

# Skin Cancer 101

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# Objectives

- Understand the three most common skin cancers
- Present a practical approach to early recognition of skin cancer
- Encourage active and careful skin exams, leading to early diagnosis of skin cancer
- Review options and guidelines for treatment

# LARGEST ORGAN OF BODY

- 21 sq ft of skin
- Need scrupulous and thorough exams!



# Basic Skin Cancer Types

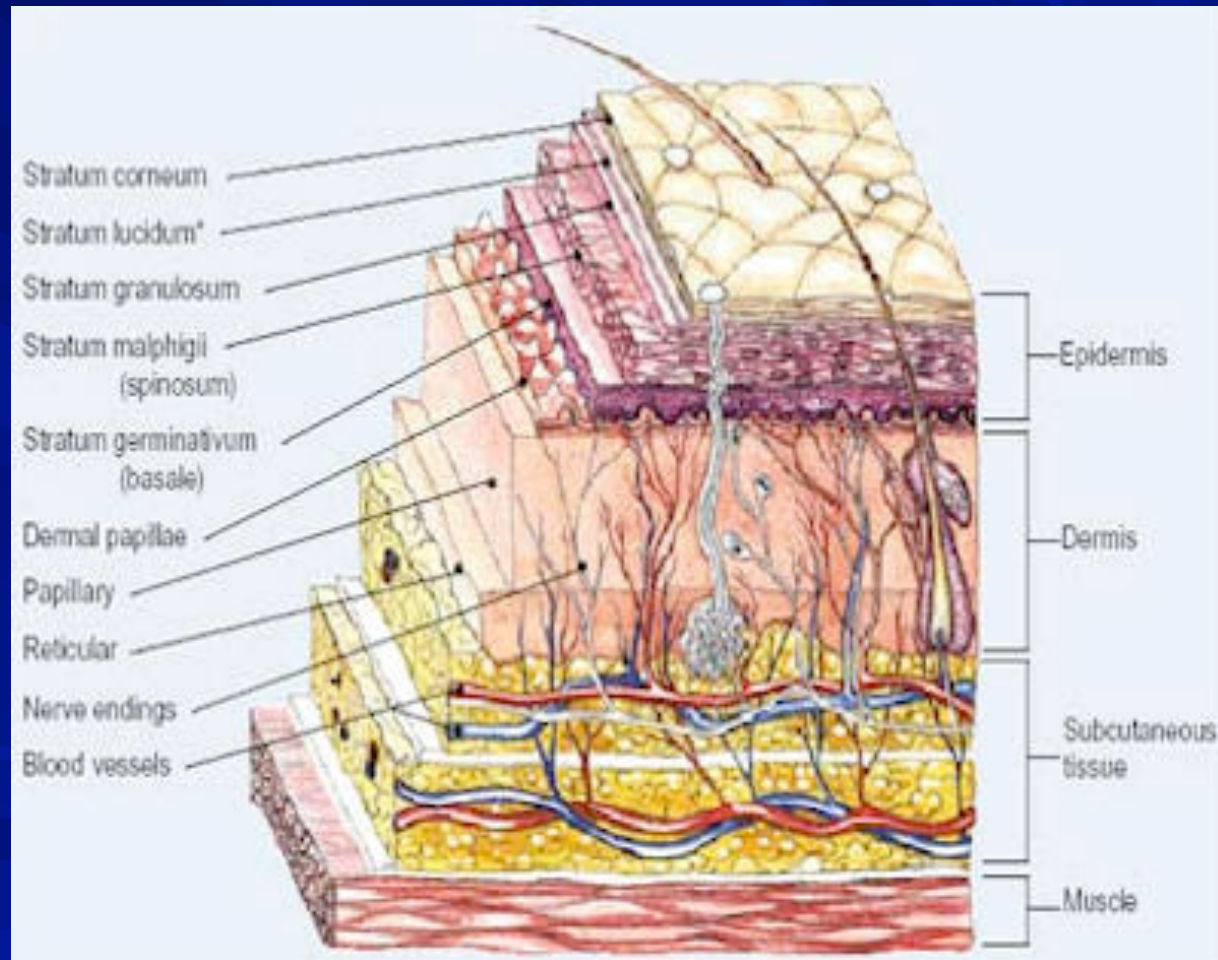
- Nonmelanoma Skin Cancer

  - Basal Cell Carcinoma

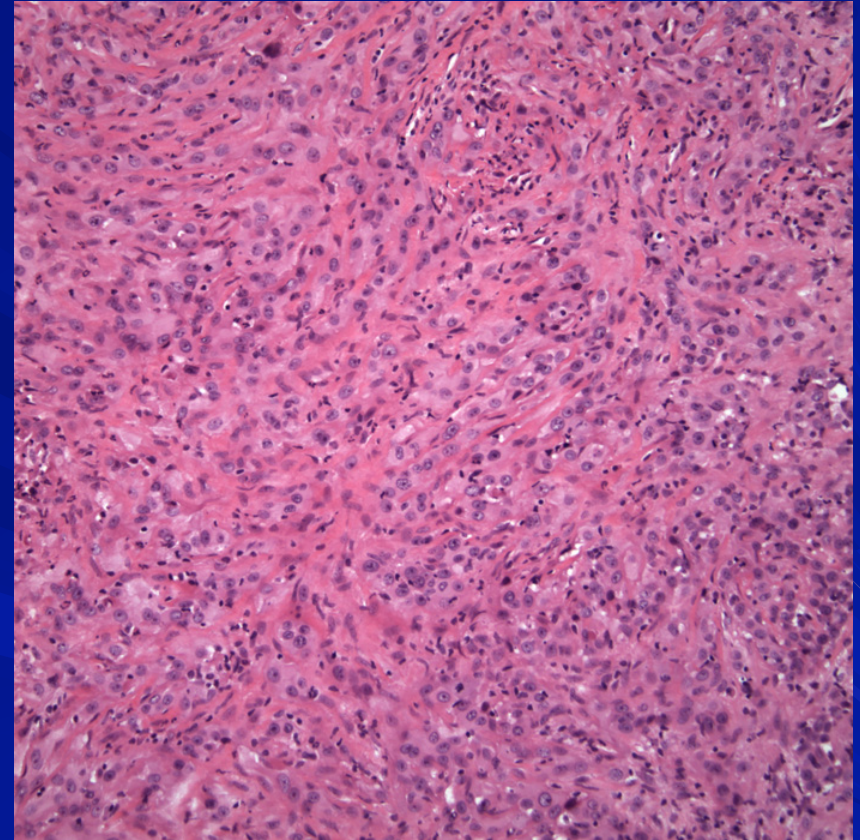
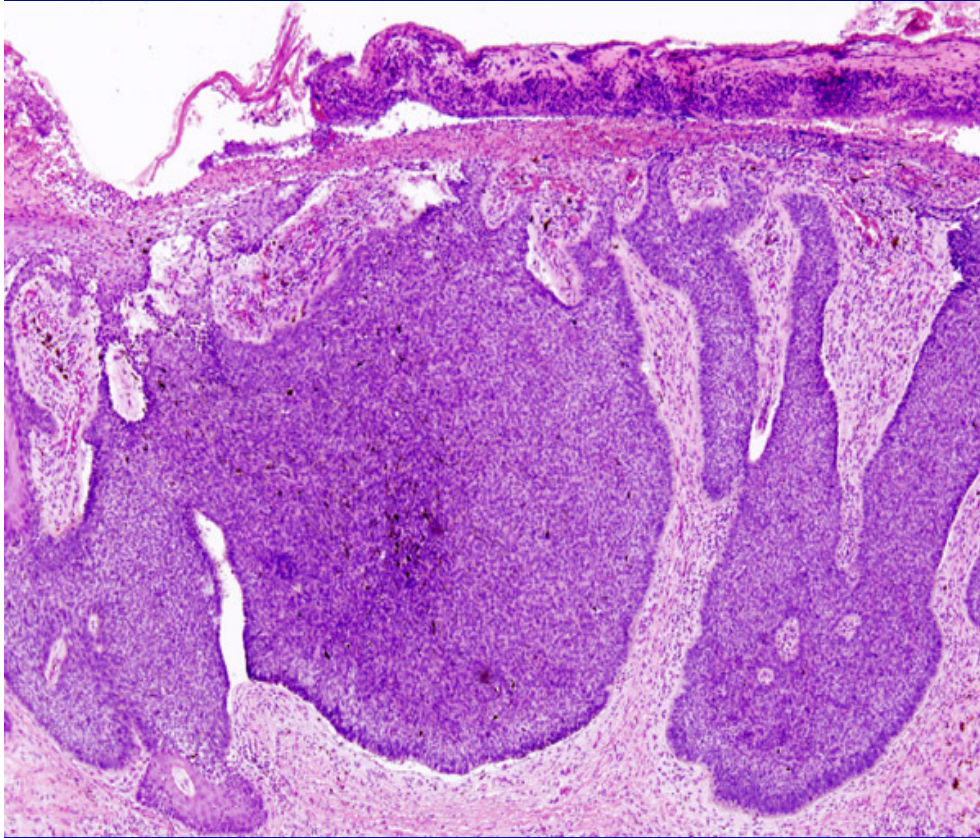
  - Squamous Cell  
Carcinoma

