HHP Care Model and Disease Management Webinar Series

Skin Cancer: Who What When How?

Thursday, June 10, 2021
5:30pm – 6:30pm

HAWAIʻI PACIFIC HEALTH | HAWAIʻI HEALTH PARTNERS

Moderator – 06/10/21

Andy Lee, MD
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  You cannot unmute yourself.
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  - Due to time constraints, any unanswered questions will be addressed this week and posted on the HHP website
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   - You should have completed a brief questionnaire before joining today's live webinar.

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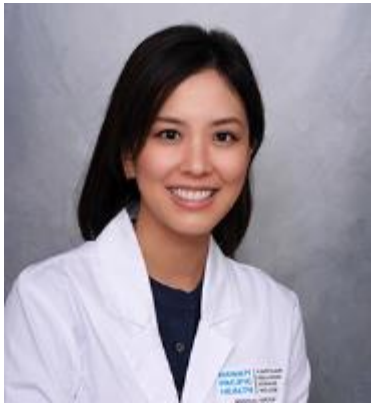
Skin Cancer: Who, What, When and How



Iris Noh, MD

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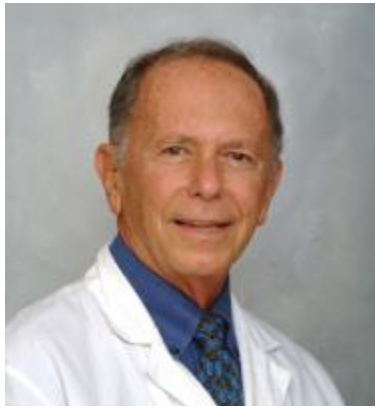

Robert Schulz, MD

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Objectives

- WHO?
  - Who is at risk?
- WHAT?
  - What are the types of skin cancers?
- WHEN?
  - When should patients be referred to a dermatologist?
- HOW?
  - How can we prevent skin cancer?

1. Name phenotypic and environmental risk factors for common skin cancers
2. Recognize typical clinical presentations of common skin cancers

WHY?

Why does skin cancer matter?

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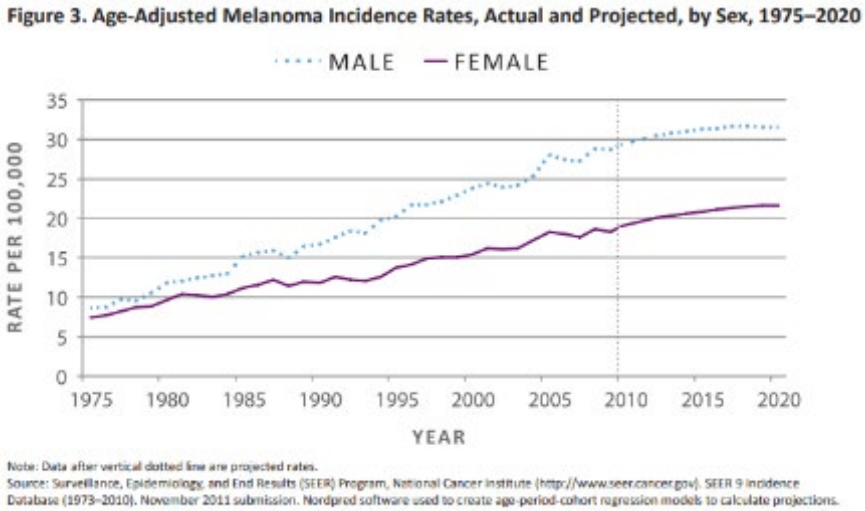
Skin cancer is the most common cancer in the United States

- 1 in 5 Americans will develop skin cancer in their lifetime
  - Over 95% of which will be Nonmelanoma Skin Cancer (NMSC)
- Increasing incidence in US
- Annual US cost estimated at $8.1 billion
- In women age 15-29, melanoma is the most common cancer



Rogers HW, et al. JAMA Dermatol. 2015;151(10):1081-6,

Guy GP, Machlin SR, Ekwueme DU, Yabroff KR. Prevalence and costs of skin cancer treatment in the US, 2002-2006 and 2007-2011.

Guy GP, Thomas CC, Thompson T, Watson M, Massetti GM, Richardson LC. Vital signs: Melanoma incidence and mortality trends and projections—United States, 1982–2030. MMWR Morb Mortal Wkly Rep. 2015;64(21):591-596

WHAT

What are common types of skin cancer?

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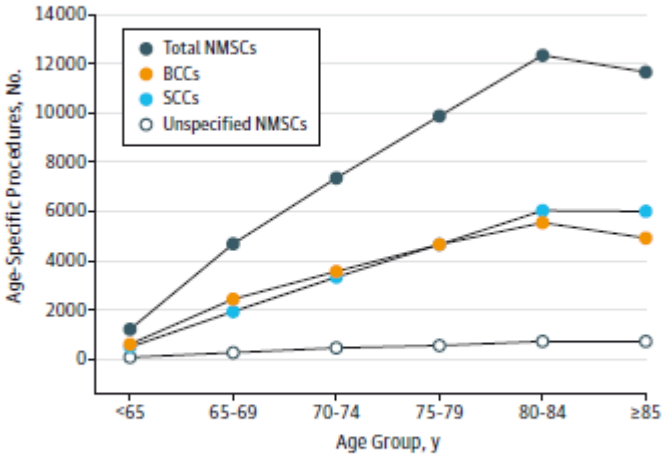
Skin Cancer Types

- **Non-melanoma skin cancer**
  - **Basal cell carcinoma (BCC)**
  - **Squamous cell carcinoma (SCC)**
- **Melanoma**
- Merkel cell carcinoma
- Sebaceous carcinoma
- Atypical fibroxanthoma (AFX)
- Dermatofibrosarcoma protuberans (DFSP)
- Extramammary Paget disease (EMPD)
- Microcystic adnexal carcinoma (MAC)
- Cutaneous Leiomyosarcoma
- Porocarcinoma
- Pilomatrical carcinoma, etc.

Nonmelanoma Skin Cancers (NMSC)

- Also known as Keratinocyte skin cancers
  - Basal cell skin cancer (BCC)
  - Squamous cell skin cancer (SCC)
- Incidence is increasing in people younger than 50
- The ratio of BCC to SCC treated in Medicare beneficiaries is 1:1

Figure. Numbers of Age-Specific Procedures for NMSC per 100000 Medicare Fee-for-Service Beneficiaries in 2012

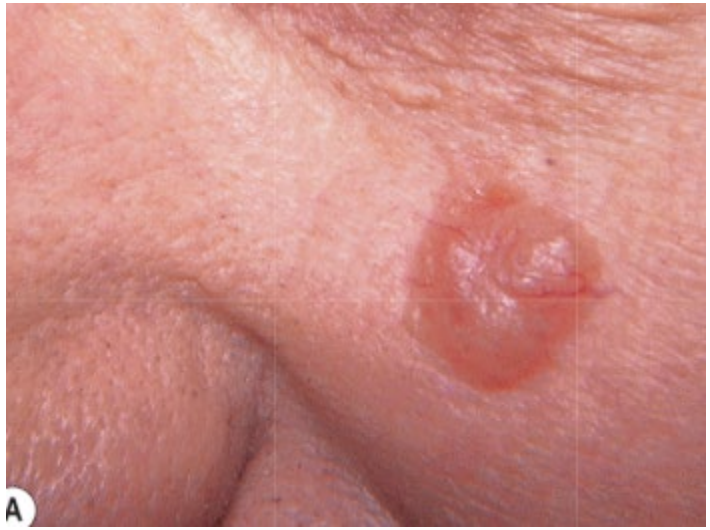


BCC indicates basal cell carcinoma; NMSC, nonmelanoma skin cancer; SCC, squamous cell carcinoma. Unspecified NMSCs were not coded as either BCC or SCC.

