



SCHOOL OF
MEDICINE

DEPARTMENT OF
DERMATOLOGY

Skin Cancers

FAMILY MEDICINE DIDACTICS

12/18/2019

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DEPT OF DERMATOLOGY

Objectives

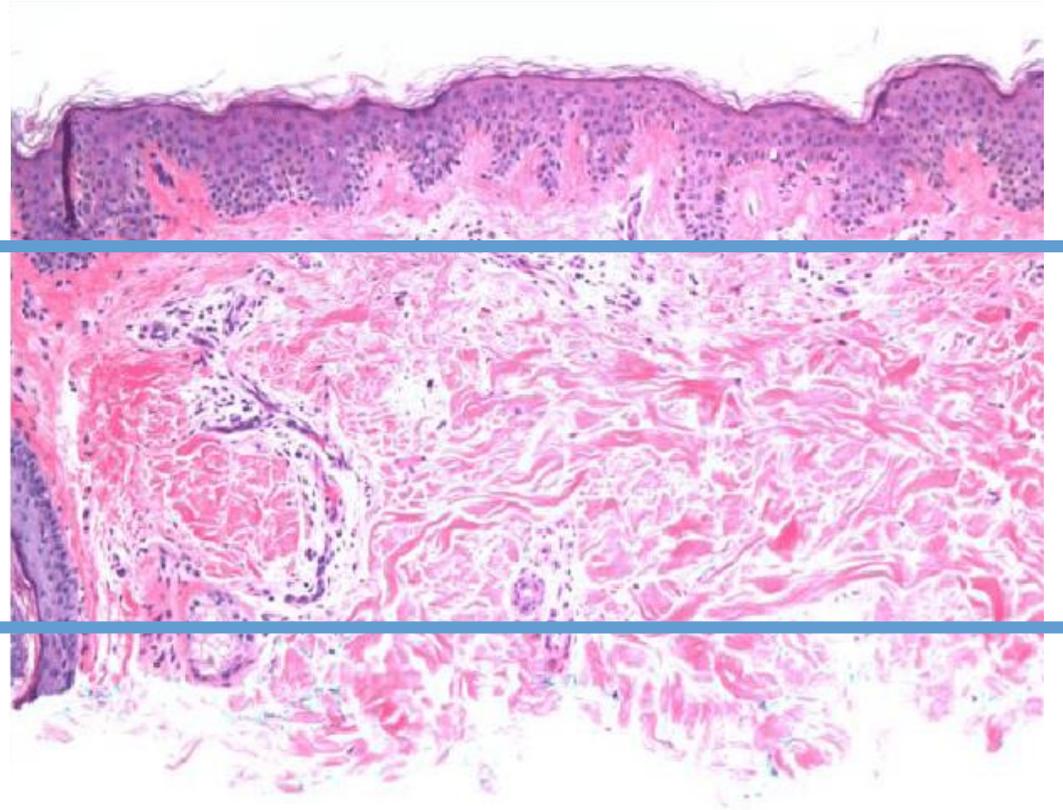
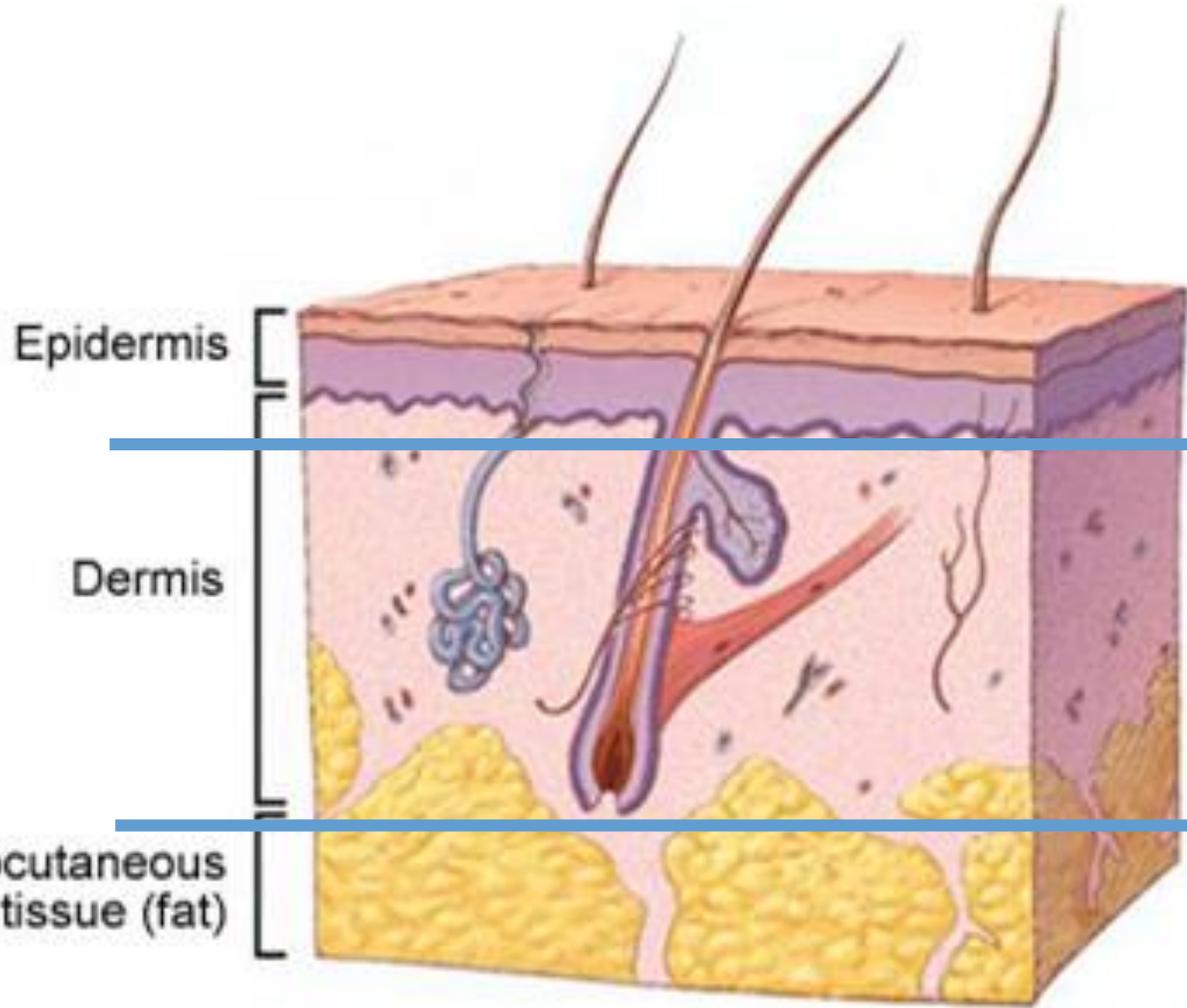
- Understand cutaneous signs of sun damage
- Learn about the most common skin cancers (BCC, SCC, Melanoma) and their treatments
- Be familiar with biopsy techniques
- Gain insight on how to triage and care for patients with multiple skin lesions

