A 45-yo male presents with a new “mole” on his back that his wife noticed 4-months ago
- Asymptomatic mainly; occasionally itches & it bleed once after picking at it
- He asks “Doc, do I have skin cancer?”



What is the diagnosis?

A. melanoma
B. acquired melanocytic nevus
C. seborrheic keratosis
D. dysplastic nevus
E. verruca vulgaris (wart)



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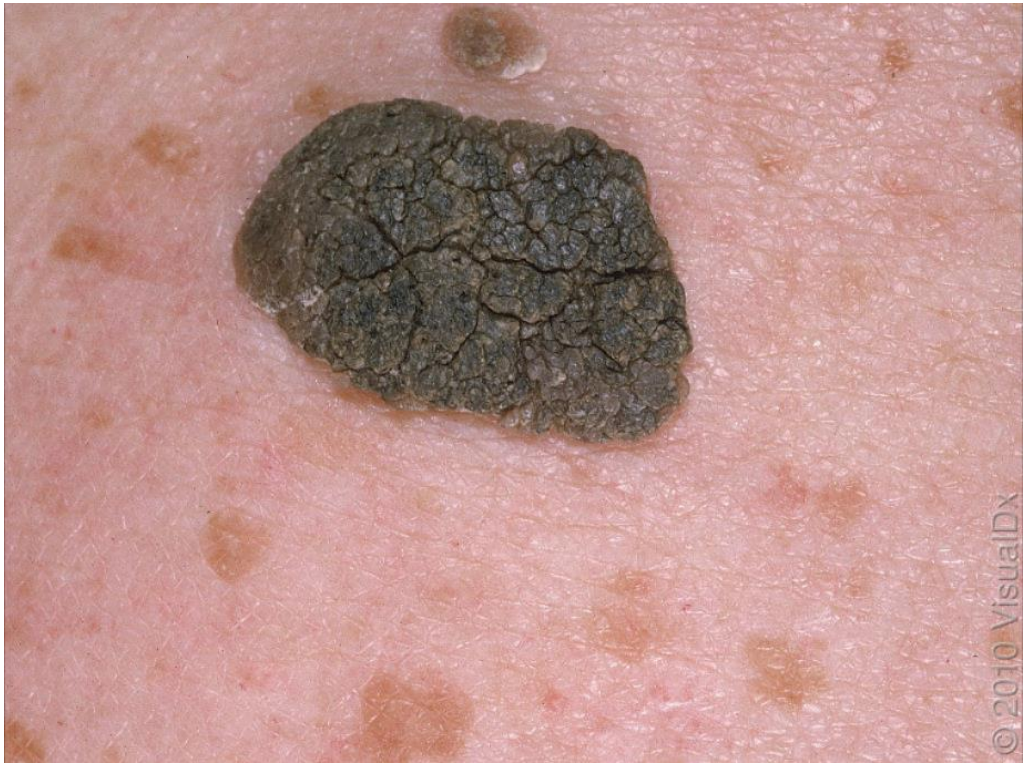
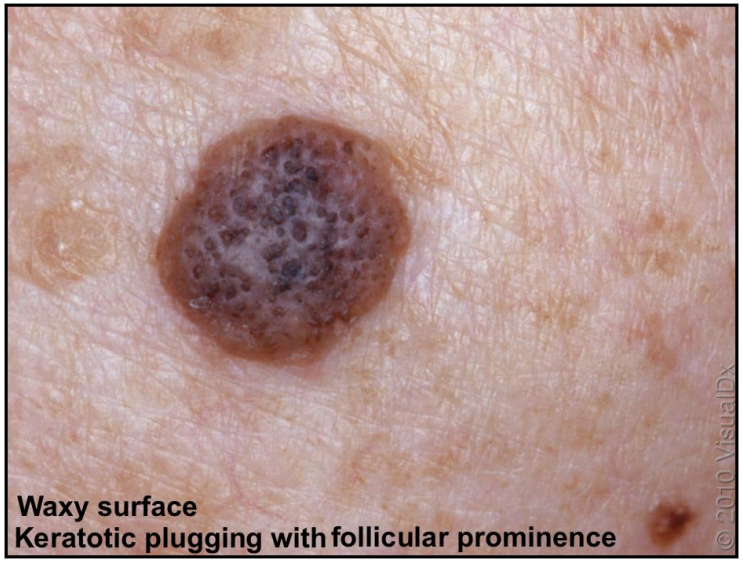


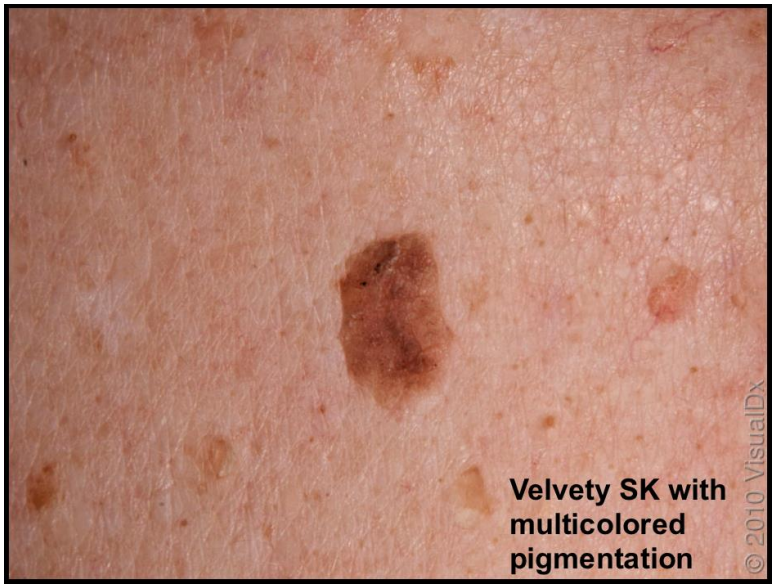
Seborrheic Keratoses

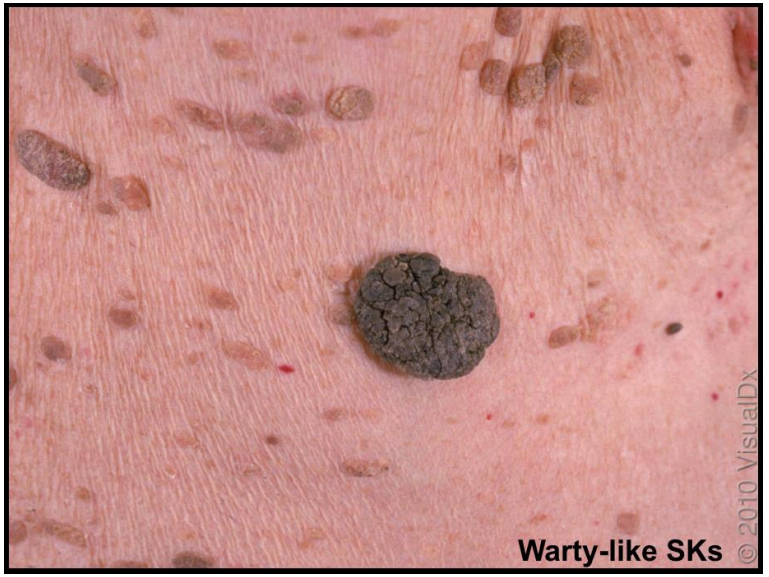
- common benign epidermal neoplasm that begin usually in 30s & become ubiquitous in elders
- range from few → hundreds
- sharply marginated, pigmented lesions & usually raised
  - Waxy, "stuck-on," verrucous-appearing papules or plaques
- Individual lesions grow rapidly and reach a static size without further growth
- mostly asymptomatic
- can occur on any body site except the palms, soles, and mucous membranes

Seborrheic Keratoses

- Color is variable
  - skin-colored, brown, black, pink
  - pigmentation may be variable within a single lesion
- Texture is variable
  - waxy, wart-like, or velvety

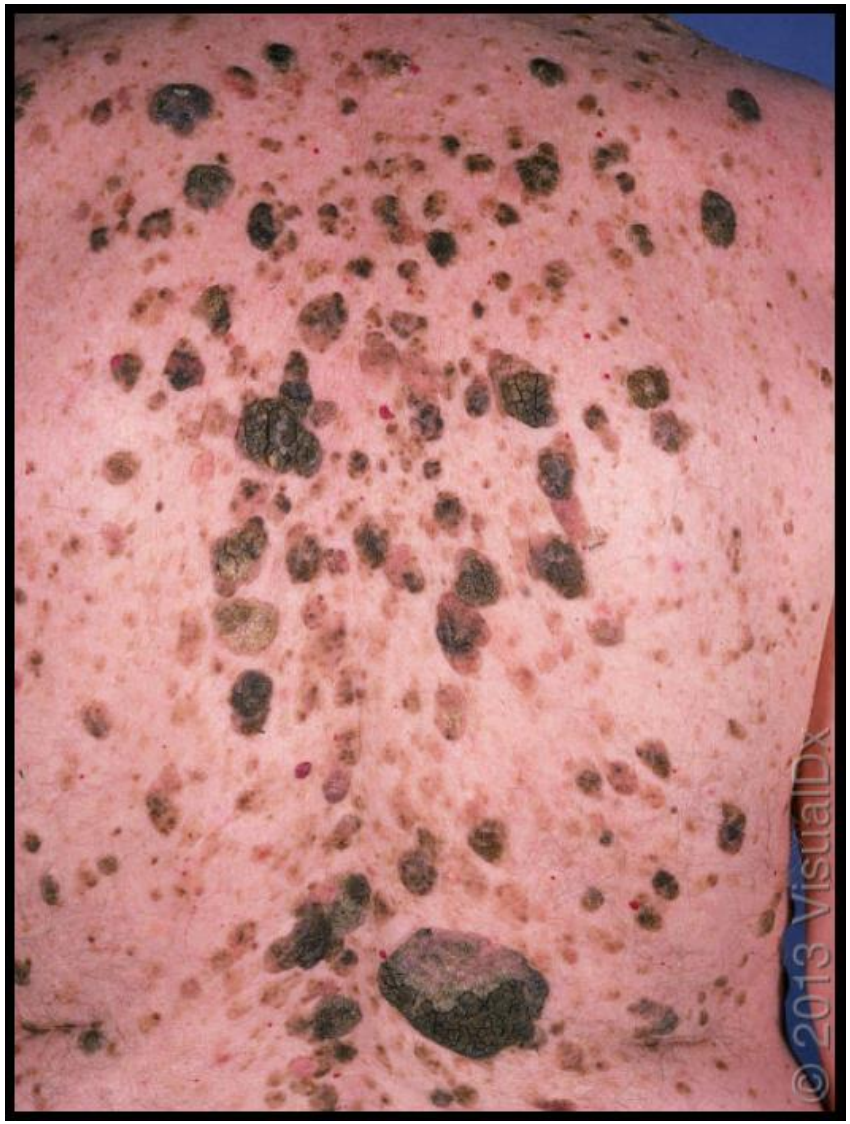






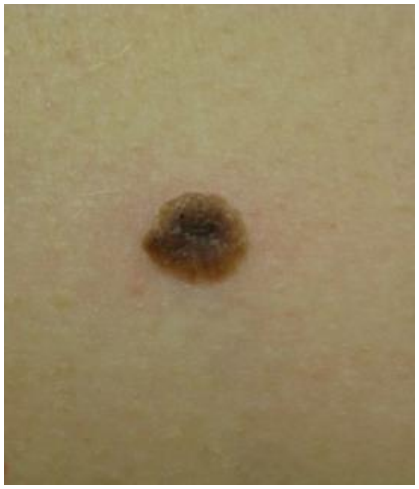
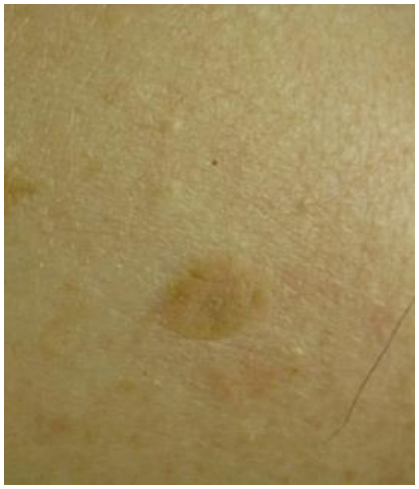
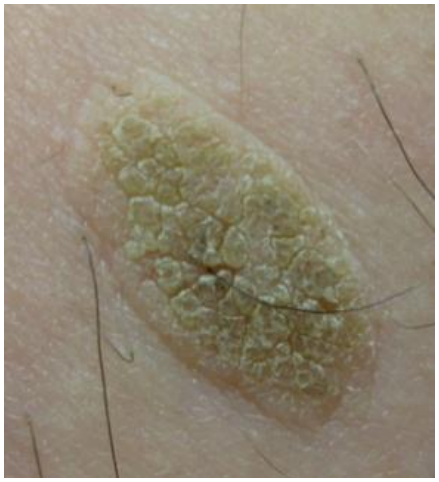
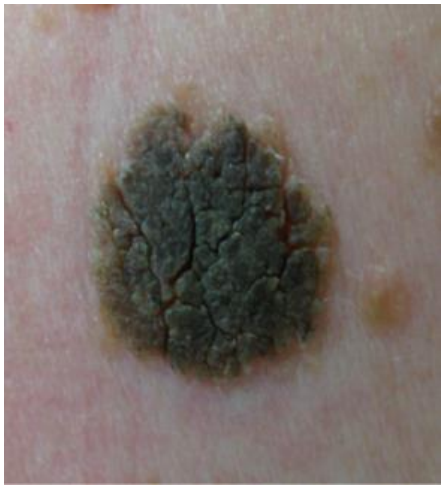
Seborrheic Keratoses

- begin developing usually in 30s & become ubiquitous in elders
- increase in number throughout life
- range from few → hundreds
- contrast with melanocytic nevi, which typically appear in the first three decades of life
  - a new nevus at the age 50 should raise concern for melanoma



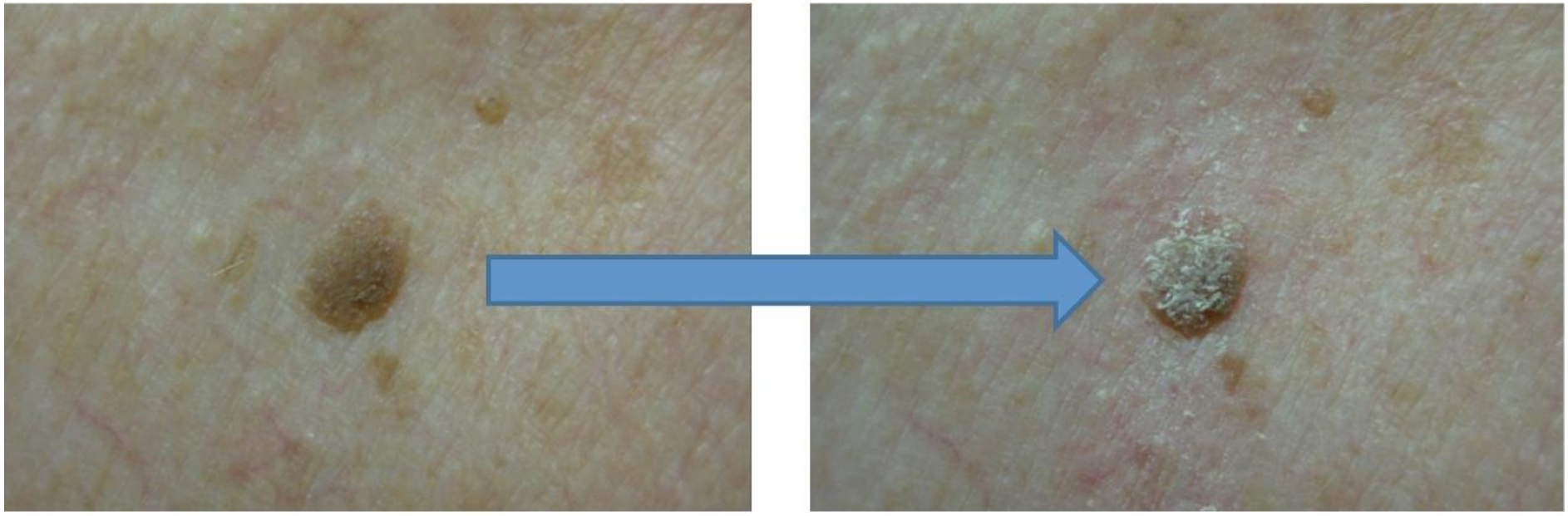
How can I tell if a lesion is a seborrheic keratosis?

- SKs are superficial epidermal growths.
- “stuck-on” quality, like wax-pressed on the skin
- Flat SKs can have a "postage stamp" like appearance (flat wrinkled macule)

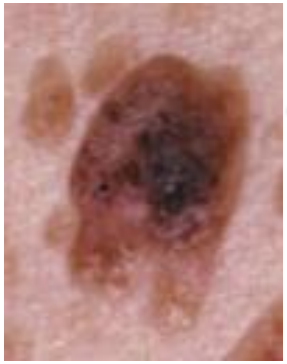
How can I tell if a lesion is a seborrheic keratosis?

- if not sure, gently pick/scratch the edges & surface of the lesion
  - it feels as if you can pick it off the surface
  - may crumble or flake showing a superficial waxy character

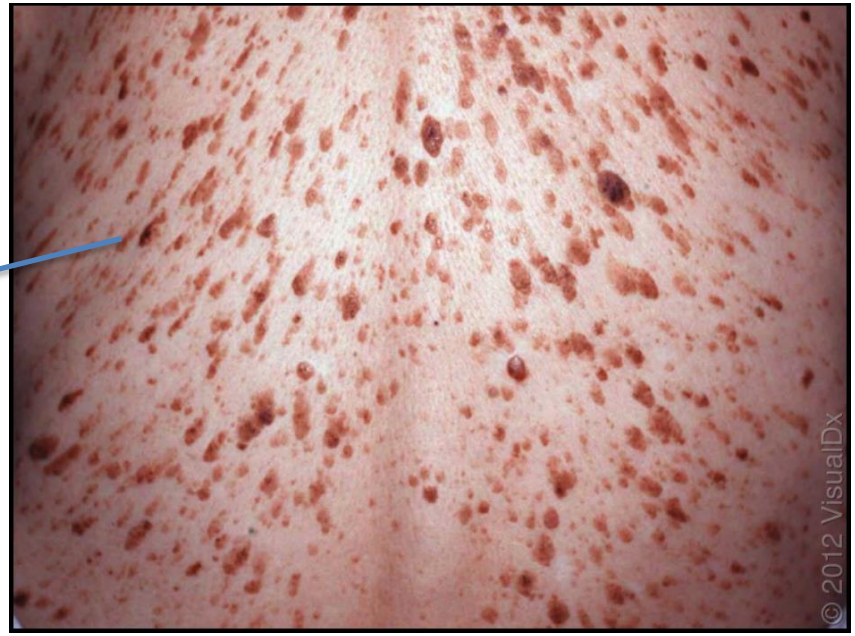


How can I tell if a lesion is a seborrheic keratosis?

- Always evaluate the lesion in the context of other growths on the skin – “look at both the tree & forest”



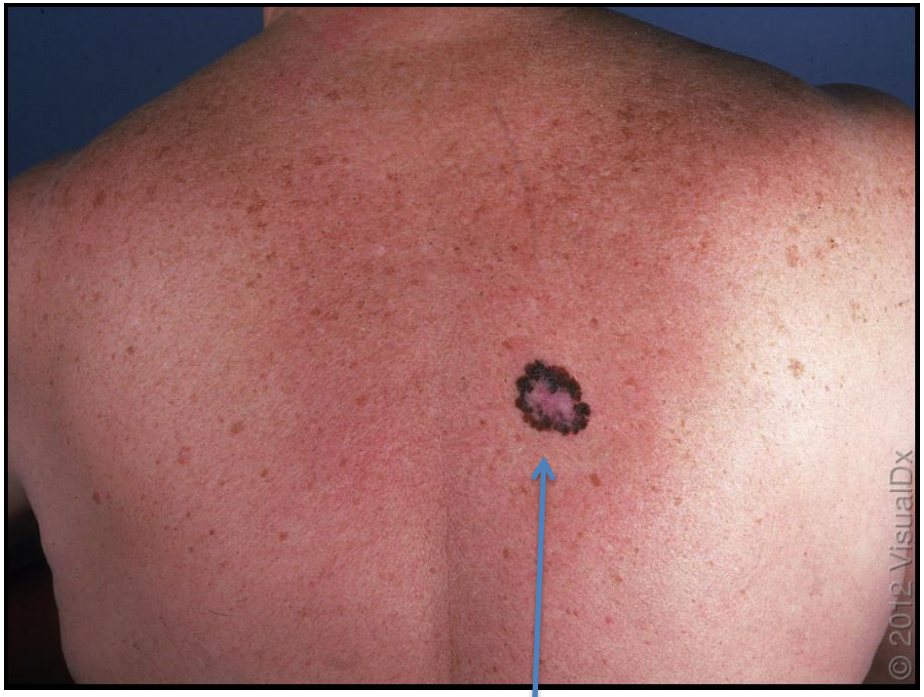
seborrheic keratosis



seborrheic keratoses

How can I tell if a lesion is a seborrheic keratosis?

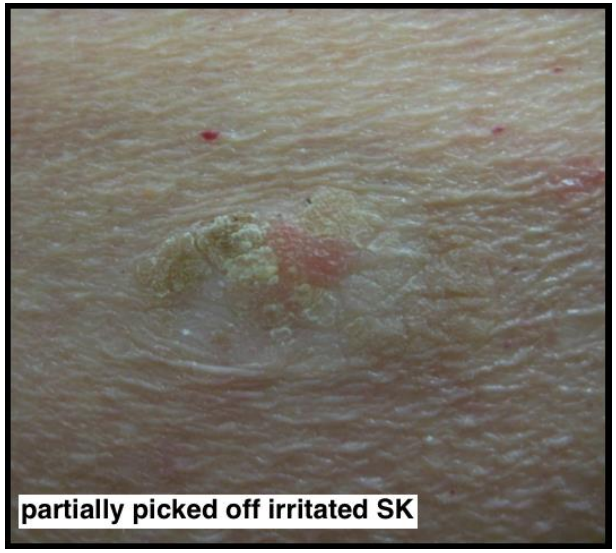
- Always evaluate the lesion in the context of other growths on the skin – “look at both the trees & forest”
- The “ugly duckling sign” – the lesion that appears different from the rest
- When in doubt, biopsy or refer to rule out melanoma

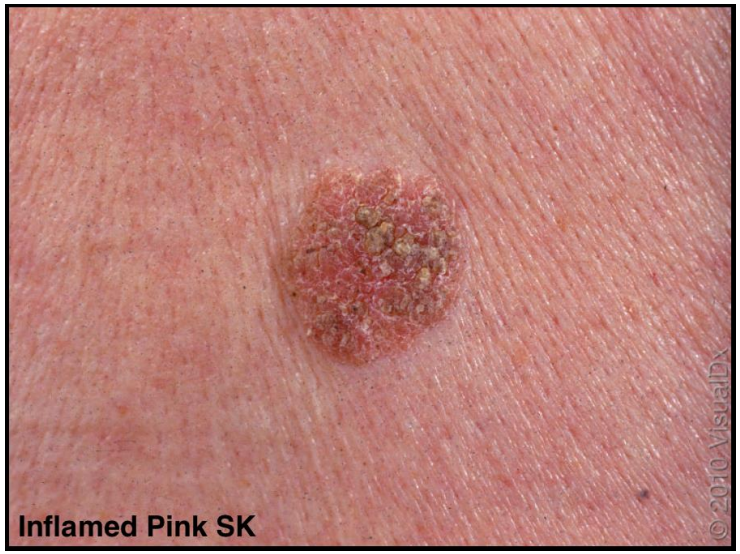


“ugly duckling sign”
– invasive melanoma

Treatment of SKs

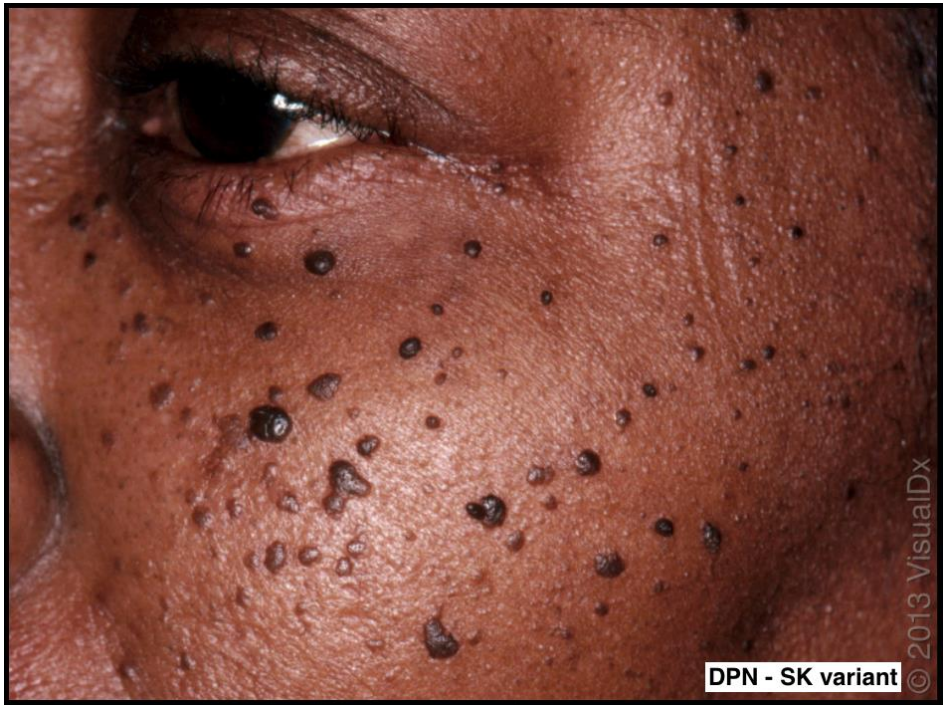
- Reassurance
- If irritated, inflamed, or symptomatic, can treat for medically necessary purposes
- Asymptomatic lesions can be treated for cosmetic purposes
- Treatment options
  - curettage
  - LN2/cryotherapy
  - electrodessication
  - shave removal

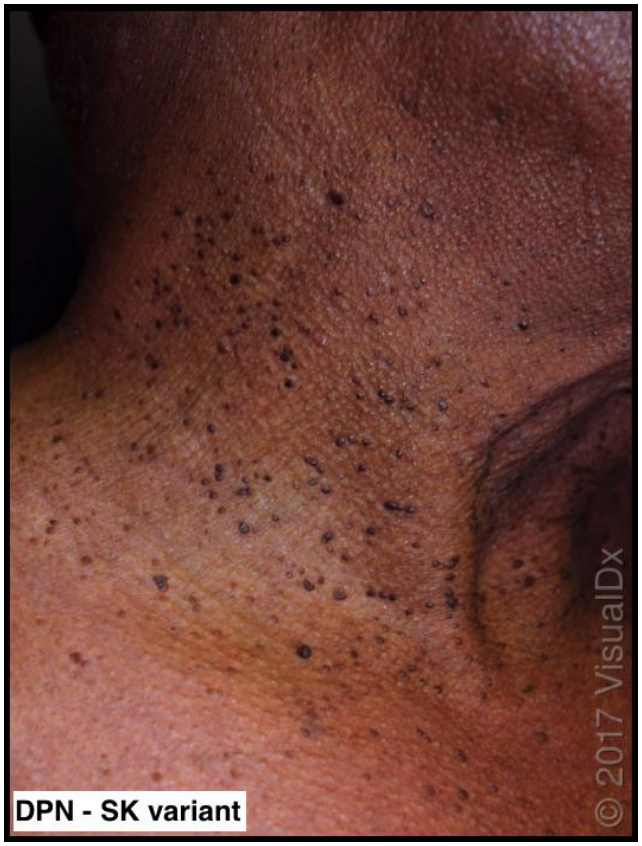




Dermatosis Papulosa Nigra

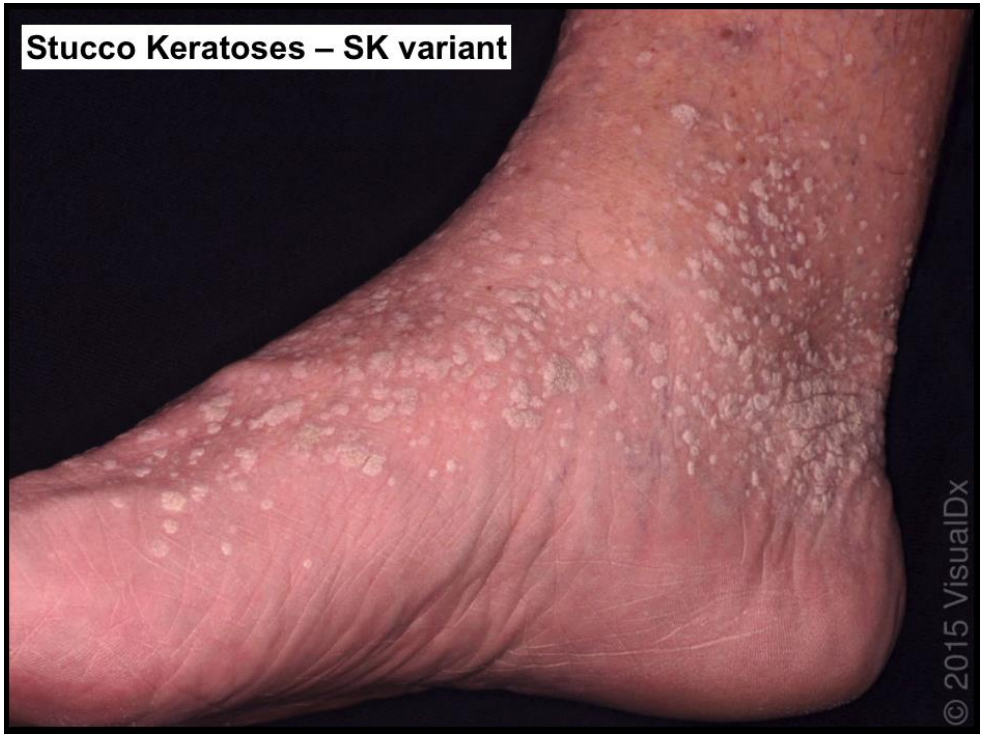
- Dermatosis papulosa nigra (DPN) is an SK variant in darker skin types of African or Asian descent
- multiple papules that favors cheeks, temples, & neck
- onset typically during adolescence and F>M





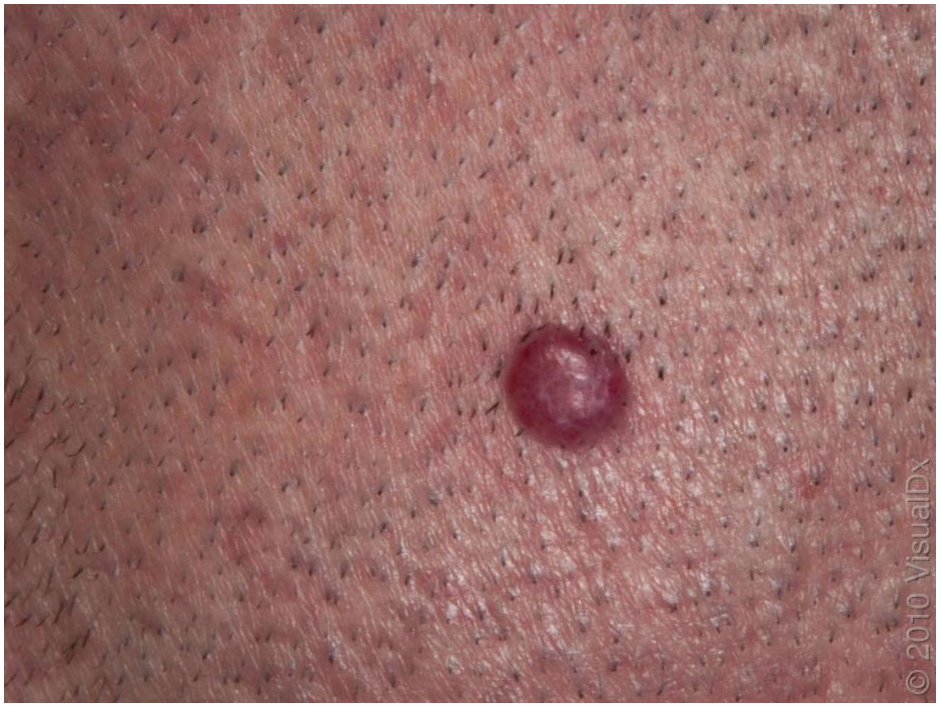
Stucco Keratoses

- Stucco keratoses papular warty white-gray SKs that commonly occur on the lower legs and feet of the elderly men.
- They are benign and usually asymptomatic.