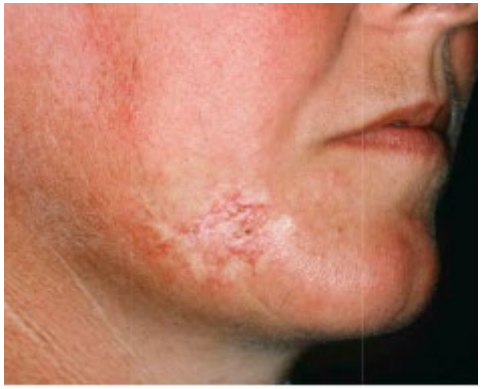
Rogers HW, Incidence Estimate of NMSC in the US population 2021. JAMA Dermatol 2015:151(1) 1081-1086

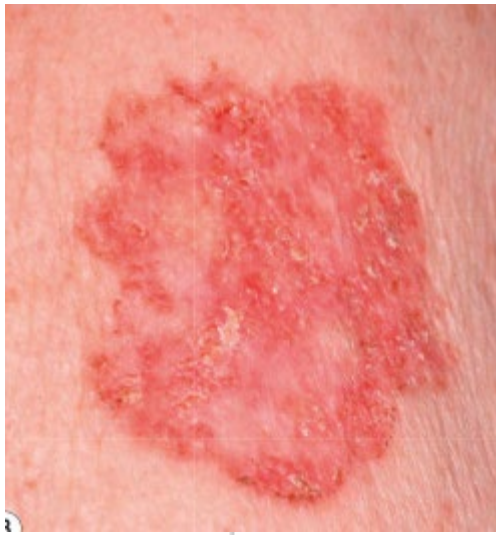
Basal Cell Carcinoma (BCC)

- Most commonly occurs on the head and neck region



- Pearly telangiectatic papule or pink macule with rolled borders
  - "rodent bite"
  - sometimes ulcerated or bleed easily

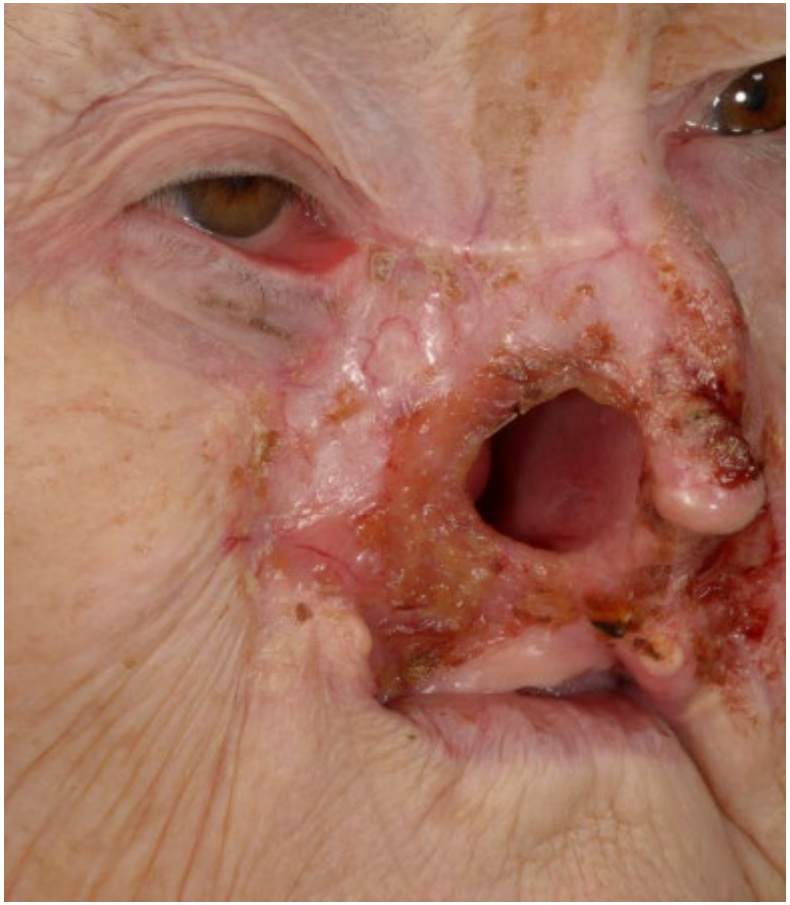




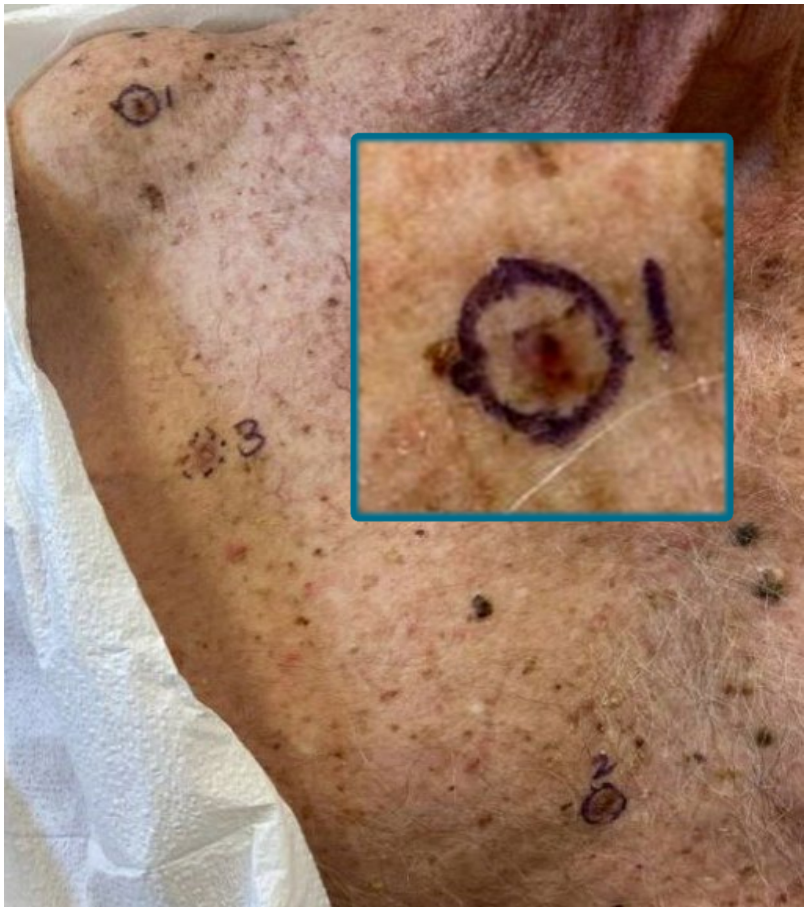
Images from Bolognia, Dermatology, Third Edition, Chapter 108 Actinic Keratosis, Basal Cell carcinoma, and Squamous Cell Carcinoma

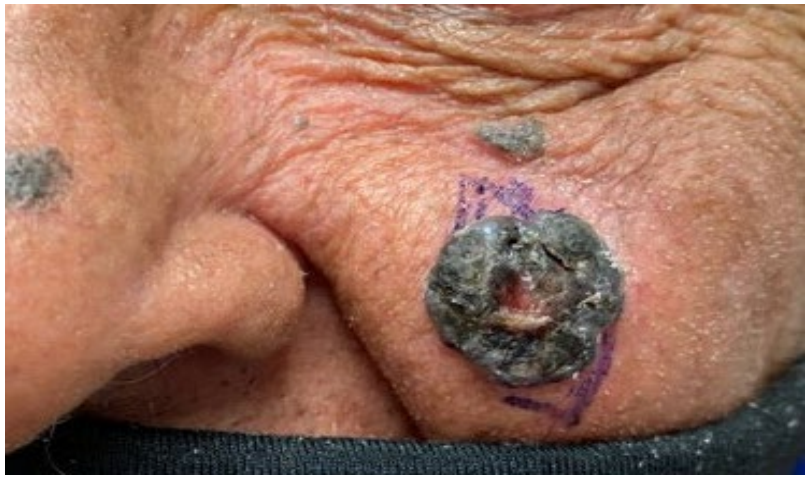
Basal Cell Carcinoma

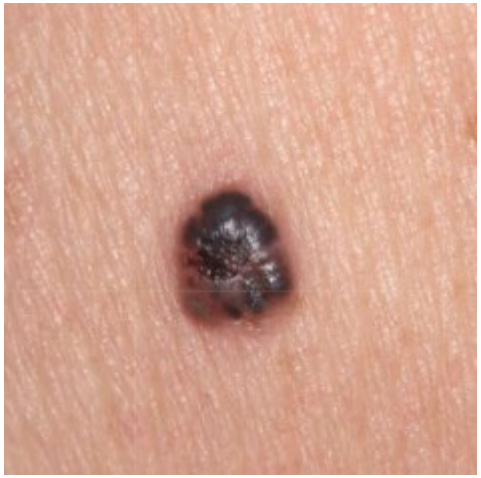
- Almost never metastasize but are locally destructive