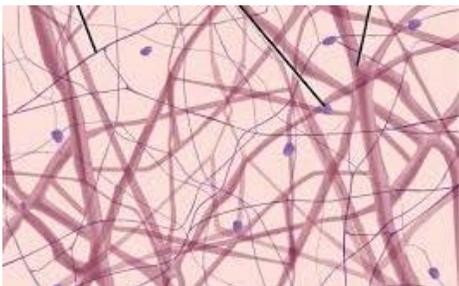
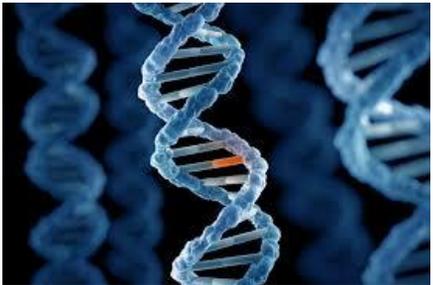
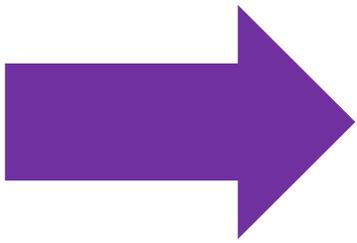
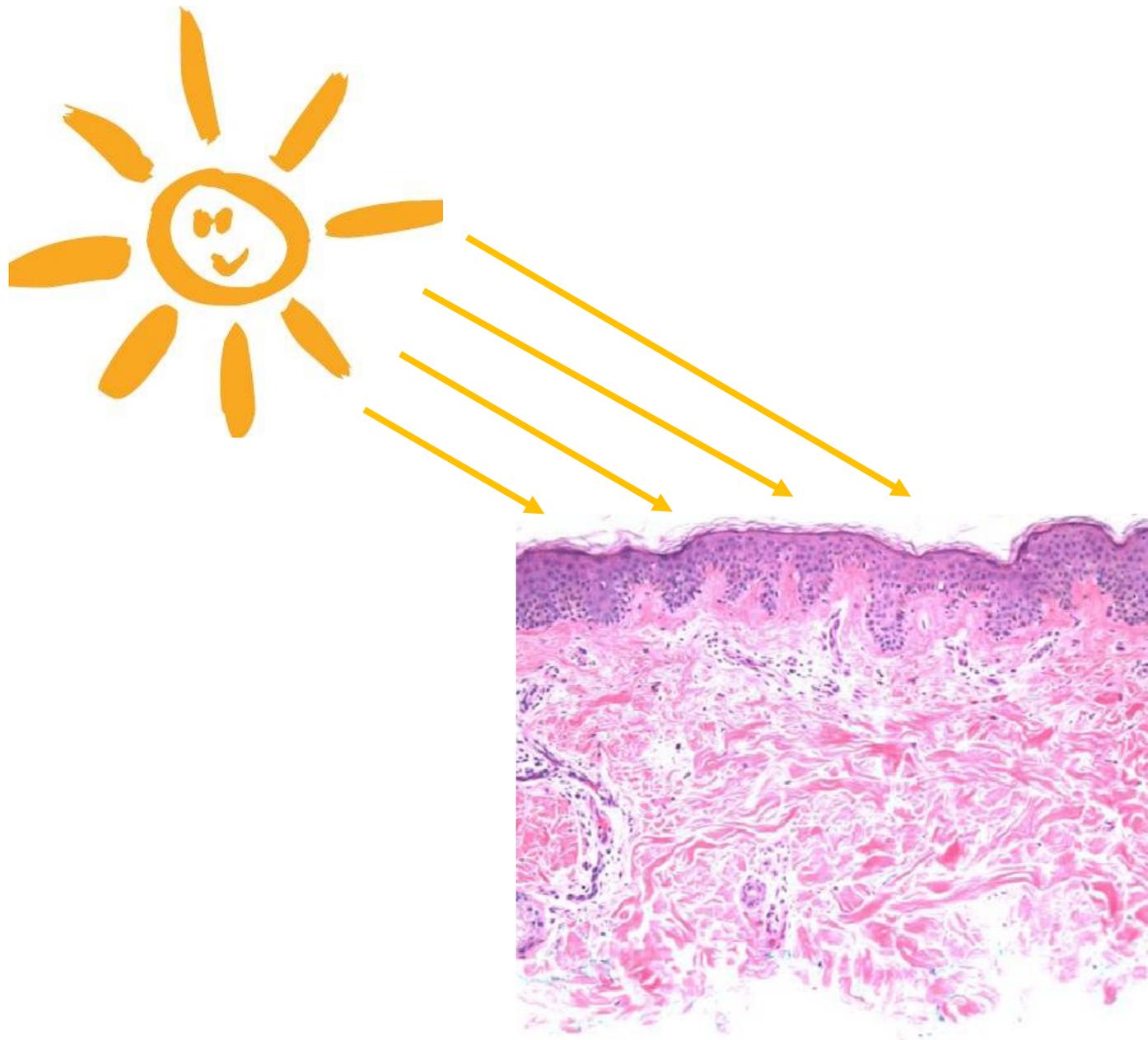




Dermatoheliosis







Skin Cancers

- Most common malignancy in the US
 - ~ 1 in 5 people
- Most common types:
 - BCC > SCC > Melanoma
- Early detection and treatment can be curative

Diagnosis

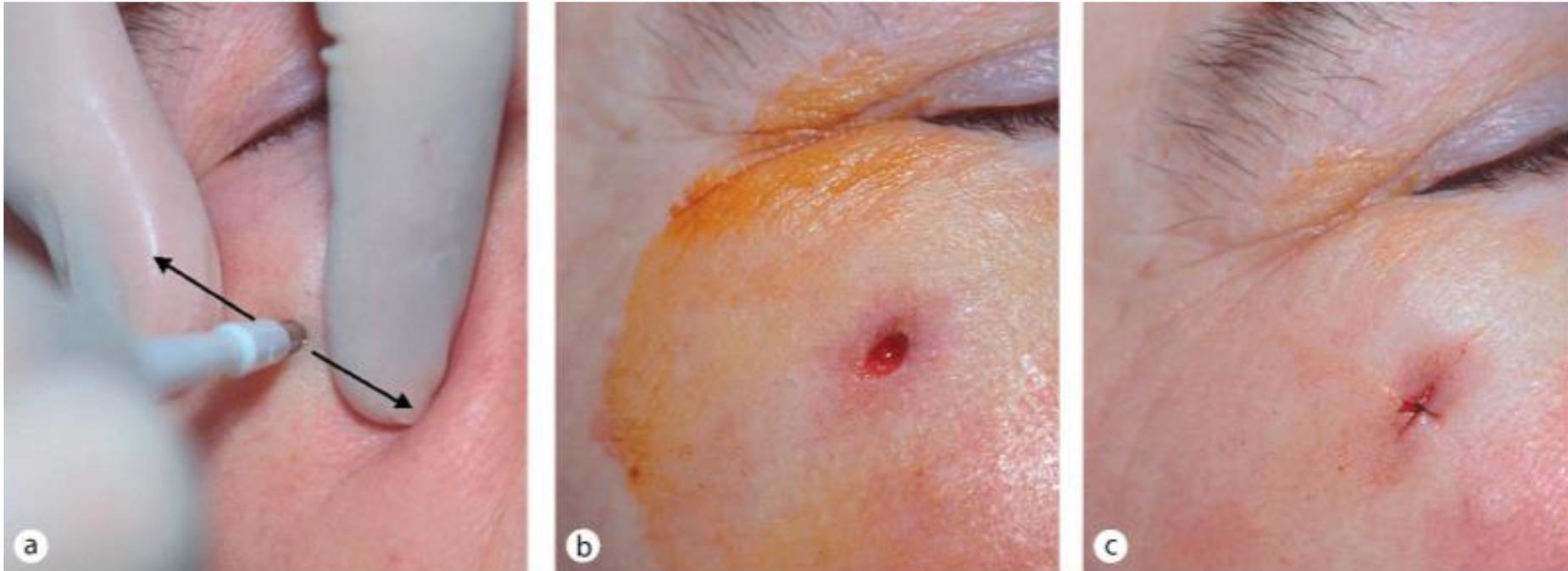
- Physical exam
- Shave and Punch Biopsy
- Excisional Biopsy