- Melanoma

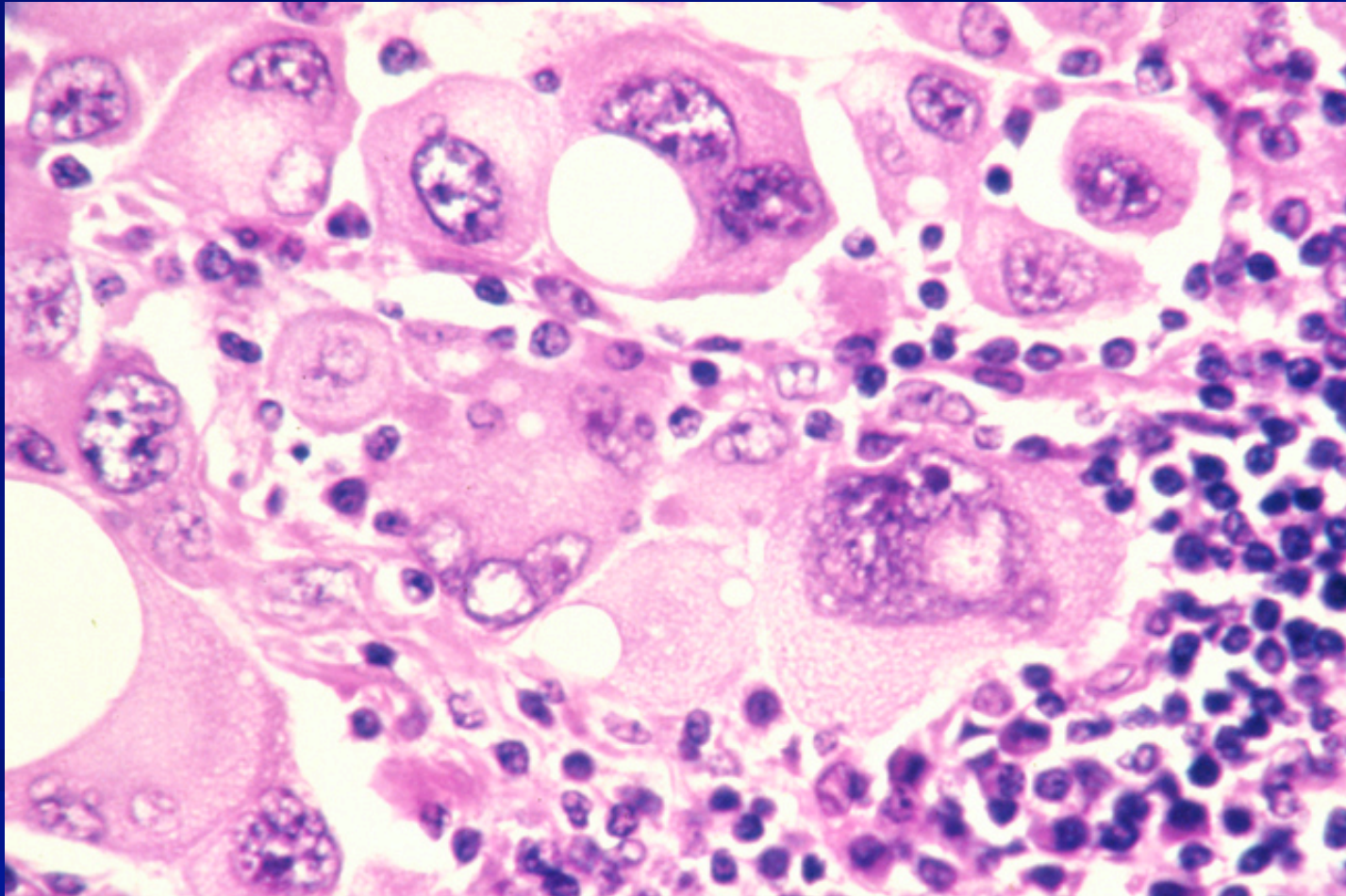
# SKIN



# BCC and SCC Histology



# Melanoma Histology



# Nonmelanoma Skin Cancer

- Two Most Common Skin Cancers
  - Basal Cell Carcinoma
    - 80% of all skin cancers
  - Squamous Cell Carcinoma
    - 12-15% of all skin cancers

# Basal Cell Carcinoma

- Most common malignancy in humans
- More than a million cases diagnosed per year
- 99% are white skinned individuals
- 95% are older than 40 yo
- 85% head and neck region
- 25% occur on nose
- Easy to cure

# Squamous Cell Carcinoma

- Vast majority in fair skinned individuals
- Mostly on sun exposed skin, mostly the nose
- Easy to cure, but metastasis is a greater risk in certain SCC than BCC
- 2300 deaths in United States

# Factors that Increase Risk of Metastasis

- Size, Duration, Depth, Differentiation
- Location
  - Mucous Membrane
  - Ear
  - Chronic Scar, Infection, Ulcer
- Immunosuppressed Individual

# Nonmelanoma Skin Cancer

## Actinic Keratosis

- Skin Types 1&2 >3&4
- AKs are potential precursors to SCCs
- AKs not likely to appear until 3<sup>rd</sup> decade
- About 5% transform into SCC
- AKS progress to SCC in situ to SCC

# Different skin types pose varying degrees of risk



# Fitzpatrick Types

- Type I
  - Fair skin, blond or red hair. Always burns, peels
- Type II
  - Fair skin, blond or brown hair. Usually burns, peels
- Type III
  - Average skin. Can tan, but sometimes burns.
- Type IV
  - White or light brown skin. Tans easily.
- Type V
  - Brown skin. Rarely burns.
- Type VI
  - Black skin. Never burns.

# Sunscreen works!!



# Skin Cancer

## Early Recognition/ Goals

- Decrease local tissue destruction/ loss