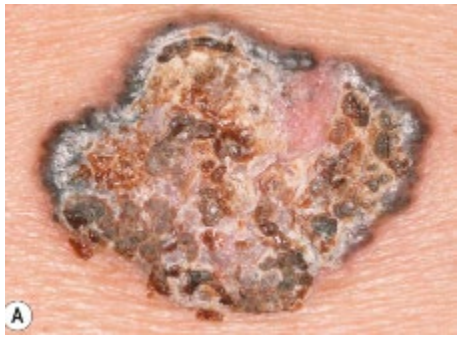


Pigmented BCC





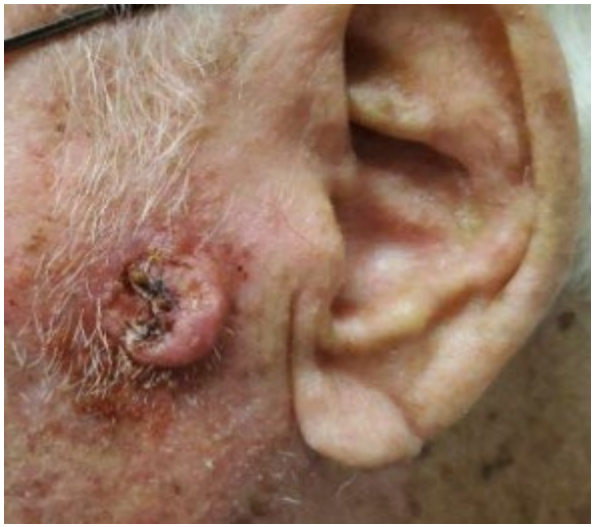




Images from Bolognia, Dermatology, Third Edition, Chapter 108 Actinic Keratosis, Basal Cell carcinoma, and Squamous Cell Carcinoma

Squamous Cell Carcinoma (SCC)

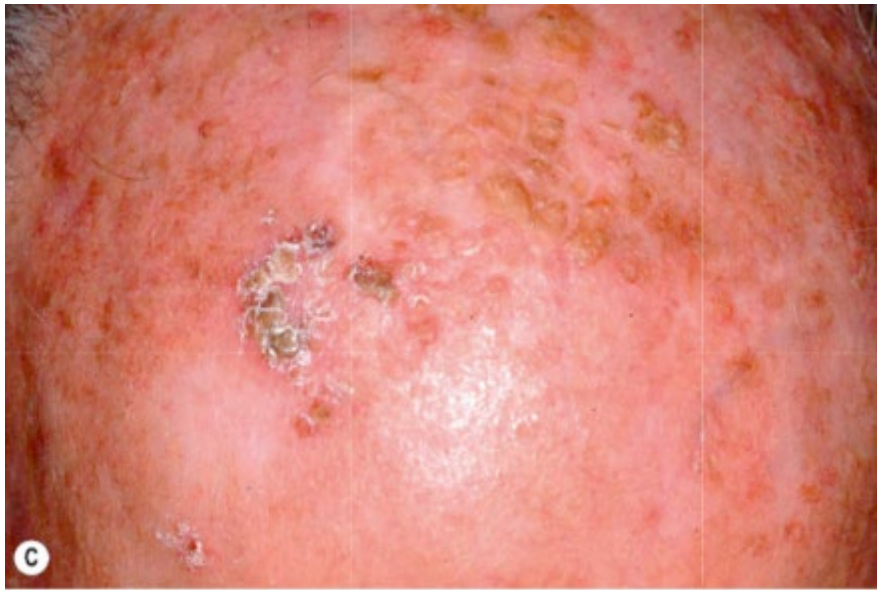
- May arise from actinic keratosis
- Most commonly occurs on the head, neck, and dorsal hands
- Higher risk of metastasis than BCC
  - 1-4% metastasize
  - 2% die from the disease
    - More deaths than melanoma?
- Clinical presentation may vary
  - In situ
  - Invasive

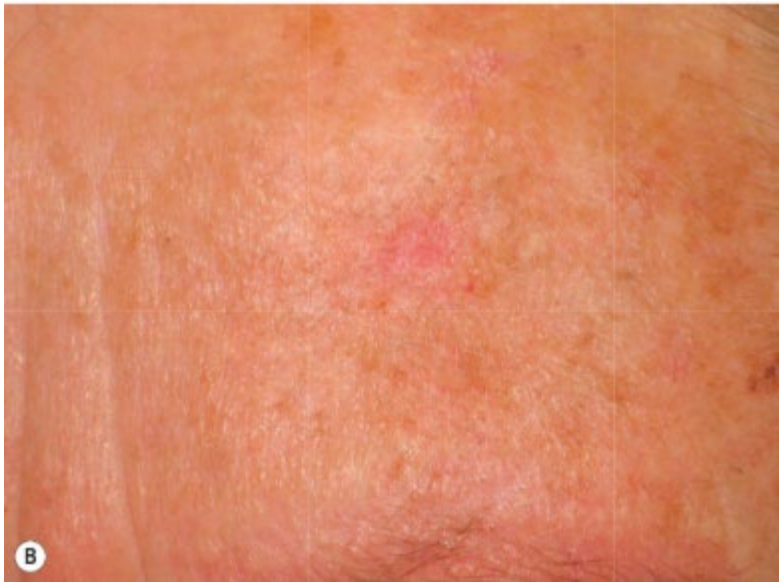


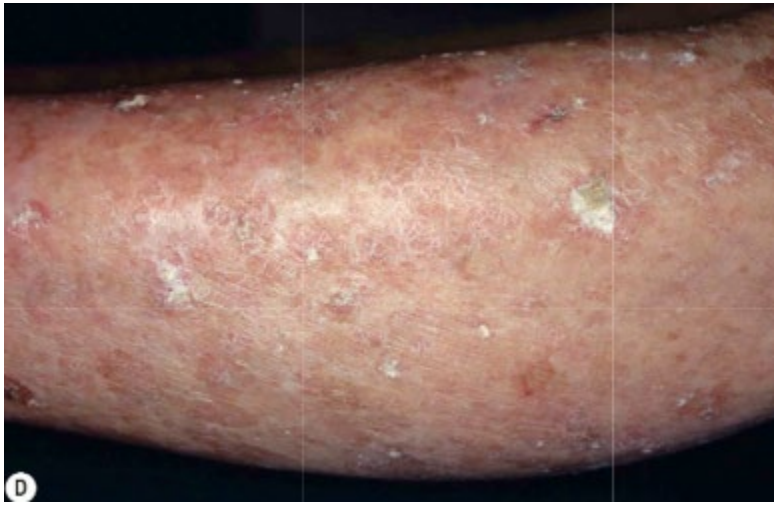
Schmults C. Factors Predictive or Recurrence and Death from Cutaneous Squamous Cell Carcinoma. JAMA Dermatol 2013