Shave



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Punch



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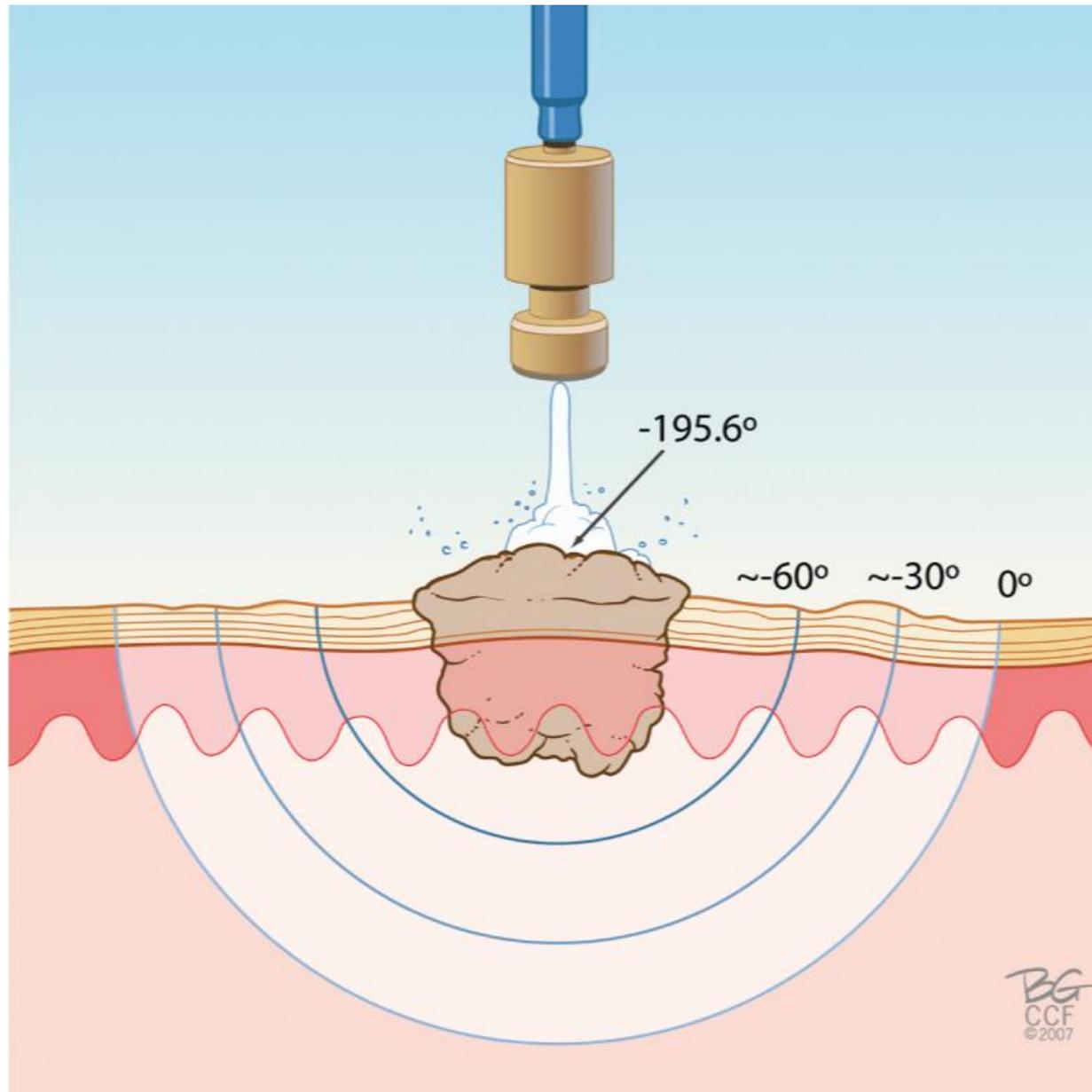
Actinic Keratosis



Actinic Keratosis

- Pre-cancer lesions, can become SCC
 - Risk ~ 8% in 1 year
- Caused by cumulative UV exposure
 - higher risk: age, fair skin, immunosuppression
- Asymptomatic or tender, sandpaper skin





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*Photodamaged
Skin*



Actinic Keratosis



*SCC in situ
(Bowen's disease)*



Invasive SCC



Basal Cell Carcinoma



Images retrieved from www.aad.org

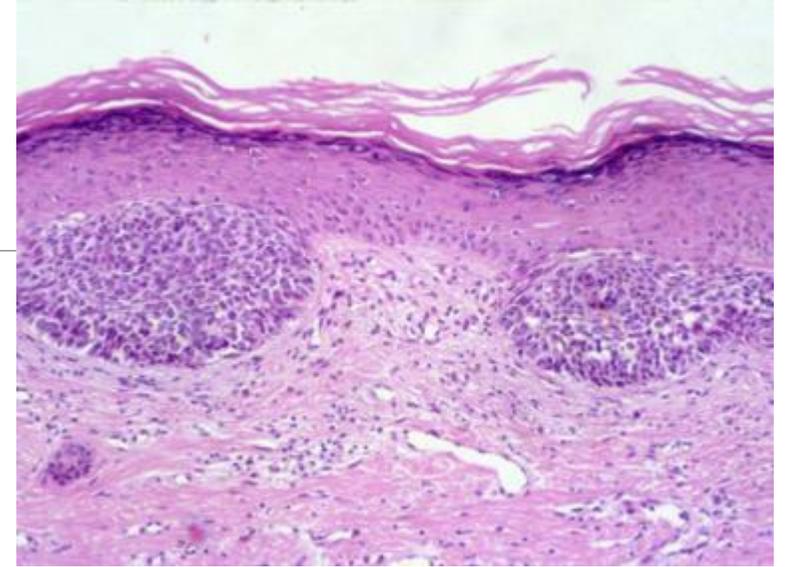


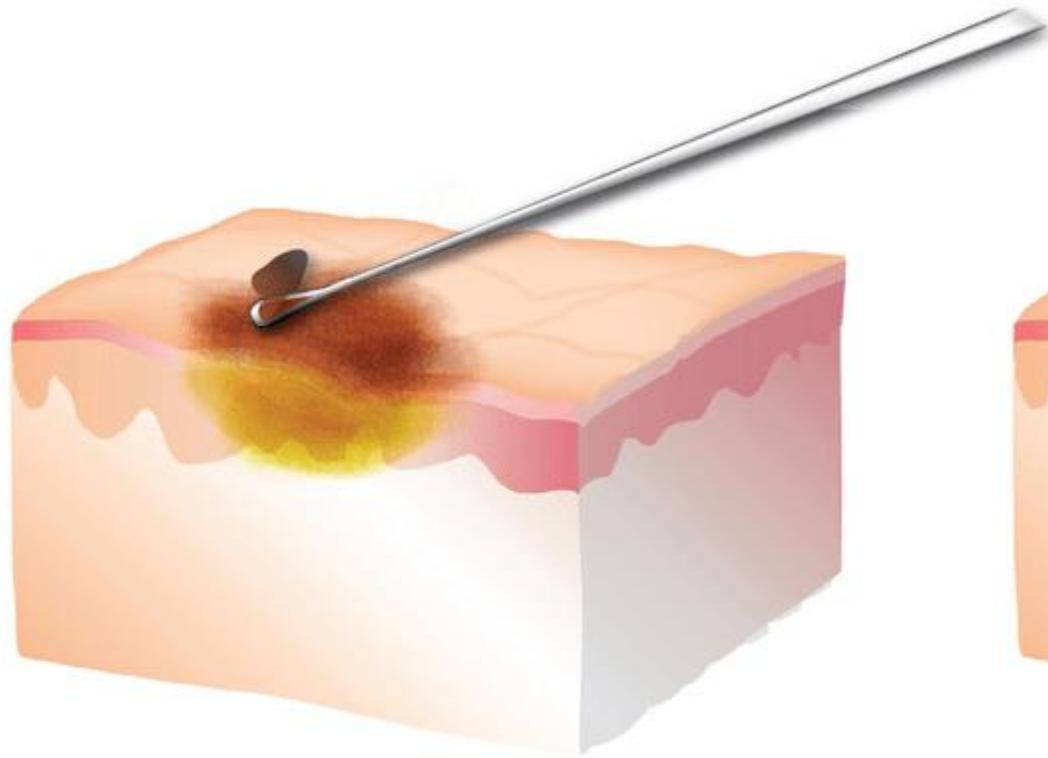
Basal Cell Carcinoma

- Most common skin cancer
 - >1 million/year in the US
- UV damage → PATCH mutation → BCC
- Subtypes:
 - **Superficial**: pink patch
 - **Nodular**: most common, pearly papule
 - **Infiltrative**: scar like, more aggressive