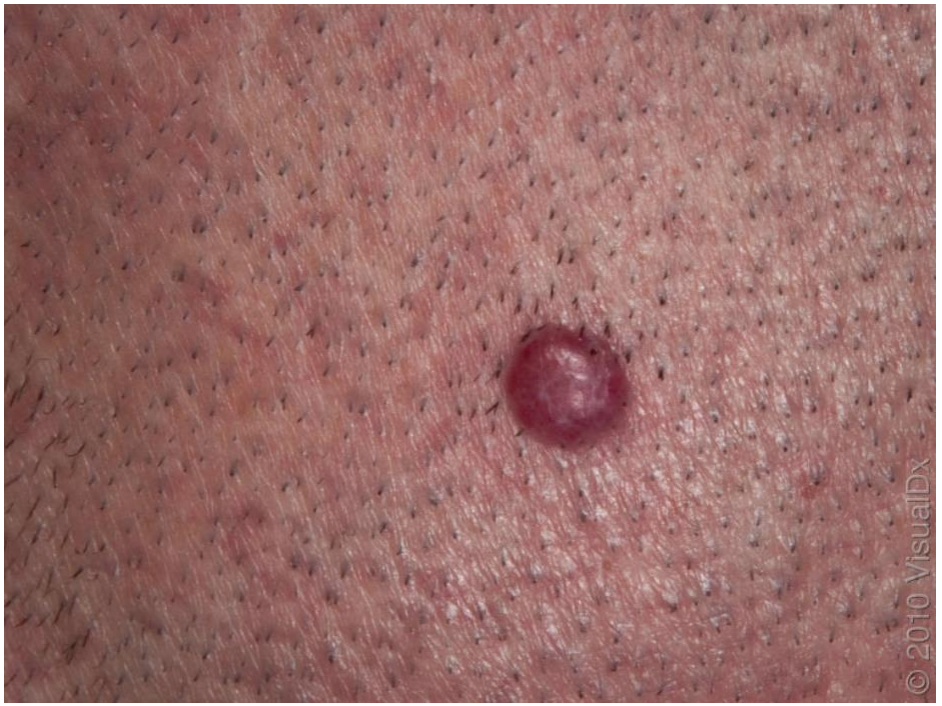
Case 2

- 45 yo male presents with a “red mole” which appeared several months ago & has grown.
- It is asymptomatic and no bleeding



What is the diagnosis?

A. Basal Cell Carcinoma
B. Cherry Angioma
C. Congenital Hemangioma
D. Petechiae
E. Seborrheic Keratosis



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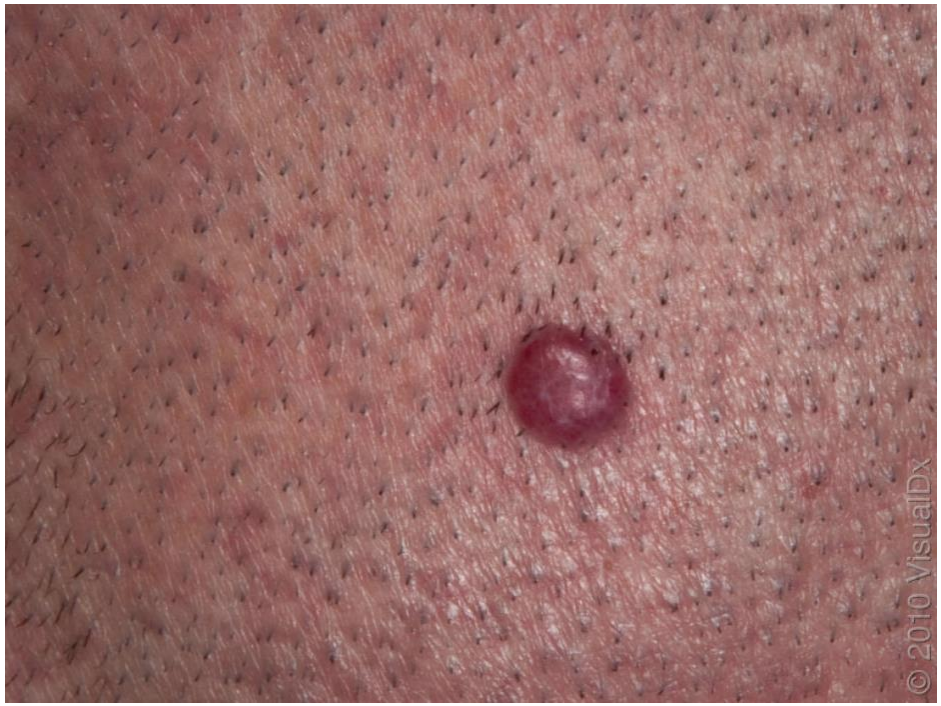
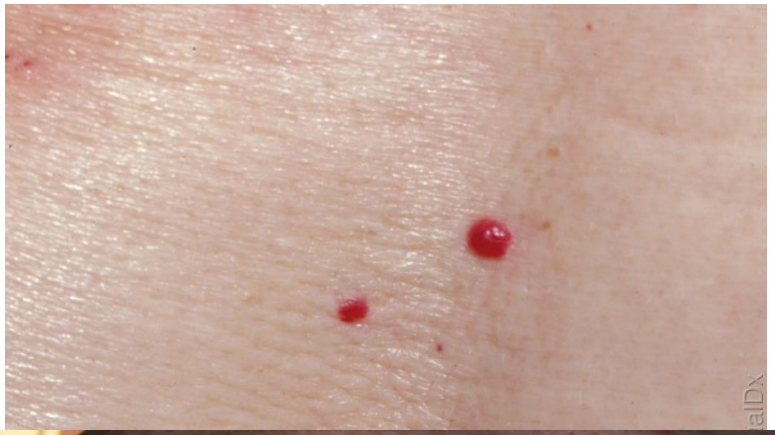
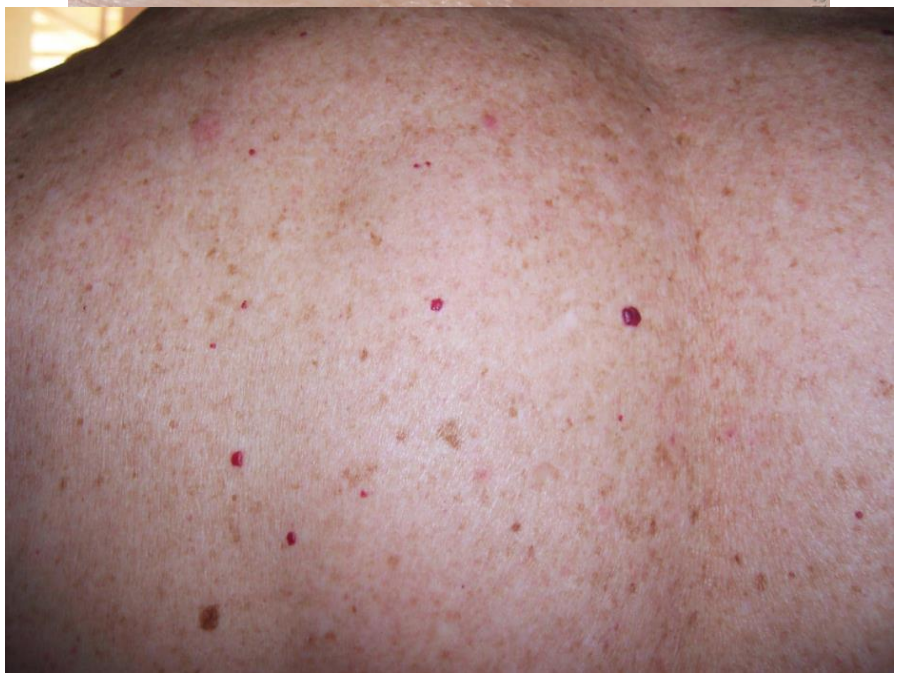


Cherry Angiomas

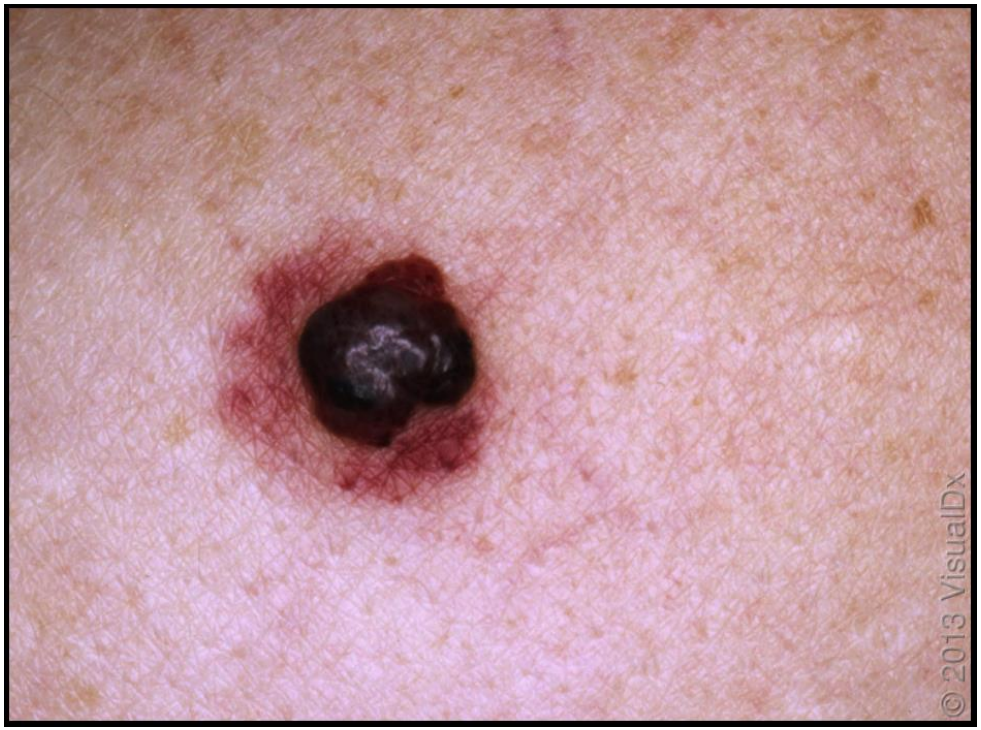
- Most common acquired benign vascular cutaneous neoplasms
- usually first appear during the third decade of life or later
  - Most people over 60 years of age have one or more such lesions
- increase in number over time
- small cherry red papules or macules with trunk predilection

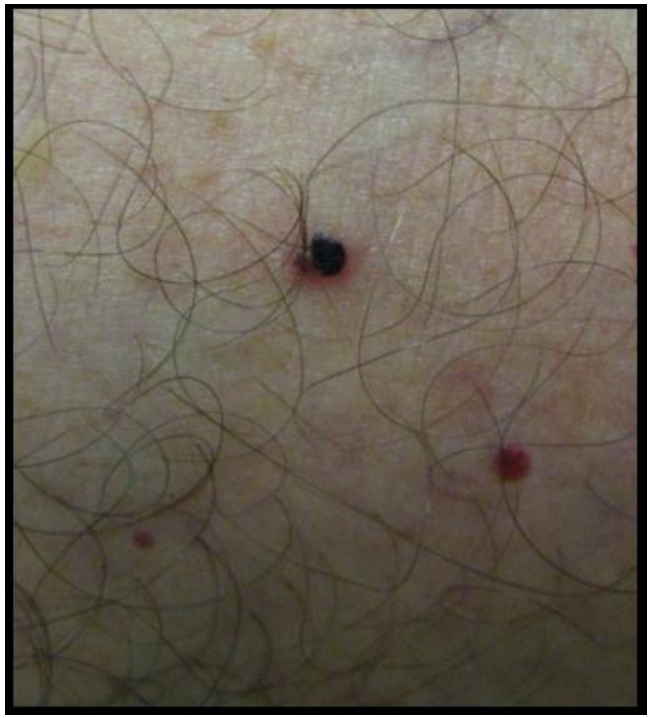




Cherry angioma

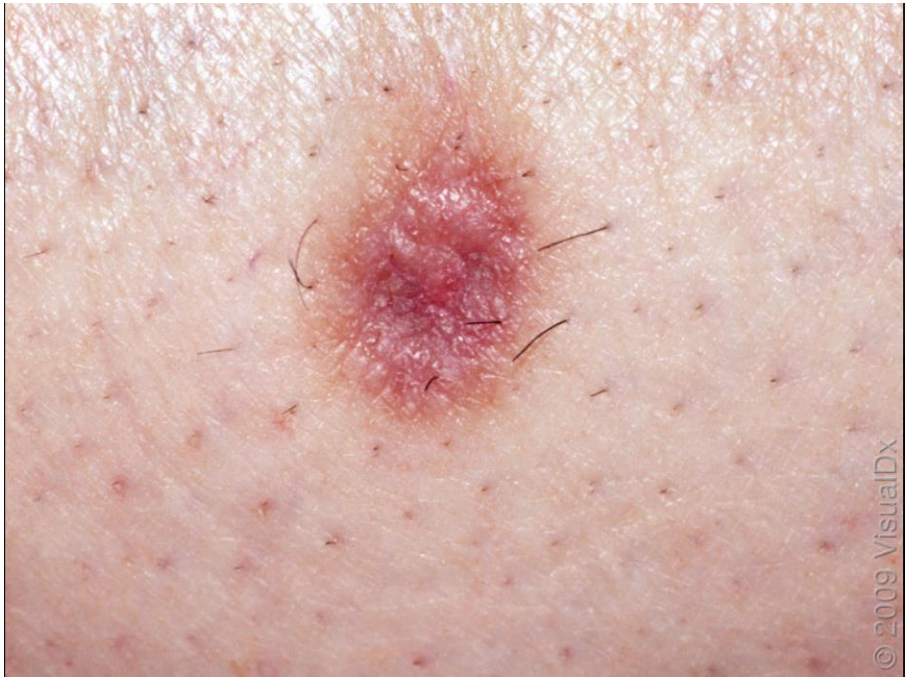
- can mimic melanoma when they get traumatized or thrombose (dark purple or black color)
- when in doubt, biopsy or refer to r/o melanoma





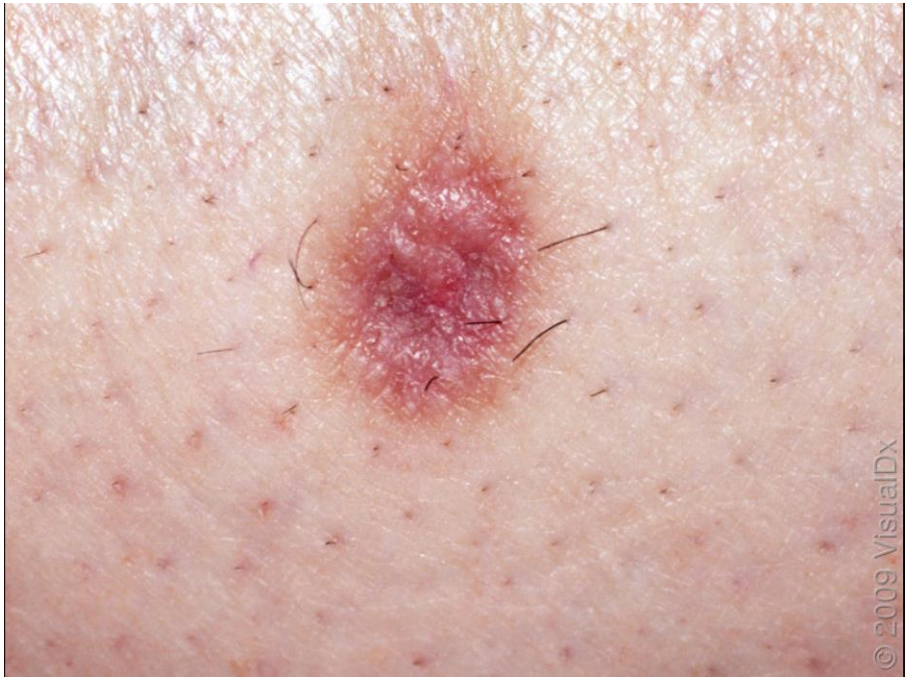
Case 3

- 27-yo female presents with a new growth on the lower leg
- She sometimes nicks it while shaving
- it has gotten darker around the edges over the past few months
- when you examine the lesion, it feels firm like “scar tissue” and when you squeeze it it makes a slight dimple



What is the diagnosis?

A. Melanoma
B. Seborrheic Keratosis
C. Basal Cell Carcinoma
D. Acquired Melanocytic Nevus
E. Dermatofibroma



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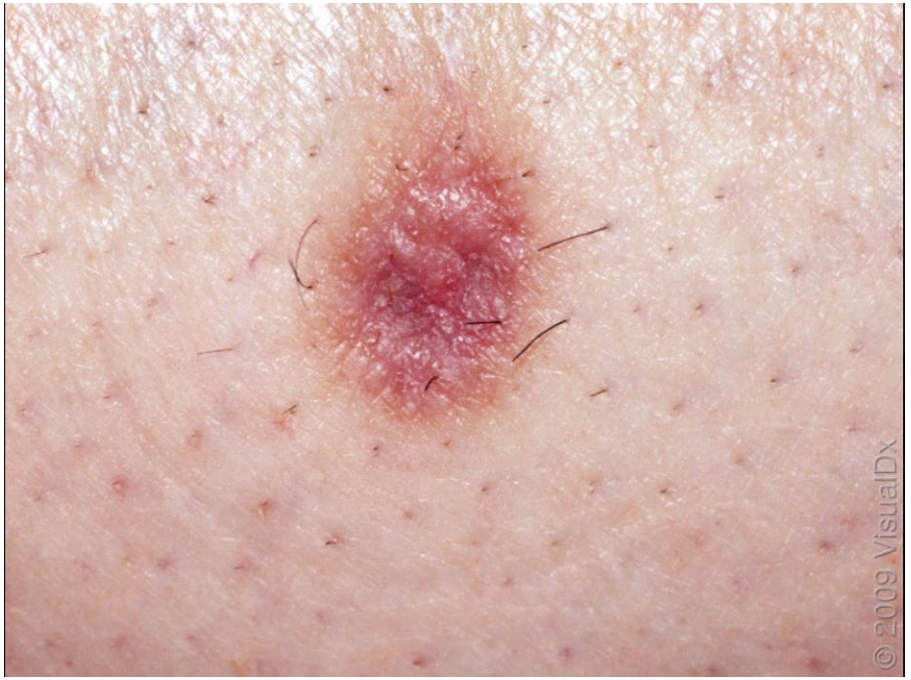
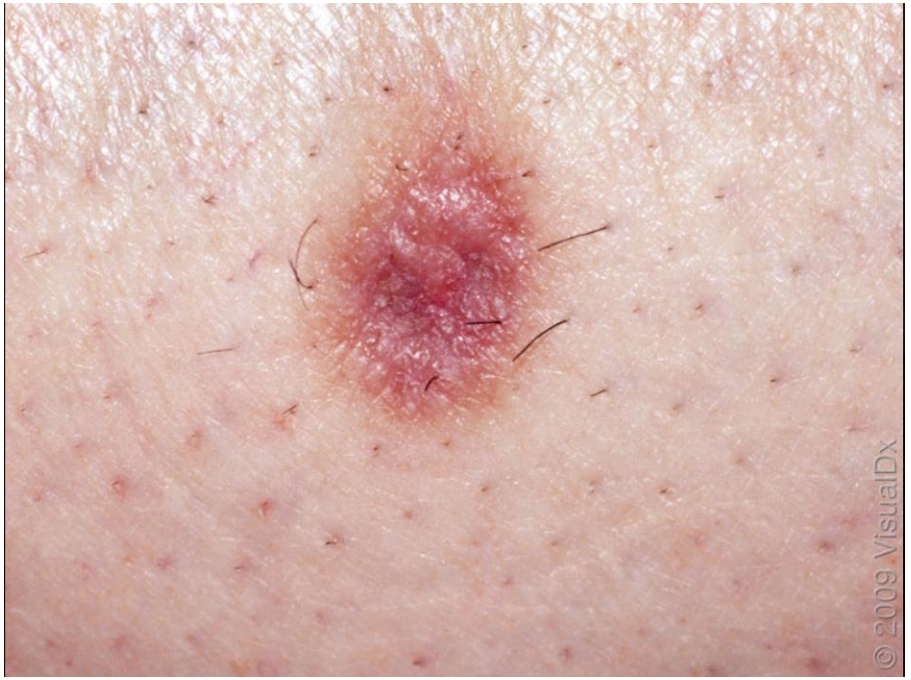


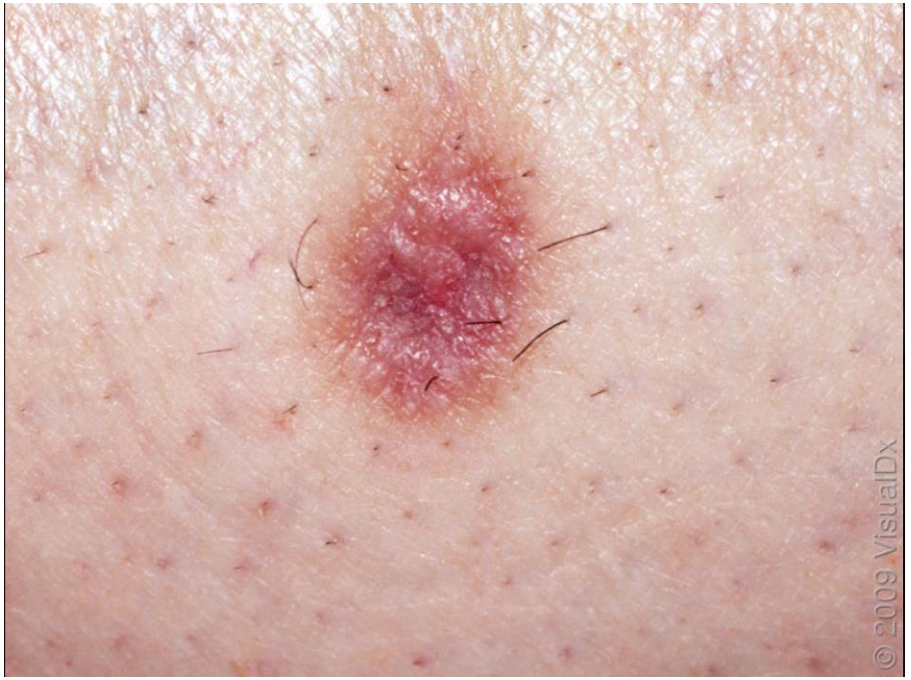
What do you do next?

A. Biopsy the lesion
B. Refer to Dermatology
C. Reassure the patient that it is benign
D. Reassure the patient that it will go away



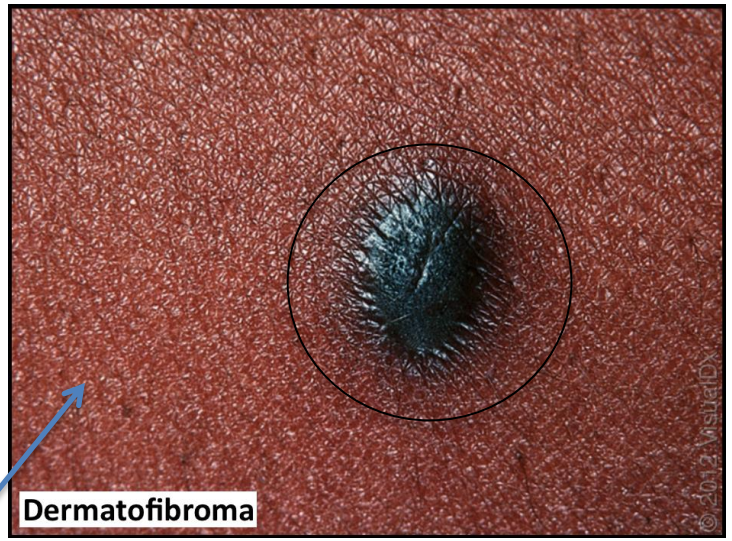
What do you do next?

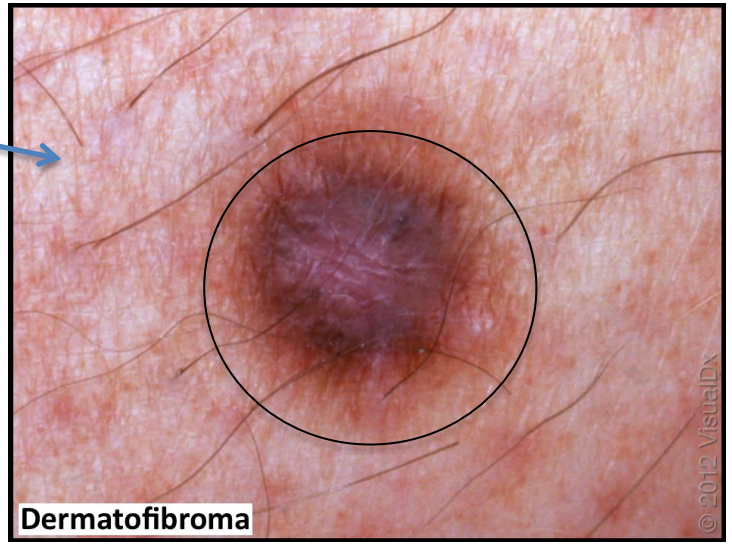
A. Biopsy the lesion
B. Refer to Dermatology
C. Reassure the patient that it is benign
   - **if the lesion changes, return to clinic for evaluation**
D. Reassure the patient that it will go away



Dermatofibroma

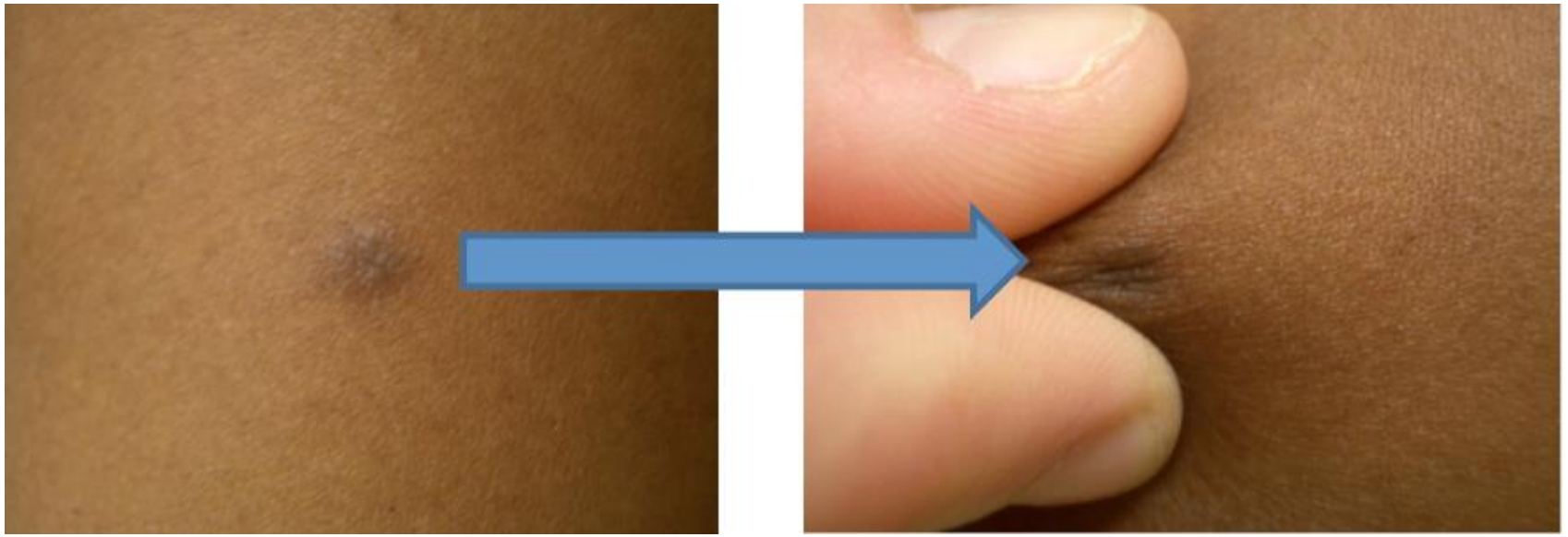
- second most common bengin fibrohistiocytic tumor of the skin (after skin tags)
- occur primarily in adults
- favor the lower extremities
- firm dome-shaped papules & nodules
  - hyperpigmented in dark skin
  - tan to pink in light skin
- nodule may be elevated or depressed
- peripherial rim of darkening pigment common





Clue to Diagnosis

- "dimple sign"
  - pinching induces dimple due to the scar-like tethering of the dermis