Actinic Keratosis

- Considered precancerous
- Small fraction may evolve into SCC



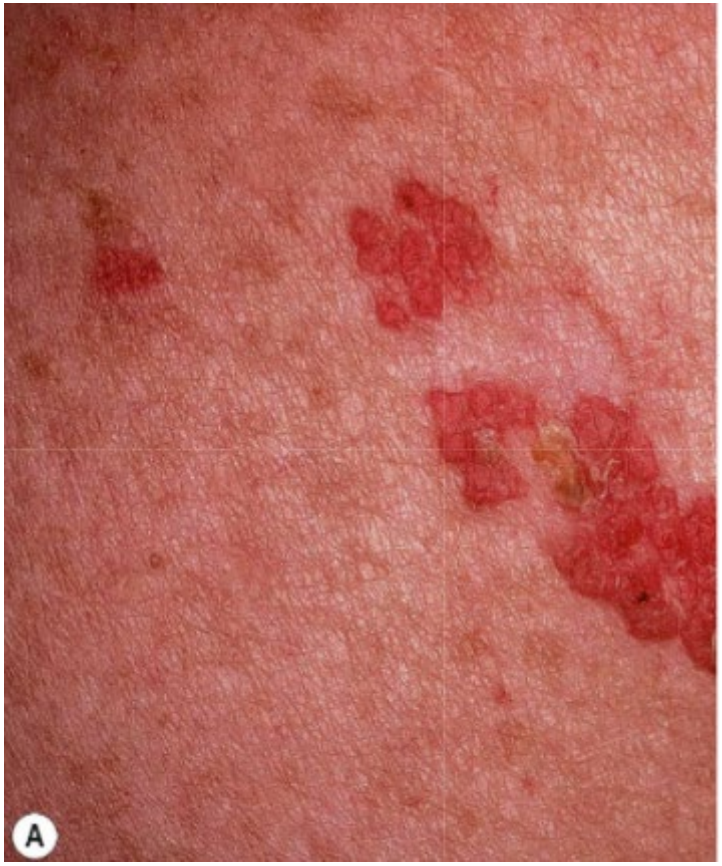




Images from Bolognia, Dermatology, Third Edition, Chapter 108 Actinic Keratosis, Basal Cell carcinoma, and Squamous Cell Carcinoma

Squamous Cell Carcinoma in Situ

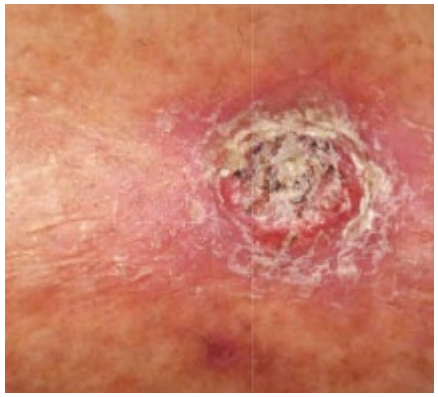
- Also known as Bowen's disease
- Thin, scaly, erythematous plaque
- Limited to the epidermis

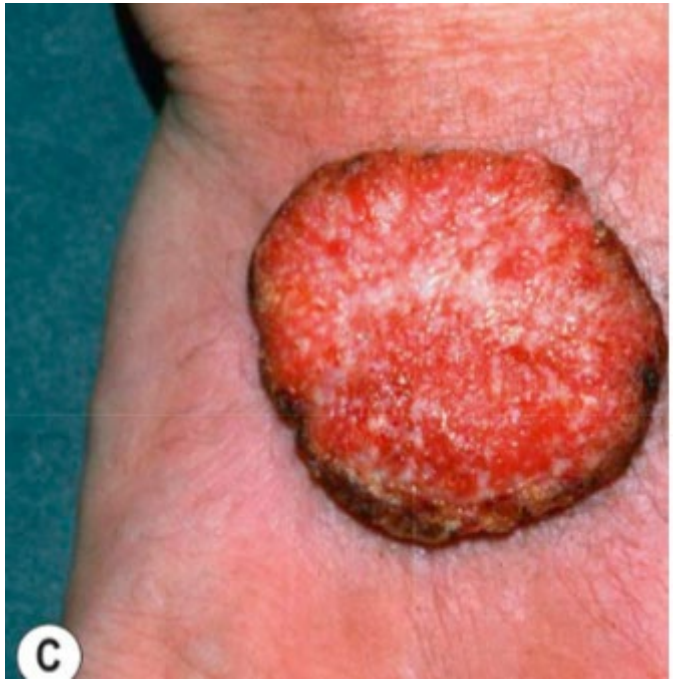


Images from Bolognia, Dermatology, Third Edition, Chapter 108 Actinic Keratosis, Basal Cell carcinoma, and Squamous Cell Carcinoma

Invasive Squamous Cell Carcinoma (SCC)

- Can exhibit rapid growth
- Tender
- Keratoacanthoma variant can involute





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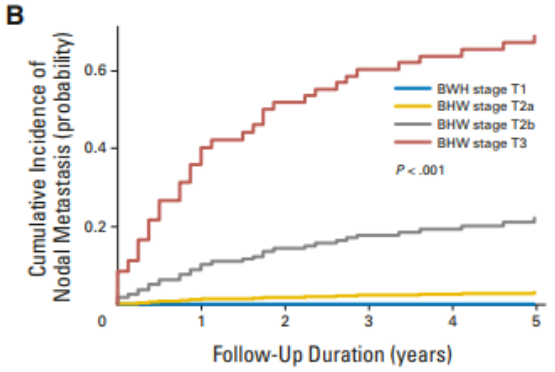
Staging Squamous Cell Carcinoma

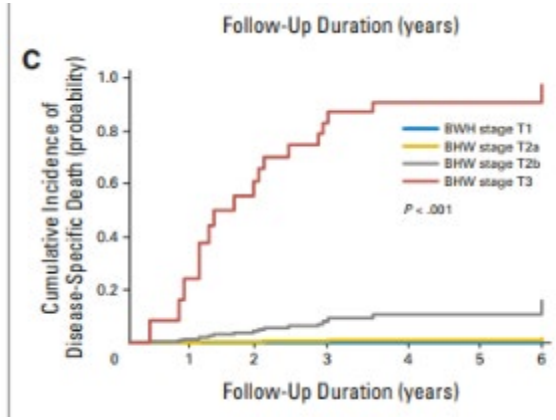
- Brigham and Women's Hospital SCC Risk Factors:
  - Tumor diameter ≥2cm
  - Poorly differentiated histology
  - Perineural invasion ≥0.1mm
  - Tumor invasion beyond fat

Table 1. Summary of the AJCC, UICC, and BWH Tumor (T) Staging Systems

Tumor Staging System	Definition
AJCC	
T1	Tumor ≤ 2 cm in greatest dimension with fewer than two high-risk factors*
T2	Tumor > 2 cm in greatest dimension or with two or more high-risk factors*
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 or less 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 factors†
T2a	1 high-risk factor
T2b	2-3 high-risk factors
T3	≥ 4 high-risk factors or bone invasion

Abbreviations: AJCC, American Joint Committee on Cancer; BWH, Brigham and Women's Hospital; T, tumor stage from TNM staging system; UICC, International Union Against Cancer.
*AJCC high-risk factors include > 2 mm thickness, Clark level ≥ IV, perineural invasion, primary site ear, primary site non–hair-bearing lip, or poorly differentiated histology.
†BWH high-risk factors include tumor diameter ≥ 2 cm, poorly differentiated histology, perineural invasion ≥ 0.1 mm, or tumor invasion beyond fat (excluding bone invasion which automatically upgrades tumor to BWH stage T3).



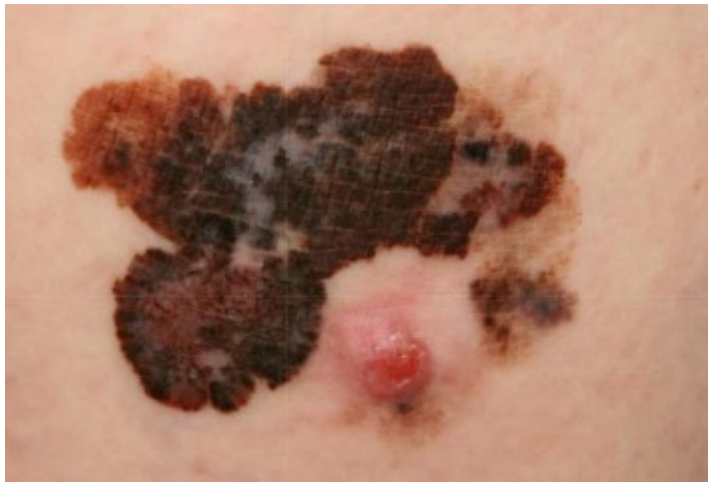


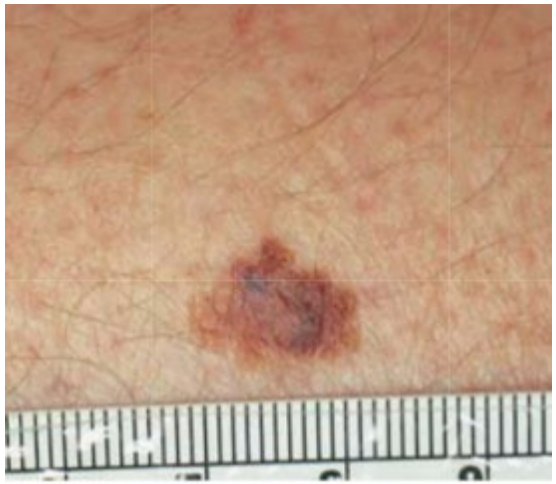
Karia P Eva;iatopm pf AJJC, IUAC, BWH Tumor Staging for cSCC, J Clin Oncol 2013 32:327-334