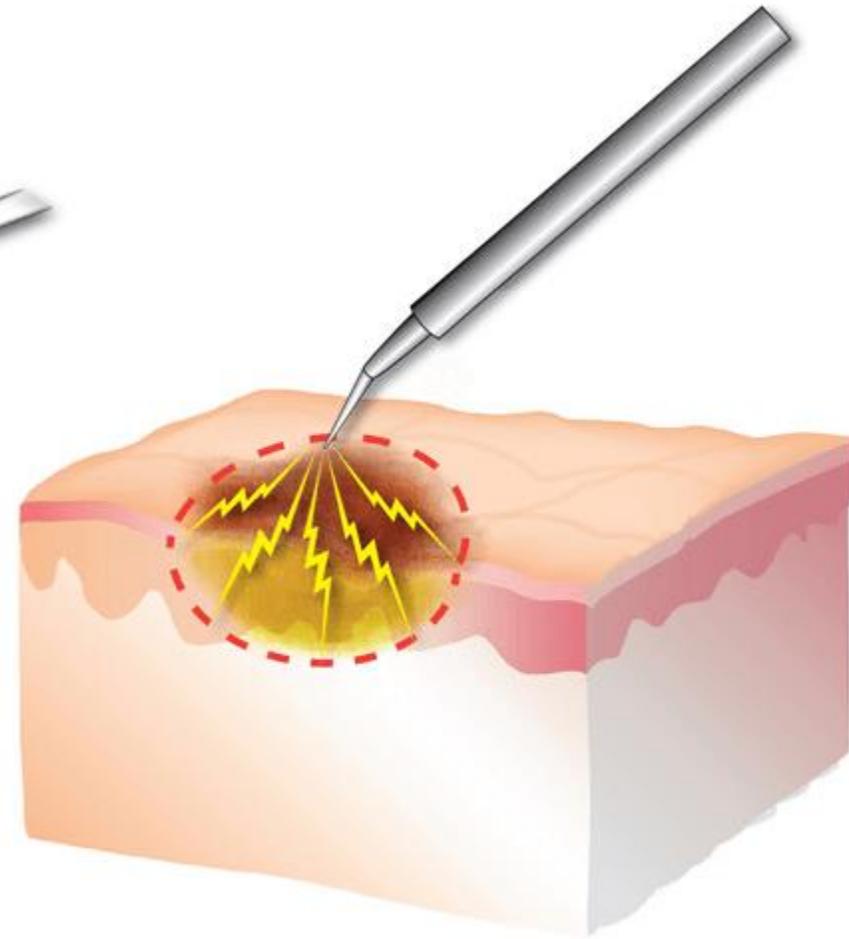
Superficial BCC

- Most common treatments:
 - ED&C
 - 5-FU or Imiquimod cream





Curettage



Electrodesiccation

Br J Dermatol. 2005 May;152(5):939-47.

Imiquimod 5% cream for the treatment of superficial basal cell carcinoma: results from a randomized vehicle-controlled phase III study in Europe.

Schulze HJ¹, Cribier B, Requena L, Reifenberger J, Ferrándiz C, Garcia Diez A, Tebbs V, McRae S.

RESULTS: In total, 166 subjects were enrolled in this study. For the intent-to-treat dataset, there was a statistically significant difference between imiquimod and vehicle groups for both composite clearance rates (clinical and histological assessments) and histological clearance rates. Composite clearance was demonstrated in 77% and 6% of subjects treated with imiquimod and vehicle cream, respectively. Histological clearance was demonstrated in 80% and 6% of subjects treated with imiquimod and vehicle cream, respectively. The most frequently reported safety findings were investigator-assessed LSRs and spontaneous reports by subjects of application site reactions, which occurred more frequently in the imiquimod group than in the vehicle group.

CONCLUSIONS: Imiquimod 5% cream administered 7 x/week for 6 weeks is a safe and effective treatment for sBCC when compared with vehicle cream.

[Arch Dermatol.](#) 2009 Dec;145(12):1431-8. doi: 10.1001/archdermatol.2009.291.

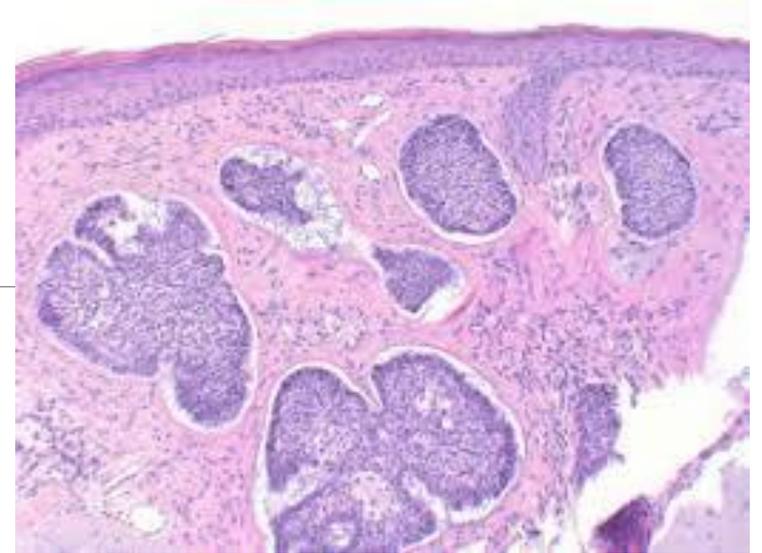
Topical imiquimod or fluorouracil therapy for basal and squamous cell carcinoma: a systematic review.

[Love WE](#)¹, [Bernhard JD](#), [Bordeaux JS](#).

DATA SYNTHESIS: Clearance rates varied by drug regimen, and most of the studies lacked long-term follow-up. Imiquimod use produced the following clearance rates: 43% to 100% for superficial BCC, 42% to 100% for nodular BCC, 56% to 63% for infiltrative BCC, 73% to 88% for SCC in situ, and 71% for invasive SCC. Fluorouracil use produced the following clearance rates: 90% for superficial BCC and 27% to 85% for SCC in situ. Up to 100% and 97% of patients applying imiquimod and fluorouracil, respectively, experienced at least 1 adverse event. Adverse event intensity ranged from mild to severe; erythema, pruritus, and pain were common.