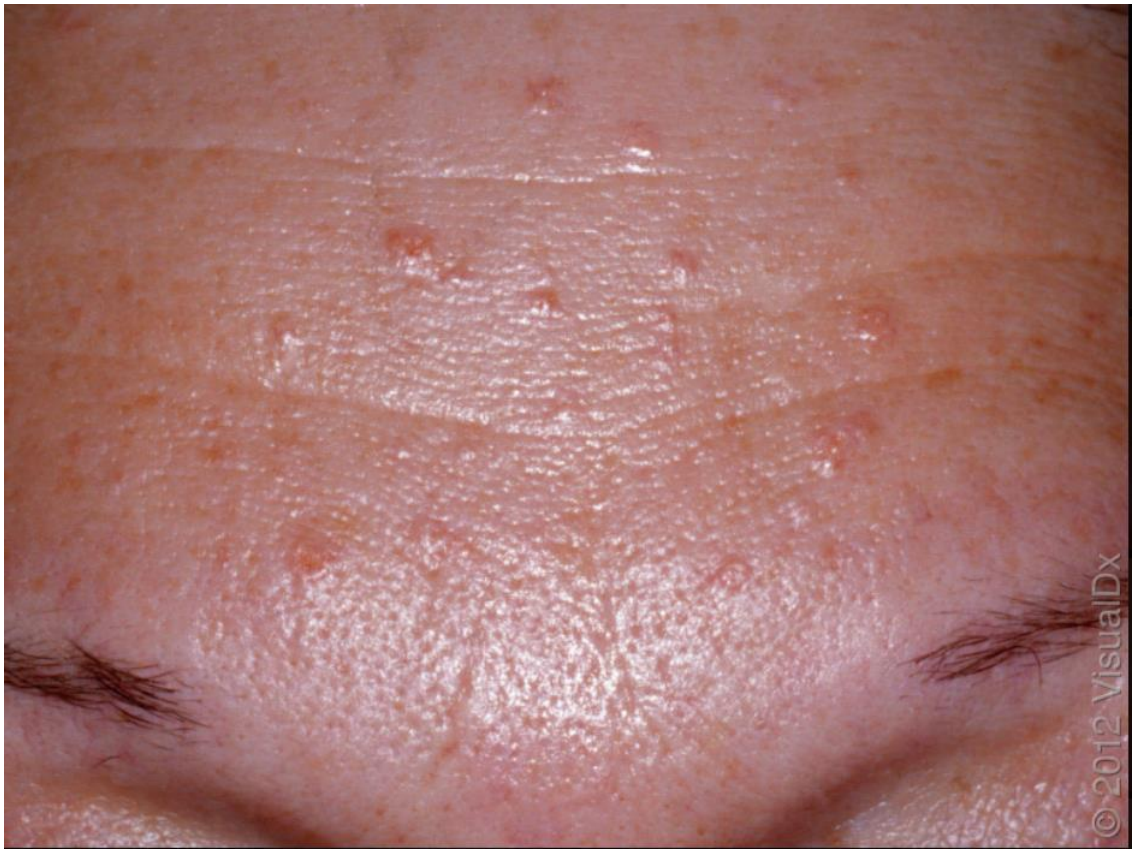


Dermatofibroma

- can be multiple
- possible secondary to minor trauma
  - shaving, bug bites, etc.
- “scar ball of tissue”
- should remain stable & asymptomatic
- Tx: reassurance
- refer for excisional biopsy if changing or symptomatic

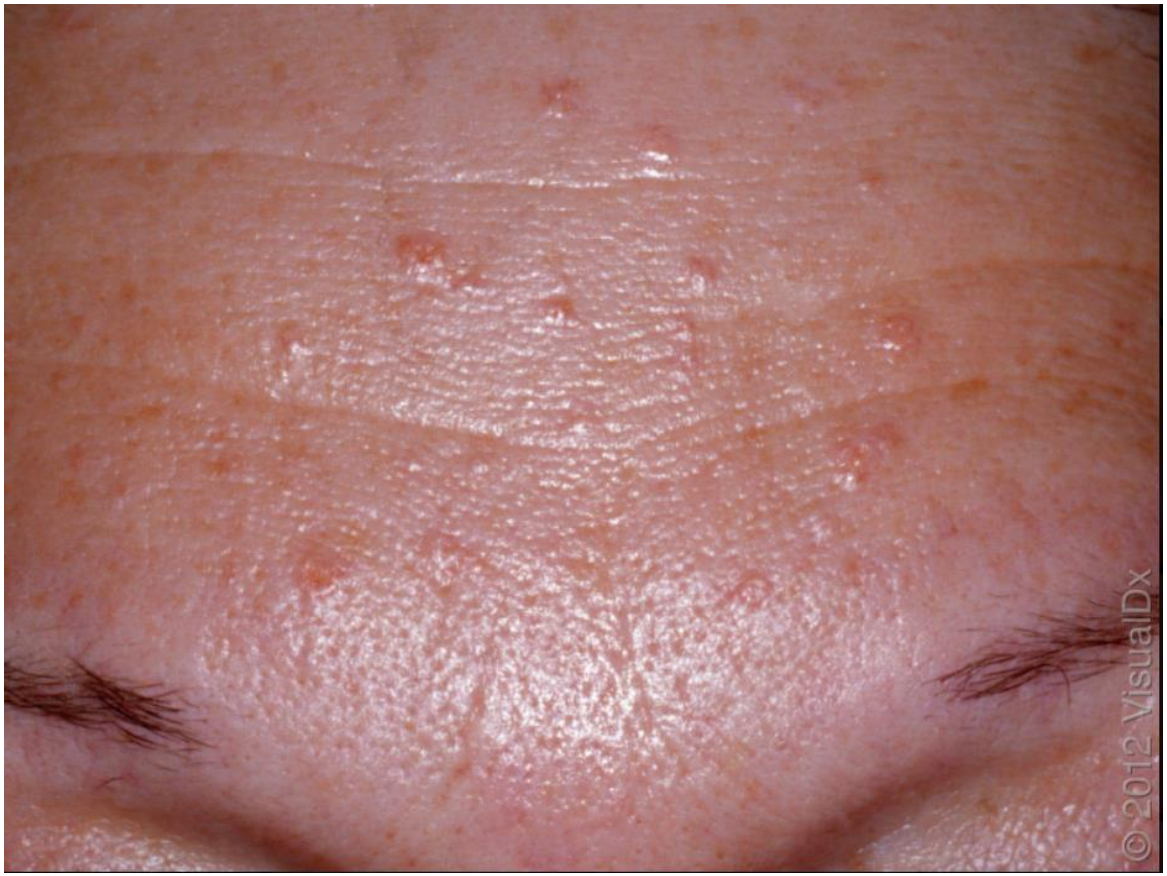
Case 4

- A 52-year old female presents with several new facial bumps that have slowly been occurring over the last several years



How would you describe these growths?

A. pearly, waxy papules with telangiectasia
B. yellowish & skin-colored papules with central dell
C. “stuck-on” skin-colored papules
D. uniformly hyperpigmented papules



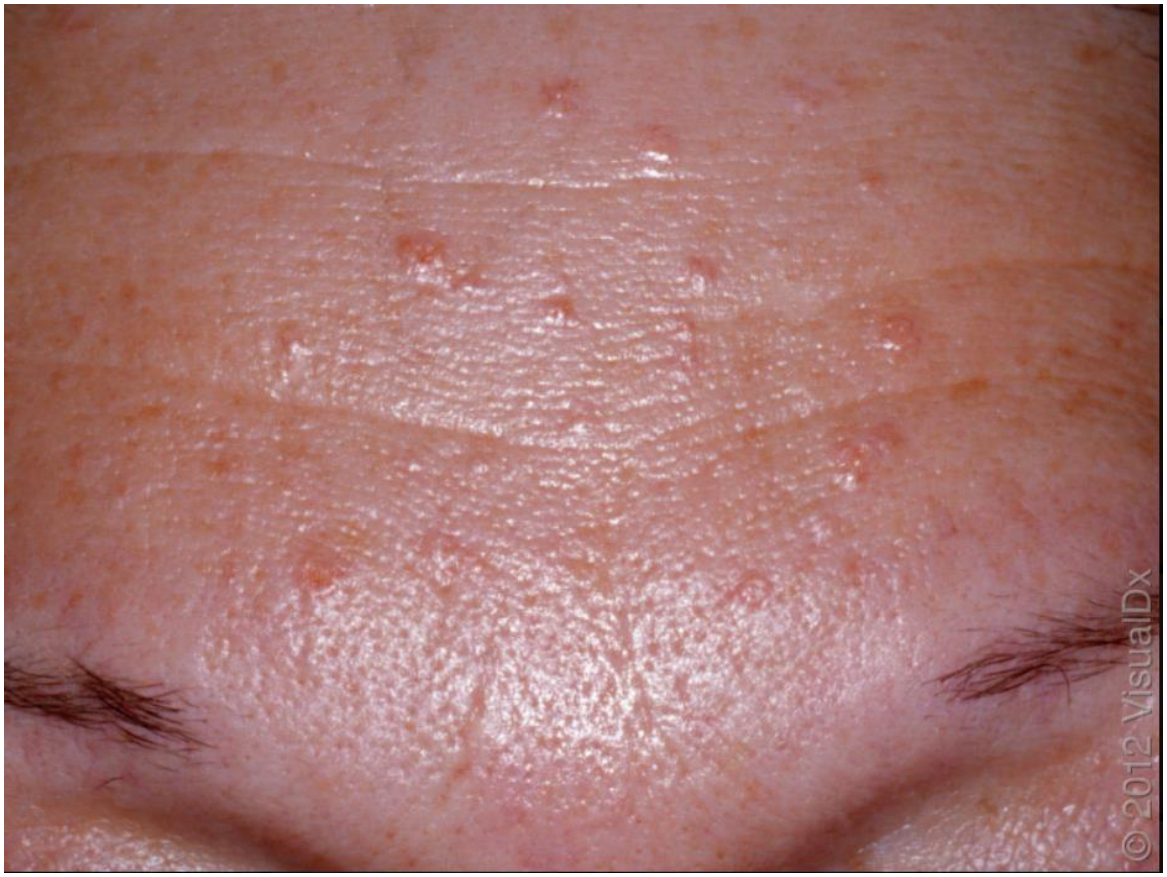
How would you describe these growths?

A. pearly, waxy papules with telangiectasia
   – (basal cell carcinoma)

B. yellowish & skin-colored papules with central dell
   – (sebaceous hyperplasia)

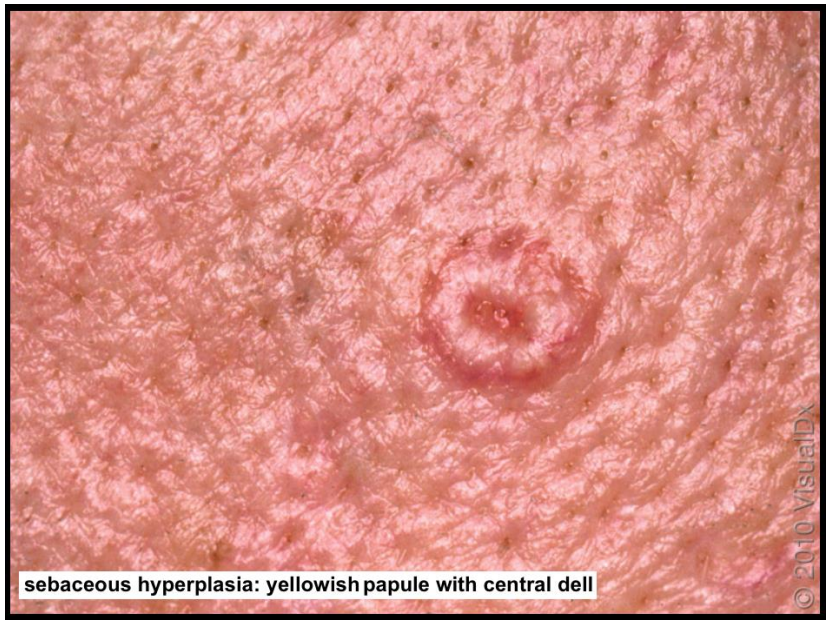
C. "stuck-on" skin-colored papules
   – (seborrheic keratoses)

D. uniformly hyperpigmented papules
   – (melanocytic nevi)



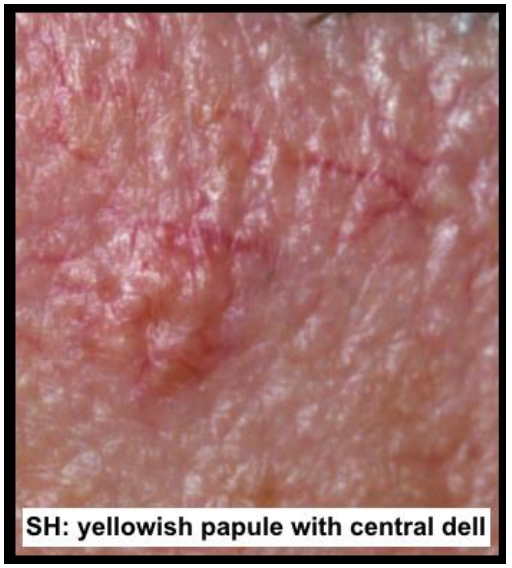
Sebaceous Hyperplasia

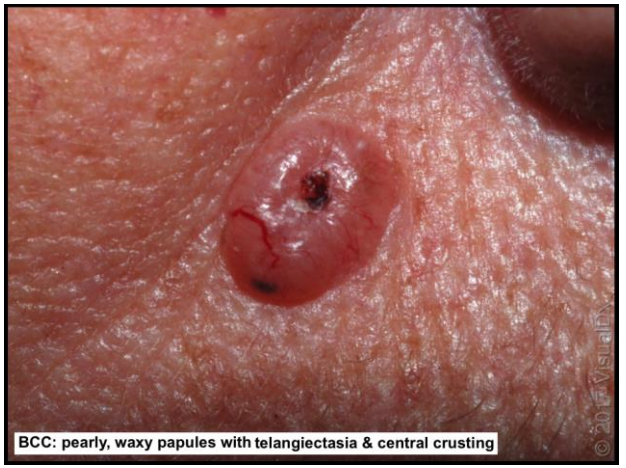
- Bengin localized enlargement (hypertrophy) of the sebaceous glands (oil glands)
- yellowish papules with central dell
  - yellow color (oil gland)
  - central dell (gland enlargement around attached hair follicle)
- Occurs in 40s
- tend to localize on the forehead, temples, and below the eyes
- Tx: reassurance that not secondary to skin hygiene & can treat for cosmetic purposes
- main DDX: basal cell carcinoma



Sebaceous Hyperplasia vs. Basal Cell Carcinoma

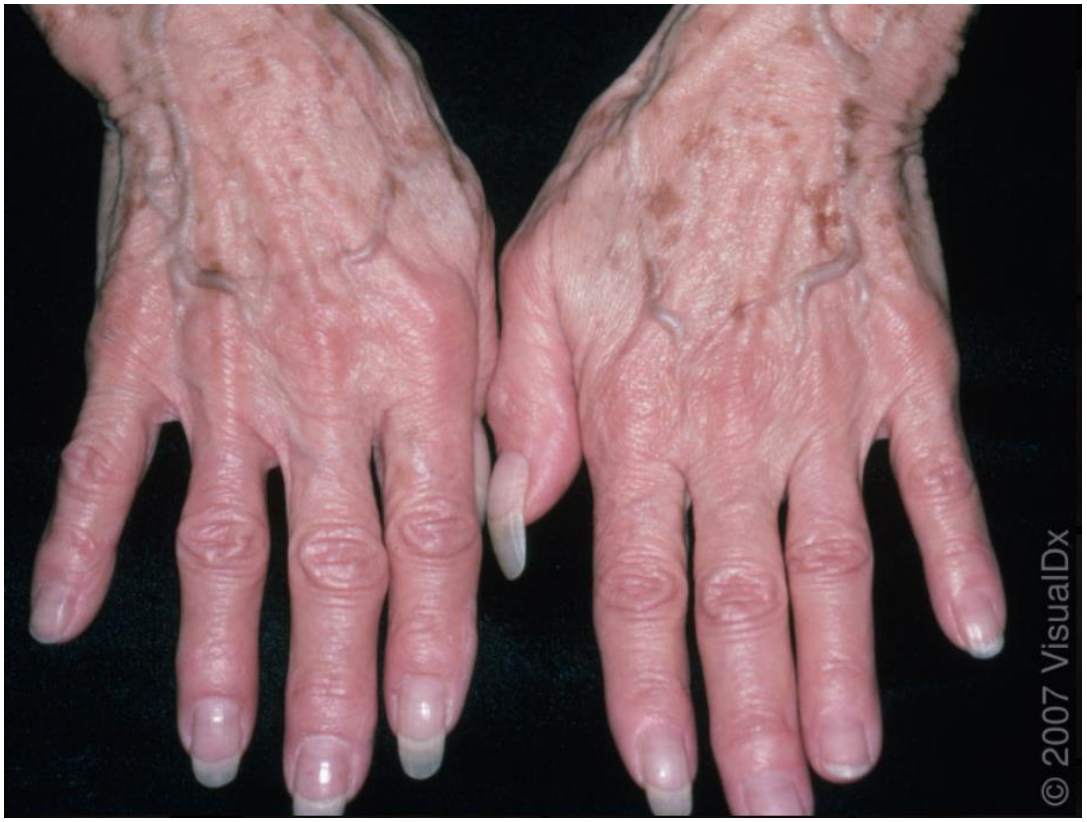
- sebaceous hyperplasia
  - yellowish papule with central dell & multiple similar lesions
  - do not bleed or form hemorrhagic crust
- basal cell carcinoma
  - pearly, waxy papules with telangiectasia
  - bleed or scab with minimal trauma
- when in doubt, shave biopsy or dermatology referral should be performed to r/o BCC


SH: yellowish papule with central dell


BCC: pearly, waxy papules with telangiectasia & central crusting

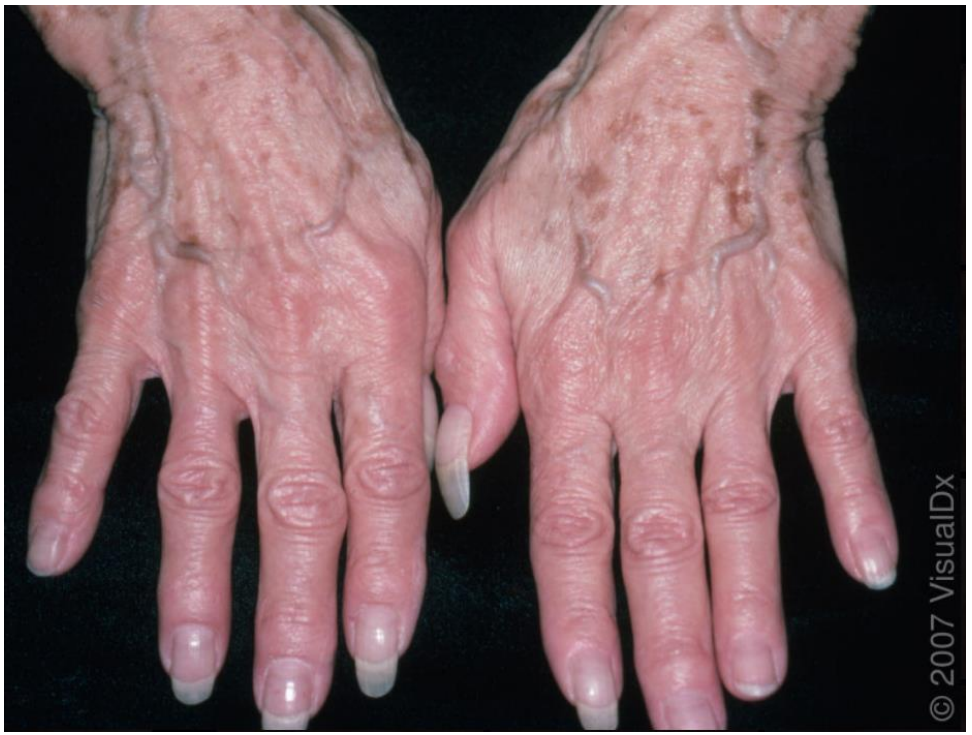
Case 5

- 55-yo women presents with brown spots on her dorsal hands & face
- She is fair skin & has had lots of sun exposure over the years



What is the diagnosis?

A. actinic keratoses
B. seborrheic keratoses
C. solar lentigines
D. acquired melanocytic nevi
E. lentigo maligna melanoma



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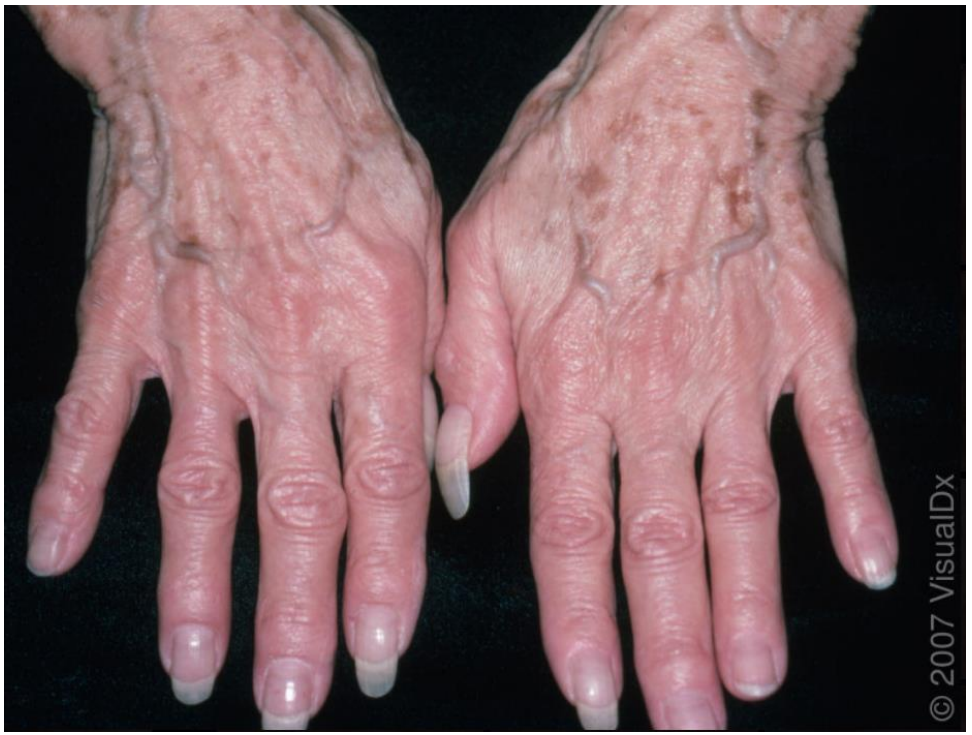


What is the diagnosis?

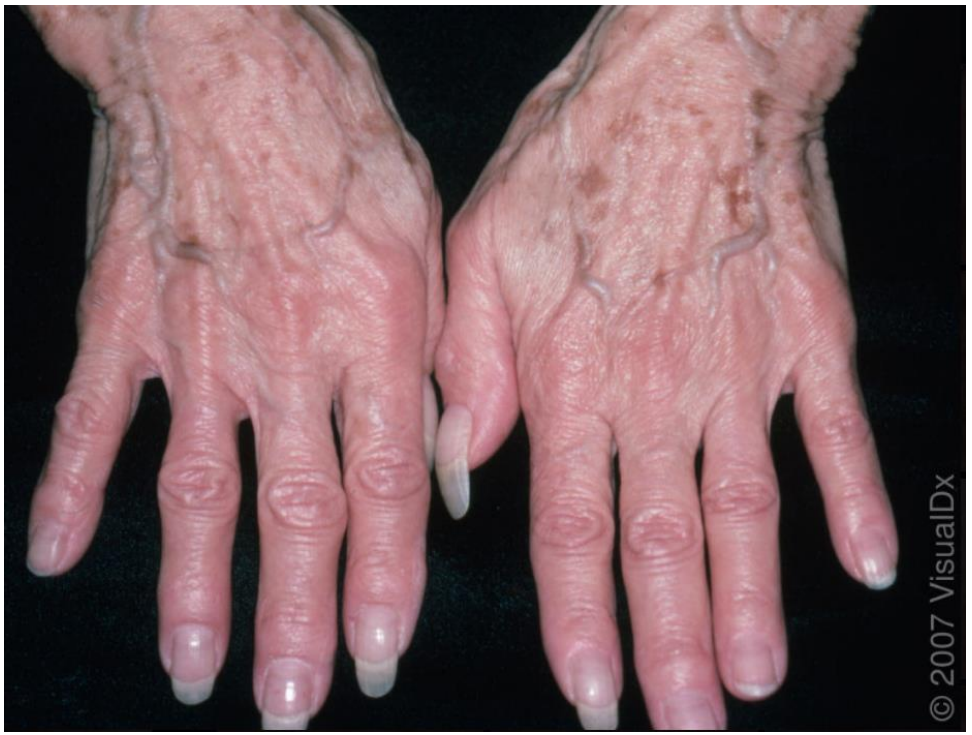
A. actinic keratoses
   - "gritty sandpaper-like" macules & papules with red base

B. seborrheic keratoses
   - "stuck-on" papules

C. solar lentigines
   - irregular, light brown to black macules on chronically sun-exposed skin

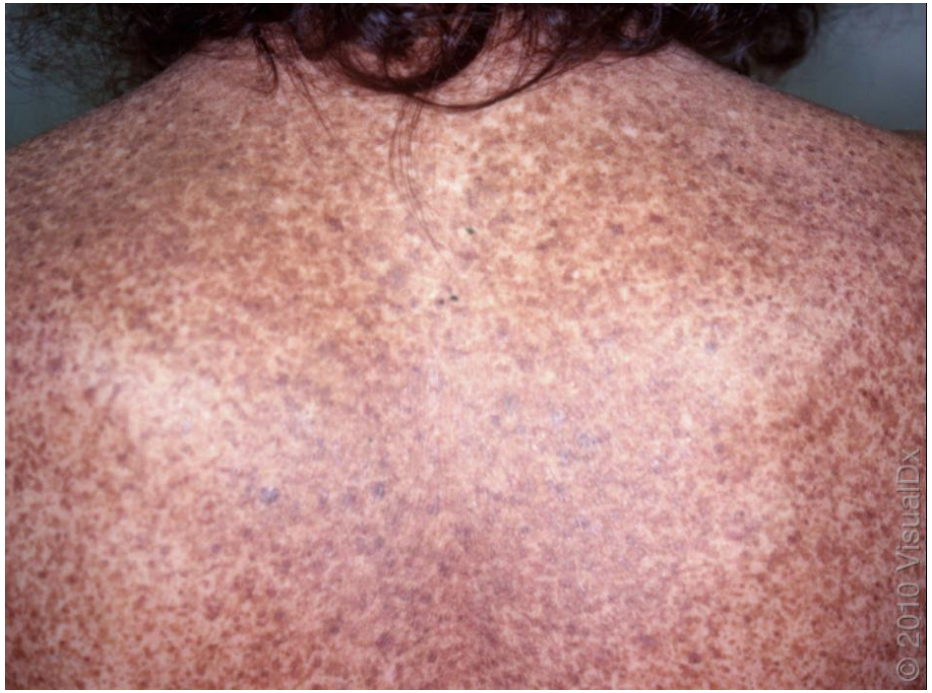
D. acquired melanocytic nevi
   - uniform pigmented macules & papules

E. lentigo maligna melanoma
   - irregular, variegated macule or patch on chronically sun-exposed skin



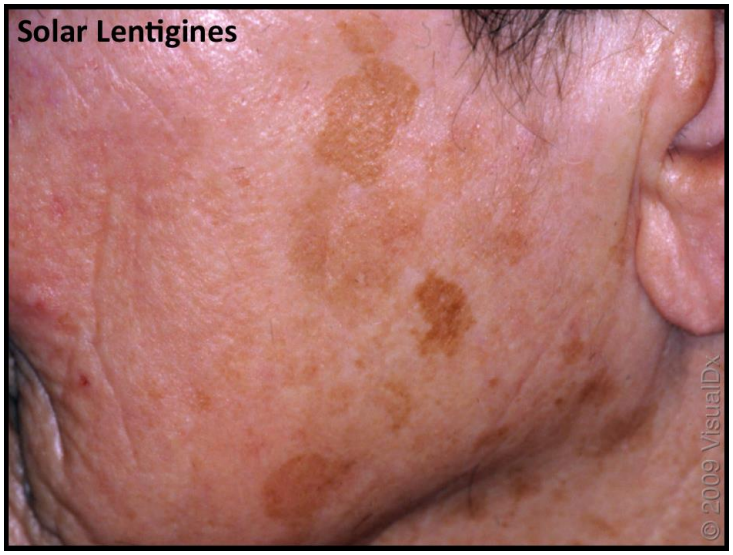
Solar Lentigines

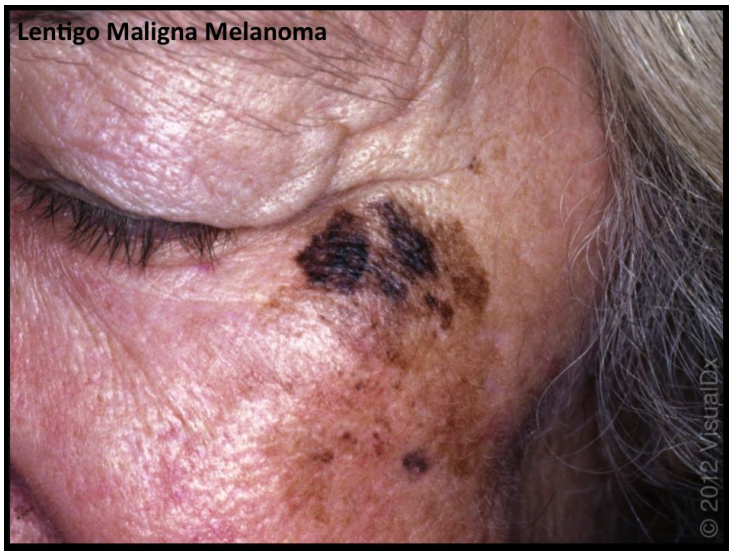
- Solar lentigo (aka “senile lentigo,” “age spot,” or “liver spot”) are benign pigmented macules appearing on fair-skinned individuals chronically sun-exposed skin that is related to ultraviolet radiation
- No treatment is required…
  - but the presence of extensive solar lentigines is an indicator of excessive UV exposure and higher risk of skin cancer
  - monitor for development of AKs, NMSCs, & melanoma
  - emphasize sun protection