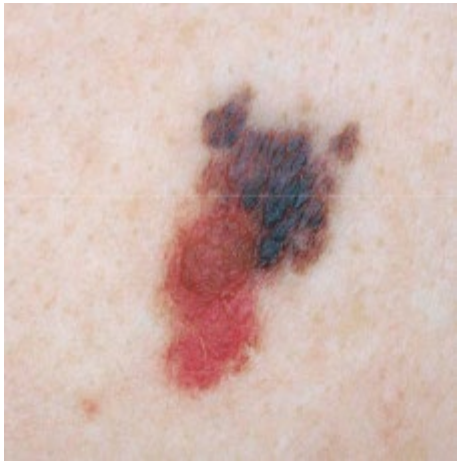
Melanoma

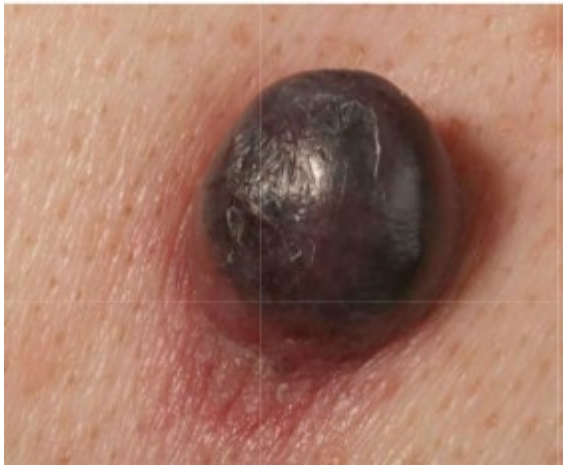
- Melanoma represents a malignant tumor that arises from melanocytes
- Due to its metastatic potential, leads to >75% of skin cancer deaths
- The incidence rates of melanoma have increased over the past four decades by three- to five-fold, whereas mortality rates began to stabilize in the early 1990s
- Melanoma is one of the most common forms of cancer in females age 15-29
- Melanoma also most common on the upper back, legs, head and neck, but it can appear anywhere (ocular, mucosal, nasal, vulvar)
- Melanocytes are everywhere on the skin
- Prognosis varies quite a bit based on staging

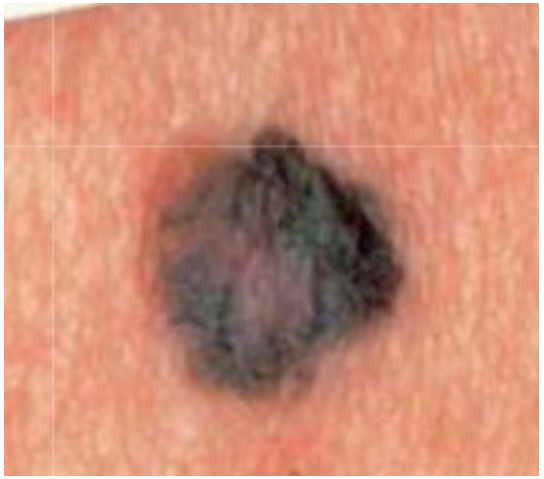
Superficial Spreading and Nodular Melanoma