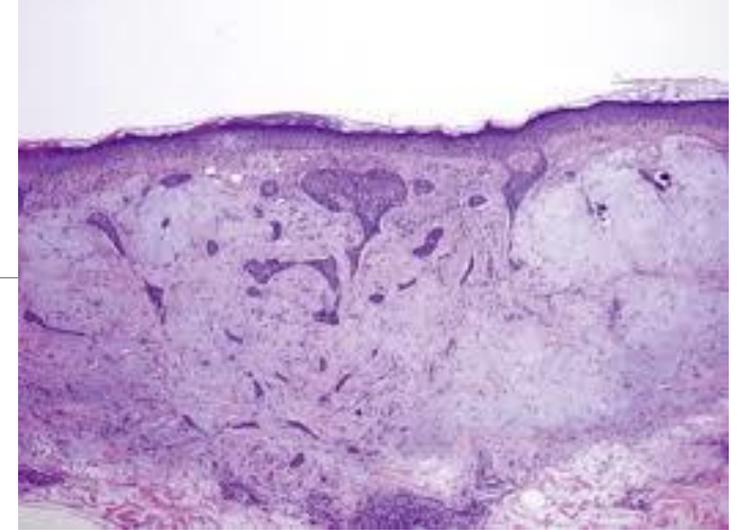
Nodular BCC

- Most common
- Usually head and neck
- Treatment: Excision, Mohs, ED&C



Infiltrative BCC

- Scar like plaque
- May be deeper than clinically apparent
- Treatment: Excision and Mohs



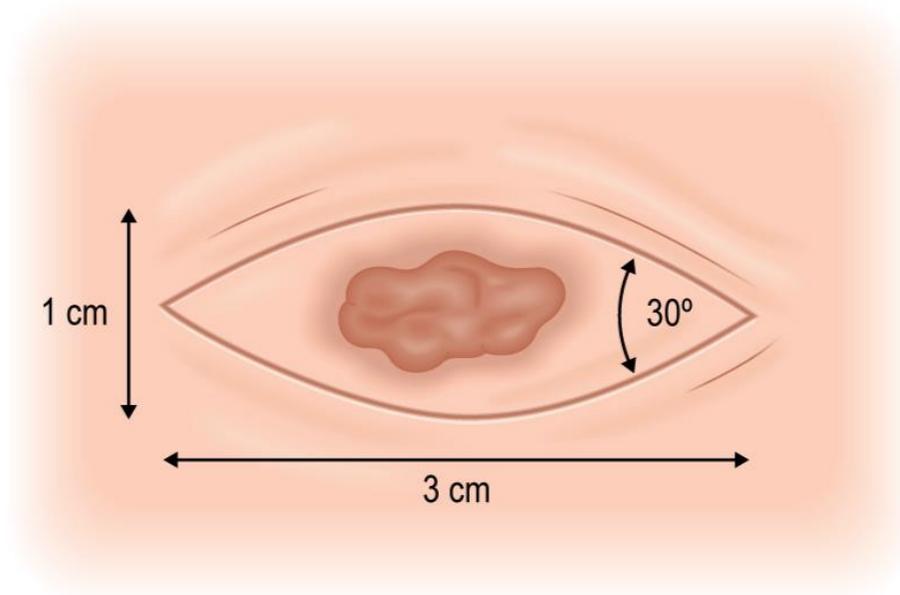
© Waikato District Health Board 2015



Image retrieved from www.aad.org

BCC Management

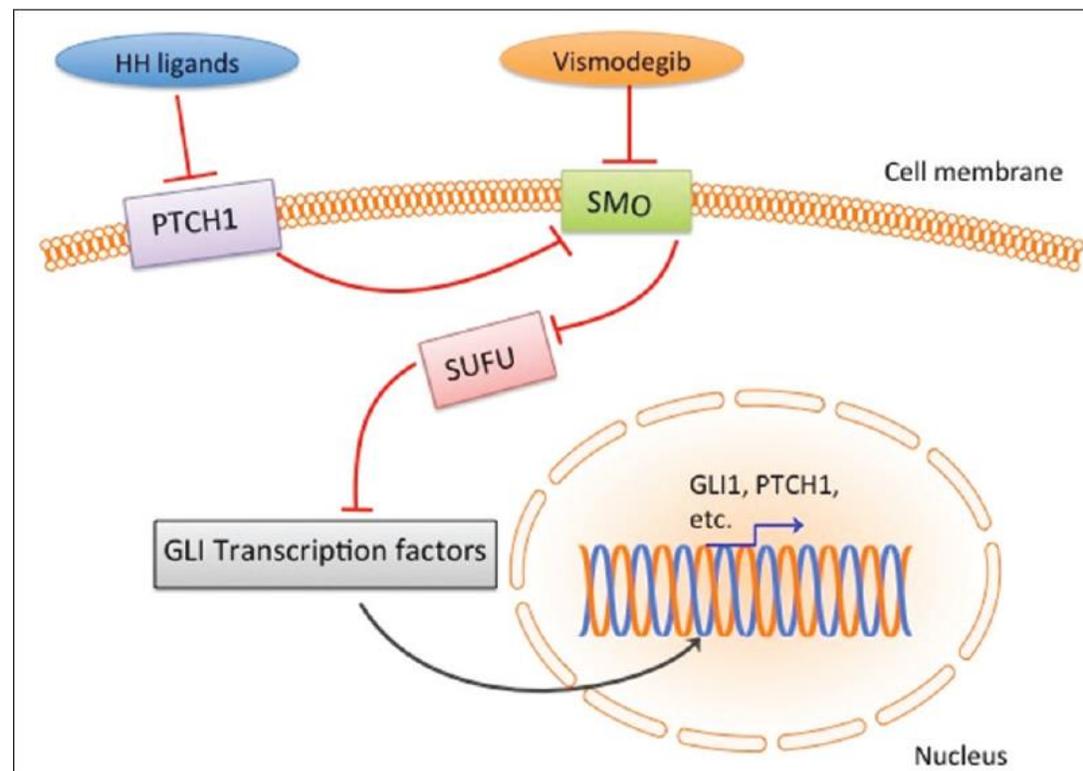
- Excision with 4-6mm margins (94%)
- Mohs micrographic surgery (99%)