Solar Lentigines

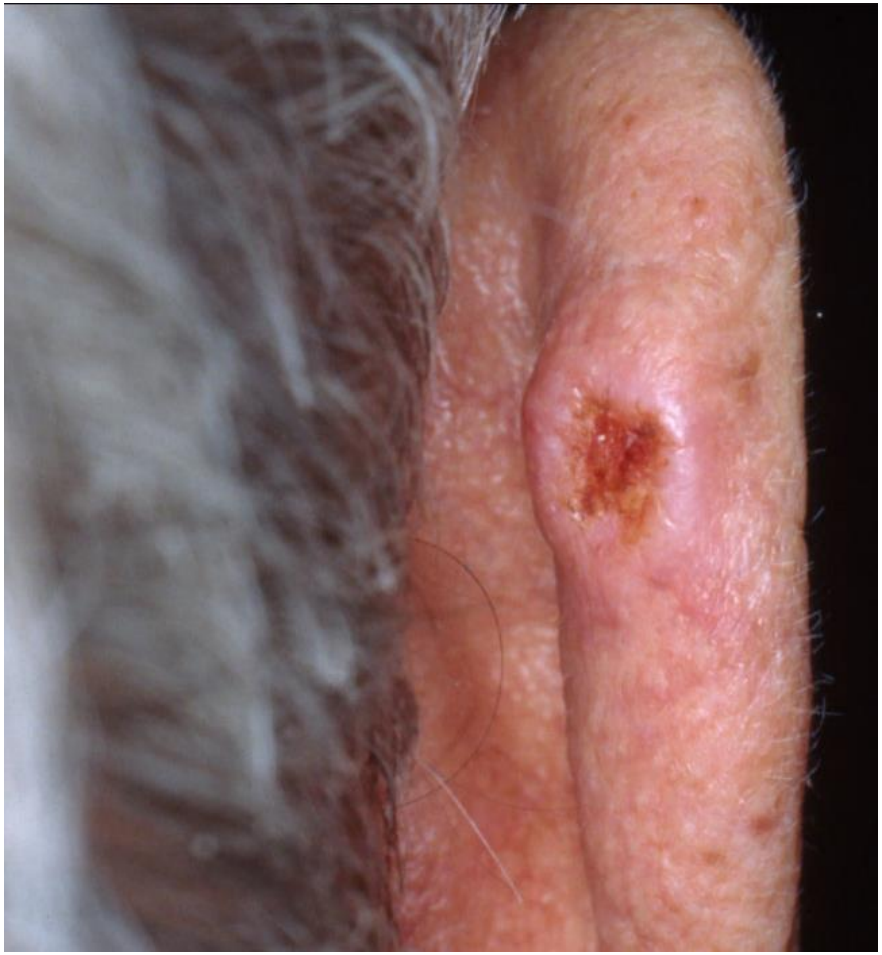
- Must distinguish solar lentigo from lentigo maligna (MIS) and lentigo maligna melanoma (invasive melanoma)
  - MIS/melanoma secondary to chronic UV exposure that is insidious
- A “solar lentigo” that looks different from a patient's other lentigines or that is changing (enlarging, darkening, variegated coloration) should be biopsied or refered to derm to r/o lentigo maligna





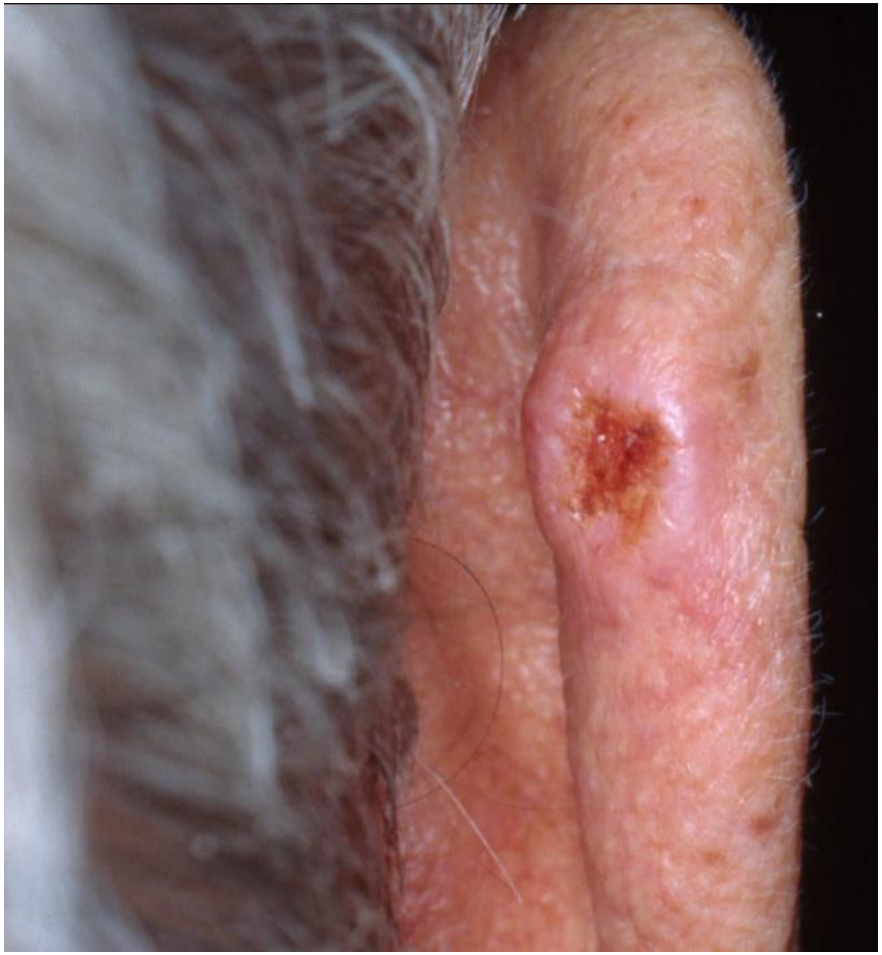
Case 6

- A 70-yo retired male farmer presents for a non-healing “pimple like” growth on his ear. It will intermittently bleed when washing. He first noticed it ~3-4 months ago and felt like it got better.
- What is the next best step?



What is the next best step?

A. Follow-up in 3-months to see if resolves
B. Liquid Nitrogen/Cryotherapy
C. Surgical Removal
D. Topical Antibiotics
E. Shave Biopsy



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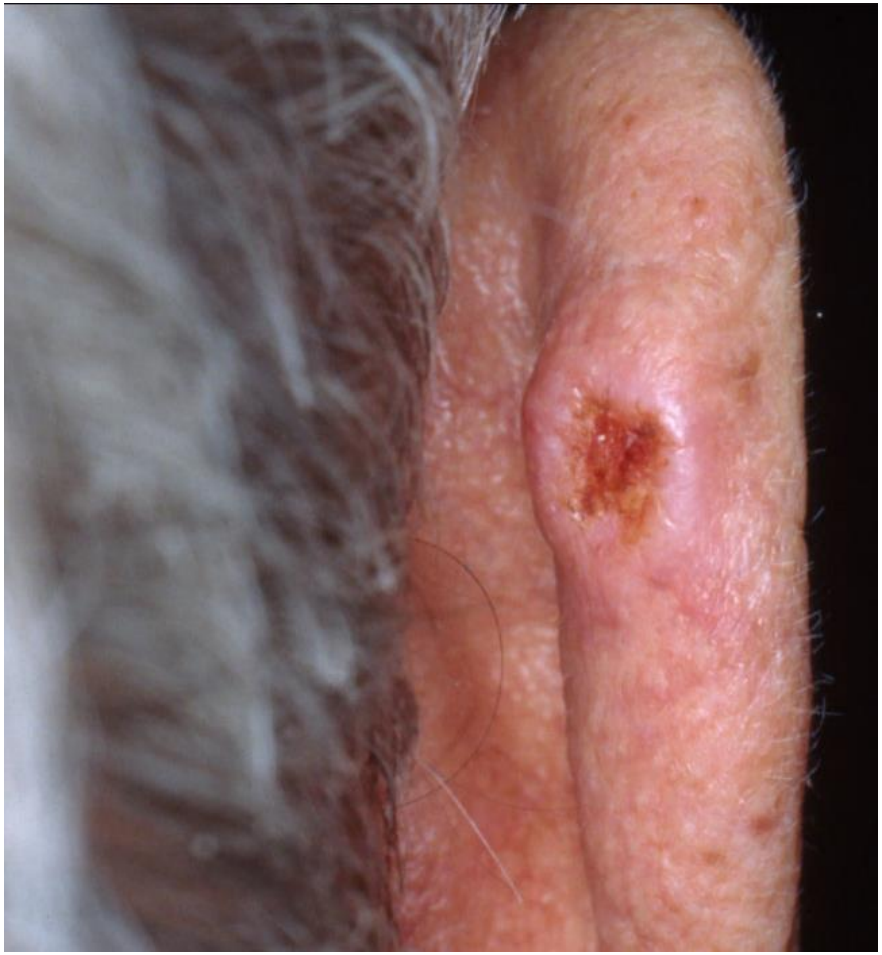
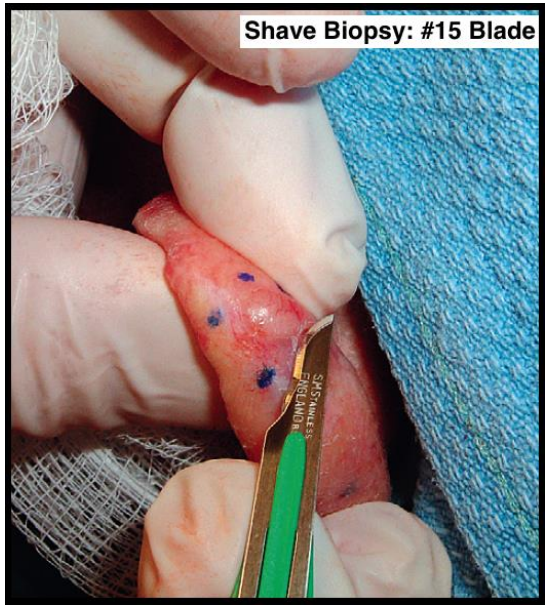


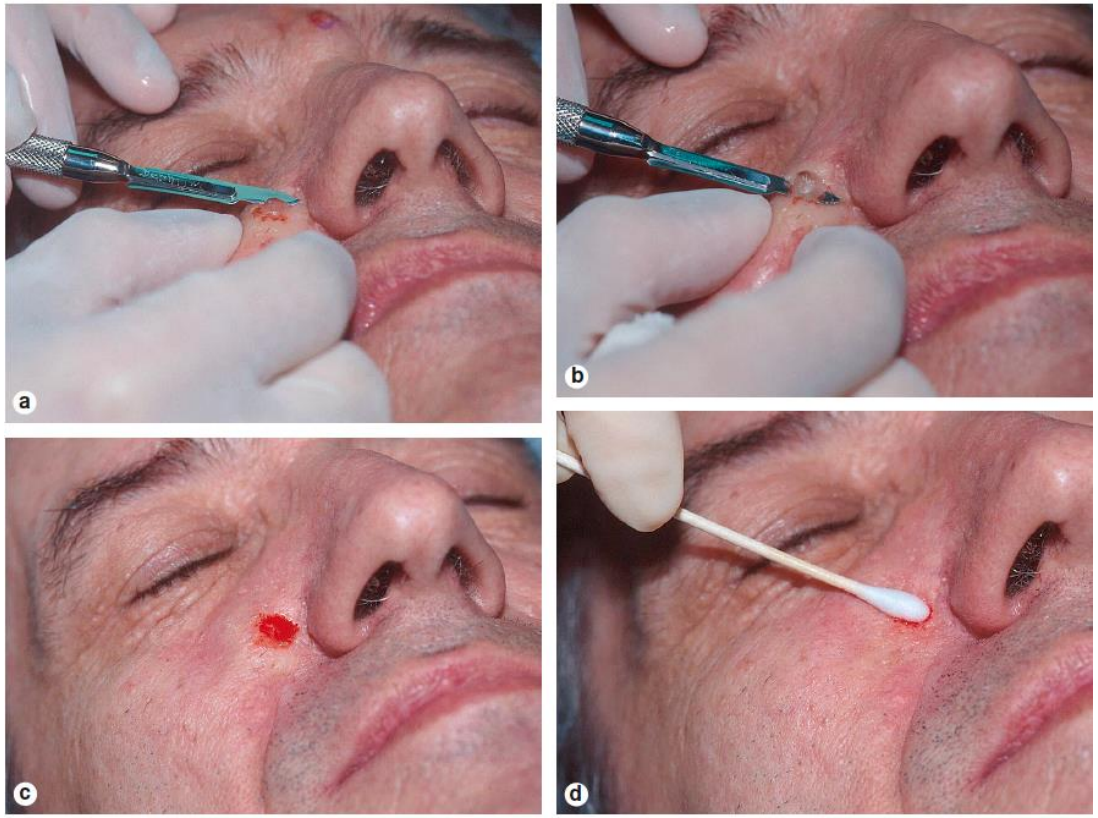
Shave Biopsies & Pathology

- Shave Biopsies
  - quick, safe, & minimally invasive biopsy method for lesions concerning for NMSC
  - only superficial portion of lesion removed
  - can use razor blade or #15 blade scalpel



Shave Biopsy Technique

1. note location, triangulate, &/or digital photograph
2. prep skin with alcohol
3. anesthesia 1% lidocaine with epi (dermal injection & generally <1cc)
4. use either 15-blade scalpel or a razor blade (can be flexed to achieve the desired depth) a horizontal incision is made and the lesion or portion of lesion removed with sweeping strokes
5. hemostasis is attained with 35% aluminum chloride solution & pressure
6. open wound care: petroleum ointment & small bandage
   - no activity restrictions



Shave Biopsies & Pathology

- Shave Biopsies
  - designed for diagnostic purposes and not for therapeutic purposes
  - pathology reports sometimes comment on margins
    - "clear margins" for a shave biopsy are inadequate
  - help determine if cancer or not and the need for surgical treatment

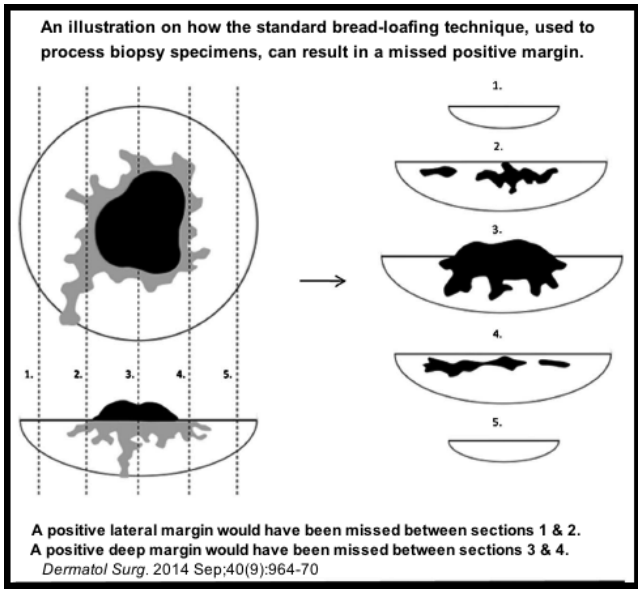


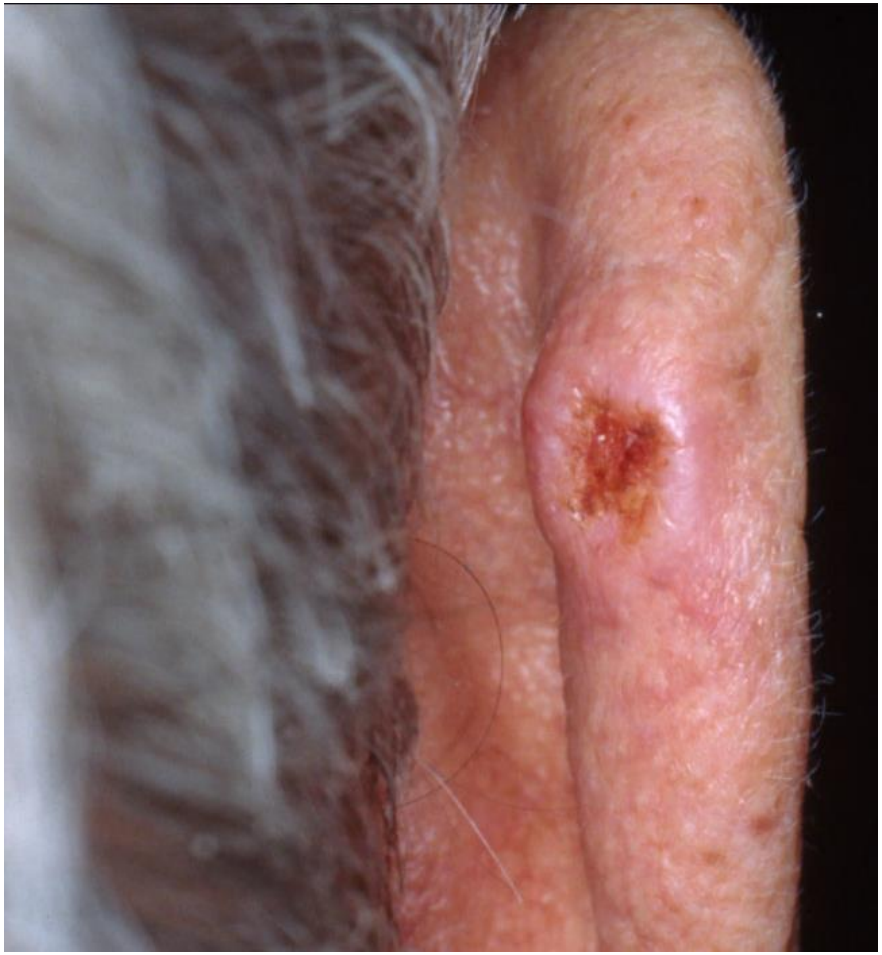
TABLE 4. Percentage of Cases Where a Margin Was Missed on the Biopsy

	Percentage Missed With Deep	*Percentage Missed With Lateral*	*Percentage Missed With Clear*
BCC	34	20	33
SCC	28	6	29
Combined BCC/SCC	32	14	30

Dermatol Surg. 2014 Sep;40(9):964-70

What is the most likely diagnosis?

A. Basal Cell Carcinoma
B. Squamous Cell Carcinoma
C. Intradermal Melanocytic Nevus
D. Actinic Keratosis
E. Sebaceous Hyperplasia



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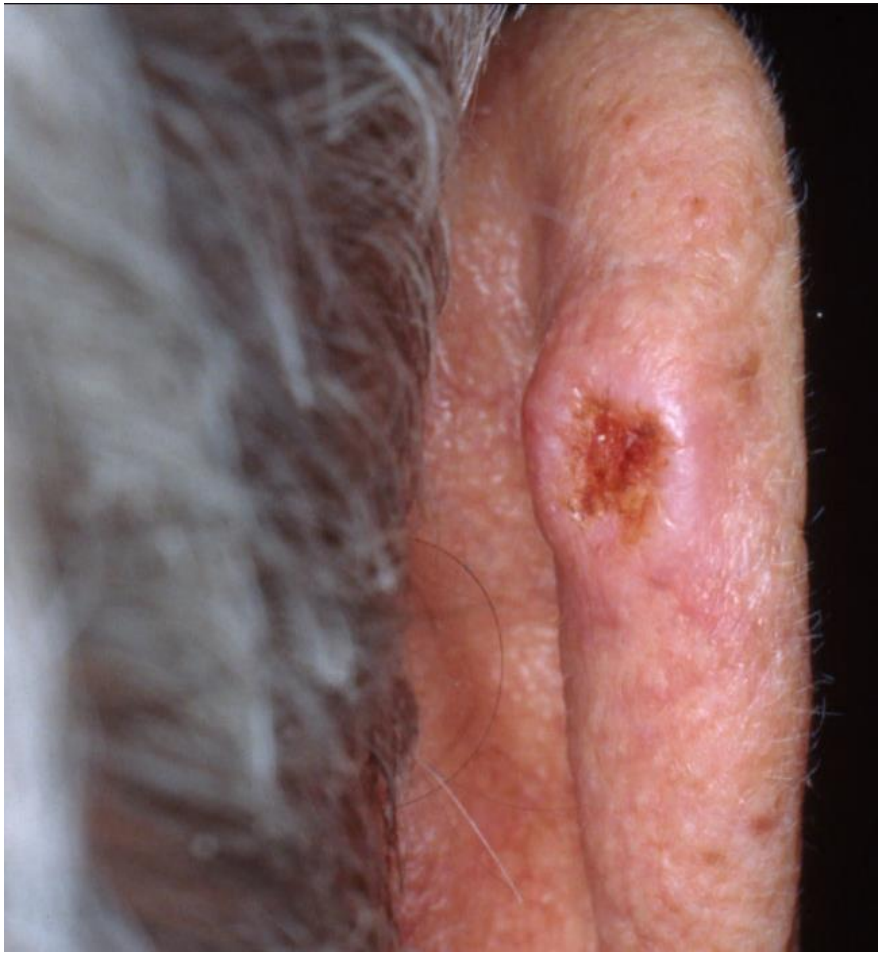
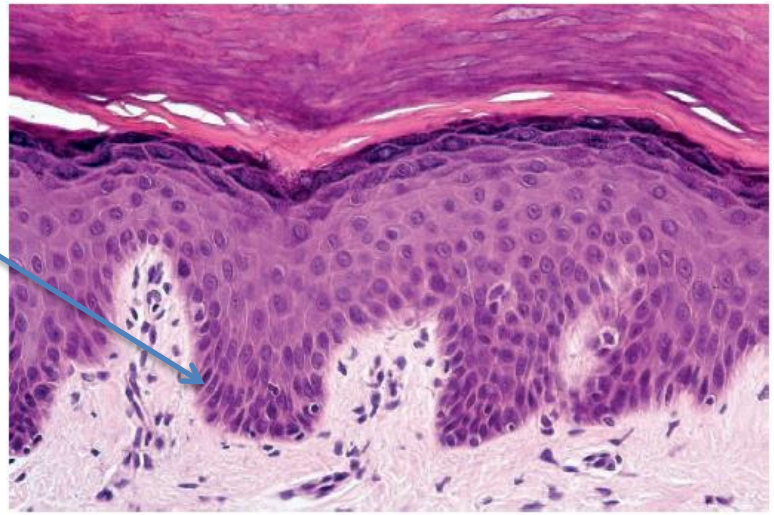
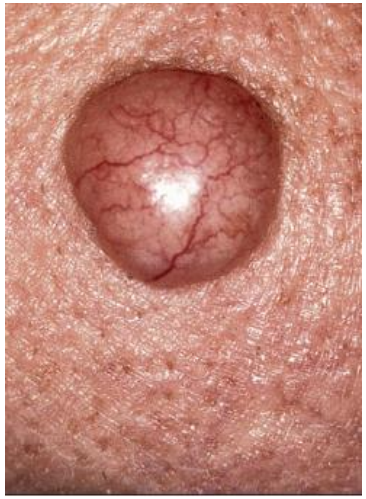
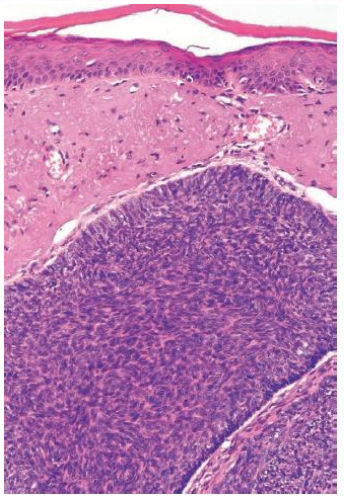


Basal Cell Carcinomas

- most common skin cancer
- arise from the basal layer of the epidermis
- 2° cumulative intermittent recreational UV exposure
  - Sonic Hedgehog-Patched Signaling Pathway mutations from "signature UV-induced mutations"
- slow growing cancers that are locally destructive and almost never metastasize
- Risk Factors:
  - fair skin, severe sun damage, elderly (>60 yo), male, & immune suppression

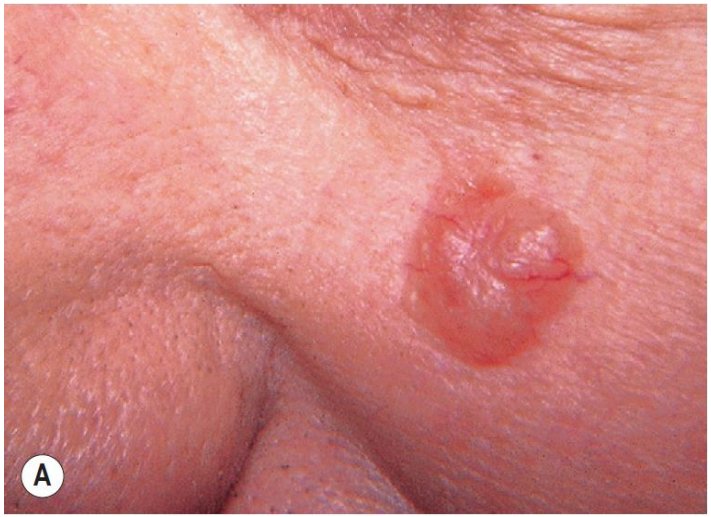






Nodular BCC

Clinical Spectrum of BCCs:



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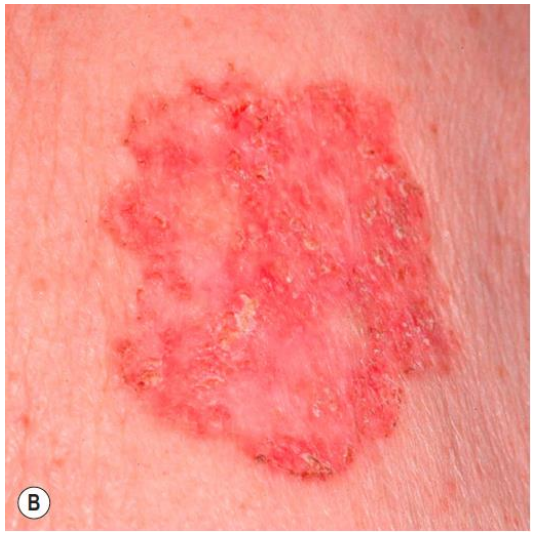
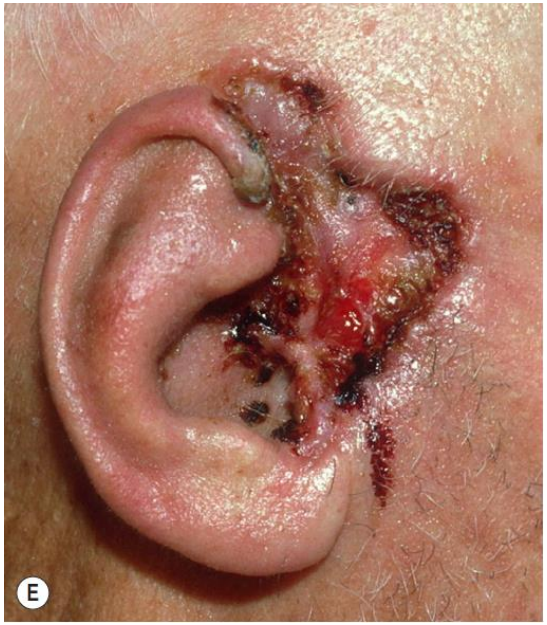
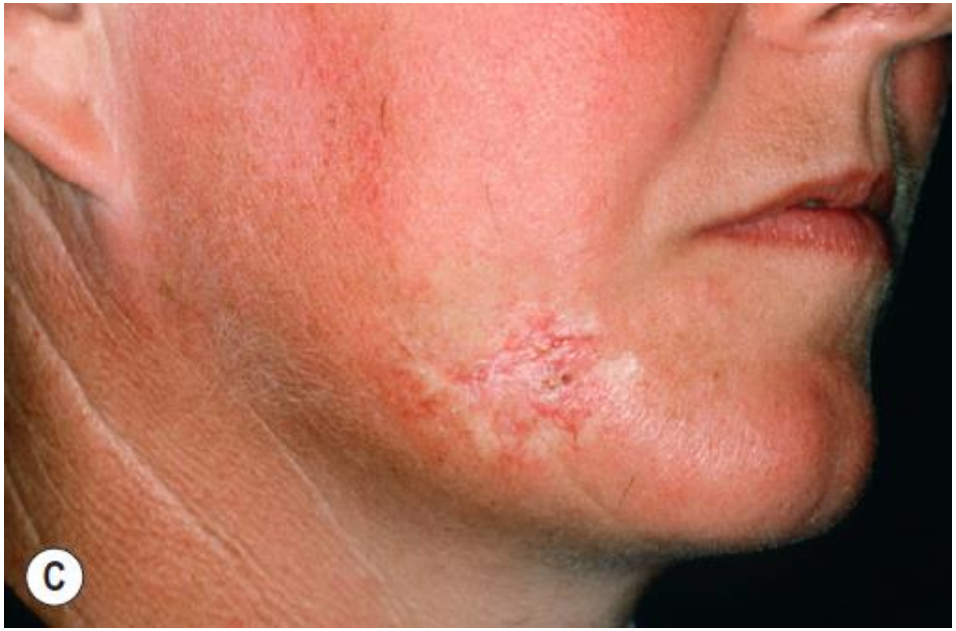


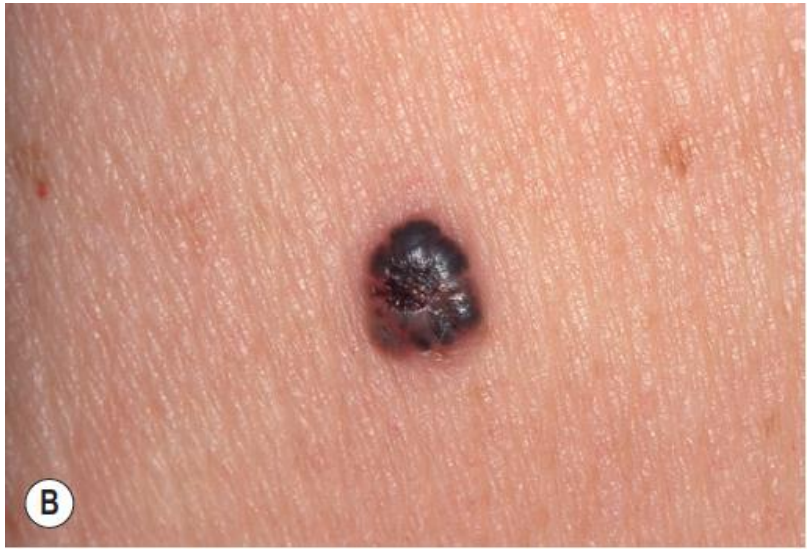
Superficial BCC



Rodent/Ulcerative BCC



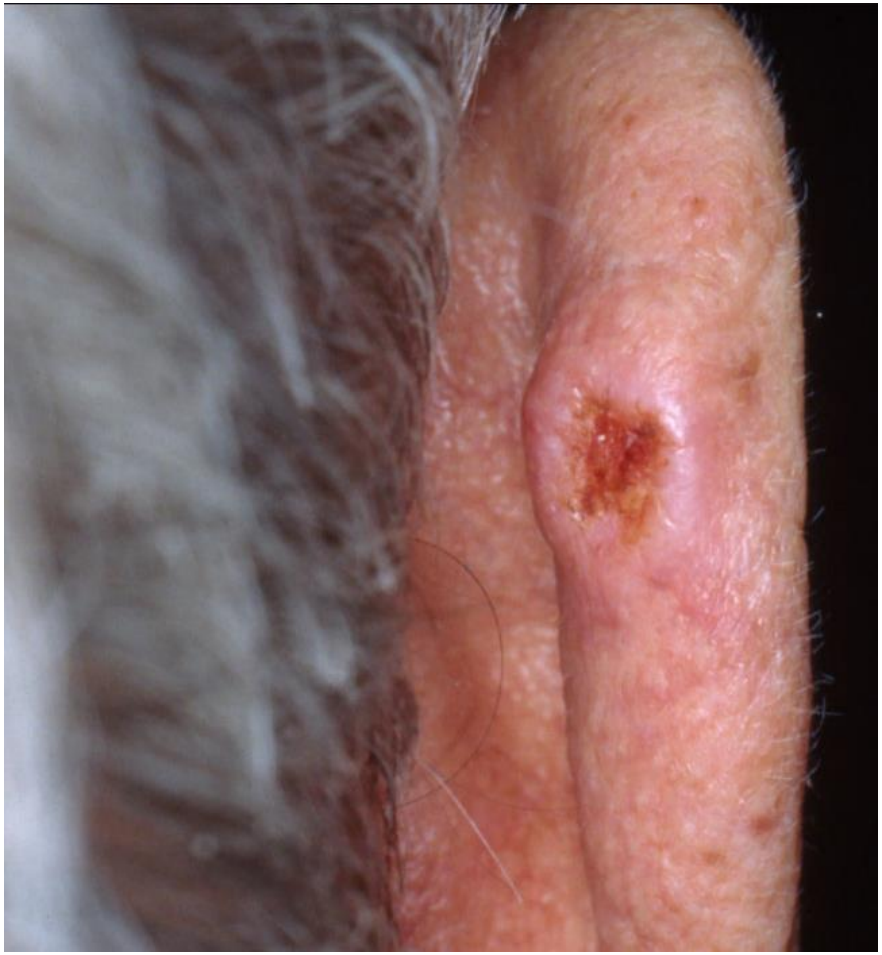
Morpheaform/Sclerosing BCC



Pigmented BCC

What is the preferred treatment?