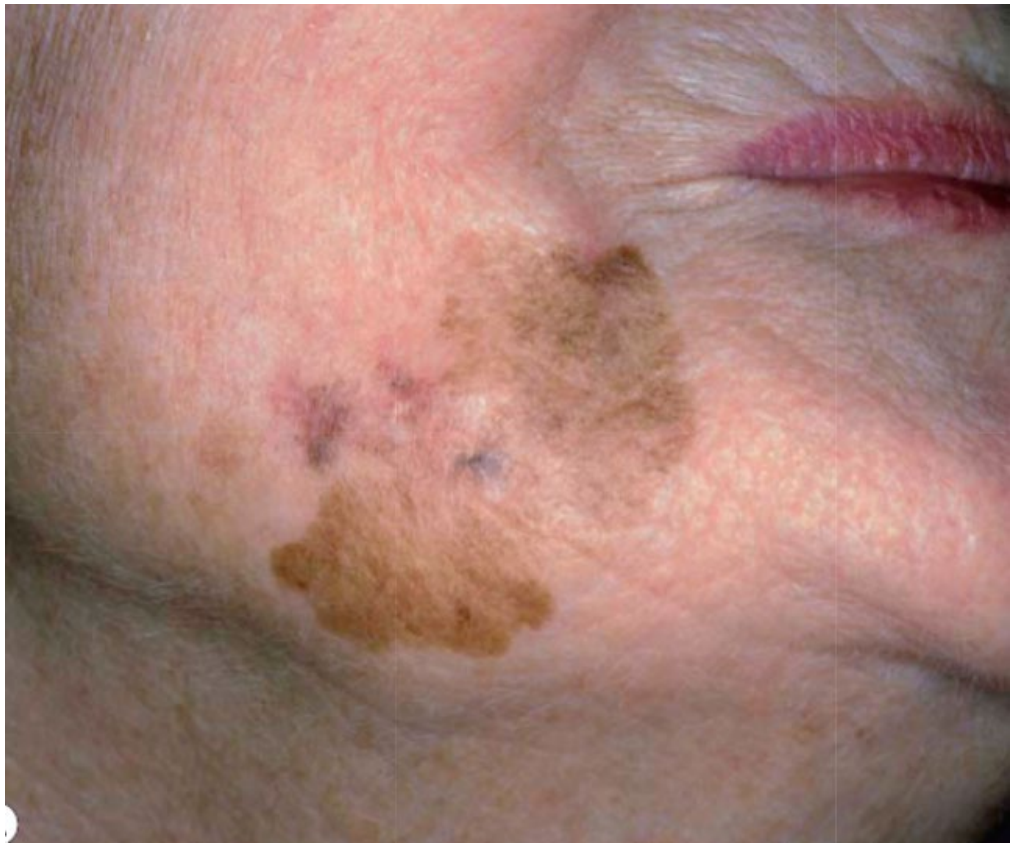


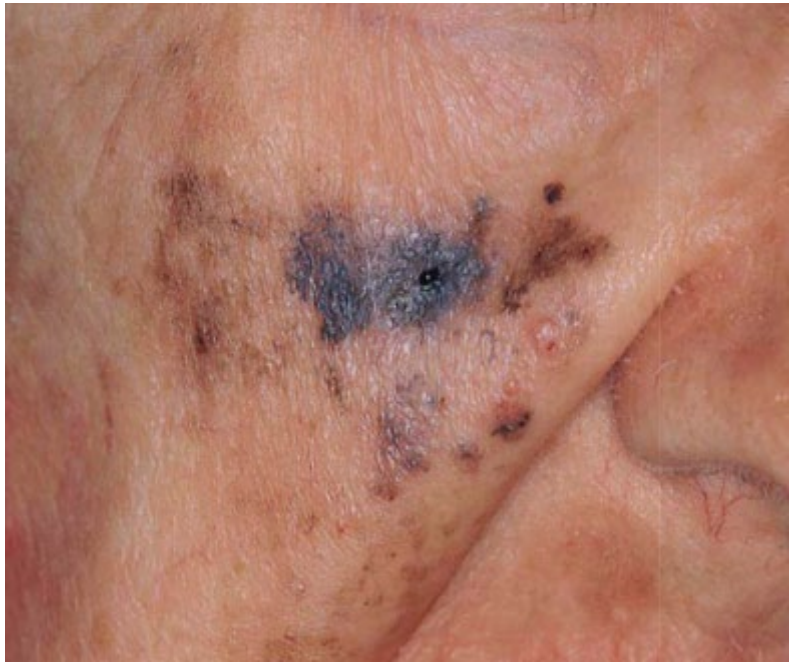




Images from Bolognia, Dermatology, Third Edition, Chapter 113; Melanoma

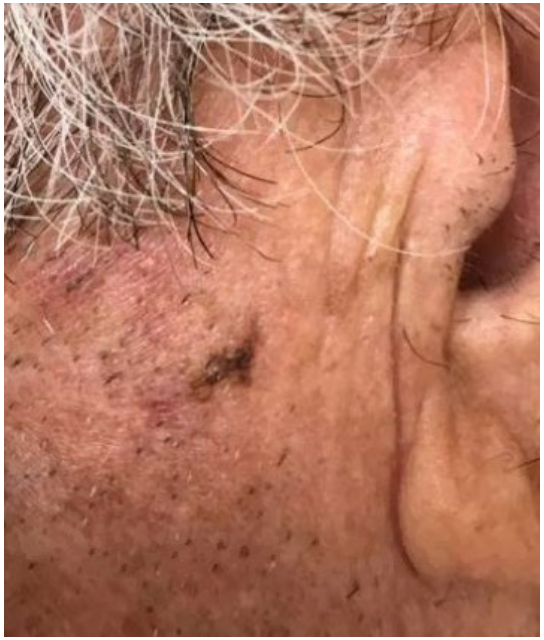
Lentigo Maligna Melanoma

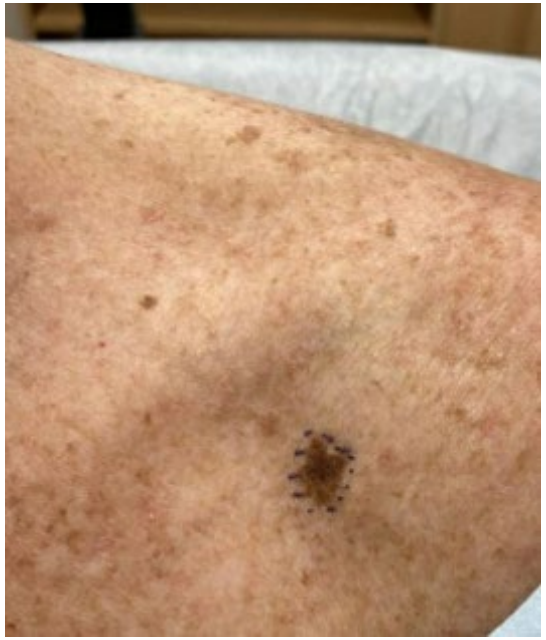


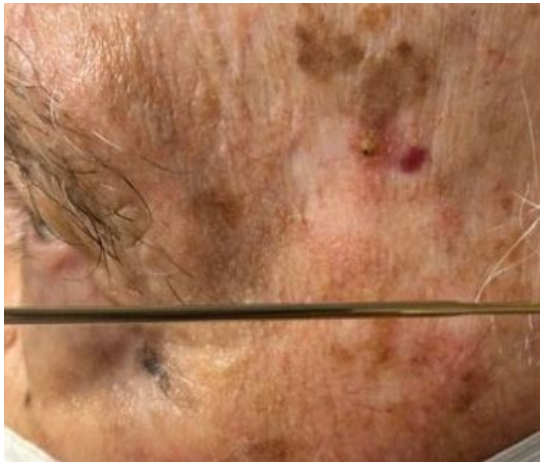


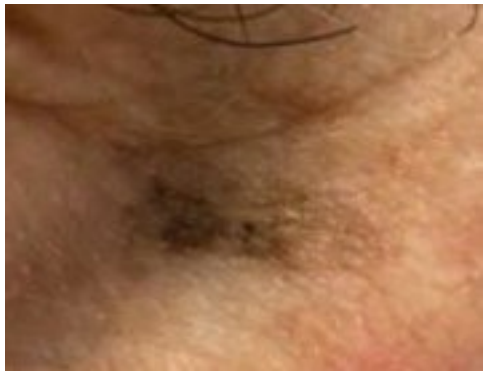
Images from Bolognia, Dermatology, Third Edition, Chapter 113; Melanoma

Straub Melanoma examples









In situ and early invasive cutaneous melanoma can be subtle in appearance but dermoscopy has led to an improvement in diagnostic accuracy

Melanoma Staging

Tumor (T)		
Tis (Mis)	Thickness (mm)	Ulceration
T1 T1a T1b	≤ 1.0 <0.8 <0.8 0.8-1.0	Unknown Without With Without
T2 T2a T2b	>1.0-2.0 >1.0-2.0 >1.0-2.0	Unknown Without With
T3 T3a T3b	>2.0-4.0 >2.0-4.0 >2.0-4.0	Unknown Without With
T4 T4a T4b	>4.0 >4.0 >4.0	Unknown Without With

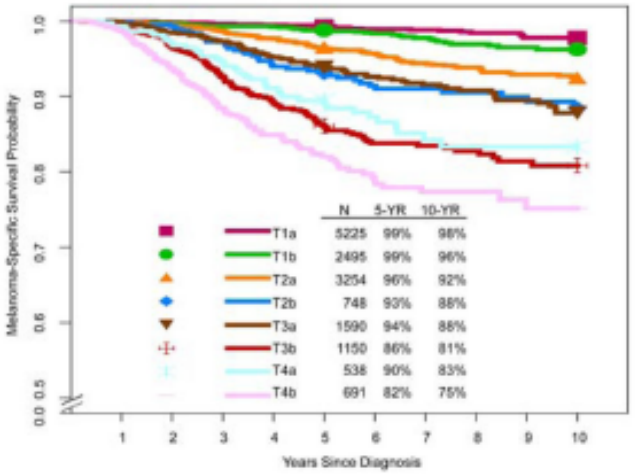
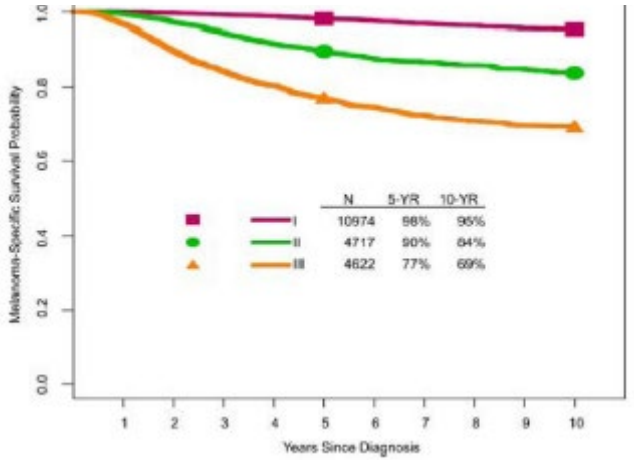


FIGURE 1.
Kaplan-Meier Melanoma-Specific Survival Curves According to T Subcategory for Patients With Stage I and II Melanoma From the Eighth Edition International Melanoma Database. Patients with N0 melanoma have been filtered, so that patients with T2 to T4 melanoma were included only if they had negative sentinel lymph nodes, whereas those with T1N0 melanoma were included regardless of whether they underwent sentinel lymph node biopsy.



Gershenwald J Melanoma Staging: Evidence-Based Changes in the AJCC 8th Cancer Staging Manual, CA Cancer J Clin. 2017

WHEN

When is a lesion concerning?