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BCC Management

- For Unresectable tumors:
 - Radiation
 - Chemotherapy
 - Vismodegib



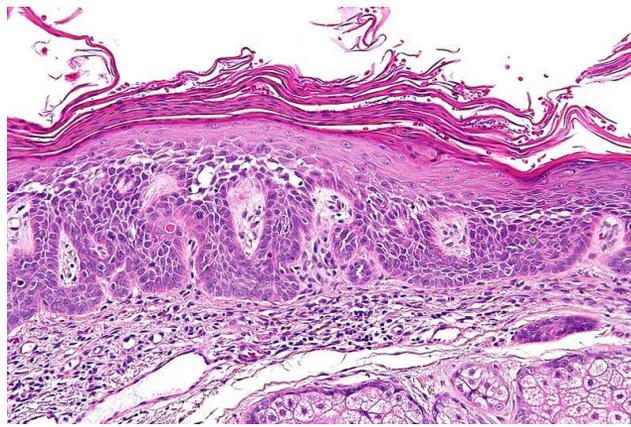
Squamous Cell Carcinoma



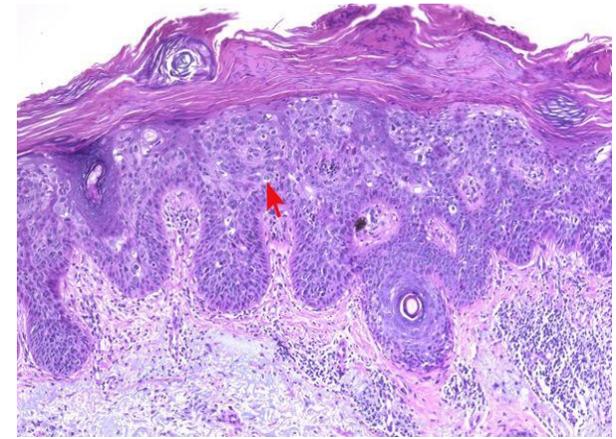


SCC

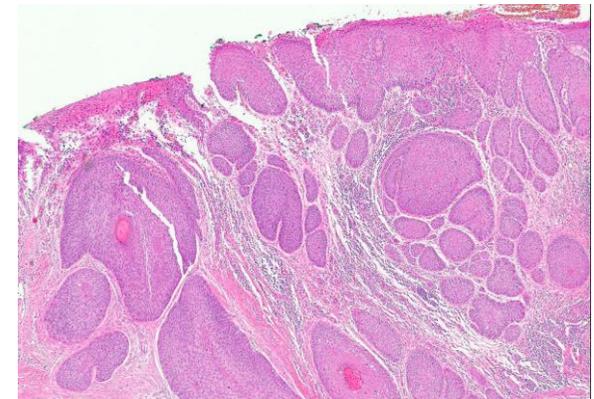
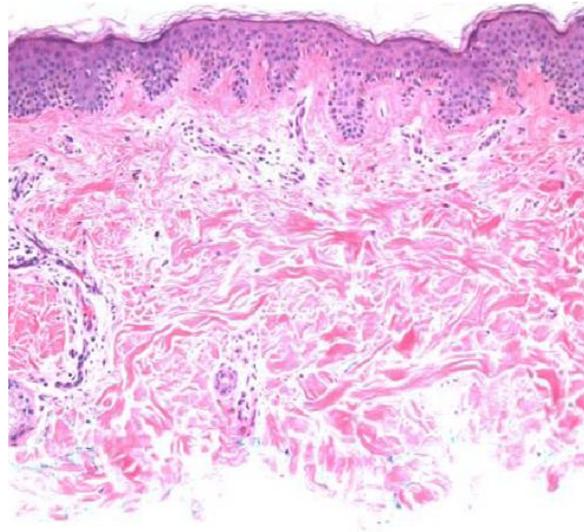
- 20% of all non-melanoma skin cancers in the US
- High risk: UV damage and tanning beds
 - HPV, smoking, chemical exposure, immunosuppression, ulcers
- Higher chance of invasion and metastasis



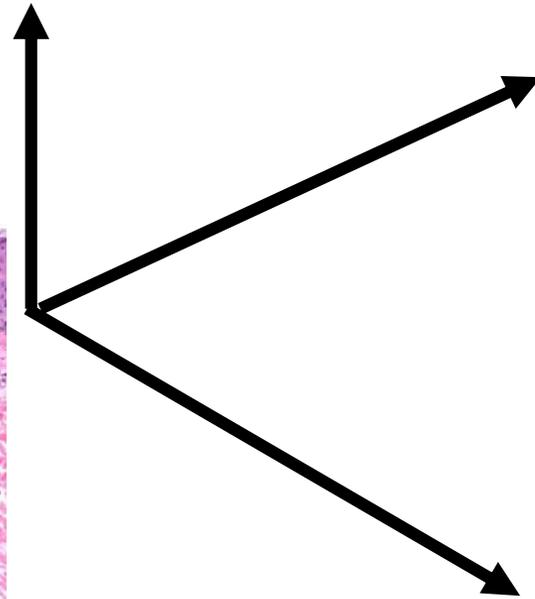
Actinic Keratosis



Squamous Cell In Situ



Invasive SCC



SCC in situ

- Common treatments:
 - Liquid nitrogen
 - Electrodesiccation and curettage (ED&C)
 - Creams (5-FU, imiquimod)

SCC invasive

- Common treatments:
 - Excision with 5-6mm margins (92%)
 - Mohs micrographic surgery (97%)

- Advanced or Unresectable
 - Radiation
 - Chemotherapy
 - Immunotherapy

SCC

- Rate of metastasis to LN ~ 5%
 - 5-year from 90% to 30%
- Higher risk:
 - >2cm, >4mm deep, recurrent, poor differentiation
 - Involvement of bone, muscle, and nerve
 - Site of prior radiation or ulcer

Table 3. Summary of the AJCC, UICC, and BWH Tumor Staging Systems^a

Tumor Staging System	Definition
AJCC	
T1	Tumor ≤2 cm in greatest dimension, with <2 high-risk factors ^b
T2	Tumor >2 cm in greatest dimension or with ≥2 high-risk factors ^b
T3	Tumor with invasion of orbit, maxilla, mandible, or temporal bones
T4	Tumor with invasion of other bones or direct perineural invasion of skull base
UICC	
T1	Tumor ≤2 cm in greatest dimension
T2	Tumor >2 cm in greatest dimension
T3	Tumor with invasion of deep structures (eg, muscle, cartilage, bone [excluding axial skeleton], orbit)
T4	Tumor with invasion of axial skeleton or direct perineural invasion of skull base
BWH	
T1	0 High-risk factor ^c
T2a	1 High-risk factor
T2b	2-3 High-risk factors
T3	≥4 High-risk factors or bone invasion

High risk SCC

- BWH T2b/T3
 - 25% risk of nodal metastasis
 - 22% risk of death
- Considerations:
 - Sentinel lymph node
 - Head/Neck imaging
 - Adjuvant radiation

Melanoma

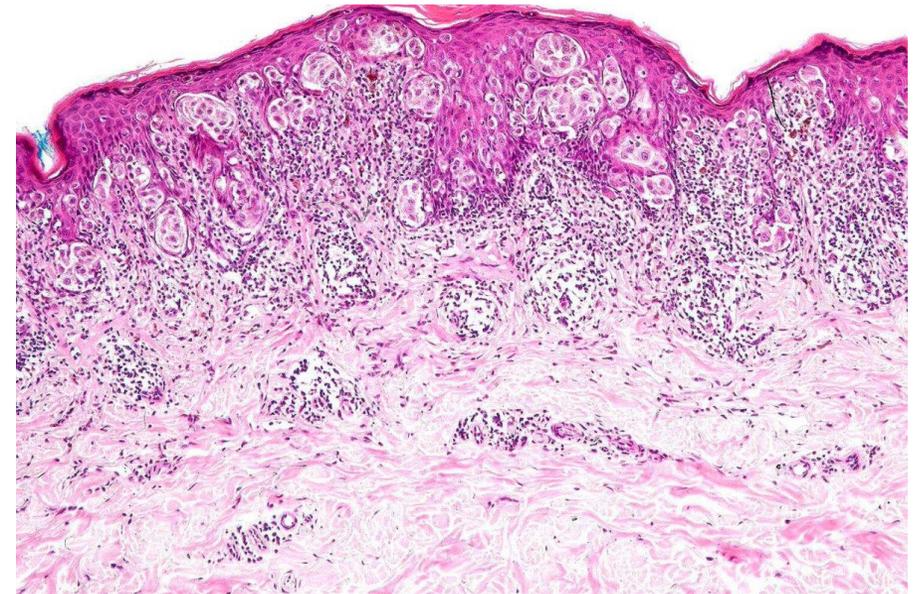


Melanoma

- Cumulative UV exposure
 - Tanning bed increases risk by 75%
- 80% of skin cancer death
- 1 death/hr in the US

Melanoma

- PMH: 5-15% risk
- Genetics: p53, CDKN2A, CDK4, BRAC2
- **Multiple subtypes:**
 - Superficial spreading
 - Nodular
 - Acral
 - Amelanotic
 - Subungual





THE ABCDE METHOD

A spot/mole can be judged as suspect if it presents one of the ABCDE criteria or any other anomaly

ASYMMETRY



Quite round and symmetrical



Asymmetrical

BORDER



Regular and geometric

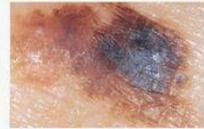


Irregular and jagged edge

COLOR



One color

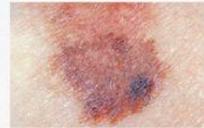


Several: light brown to black

DIAMETER



Small size (< 6mm)