A. Liquid Nitrogen/Cryosurgery
B. Topical Imiquimod
C. Excision with Traditional Surgical Margins
D. Excision with Mohs Micrographic Surgery
E. Radiation Therapy



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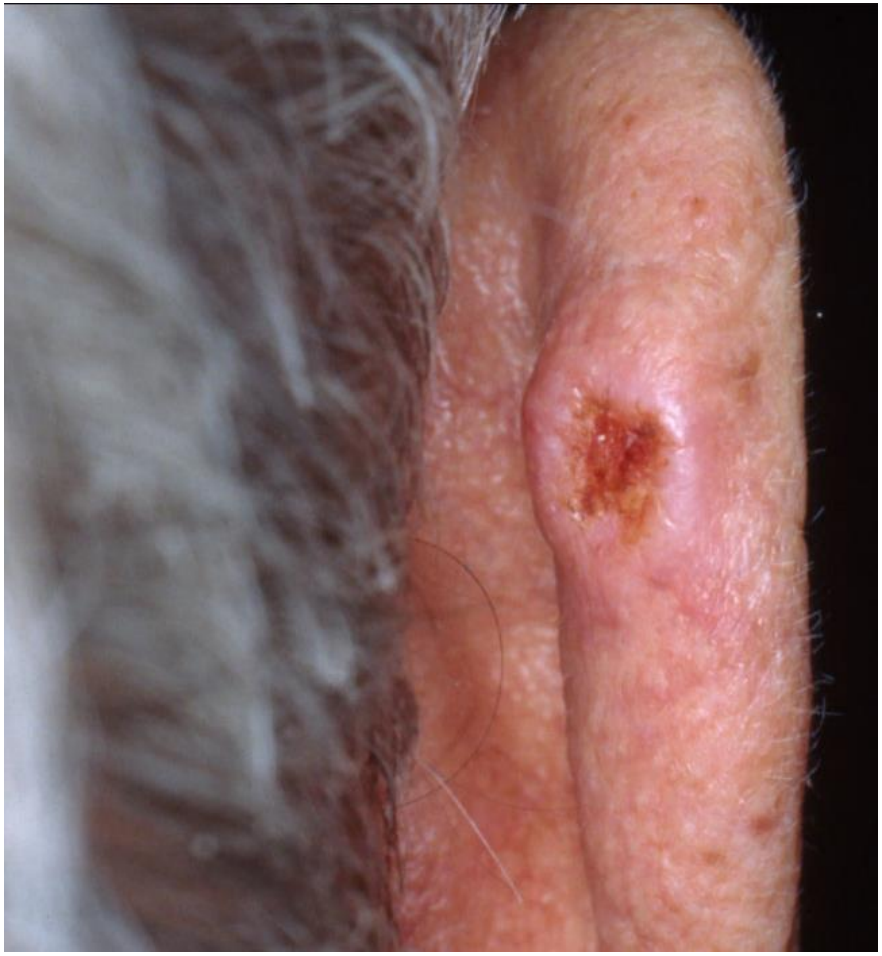
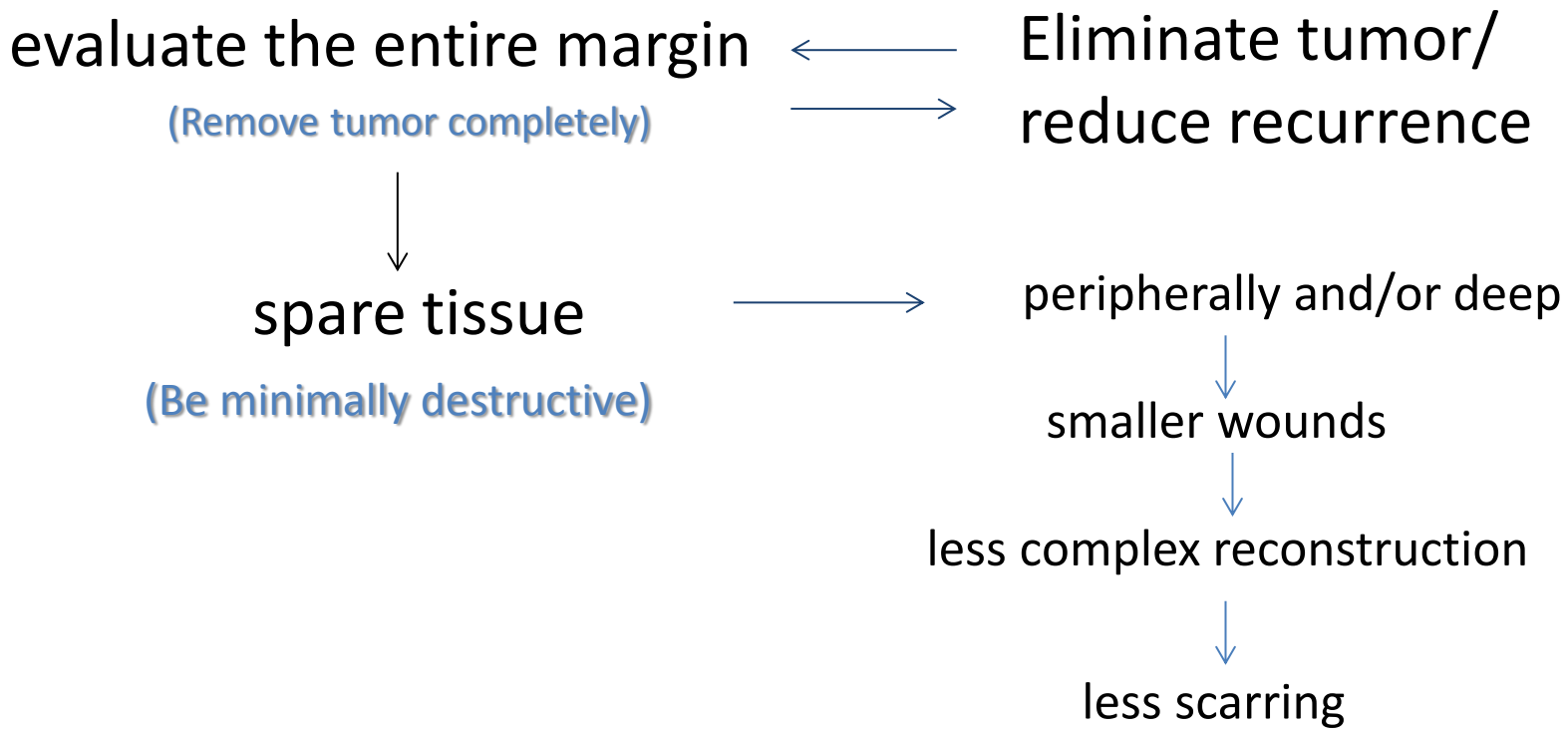


Treatment of BCCs:

- There are several surgical
  - Excision with Mohs Micrographic Surgery
  - Excision with 4mm margins
  - Electrodessication & Curettage
- Non-surgical options
  - Radiation therapy
  - Topical imiquimod (FDA approved for non-facial, hands, & feet superficial BCC)
  - Cryosurgery
  - & more
- Surgical options are preferred method of treatment/standard of care
- The best option is selected after consideration of the clinical & pathologic features in context of the patient
- To select optimal therapy, refer or ask local dermatologist/Mohs surgeon

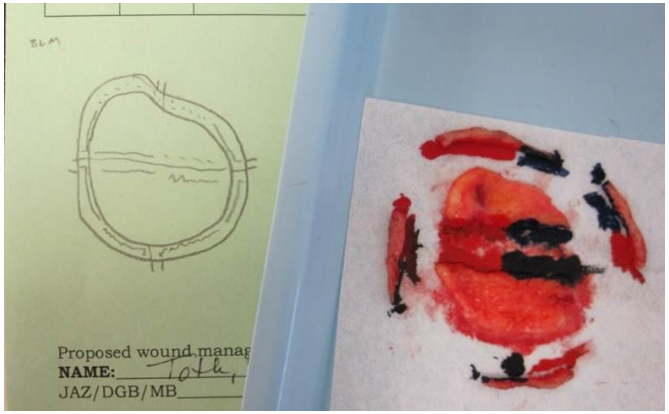
Mohs Micrographic Surgery (MMS)

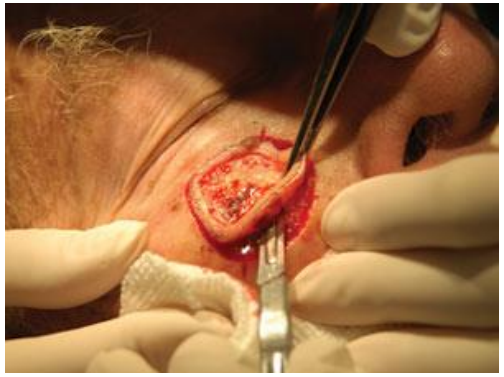
- MMS offers the highest cure rate for the treatment of both primary & recurrent SCCs, BCCs, MIS, and other cutaneous malignancies when compared to conventional excision and other treatment modalities.



Mohs surgery – excision, mapping, and histology

- Microscopically guided, 100 % margin-controlled excision of cancer
- Physician excising cancer also interprets slides the same day





Mohs surgery

MMS Excision vs. Conventional Excision

TABLE 1. Cure Rates (5 Years) for Selected Cutaneous Malignancies

Tumor	Cure rates (%)	
	Mohs micrographic surgery	Wide local excision
Basal cell carcinoma[11,12,38]	99 (primary) 90-93 (recurrent)	87-96 (primary) 83 (recurrent)
Squamous cell carcinoma[38-40]	92-99 (primary) 90 (recurrent)	92-95 (primary) 76 (recurrent)
Melanoma in situ[41,42]	98	83-85
Melanoma (invasive)[23,43]	98.7[a]	97[a,b]
Dermatofibrosarcoma protuberans[44,45]	98-100	80-88
Atypical fibroxanthoma[46]	93-100	88
Merkel cell carcinoma[47]	84-95	68-77
Microcystic adnexal carcinoma[48-50]	90	50-70
Sebaceous carcinoma[51,52]	90-93	63-86
Extramammary Paget disease[53]	92	78
Leiomyosarcoma[54,55]	87-100	55-86
Hidradenocarcinoma[56]	100	50
Trichilemmal carcinoma[57,58]	100	90
Mucinous carcinoma[59]	96	66-71
Porocarcinoma[60-62]	100	80

[a]Same study to correct for bias or operator differences.

[b]Of these 3% of tumors without cure, 33% will reappear with deeper thickness than the original primary tumor.

Source: *Mayo Clin Proc.* 2017 Aug;92(8):1261-1271.

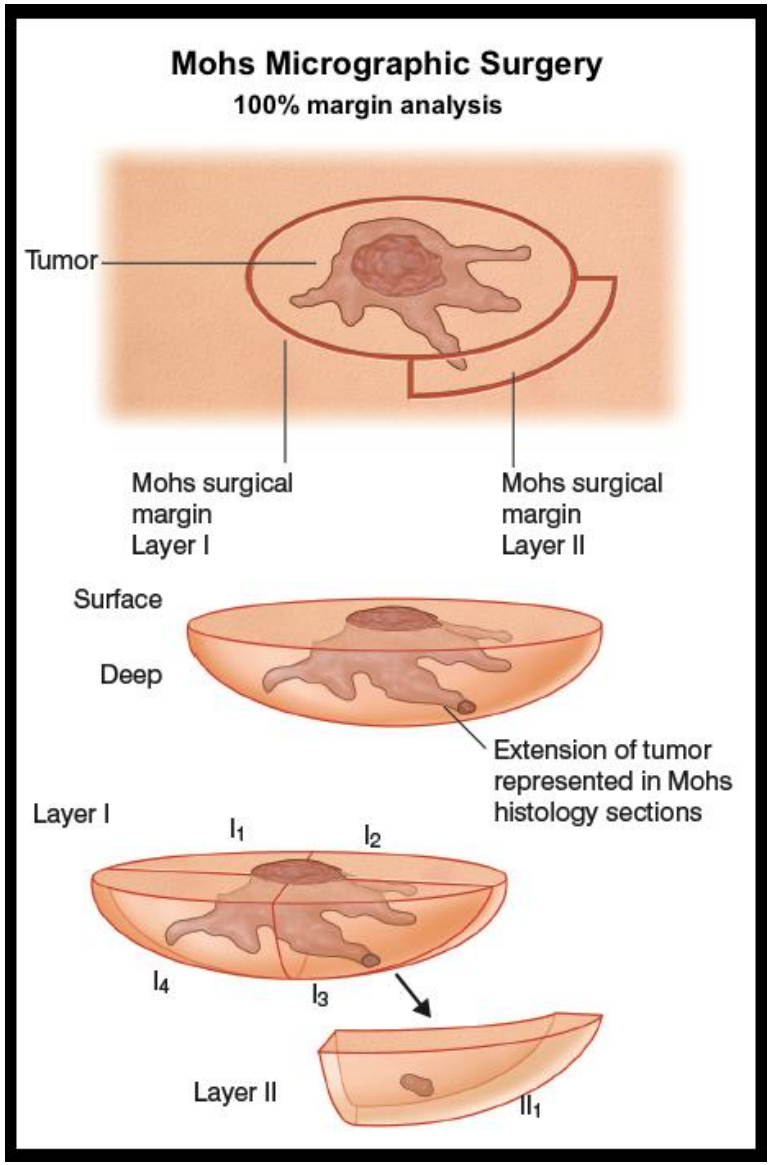
10-year Recurrence Rate for Facial BCC treated via MMS vs. Excision

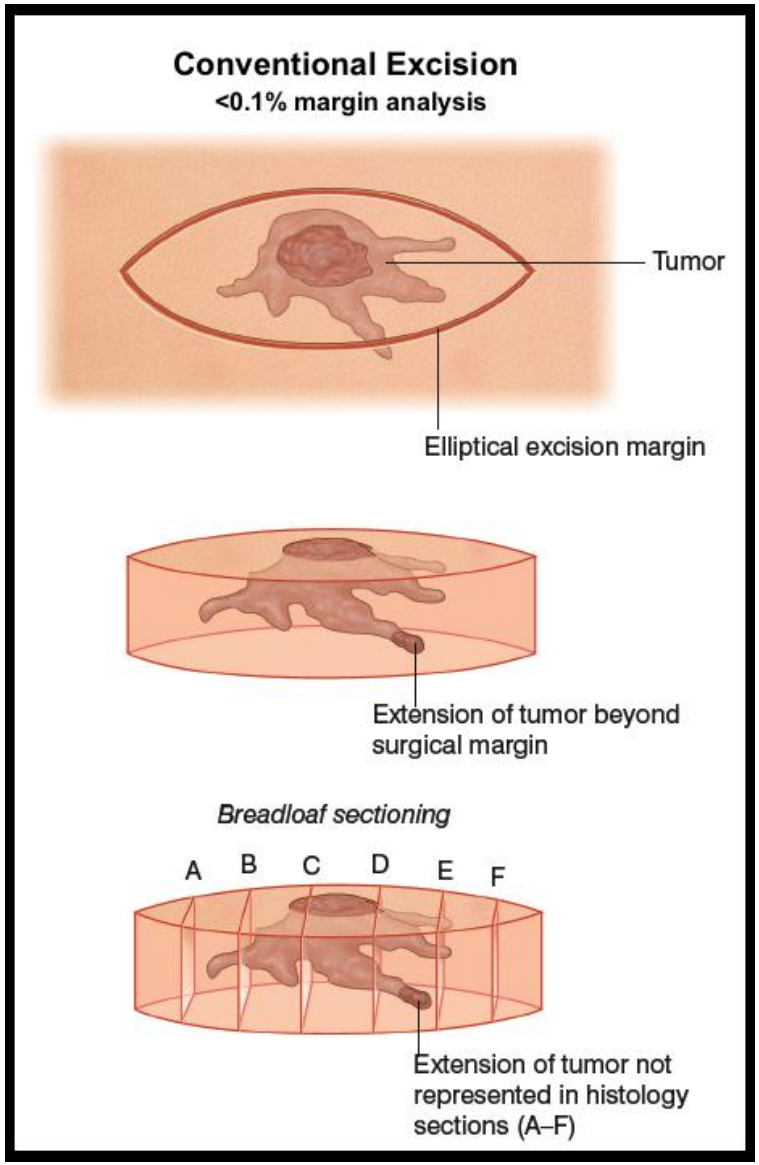
	MMS Excision	Standard Excision
Primary BCC	4.4%	12.2%
Recurrent BCC	3.9%	13.5%

Netherland RCT of Primary Facial High Risk BCC (diameter at least 1cm, H-zone location or aggressive histological subtype) & Recurrent Facial BCC treated via MMS vs. Standard Excision

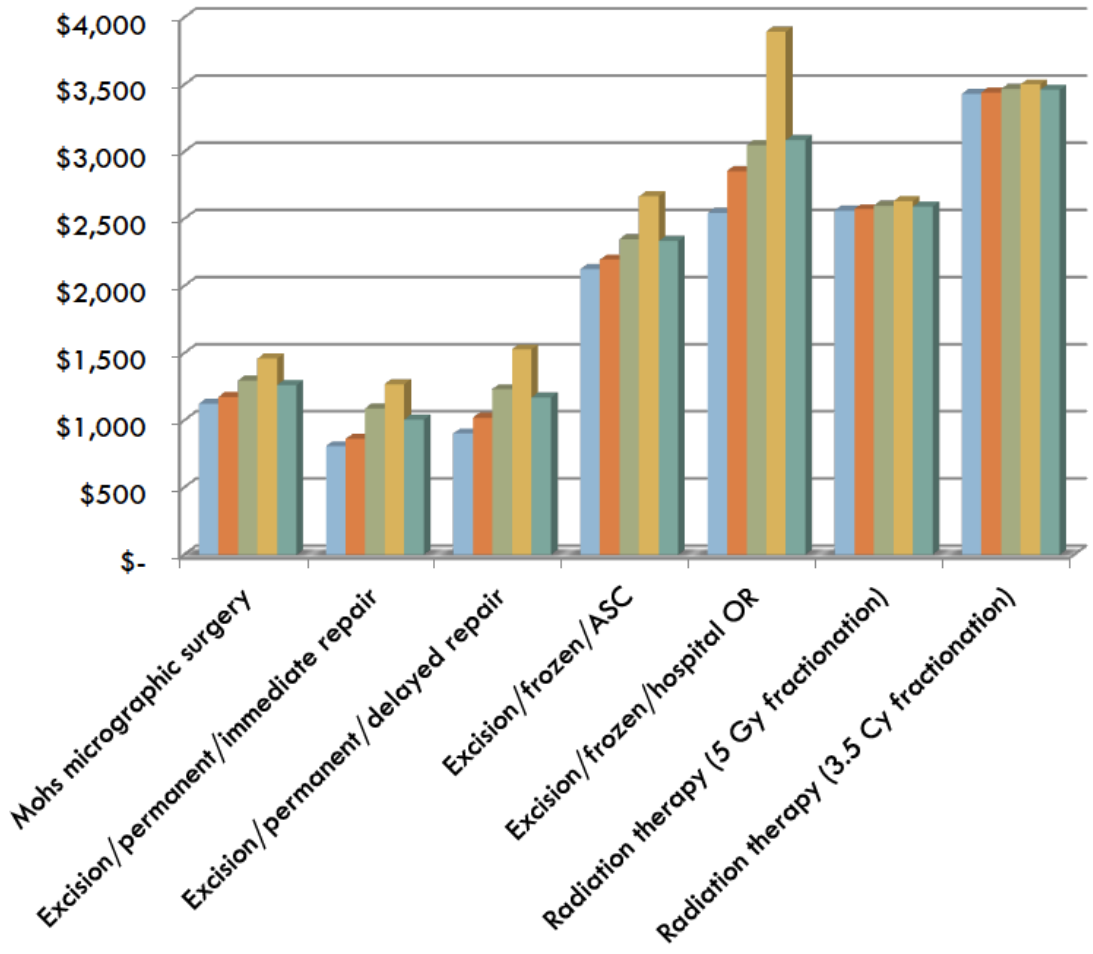
Source: *Eur J Cancer*. 2014 Nov;50(17):3011-20.

MMS Excision vs. Conventional Excision





MMS is cost effective



Estimated costs for treatment of basal cell carcinoma (BCC) on the cheek by different modalities

Source: Rogers H, Coldiron, B. A relative value unit-based cost comparison of treatment modalities for nonmelanoma skin cancer: Effect of the loss of the Mohs multiple surgery reduction exemption. J Am Acad Dermatol 2009; 61: 96-103. Source: ACMS

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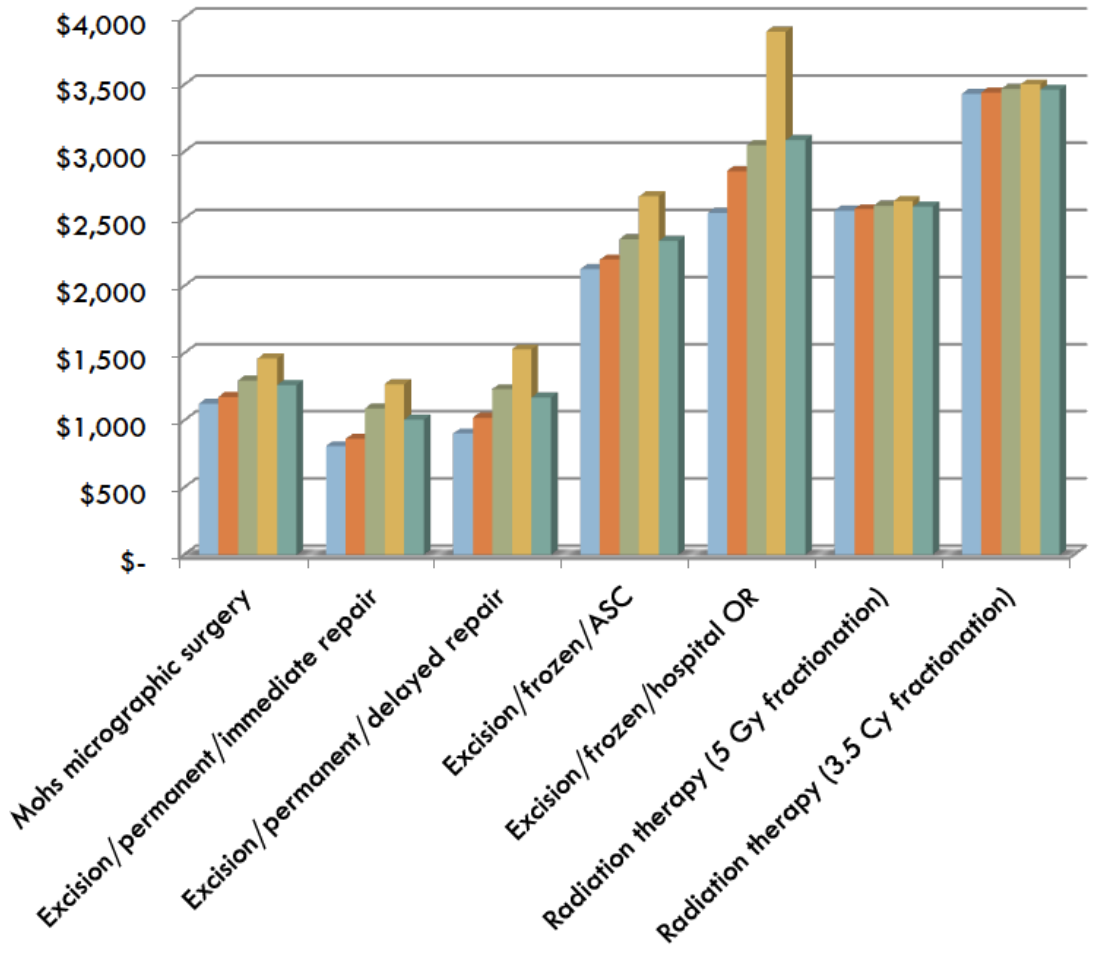

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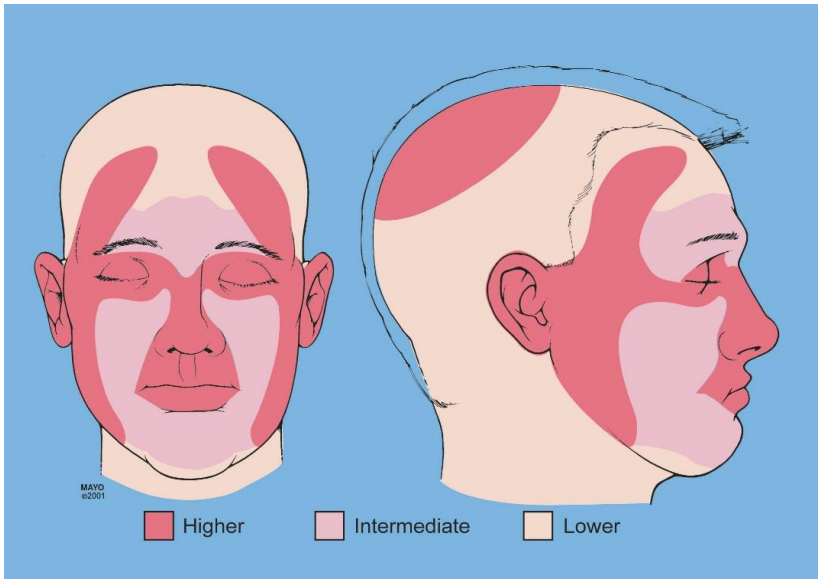
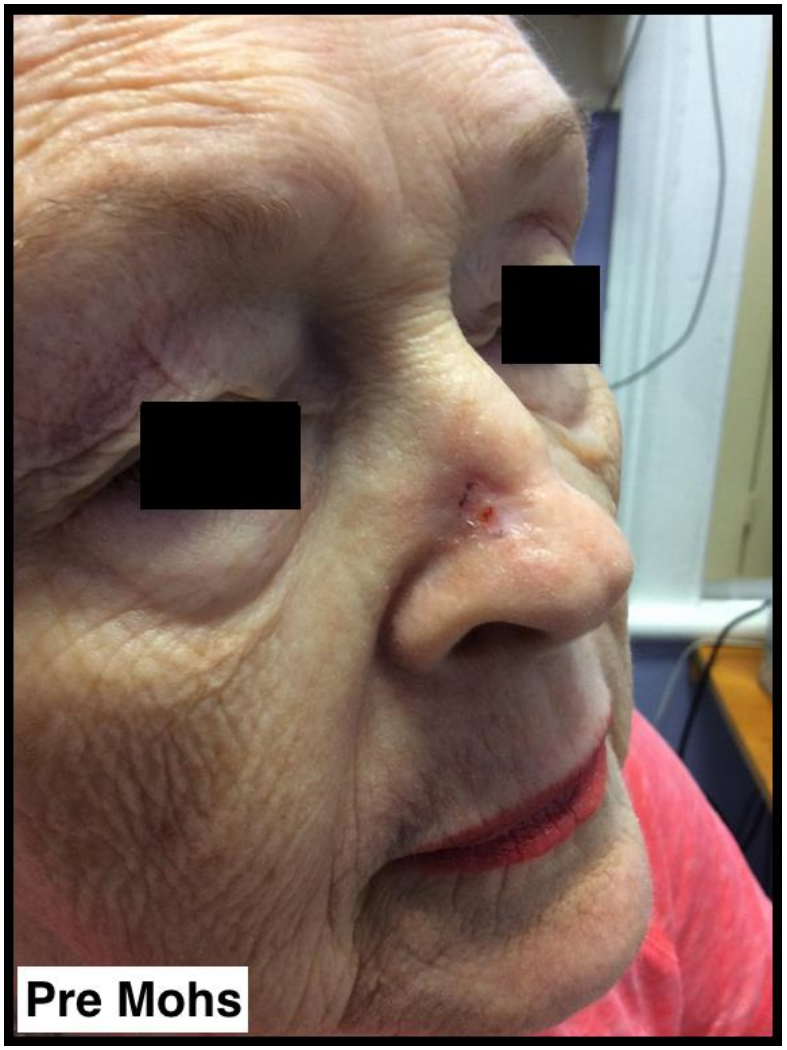
Indications for MMS

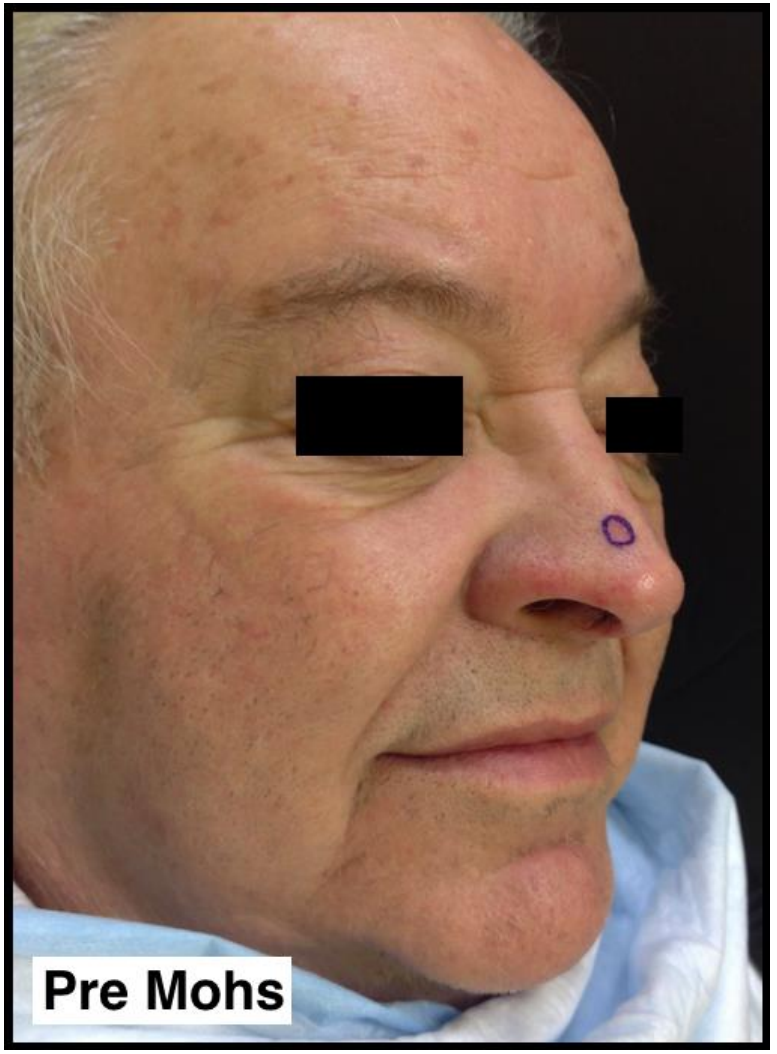
- Location
  - Head & neck, hands & feet, genitalia
- Aggressive Histology
  - infiltrative, micronodular, keratinizing BCCs
  - poorly differentiated & acantholytic SCC
  - perineural tumors
- Poorly/ill-defined tumors
- Rapidly growing tumors
- Recurrent tumors
- Large tumors