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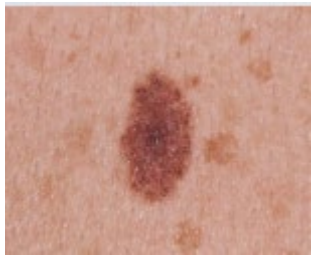
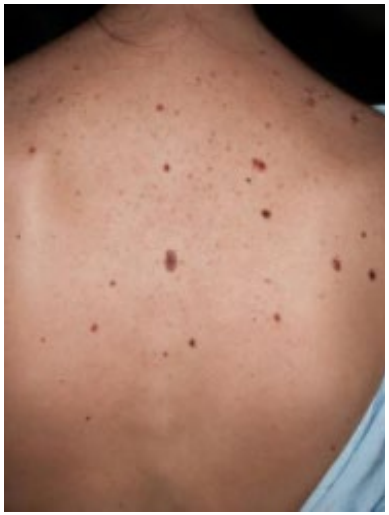
A Concerning Lesion





Helpful to know

1. Size
2. Location and **Photo (near and distant)**
3. Associated symptoms
    1. Bleeding or draining
    2. Does not heal
    3. Rapidly growing
    4. Painful
4. Other factors to know such as duration or changes in appearance

"quarter-sized painful nodule on the left leg in transplant patient"

Images accessed from Visual Dx How to take the Best Photos for Teledermatology https://info.visualdx.com/l/11412/2020-03-31/6h4hdz on 6/10/2021

Dermoscopy

- Leads to fewer biopsies needed to find a skin cancer
  - 4-5:1 with dermoscopy vs 12-15:1 with naked eye alone
- Detects skin cancers at an earlier stage

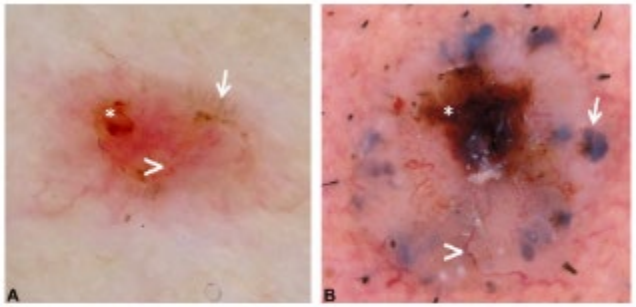


Fig 4. Dermoscopic images showing dermoscopic features associated with different basal cell subtypes. **A**, Superficial basal cell carcinoma presenting with an erosion (asterisk), serpentine vessels (arrowhead), and leaf-like areas (arrow). **B**, Nodular basal cell carcinoma presenting with an ulcer (asterisk), arborizing vessels (arrowhead), and blue ovoid nests (arrow).

Table III. Dermoscopic structures associated with basal cell carcinoma subtypes

Basal cell carcinoma subtype	Dermoscopic predictors	Schematic
Superficial basal cell carcinoma[14,60]	Flat surface	
	Multiple small erosions	
	Serpentine vessels	
	Leaflike structures	
on-superficial basal cell carcinoma[60]	Blue ovoid nest	
	Arborizing vessels	
	Ulceration	

Yelamos O, Usefulness of dermoscopy to improve the clinical and histologic diagnosis of skin cancers JAAD 2019, 365-377

Dermoscopy

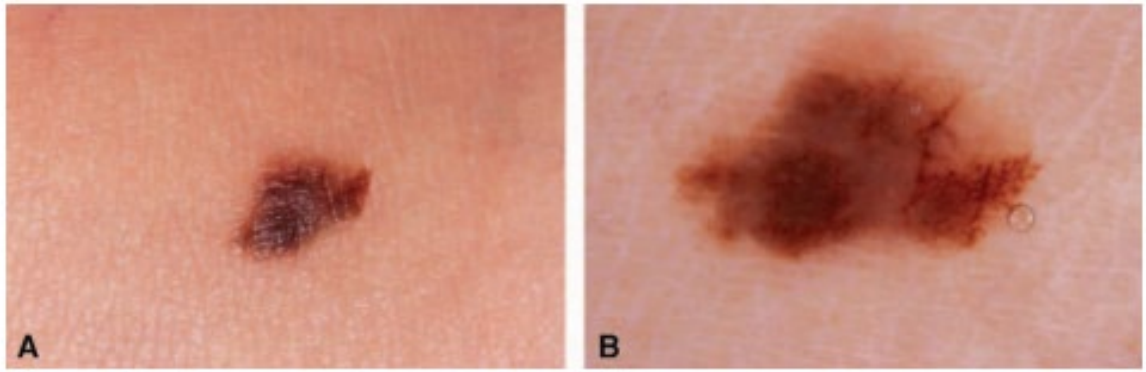


Fig 3. A, Macroscopic picture of a superficial spreading malignant melanoma (Breslow thickness 0.52 mm; Clark level II). **B,** Dermoscopy of **A** shows (atypical) pigment network and branched streaks and can therefore be considered a melanocytic lesion.

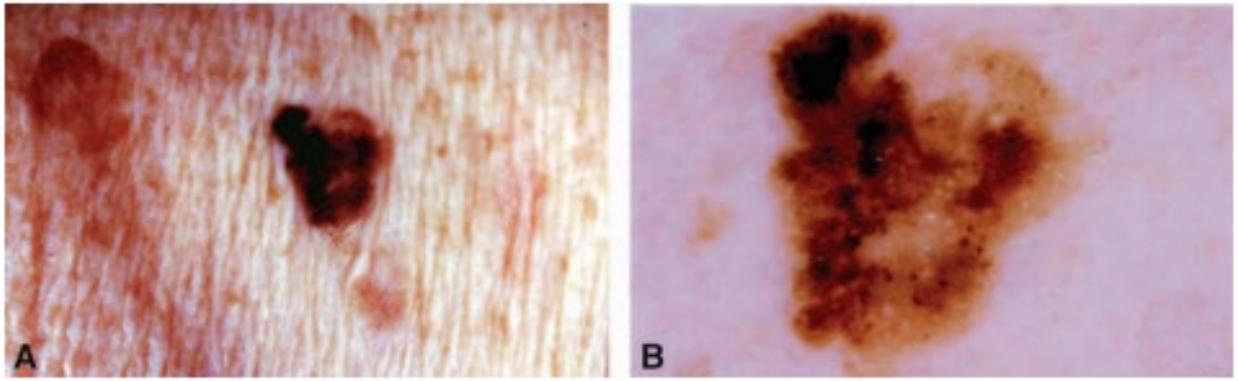
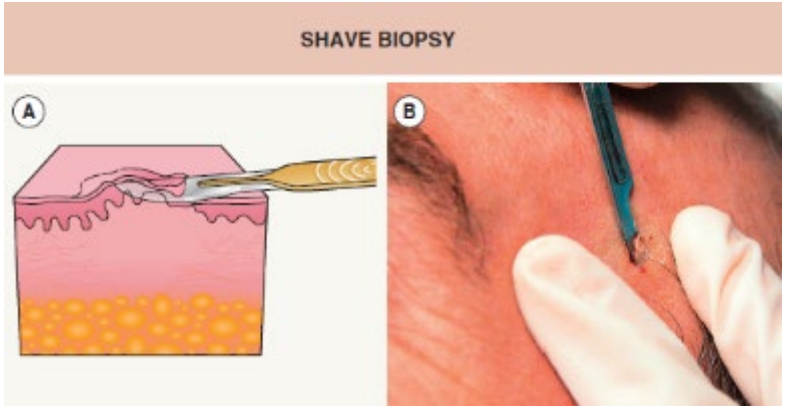


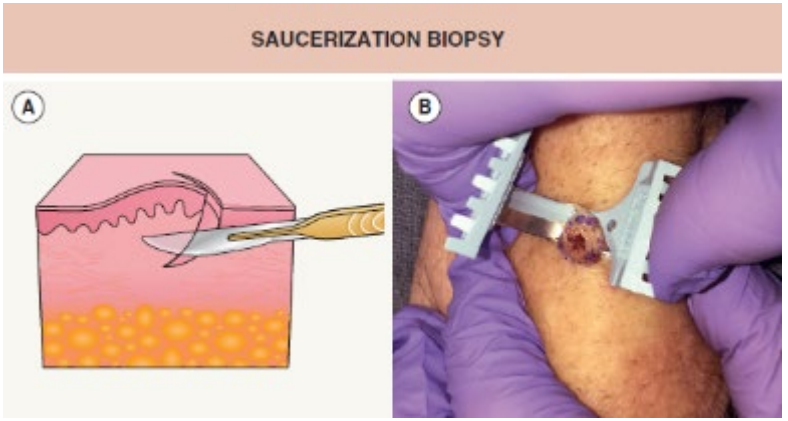
Fig 6. A, Macroscopic picture of a seborrheic keratosis. **B,** Dermoscopy of **A** shows comedo-like openings and multiple milia-like cysts.