Big size (> 6mm)

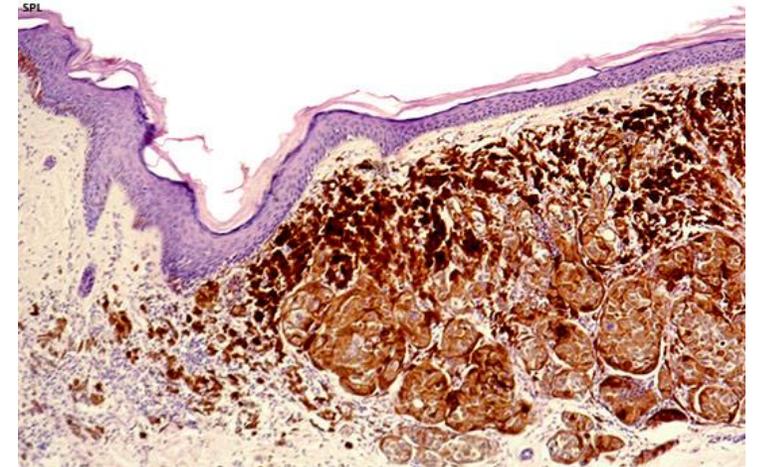
EVOLVING



Evolving in its size, its color or its thickness

Melanoma

- Mostly new lesion, but can arise in existent nevi
- **Breslow depth:**
 - Tumor thickness histologically
 - Determines prognosis and type of treatment
 - LN and metastasis = poor prognosis



Melanoma Management

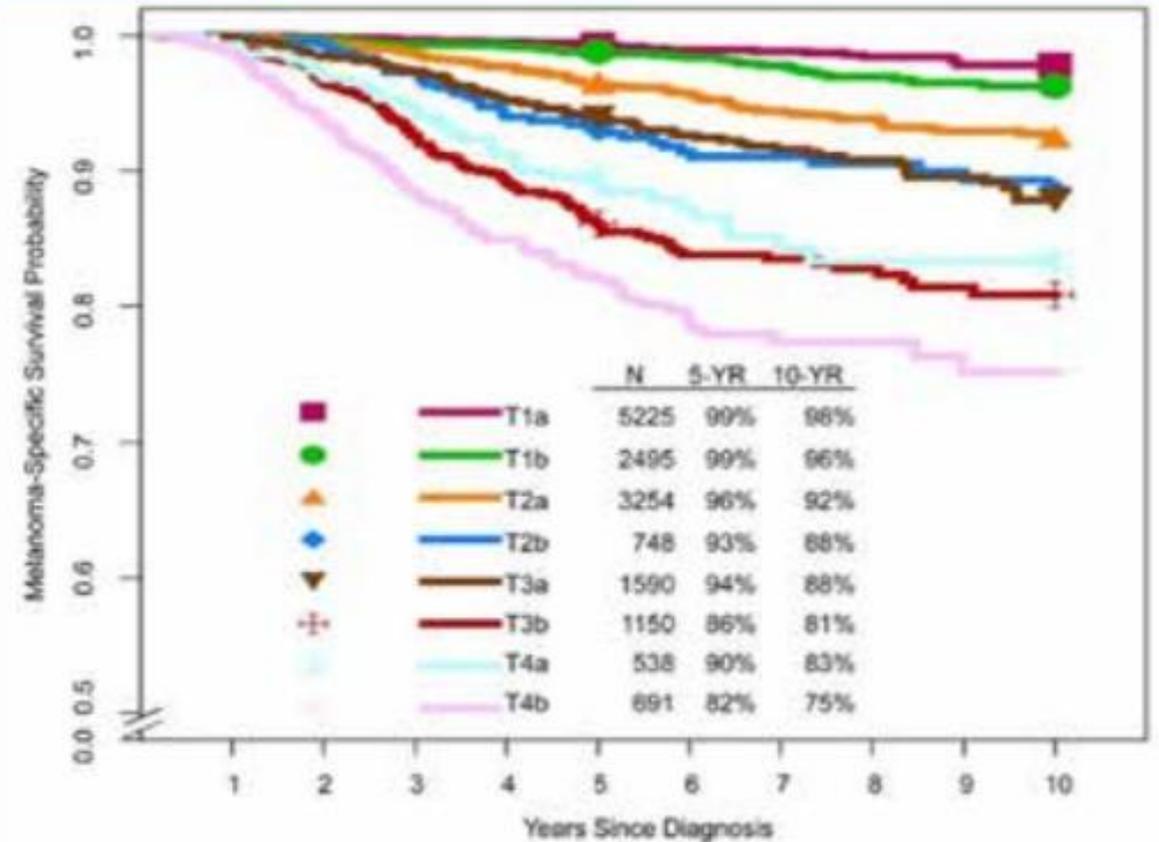
- **Wide local excision:**
 - 0.5cm for in situ
 - 1.0 cm for Breslow < 0.8mm
- **WLE + SLN:**
 - 1-2 cm for Breslow >0.8mm
- **Mohs micrographic surgery**
 - MIS on head/neck/acral

Melanoma Management

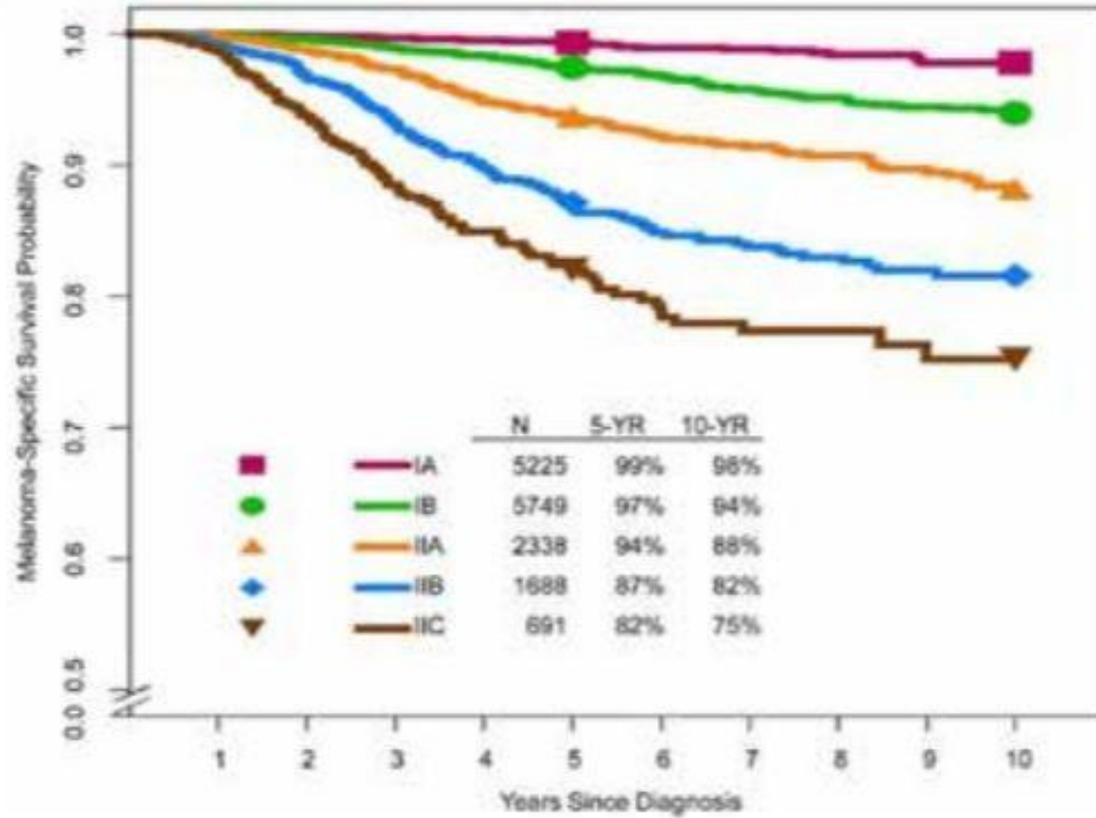
- **For thicker or higher risk tumors:**
 - SLN, PET/CT scan, Medical Oncology
- **For regional metastasis:**
 - Lymph node dissection, immunotherapy, radiation
- **For metastatic tumors:**
 - Chemotherapy or immunotherapy