- If you are treating NMSCs
  - NCCN guidelines & Mohs Appropriate Use criteria are excellent resources
  - otherwise refer to dermatology for treatment

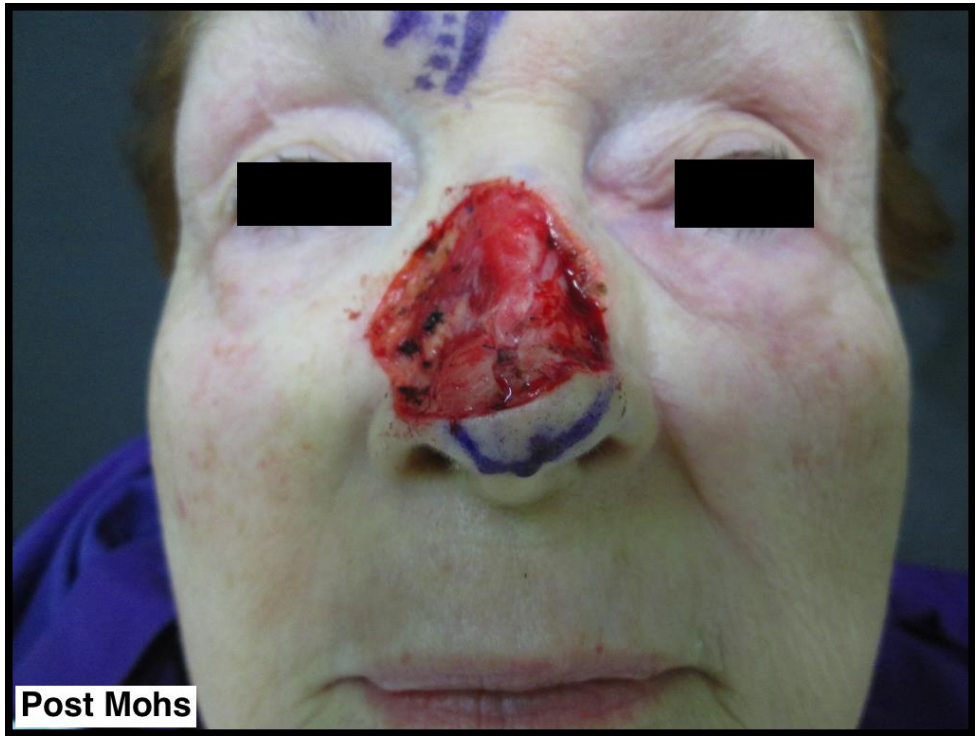
Mohs Surgery for BCCs



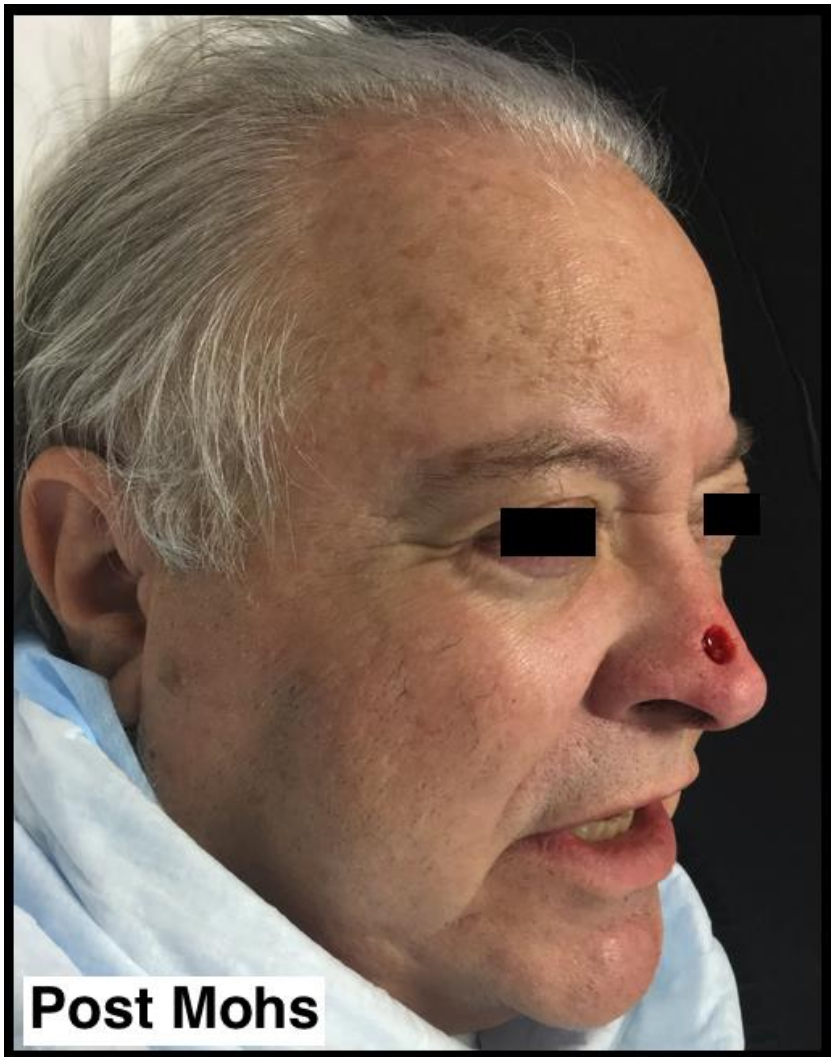


Post Mohs Surgery for BCCs

Aggressive Infiltrative BCC requiring multiple stages

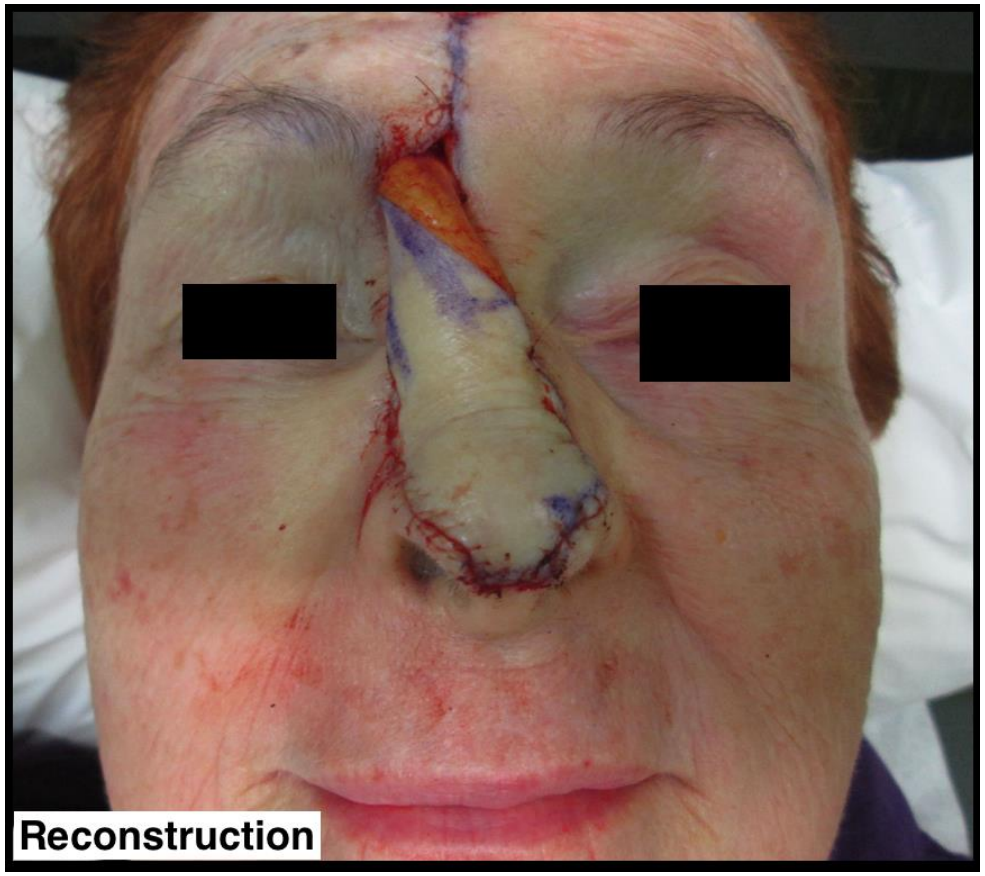


Nodular BCC requiring 1 stage

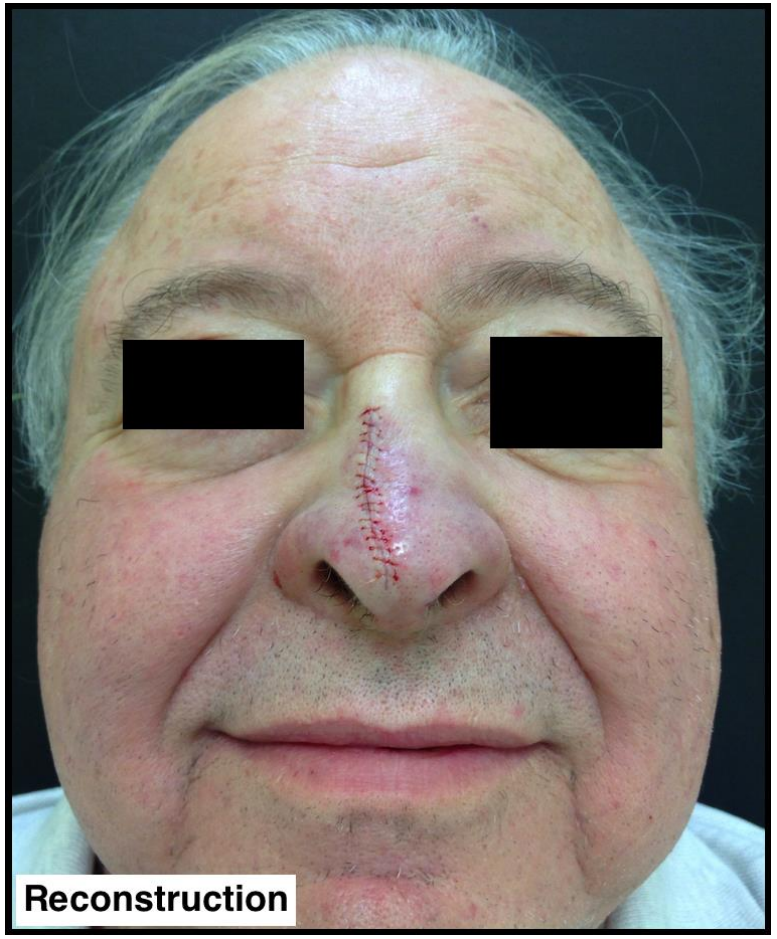


Same Day Reconstruction by Mohs Surgeon

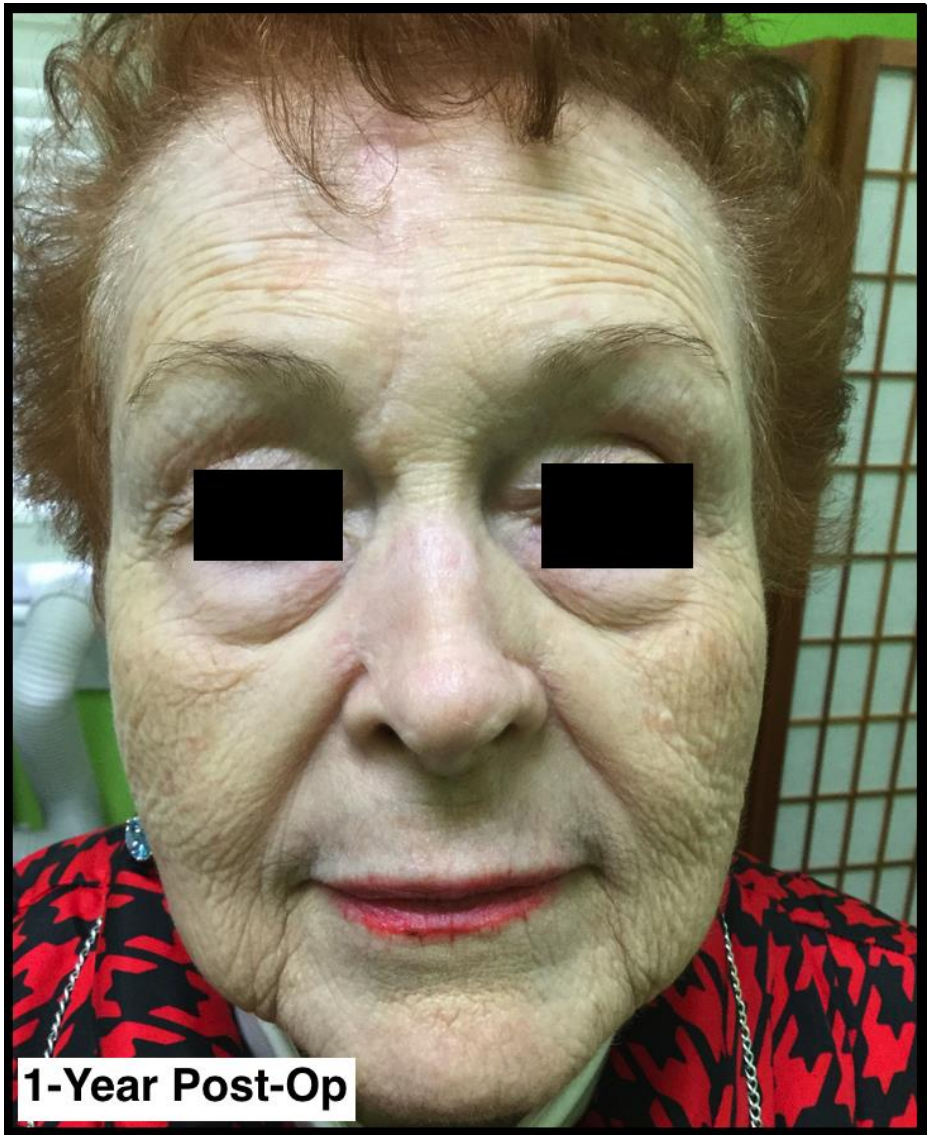
2 Stage Paramedian Forehead Flap

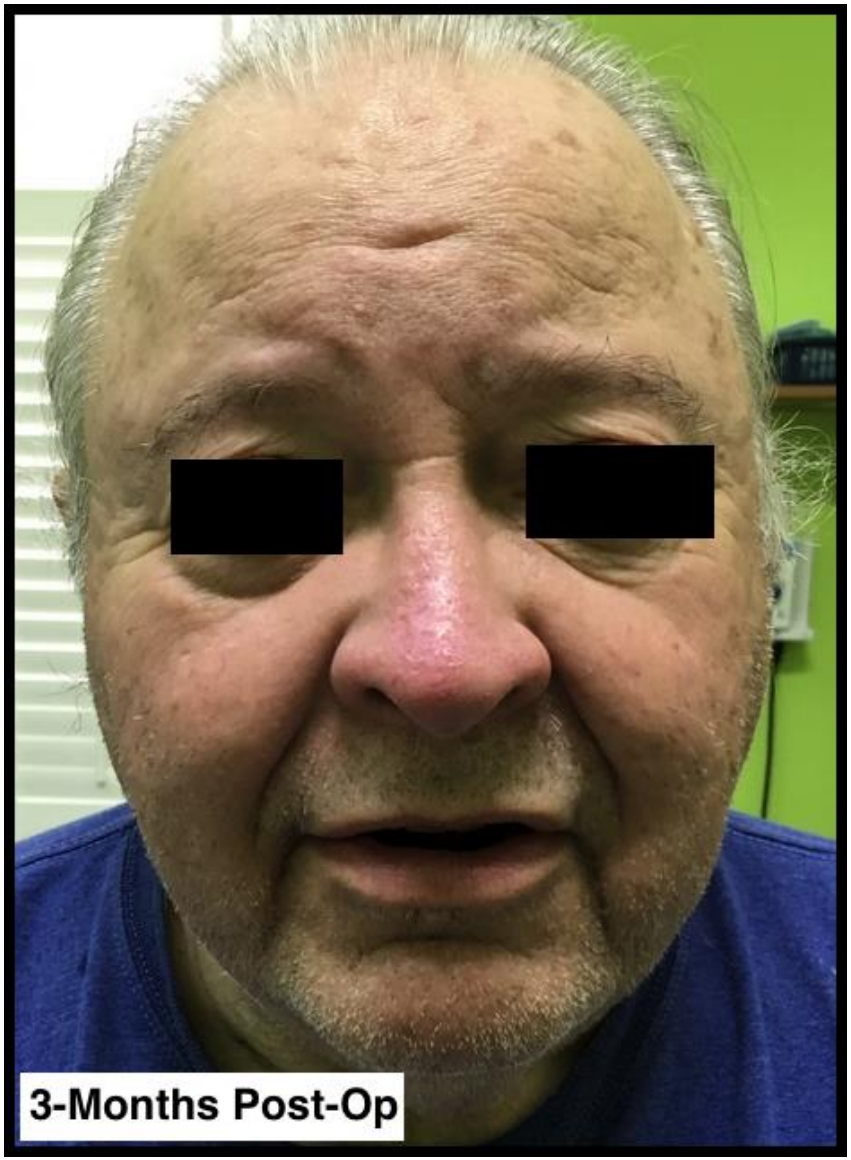


Curvilinear Primary Closure



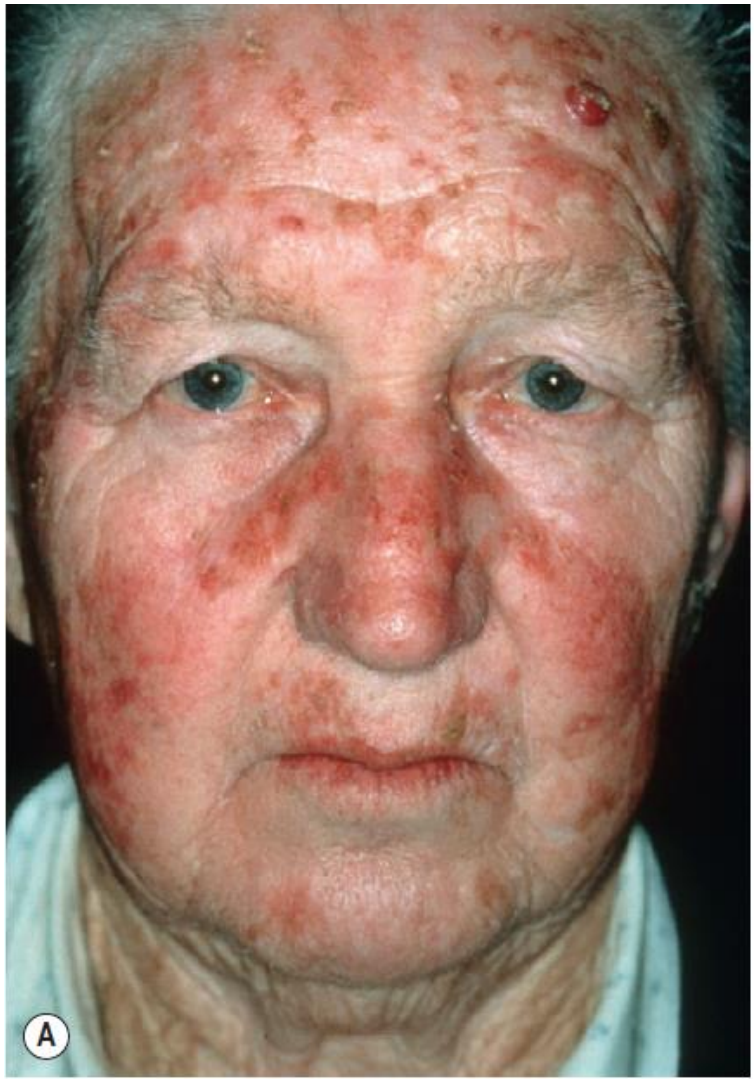
Follow-up





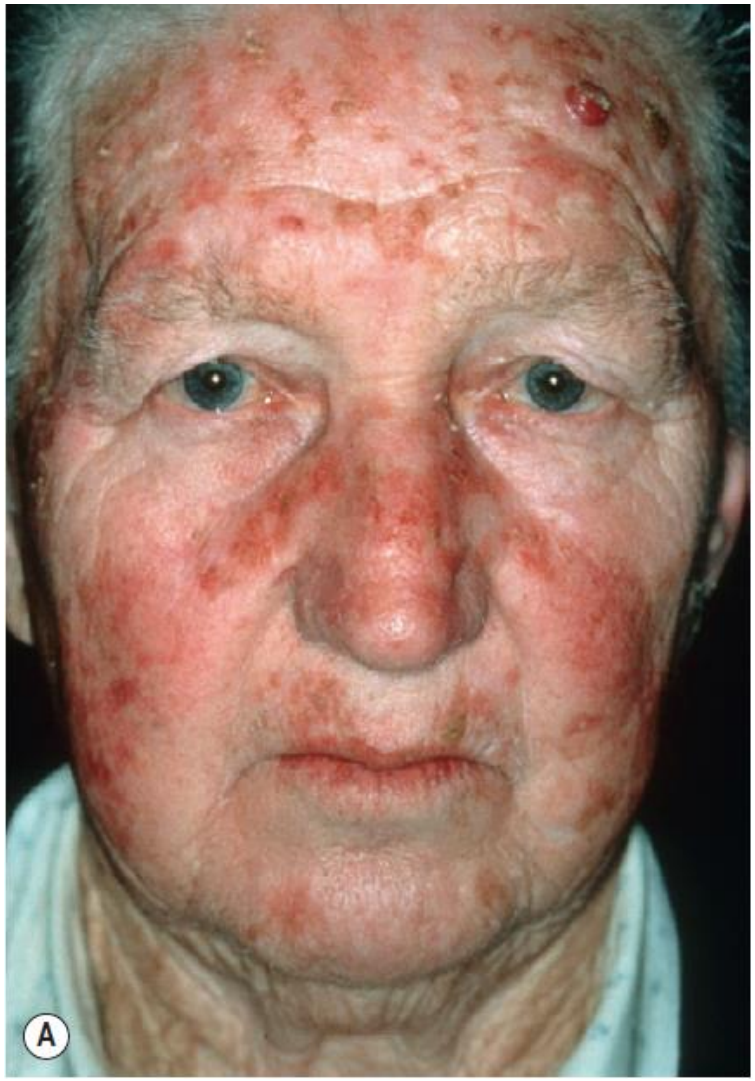
Case 7

- A 70-yo farmer presents with several scaly areas & growths on his face. He also notes a red bump on his left forehead that is bigger & has been slowing growing. It is occasionally tender & will bleed.
- What is the most likely diagnosis?



What is the diagnosis?

A. actinic keratoses
B. seborrheic keratoses
C. solar lentigines
D. basal cell carcinoma
E. squamous cell carcinoma & actinic keratoses



What is the diagnosis?

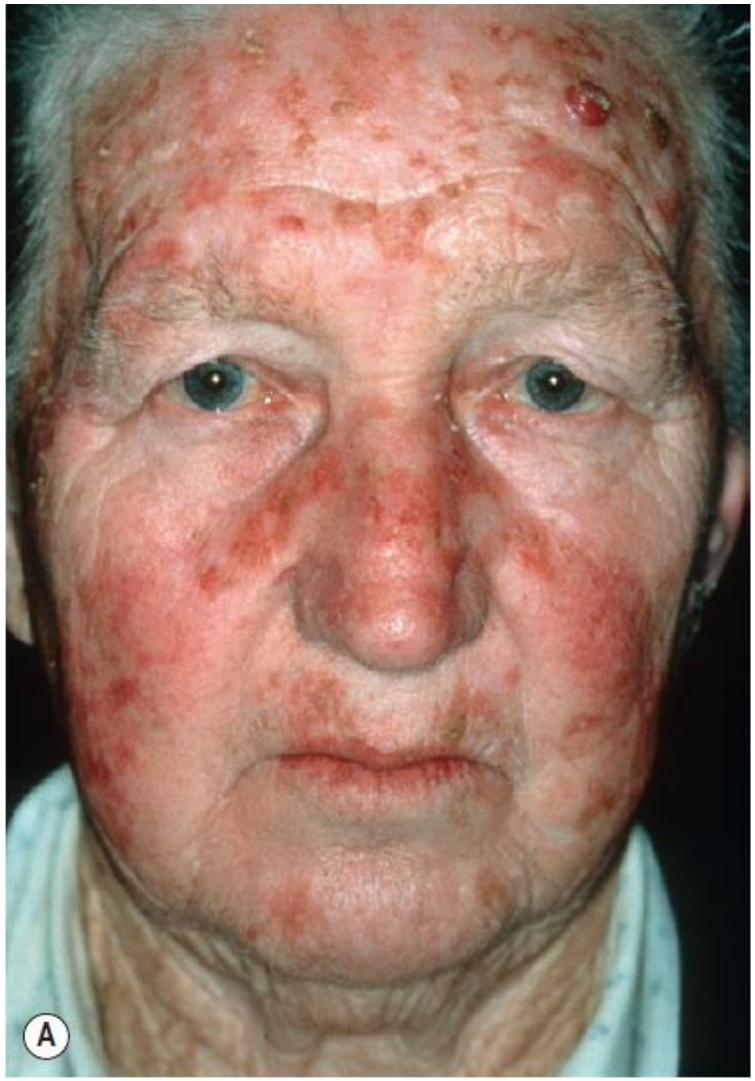
A. actinic keratoses
   - "gritty sandpaper-like" macules & papules with red base

B. seborrheic keratoses
   - "stuck-on" papules

C. solar lentigines
   - irregular, light brown to black macules on chronically sun-exposed skin

D. basal cell carcinoma
   - pearly plaque with telangectasias

E. squamous cell carcinoma & actinic keratoses
   - **keratotic plaque (SCC) & background of AKs**

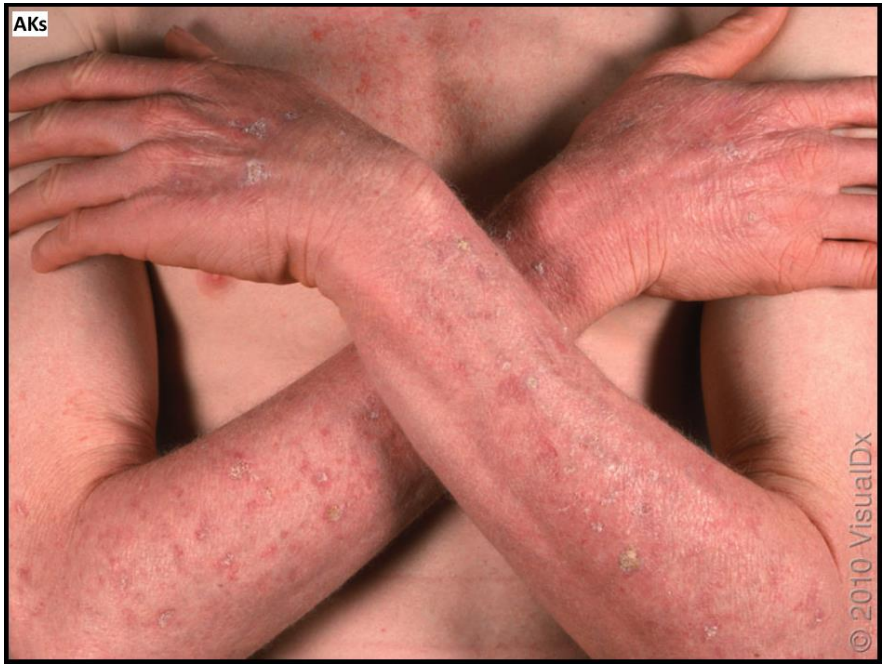


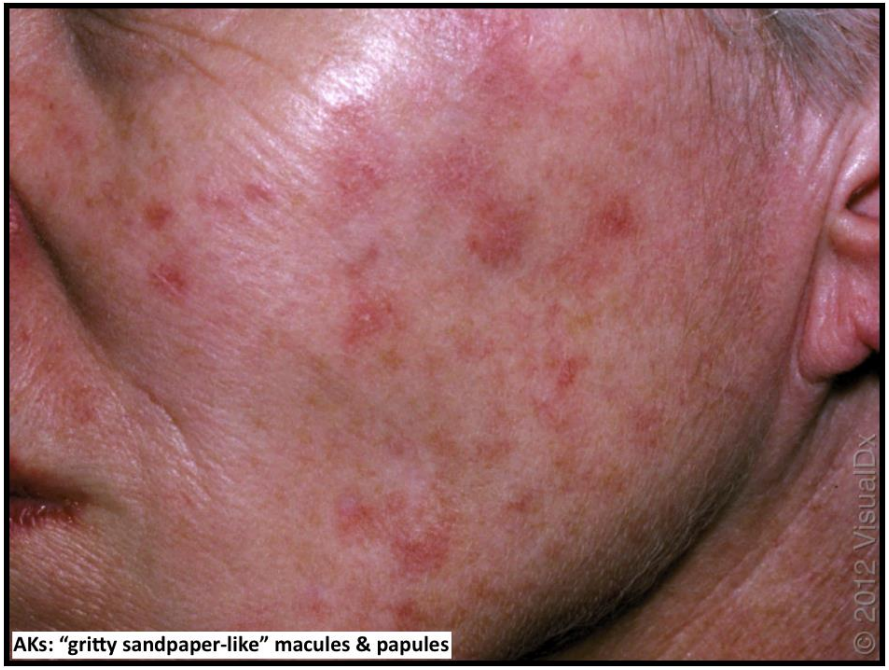
Actinic Keratoses

- AKs are **premalignant** keratinocyte growths that can transform into cutaneous squamous cell carcinomas
  - **transformation rate low: ~ <0.1%/year/single AK**
  - rates of spontaneous regression single lesions ranged between 15-63% per year with recurrence rates of 15–53%
- **p53 mutations** 2° "signature UV mutations" present in early precursors & >90% invasive SCCs
  - Photodamage → AK → SCC In Situ → Invasive SCC → Metastatic Potential