Braun RP Dermoscopy of pigmented skin lesions JAAD 2005; 52:109-21

Biopsy Techniques: Shave and Saucerization

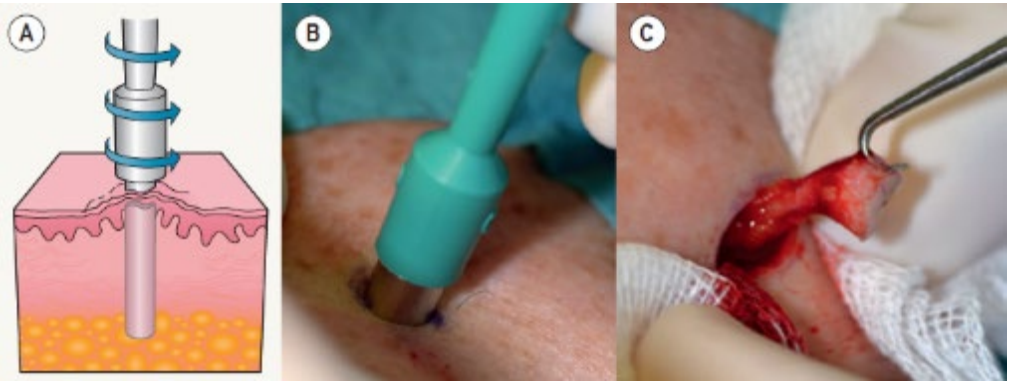
- Shave biopsy
  - Commonly used for diagnosis of lesions with superficial pathology such as BCC/SCC in situ
- Saucerization
  - Can be considered for small melanocytic lesions to below anticipated plane of lesion





Biopsy Techniques: Punch

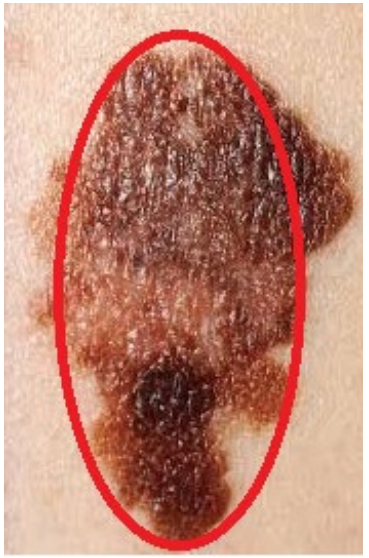
- Commonly used for diagnosis of rashes or complete removal of small solitary lesions
- Partial sampling may limit evaluation of melanocytic lesions
  - Histologic Symmetry of entire lesion
  - Heterogenous lesions (such as melanoma arising in a nevus)
  - Accurate tumor staging and treatment if biopsy does not capture deepest component of melanoma

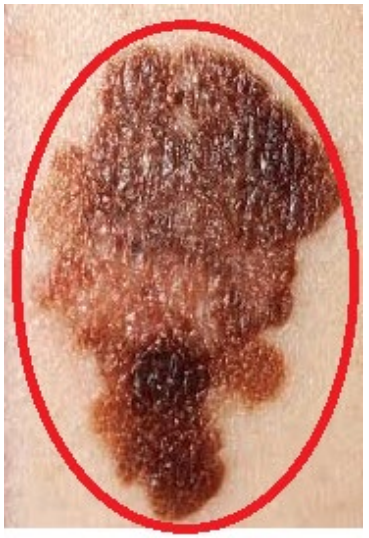


Biopsy techniques

- Incisional biopsy
  - Considered when
    - Low clinical suspicion
    - Lesion is too large to completely excise
    - Concern for cosmesis

- Excisional biopsy
  - **Preferred biopsy technique for clinically-suspected melanoma**
    - **Pathologist can examine lesion in entirety**
    - **Accurate Breslow depth**





WHO

Who is at risk?

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Risk Factors for NMSC

- Environmental
  - Cumulative sun exposure/occupational (SCC)
  - Intermittent sun exposure/recreational (BCC)
  - Ionizing radiation (BCC/SCC)
  - HPV (SCC)
  - Cigarette smoking (SCC)

- Pigmentary phenotype
  - Fair skin, “always burns, never tans”
  - Freckling, red hair (SCC/BCC)

Risk Factors for NMSC

- Genetic syndromes
  - Xeroderma pigmentosum (XP)
  - Oculocutaneous albinism
  - Epidermodysplasica verruciformis
  - Dystrophic epidermolysis bullosa
  - Ferguson-Smith syndrome
  - Muir-Torre syndrome
  - Nevoid basal cell carcinoma syndrome
  - Bazex Rombo syndrome

- Predisposing clinical setting
  - Chronic non-healing wounds
  - Longstanding discoid lupus erythematosus, erosive lichen planus or lichen sclerosus
  - Porokeratosis
  - Immunosuppression: Organ transplantation, CLL, AIDS
  - Prior history of skin cancer

Risk Factors for Melanoma

- More than 50 moles, large moles or atypical (unusual) nevi
- A blood relative (parent, sibling, child, aunt, uncle, cousin) who has had melanoma
- Sun-sensitive skin (i.e., tendency to sunburn easily, red or blond hair, or blue or green eyes)
- A history of excessive sun exposure (including sunburns) or indoor tanning
- A history of other cancers, such as breast or thyroid cancer (CDKN2A/BRCA2)
- Individuals who have been diagnosed with either BCC or SCC have an increased risk of developing future skin cancers, including melanoma
- Melanoma survivors have an approximately nine-fold increased risk of developing another melanoma compared to the general population

Melanoma in patients with skin of color

- Patients with skin of color are often diagnosed with skin cancer in later stages when it's more difficult to treat
- Research has shown that patients with skin of color are less likely than Caucasian patients to survive melanoma, the deadliest form of skin cancer
- Patients with skin of color are prone to skin cancer in areas that aren't commonly exposed to the sun, like the palms of the hands, the soles of the feet, the groin, and the inside of the mouth

(1) Agbai ON, Buster K, Sanchez M, Hernandez C, Kundu RV, Chiu M, Roberts WE, Draelos ZD, Bhushan R, Taylor SC, Lim HW. Skin cancer and photoprotection in people of color: a review and recommendations for physicians and the public. J Am Acad Dermatol. 2014;70(4):748-62.

(2) Dawes SM et al. Racial disparities in melanoma survival. J Am Acad Dermatol. 2016 Nov; 75(5):983-991

(3) Agbai ON, Buster K, Sanchez M, Hernandez C, Kundu RV, Chiu M, Roberts WE, Draelos ZD, Bhushan R, Taylor SC, Lim HW. Skin cancer and photoprotection in people of color: a review and recommendations for physicians and the public. J Am Acad Dermatol. 2014;70(4):748-62.

How?

How can we prevent skin cancers?

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Photoprotection

- Seek shade when outdoors
- Wear photoprotective clothing, including wide-brimmed hats and sunglasses
- Generously apply broad-spectrum, water-resistant sunscreen with an SPF of 30 or higher on exposed areas
- Furthermore, those concerned about the potential environmental impact of chemical sunscreen ingredients can use mineral (also known as physical or inorganic) sunscreens containing zinc oxide or titanium dioxide

Topical and Oral Prophylaxis for SCC

- 5%-Fluorouracil (5FU): 75% reduction in SCC
- **5-FU with calcipotriol (faster treatment)**
- **Oral prophylaxis: Nicotinamide 500 mg BID**
  - OTC, no known major side-effects
  - 30% reduction in SCC
- Oral Acitretin
  - Decreased SCC formation by 54%

Take Home Points

- Anybody can detect skin cancer
- If it's growing, bleeding, painful, or an "ugly duckling", get it checked out
  - (When in doubt, get it checked out)
- Prevention and early treatment is Key

Q&A

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Next Webinar:

HHP/HPH Community Webinar Series

Thursday, June 17, 2021

5:30pm – 6:30 pm

*Agenda is tentative and is subject to change

Thank you!

- A recording of the meeting will be available afterwards.
- Unanswered question?
  - Contact us at info@hawaiihealthpartners.org

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