T Category	Thickness	Ulceration status
Tis (melanoma <i>in situ</i>)	Not applicable	Not applicable
T1	≤1.0 mm	Unknown or unspecified
T1a	<0.8 mm	Without ulceration
T1b	<0.8 mm	With ulceration
T1b	0.8–1.0 mm	With or without ulceration
T2	>1.0–2.0 mm	Unknown or unspecified
T2a	>1.0–2.0 mm	Without ulceration
T2b	>1.0–2.0 mm	With ulceration
T3	>2.0–4.0 mm	Unknown or unspecified
T3a	>2.0–4.0 mm	Without ulceration
T3b	>2.0–4.0 mm	With ulceration
T4	>4.0 mm	Unknown or unspecified
T4a	>4.0 mm	Without ulceration
T4b	>4.0 mm	With ulceration

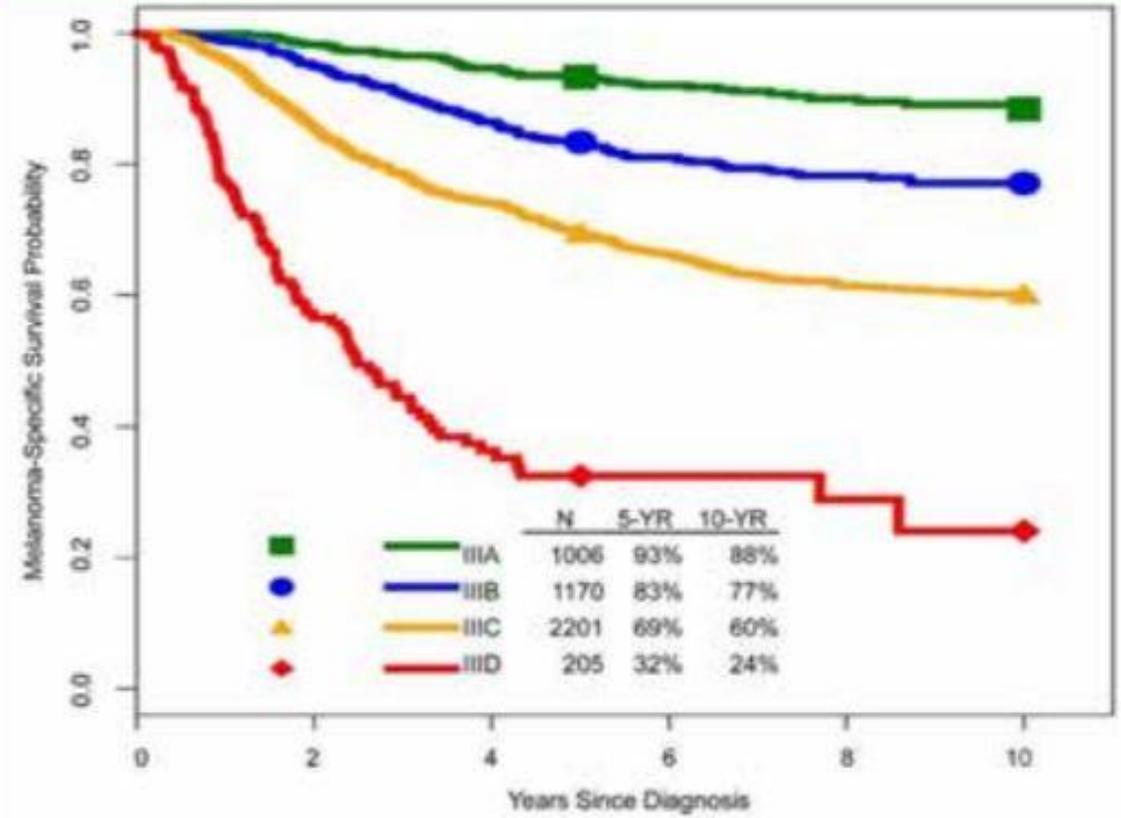
(a) T subcategories



(b) Pathological stage I and II subgroups



(e) Pathological stage III subgroups



Immunotherapy

- Antitumor immune response
 - Anti CTLA-4: ipilimumab
 - Anti PDL-1: pembrolizumab, nivolumab, cemiplimab
- Higher efficacy than BRAF inhibitor (vemurafenib) and MEK inhibitors (trametinib and cobimetinib)
- Side effects include immune-related events

What should you do for your patients?



Educate



WHEN DETECTED EARLY, SKIN CANCER IS HIGHLY TREATABLE.

THE ABCDEs OF MELANOMA

Melanoma is the deadliest form of skin cancer. However, when detected early, melanoma can be effectively treated. You can identify the warning signs of melanoma by looking for the following:

				
A ASYMMETRY One half is unlike the other half.	B BORDER Irregular, scalloped or poorly defined border.	C COLOR Varied from one area to another; has shades of tan, brown or black, sometimes white, red, or blue.	D DIAMETER Typically greater than 6mm (the size of a pencil eraser); when diagnosed, they can be smaller.	E EVOLVING A mole or skin lesion that looks different from the rest or is changing in size, shape or color. Example: 

If you notice a new spot or an existing spot that changes, itches or bleeds, make an appointment to see a board-certified dermatologist.

DETECT SKIN CANCER EARLY BY FOLLOWING DERMATOLOGISTS' TIPS FOR CHECKING YOUR PARTNER'S SKIN:



- 1 Examine your partner's body front and back, then look at the right and left sides with their arms raised.
- 2 Bend elbows and look carefully at forearms, underarms and palms.
- 3 Examine the back of their neck and scalp. Part hair for a closer look.
- 4 Check their back and buttocks.
- 5 Finally, look at the backs of their legs and feet, the spaces between their toes, and the soles of their feet.



The **back** is the most common location for melanoma.

On average, **one** American dies from melanoma **every hour**.



Women are **9X** more likely than men to notice a melanoma on another person's skin.



To learn more about skin cancer detection and prevention or to find a free SPOTSM skin cancer screening, visit SpotSkinCancer.org

Skin check



Biopsy

- If suspicious, take a sample
 - Small biopsies can be diagnostic in most cases

Let's try...

A 60 y/o Hispanic female is seeing you to establish care. She reports no history of skin cancers, but has a family history of melanoma in her father. The patient works outdoors and never uses sunscreen (she says she tans and does not burn). Is she at increased risk of skin cancers?

You notice a suspicious lesion on the patient's nose. Per patient, this is a mole she has had for MANY years.

What additional questions would you ask?

- Size
- Color
- Bleeding
- Itching
- Any changes



Shave biopsy shows: Nodular basal cell carcinoma

Best treatment?

- Mohs

50 y/o female with spots on her back







Biopsy showed: Melanoma, Breslow of 1.2mm

Best treatment?

- Wide local excision (1cm margin) and SLNB
 - If $<0.8\text{mm}$, then excision is sufficient

72 y/o male complains of dry patches on the face



Diagnosis?

Best treatment?

- Field treatment >>> liquid nitrogen
 - 5-fluouracil (BID x 3 weeks) or PDT

Questions?

Thank you!

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