Actinic Keratoses

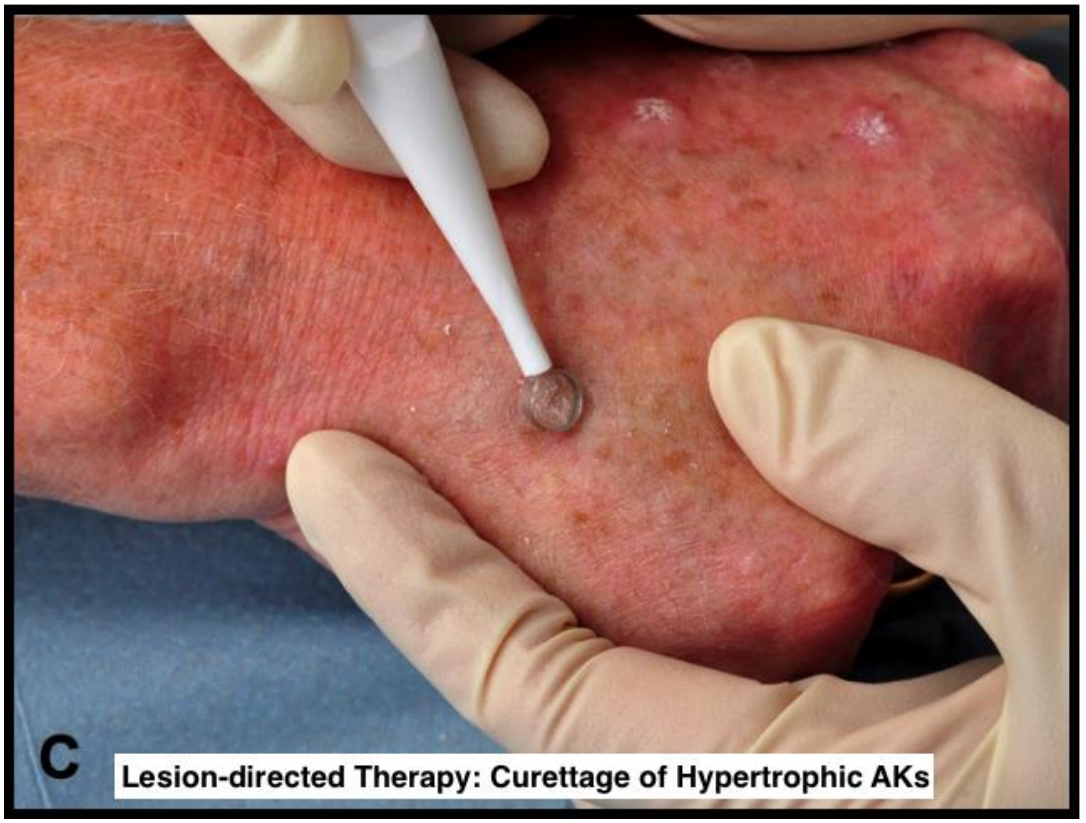
- erythematous “gritty sandpaper-like” macules & papules occurring on chronically sun-damaged fair skin
  - can feel them better than see them
  - often occur in multitude
  - favor dorsal hands, forearms, temples, nose, cheeks
  - generally asymptomatic & rough feeling
  - discrete or ill-defined in nature





Actinic Keratoses Treatments

- lesion-directed therapy
  - LN2/cryotherapy
  - curettage
- topical field-directed therapy
  - 5-fluoruracil
  - imiquimod
  - diclofenac
  - ingenol mebutate
  - photodynamic therapy



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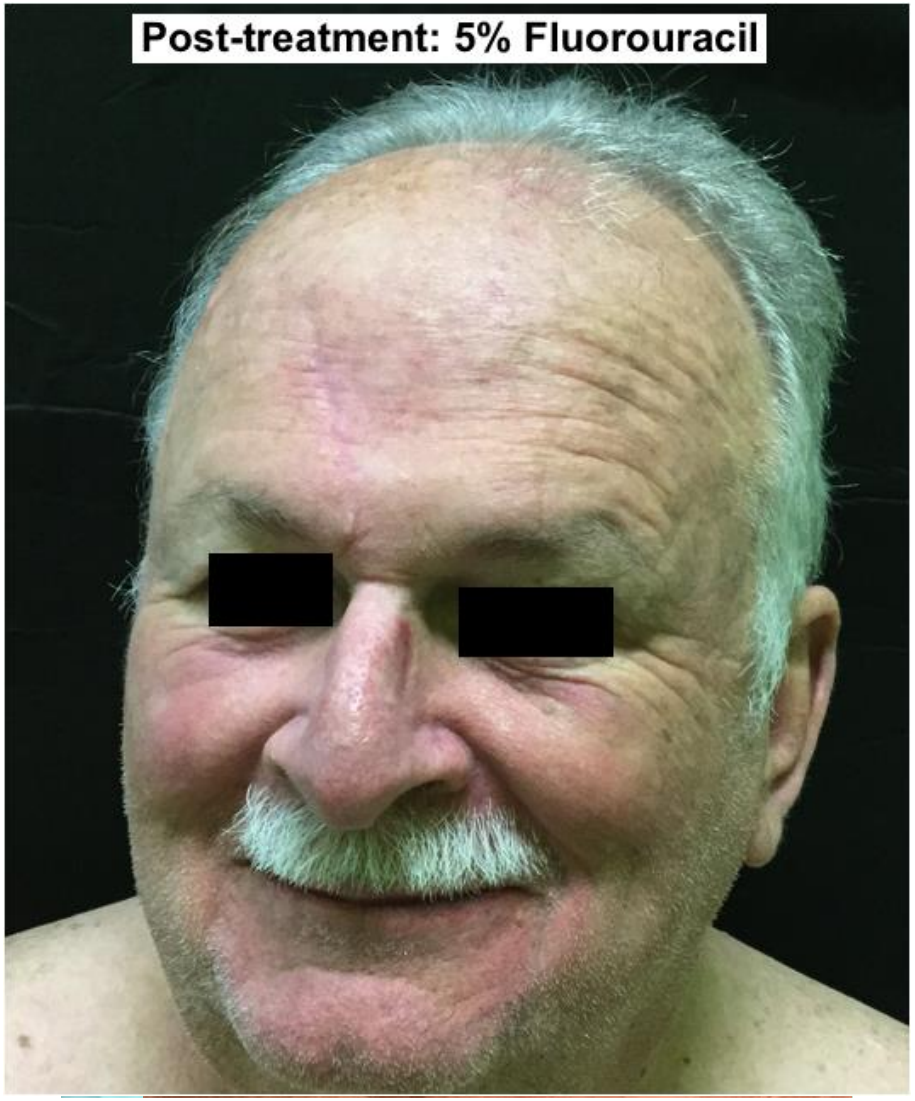
- topical field-directed therapy
  - 5-fluoruracil
  - imiquimod
  - diclofenac
  - ingenol mebutate
  - photodynamic therapy
- combination therapy



Squamous Cell Carcinoma

- **~4 million NMSCs** (BCC & SCC) per year in the US
- Shifting ratio of relative occurrence of BCC to SCC
  - 4 to 1 → 1-2.5 to 1 of BCC to SCC
  - 700,000 SCC new cases annually & increasing incidence at lower latitudes
- **2°*Cummulative* UV Radiation Exposure**
  - **p53 mutations** 2° "signature UV mutations" present >90% invasive SCCs
- **2.0-5.2% will metastasize** to nodes and **1.5-2.1% will die** as a result of metastatic SCC
- A recent study, estimated the **U.S. 2012 death secondary to invasive SCC 3,932-8,791** patients out of 186,147-419,543 new cases that year
  - **Death rates** esp. in central & southern U.S. **nearly rivaled** that of **melanoma**.
  - SEER 2017 melanoma death estimates 9,730 out of 87,110 new cases

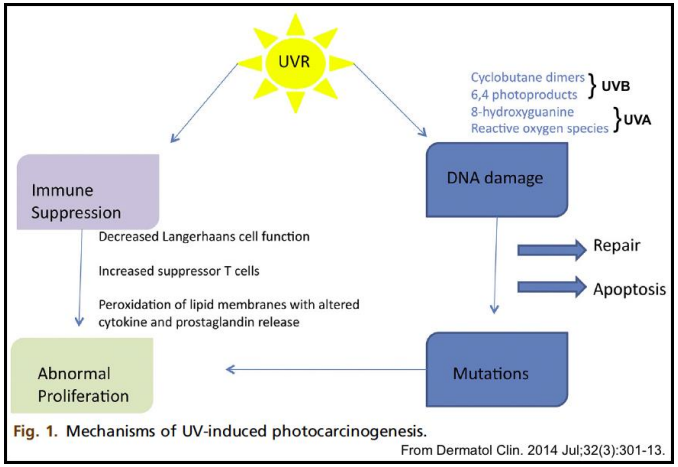


Fig. 1. Mechanisms of UV-induced photocarcinogenesis.
From Dermatol Clin. 2014 Jul;32(3):301-13.

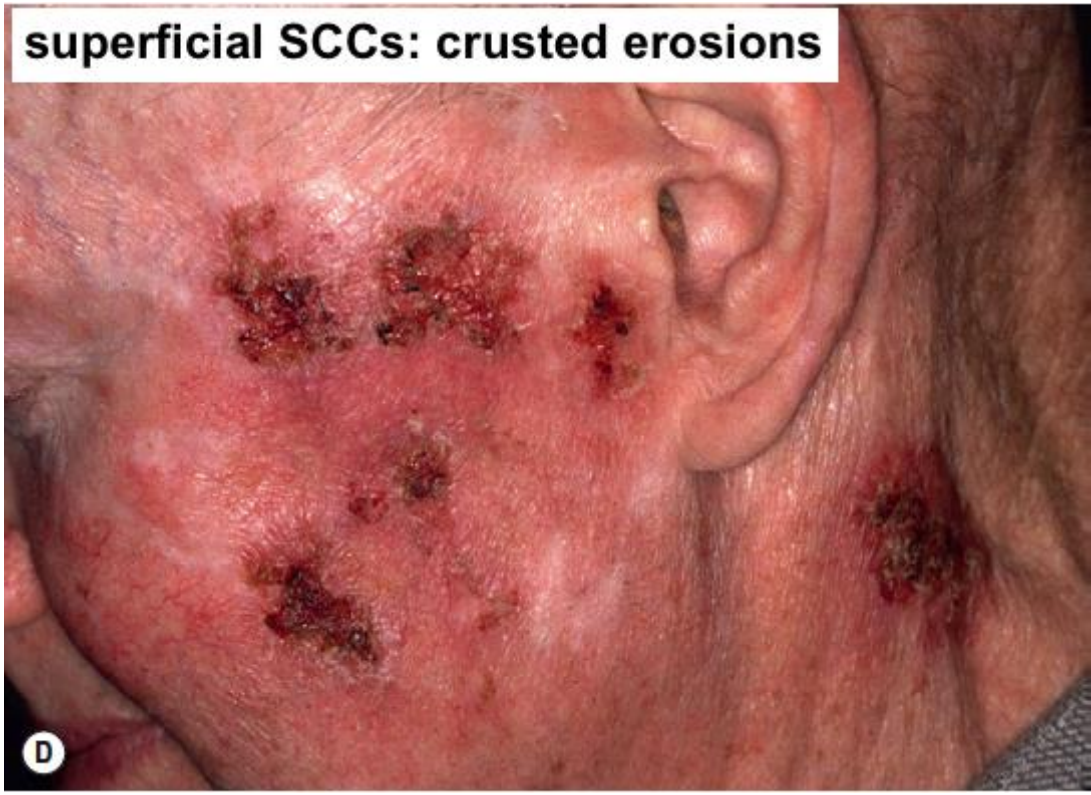
Table IV. Annual incidence of death from disease 2003 to 2007 in whites for common cancers by gender (J Am Acad Dermatol 2013;68:957-66.)

Cancer site	Incidence of death from disease
Men	
Lung and bronchus	68.3
Prostate	22.8
Colon and rectum	20.6
Pancreas	12.2
CSCC constant increase assumption estimate (sun zone 2)	10.4
Leukemia	10.0
Non-Hodgkin lymphoma	9.1
Urinary bladder	7.9
CSCC plateau assumption estimate (sun zone 2)	7.5
Kidney and renal pelvis	6.0
CSCC average assumption estimate (sun zone 2)	4.9
Melanoma of skin	4.5
Oral cavity and pharynx	3.7
CSCC constant increase assumption estimate (sun zone 1)	2.8
CSCC plateau assumption estimate (sun zone 1)	2.0
CSCC average assumption estimate (sun zone 1)	1.0
Women	
Lung and bronchus	41.6
Breast	23.4
Colon and rectum	14.4
Pancreas	9.1
Ovary	8.9
Non-Hodgkin lymphoma	5.7
Leukemia	5.6
Corpus and uterus, NOS	3.9
CSCC constant increase assumption estimate (sun zone 2)	3.8
CSCC plateau assumption estimate (sun zone 2)	3.2
Kidney and renal pelvis	2.7
Melanoma of skin	2.0*
CSCC average assumption estimate (sun zone 2)	1.8
CSCC constant increase assumption estimate (sun zone 1)	0.9
CSCC plateau assumption estimate (sun zone 1)	0.7
CSCC average assumption estimate (sun zone 1)	0.3

Table derived from Kohler et al.[33] All rates are per 100,000 and age adjusted to 2000 US standard white population.
CSCC, Cutaneous squamous cell carcinoma; *NOS*, not otherwise specified.
*Derived from Surveillance Epidemiology, and End Results (SEER) incidence and mortality statistics.[34]

Squamous Cell Carcinoma: Clinical Presentation

- majority appear on chronically sun-damaged skin of the head, neck, forearms, and dorsal hands.
- slow growing > rapidly growing
- asymptomatic > painful or itch
- variable morphology
  - most often presents as an erythematous hyperkeratotic papule, plaque, or nodule
  - cutaneous horns
  - exophytic nodules
  - indurated fixed nodules
  - chronic ulcers



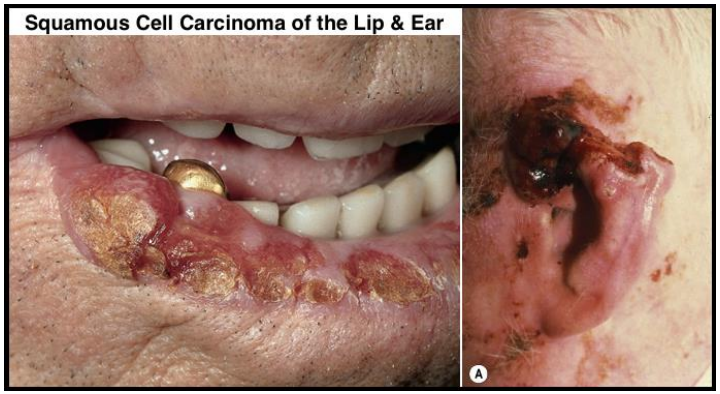
Risk Factors for High-Risk Cutaneous Squamous Cell Carcinoma

TABLE 3. Factors Associated with Increased Risk for Local Recurrence and Metastases

Factors	*Rate of recurrence (%)*	*Rate of metastasis (%)*	*References(s)*
Tumor factors			
Location:			
Lip	2.3–22.2	3–20	7, 8, 91, 92
Ear	5.3–18.7	8.8–11.6	7, 93, 94
Anogenital	14–15	15–74	95–98
Chronic wound or scar	N/A	26.2–37.9	7, 99
Irradiated skin	N/A	20–26	100, 101
Size:			
>2 cm	15.2	30.3–42.5	7, 10
Depth:			
>4 mm/Clark IV, V	17.2	30.4–51	7, 9, 10
Recurrent tumor	10–27.5	16.3–30.3	7, 40
Poorly differentiated histology	28.6	32.8–57.9	7, 10
Perineural invasion	47–47.2	19–50	7, 102, 103
Host factors			
CLL and SLL	25–100	18–100	104–106
Organ transplantation	10–54	6–31	107–109

CLL, chronic lymphocytic leukemia; NA, not available; SLL, small cell lymphocytic lymphoma.

Dermatol Surg. 2006 Nov;32(11):1309-21. Sentinel lymph node biopsy in cutaneous squamous cell carcinoma: a systematic review of the English literature. Ross AS & Schmults CD.



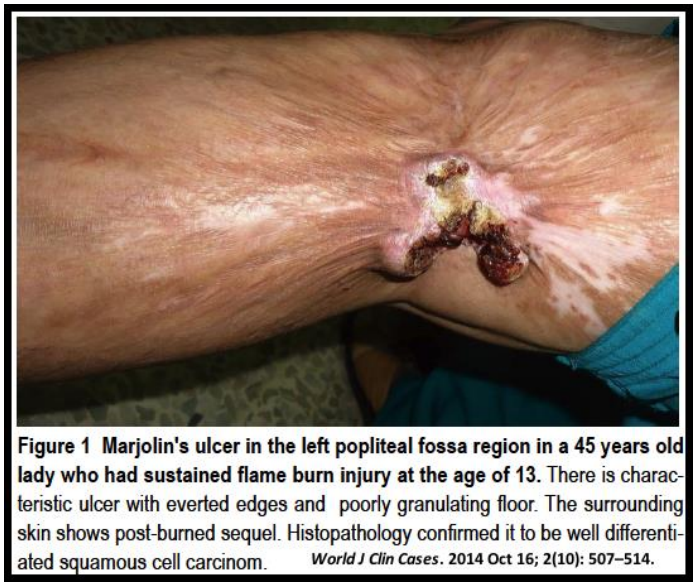


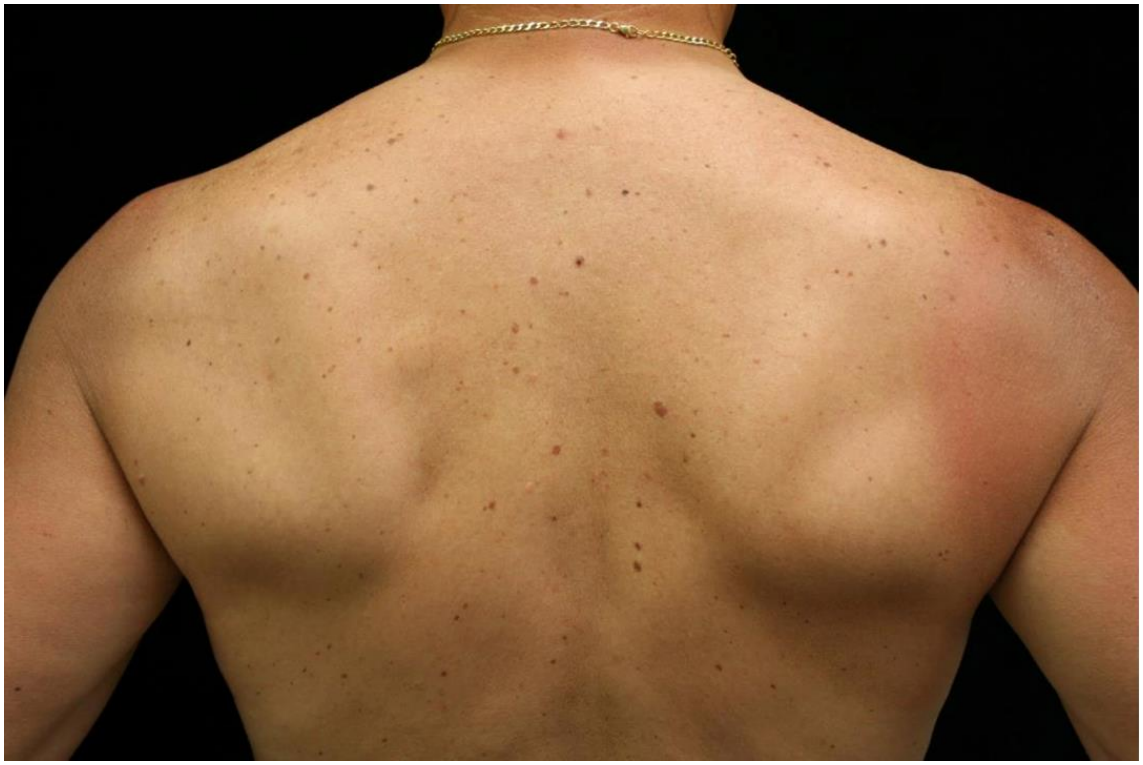
Figure 1 Marjolin's ulcer in the left popliteal fossa region in a 45 years old lady who had sustained flame burn injury at the age of 13. There is characteristic ulcer with everted edges and poorly granulating floor. The surrounding skin shows post-burned sequel. Histopathology confirmed it to be well differentiated squamous cell carcinom. *World J Clin Cases*. 2014 Oct 16; 2(10): 507–514.

Diagnosis & Treatment of SCC:

- Shave Biopsy or Refer to Dermatology if suspect SCC
- Treatment similar to BCCs
- Surgical options:
  - Excision with Mohs Micrographic Surgery
  - Excision with appropriate margins (for low-risk SCC)
  - Electrodessication & Curettage (for SCC, in situ)
- Non-surgical options
  - Radiation therapy (poor surgical candidates)
  - Off-Label Topical Therapies (i.e. 5-FU, imiquimod, PDT – usually SCC, in situ)
- Surgical options are preferred method of treatment/standard of care
- The best option is selected after consideration of the clinical & pathologic features in context of the patient
- To select optimal therapy, refer or ask local dermatologist/Mohs surgeon

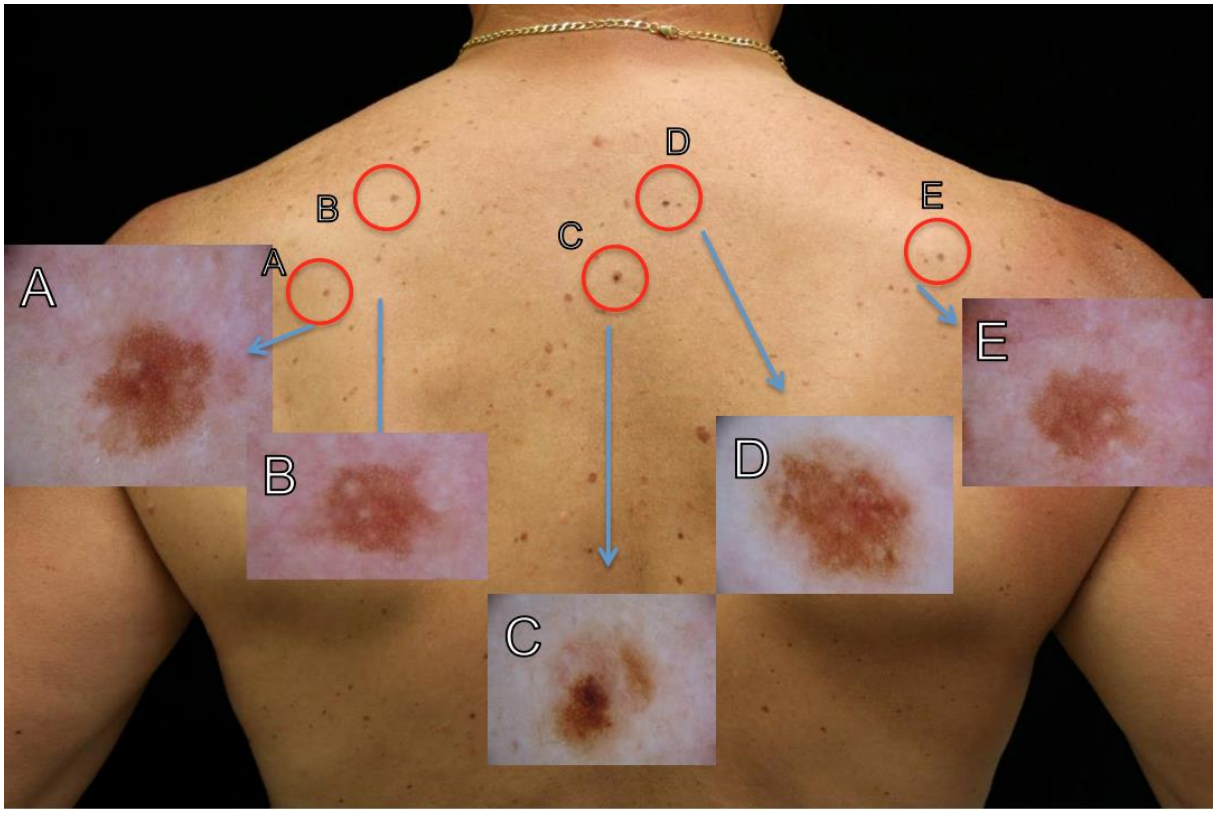
Case 8

- A 55-yo white male presents to your clinic and said he is there because his wife wanted you to check out his “moles” on his back.
- He grew up in South Florida and spent his youth surfing and fishing. He had several blistering sunburns.
- He doesn’t know his FH of skin cancer other than he has a “moley” father.



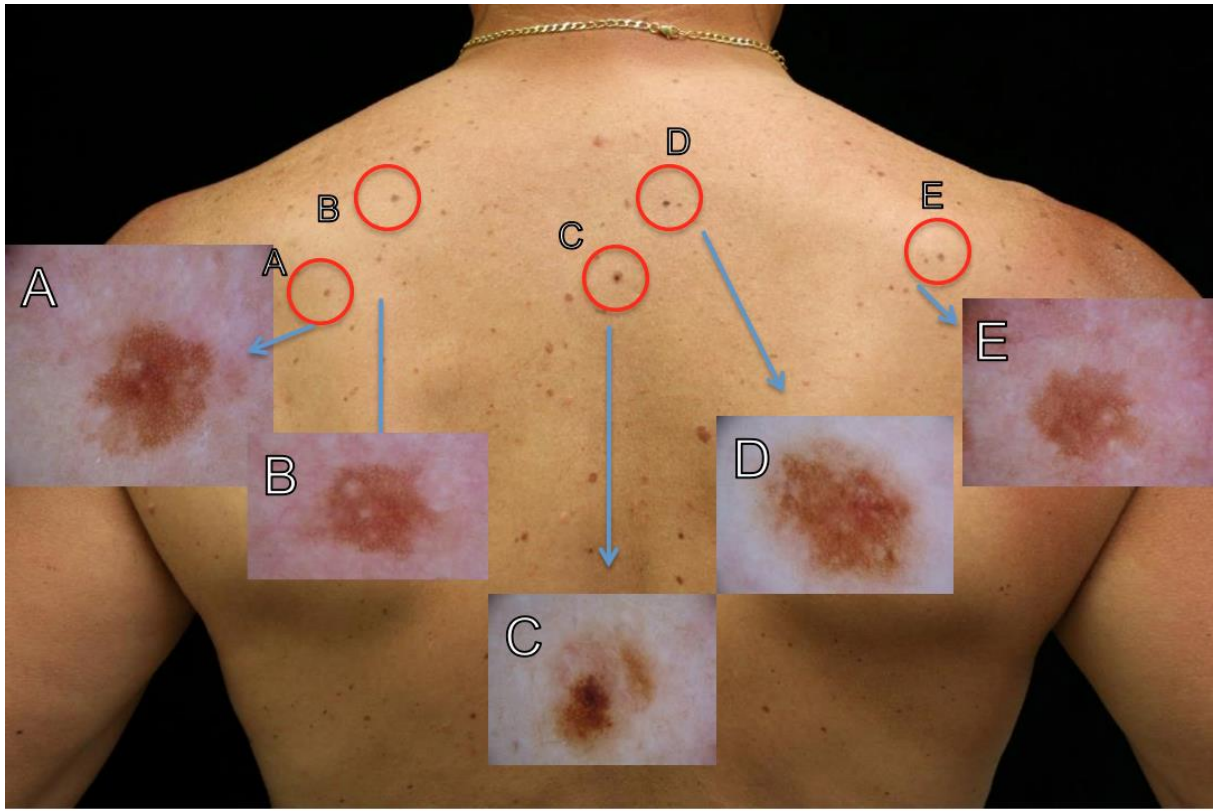
Case 8

- Examination:
  - note tan & mild sunburn
  - solar lentigines
  - several melanocytic nevi
  - close inspection of a group of nevi who notice the following



what is the next best step?

A. routine skin examination & improve sun protection
B. excisional biopsy of A
C. excisional biopsy of C
D. shave biopsy of C
E. reassurance



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D. shave biopsy of C
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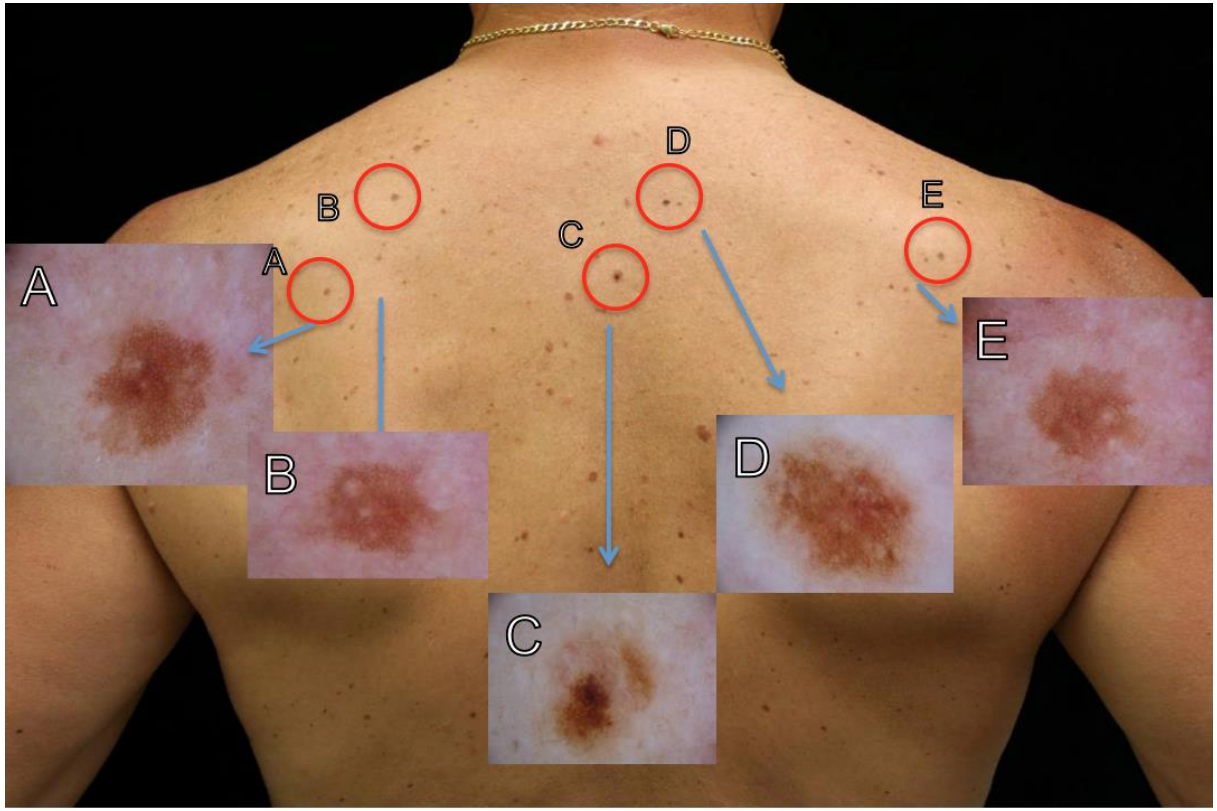


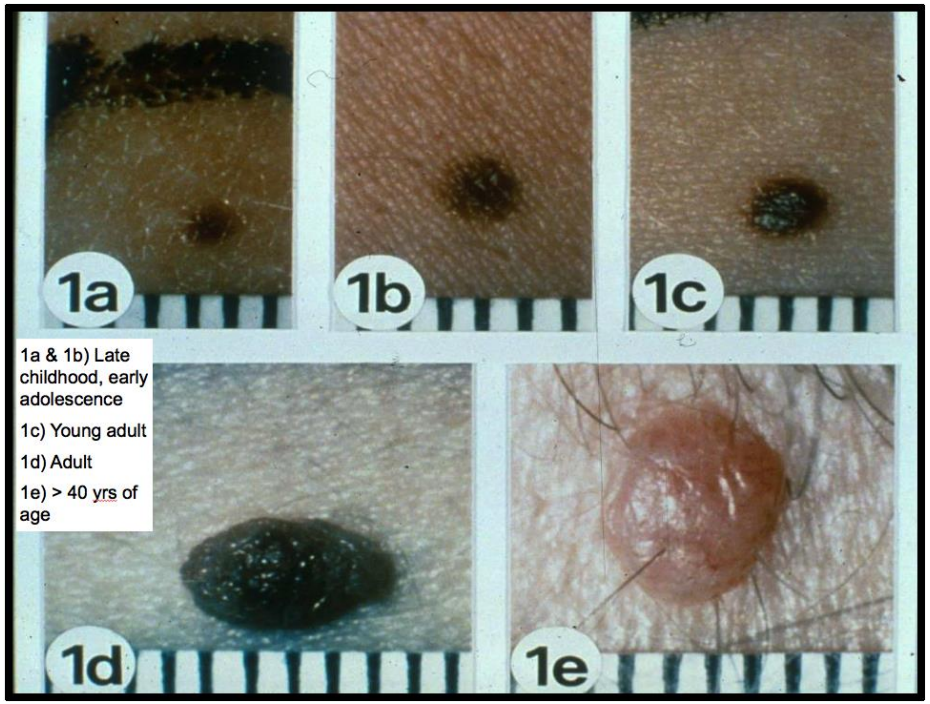
Evaluating Melanocytic Lesions

- when evaluating nevi, it is important to look for symmetry, regular border, uniform color/shape, relative diameter <6mm, & evolution/change (ABCDEs)
- more practical approach is to look for similar melanocytic nevi on an given individual (i.e. “signature nevi”) and look for outliers (i.e. “ugly duckling”)
- If “ugly duckling” found, either excisional biopsy or referral to dermatology to r/o melanoma should be performed

Table 25.2 Clinical Signs Suggestive of Malignant Melanoma
Change in color – specially multiple shades of dark brown or black; red, white and blue; spread of color from the edge of the lesion into surrounding skin
Change in size – especially sudden or continuous enlargement
Change in shape – especially development of irregular margins
Change in elevation – especially sudden elevation of a previously macular pigmented lesion
Change in surface – especially scaliness, erosion, oozing, crusting, ulceration, bleeding
Change in surrounding skin – especially redness, swelling, satellite pigmentations
Change in sensation – especially itching, tenderness, pain
Change in consistency – especially softening or friability

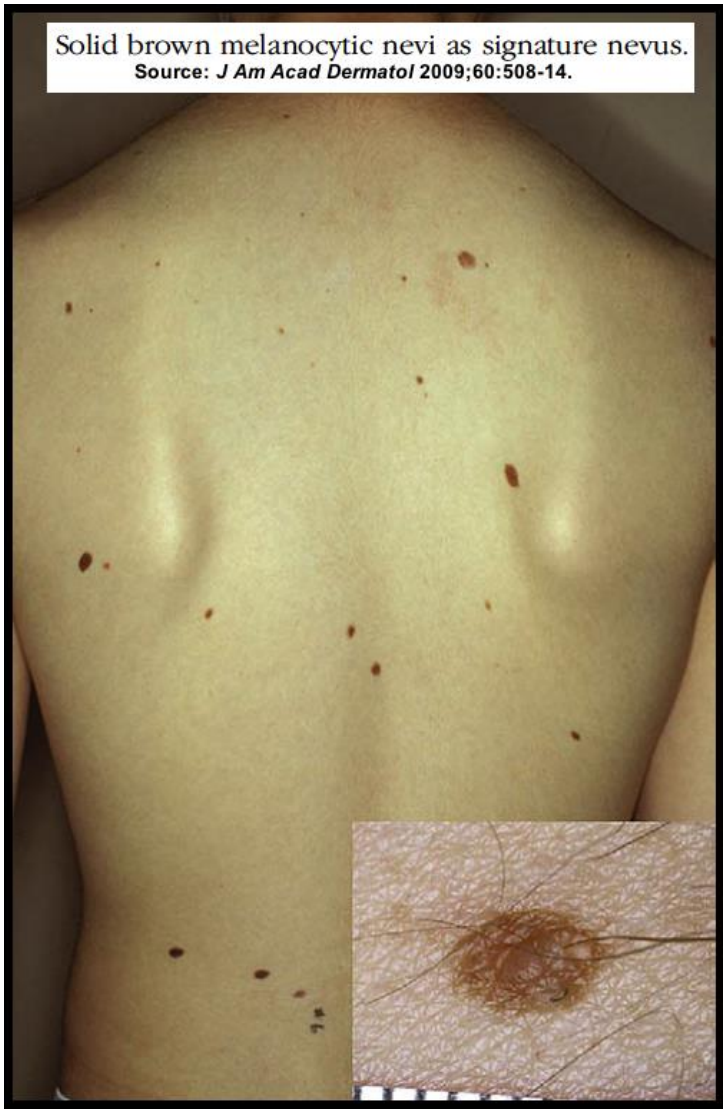
Evaluating Melanocytic Lesions

- acquired melanocytic nevi are common in childhood & early adulthood
  - related to sun exposure
  - nevi change overtime esp. in adolescent
  - pigmented macule (children) → pigmented papule → lighter pigmented papules (adults)
- >100 melanocytic nevi risk factor for melanoma
- rare to develop new ones after age 50
  - biopsy or refer to r/o melanoma



Evaluating Melanocytic Lesions

- "signature nevi" examples include solid brown, solid pink, eclipse, fried-egg, & more.



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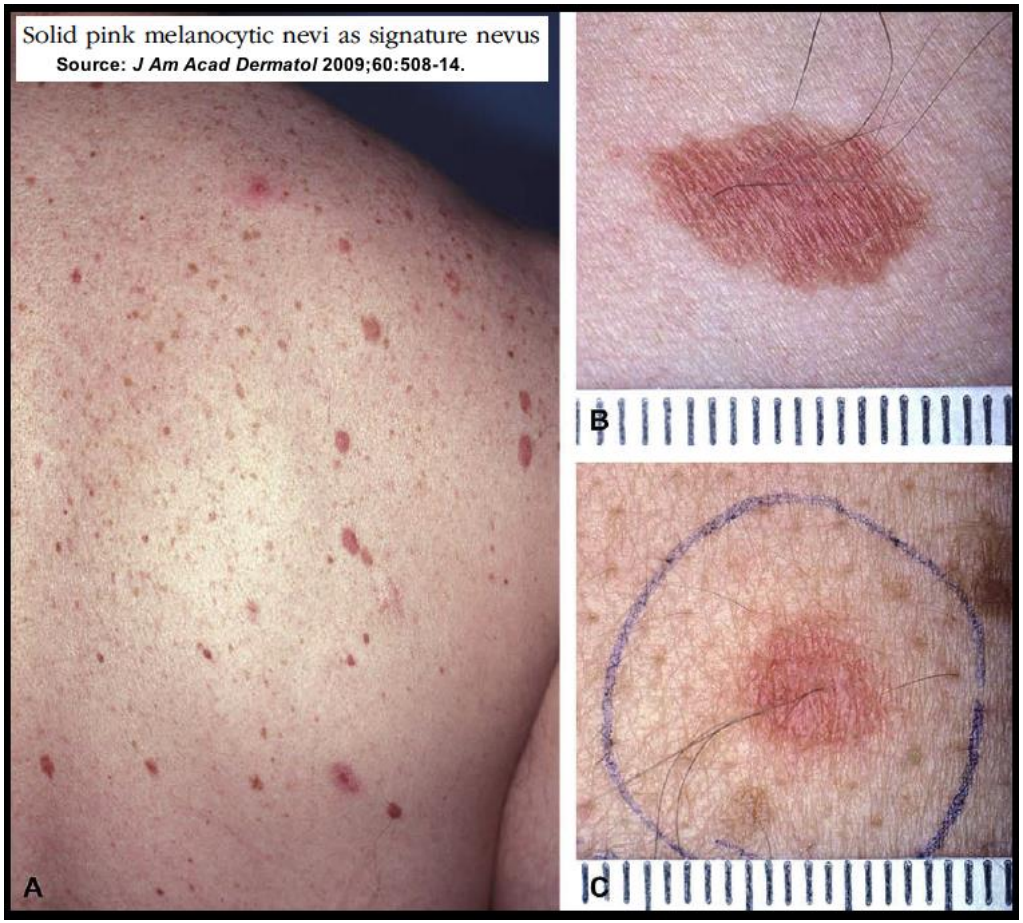

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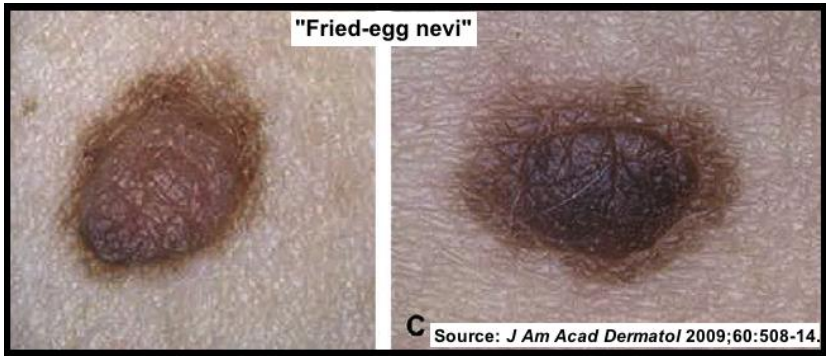
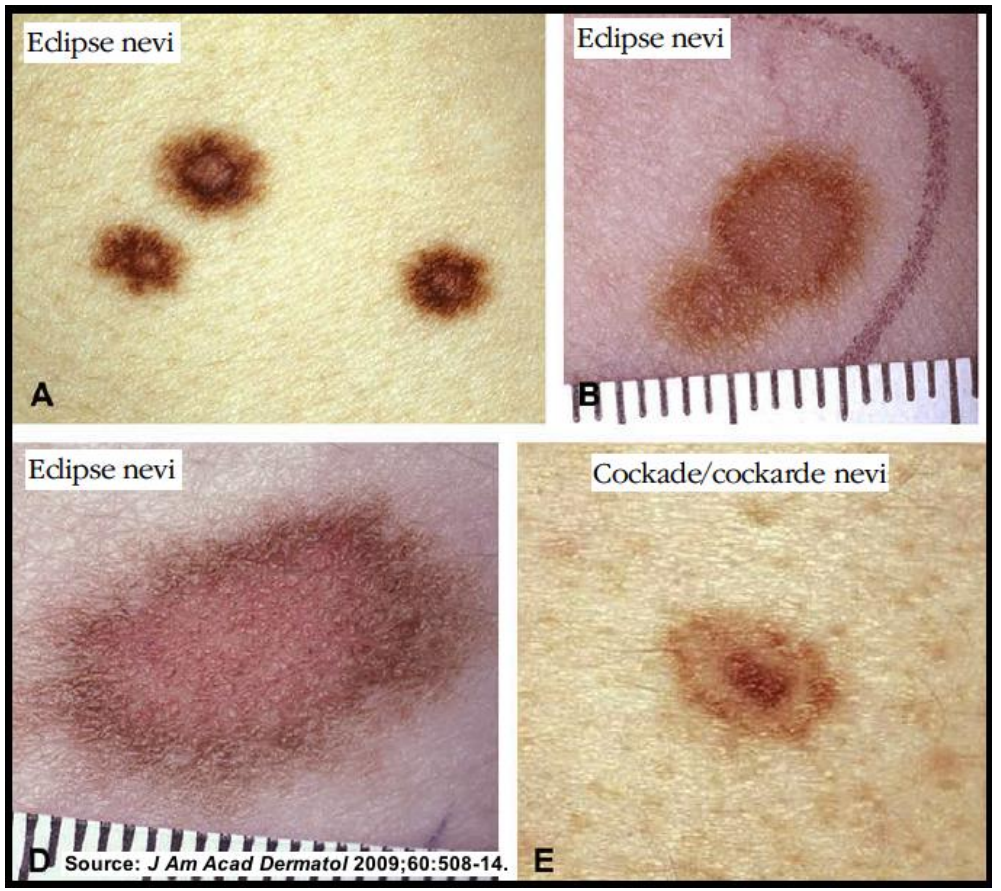
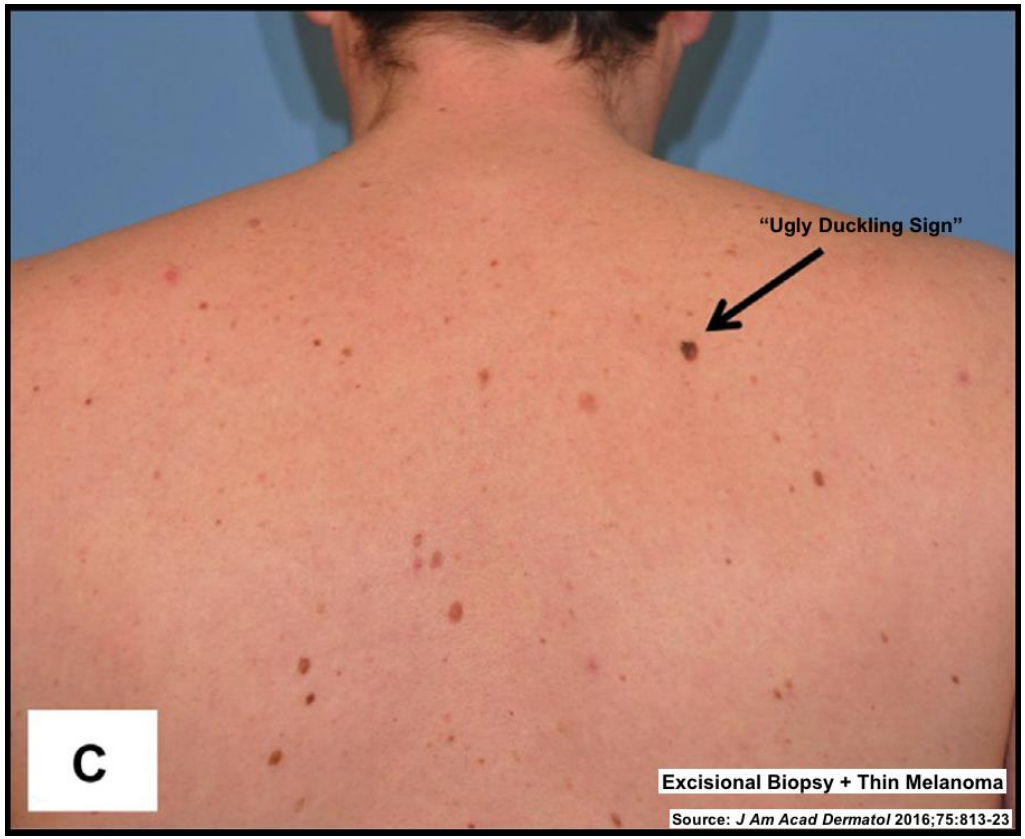




Evaluating Melanocytic Lesions

- "ugly duckling sign"
  - different from signature nevi
  - helpful for identifying potential melanoma or unusual dysplastic nevus



Back to the Case: Excisional Biopsy Results Come Back

- Pathology report for the biopsy reads ***dysplastic melanocytic nevus, moderate atypia; clear margins***….what next?
- atypical nevi (clinical)/dysplastic nevi (pathologic) ***are not*** **precancerous moles**
  - however, individuals with *>5 dysplastic nevi are at increased risk for melanoma* and should be followed by a dermatologist
- atypical nevi *can be very difficult* to distinguish clinically from melanoma

Atypical Melanocytic Nevi Features (3/5)
>5 mm in size
variable pigmentation
irregular and asymmetric shape
indistinct borders
erythema

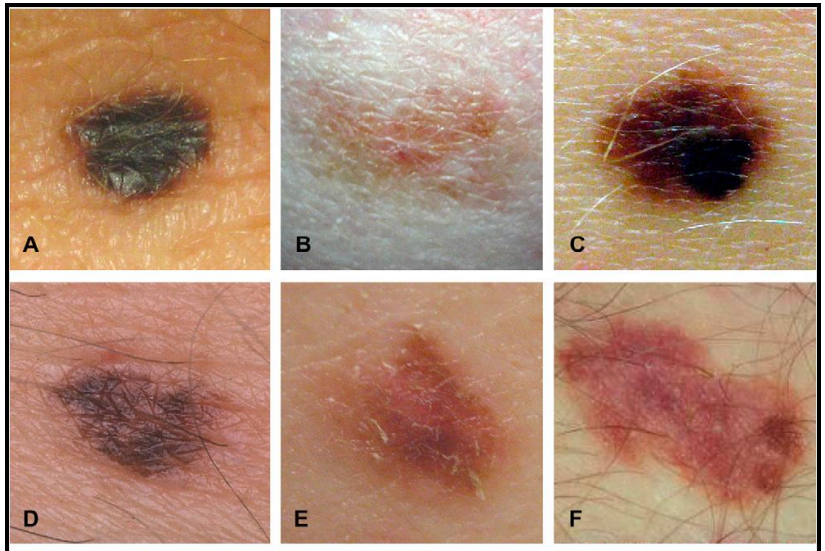
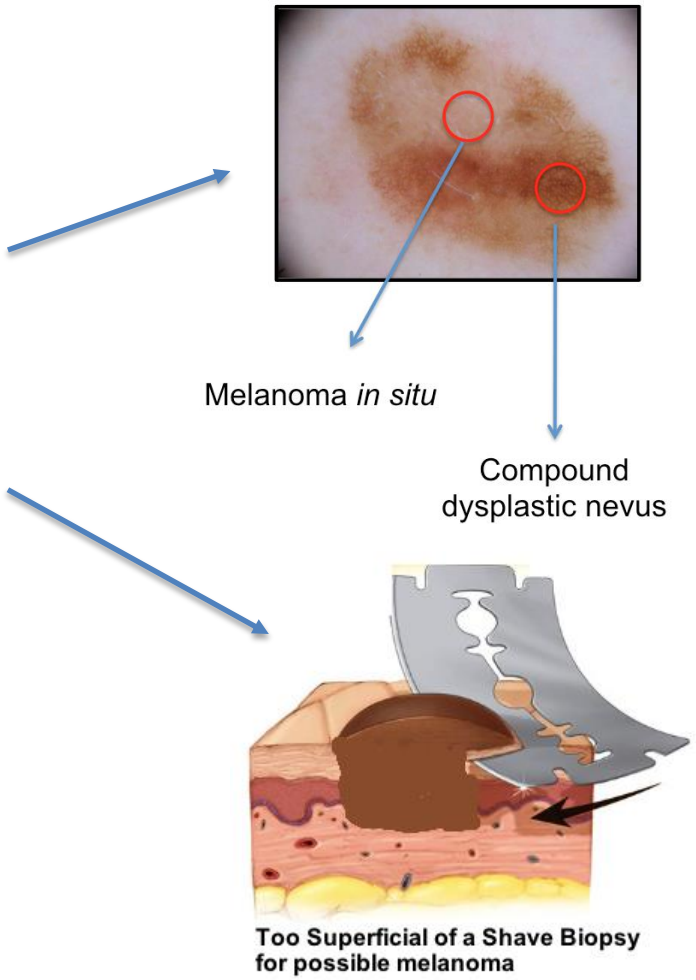


Fig 1. Clinical features of atypical nevi. Indistinct borders are evident in lesions **(A)**, **(B)**, and **(C)**. Variable pigmentation is seen in these lesions and in the lesions seen in **(D)**, **(E)**, and **(F)**. Irregular borders are present in many of these lesions. ***J Am Acad Dermatol.*** **2012;67:1.e1-16.**

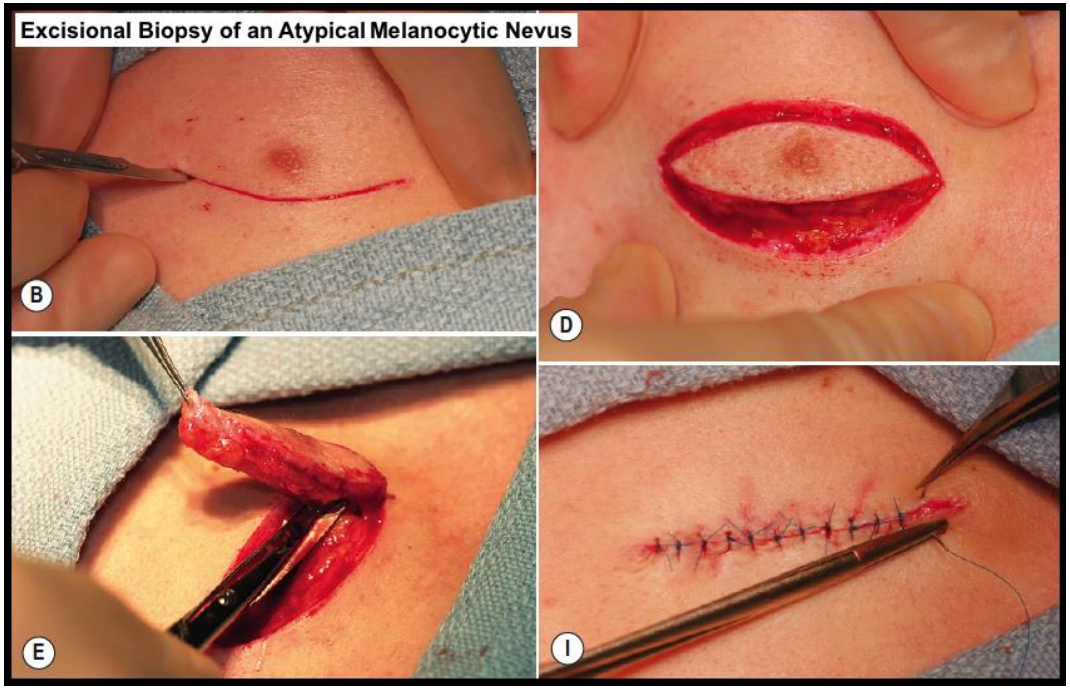
You find a lesion that you are concerned is a melanoma & plan to biopsy it

- melanocytic lesions that look atypical to you, can also look atypical for the pathologist
  - thus, it is important for the pathologist to see the entire melanocytic lesion under the microscope to give the most accurate diagnosis
- second, the most important prognostic information for guiding the treatment of melanoma is the Breslow thickness
  - thus, it is important to take a deep enough biopsy so as not to transect the base of the possible melanoma
- the best way of ensuring your biopsy technique will accomplish removal of the entire clinical mole & the appropriate depth is to perform an **excisional biopsy**



Excisional Biopsy

- **excisional biopsy** involves *full thickness incision to the fat* with the *entire lesion captured within* & can accomplish 2 ways
  - **conventional elliptical excision**
  - **punch excision**



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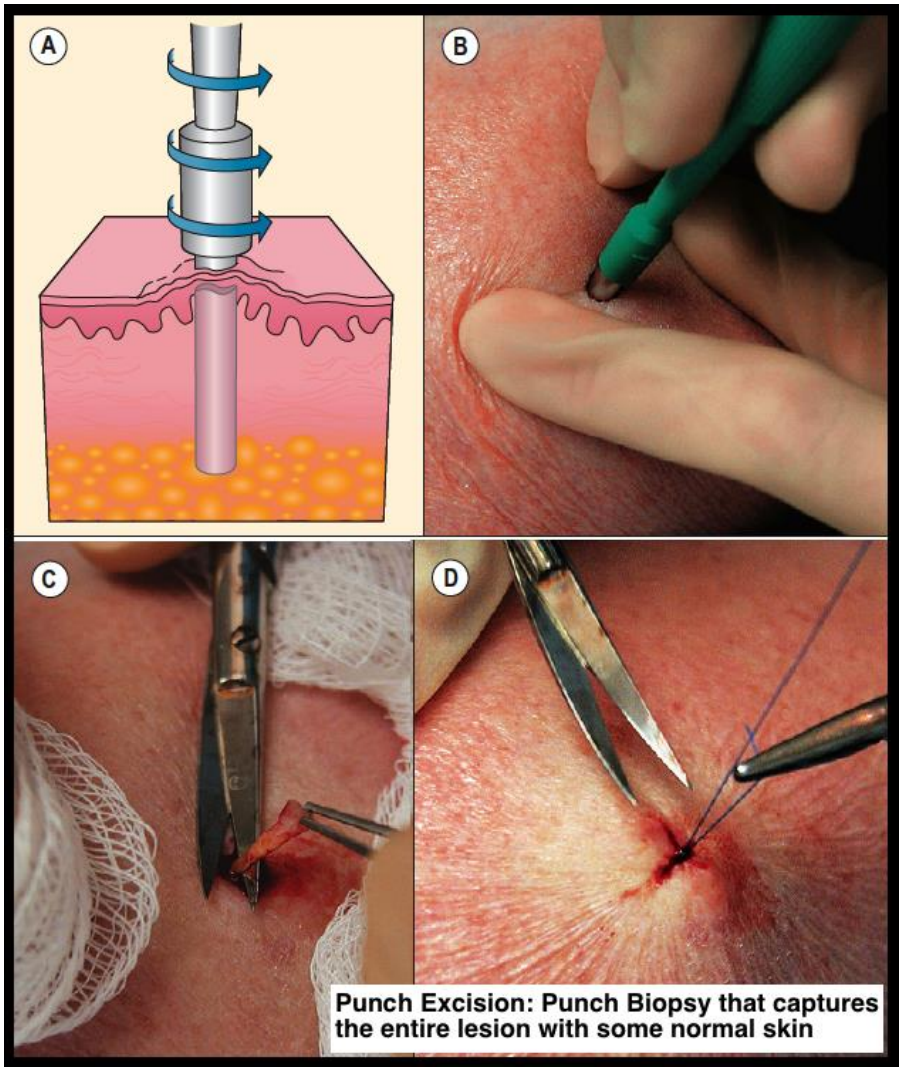
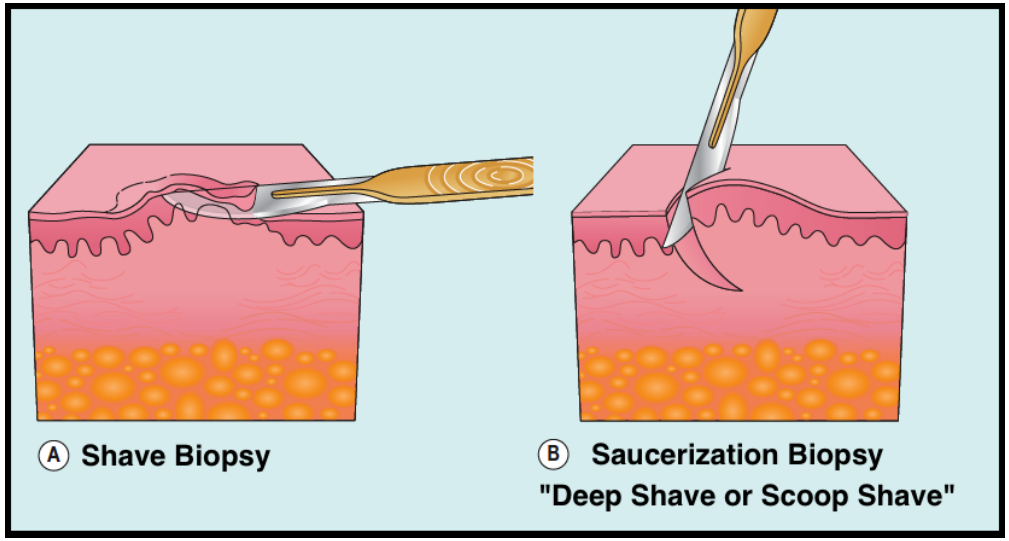
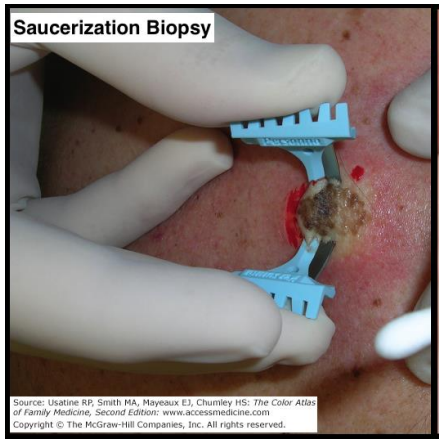


Saucerization Biopsy

- common method performed by dermatologists in when biopsying atypical melanocytic nevi to rule-out melanoma
- basically a deep shave biopsy with 1-2 margins of normal skin
- extends to deep (reticular) dermis with to avoid transection of the base of possible melanoma
- faster, less invasive, & superior cosmesis in certain anatomic regions
- comparable to excisional biopsy and does not affect survival rate in melanoma treatment





Saucerization Biopsy

To Scoop or Not to Scoop: The Diagnostic and Therapeutic Utility of the Scoop-Shave Biopsy for Pigmented Lesions

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BACKGROUND Concern over transection of melanomas has inhibited many practitioners from using the scoop-shave for removal of pigmented lesions.

OBJECTIVE To assess the safety and efficacy of the scoop-shave for pigmented lesions.

MATERIALS AND METHODS The practitioner's clinical diagnosis, intent (sample or completely remove), and removal technique (excision, punch, shave biopsy, or scoop-shave) were recorded. Pathology results including the status of the peripheral and deep margins were subsequently documented.

RESULTS Over an 8-month period, 333 procedures were performed. Of the 11 melanomas (6 in situ and 5 invasive) removed by the scoop-shave, none had positive deep margins and 6 (2 in situ and 4 invasive) were completely removed. One of the 50 dysplastic nevi removed by scoop-shave had a positive deep margin (moderately dysplastic). Forty-six dysplastic nevi were completely removed by the scoop-shave. When the practitioner's intent was "complete removal," the lesion was completely removed 73.1% of the time by scoop-shave, 91% by standard excision, 18.1% by shave biopsy, and 78.6% by punch excision ($p < .0001$).

CONCLUSION The scoop-shave is a safe and effective technique for diagnosis and treatment of melanocytic lesions.

Thank You for Attention

- Useful Patient & Clinician Resources:
  - American Academy of Dermatology
  - American College of Mohs Surgery
  - Skin Cancer Foundation
  - National Comprehensive Cancer Network Guidelines
  - VisualDx.com

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SKIN CANCER FOUNDATION

ACMS American College of Mohs Surgery

Fellowship trained skin cancer and reconstructive surgeons