- Minimize scarring, deformity
- Avoid loss of function, decrease morbidity and mortality

# Early Recognition

- Look closely, slowly, carefully
- Have a routine, be consistent
- Use dermoscopy if you can!

# Early Recognition

## How History can Help

- Past exposures to carcinogens
- Previous x ray therapy
- Occupational and recreational exposure
- Personal or family history of skin cancer

# Early Recognition

- Change in size, shape, color, texture
- Non healing lesion
- Scaly, persistent lesion
- Burns, stings, itches, bleeds or oozes
- ABCDEs of Melanoma

# Early recognition Precancers/ AKs

- Rough scaly spots, feel like sandpaper
- May be flesh colored, pink or brown
- Usually dry, but may ooze or crust
- Scale may resolve but recurs
- May progress to SCC

# Actinic Keratosis



# Actinic Keratosis



# Early Recognition Actinic Cheilitis

- AKs on the lip
- Usually stable for months
- Risk of progression to SCC if lip lesion persists or thickens
- SCC of lip has increased risk of spread

# Actinic Cheilitis



# Risk of progression to SCC



# Risk of progression to SCC



# Risk of progression to SCC



# Early Recognition Erythroplasia of Queyrat

- SCC in situ of glans of penis
- Most common in uncircumcised men
- Persistent red plaque
  - 1/2 solitary, 1/2 multiple
- If penile submucosal invasion, about 20% metastasize

# Early Recognition Keratoacanthoma

- Low grade SCC
- Usually rapidly growing
- May regress and recur
- Cup shaped with central keratin plug
- Looks like volcano

# SCC of KA type



# SCC Keratoacanthoma



# Early Recognition Squamous Cell Carcinoma

- Scaly patch with hard callused surface
- Can grow quickly or slowly
- Cutaneous horn may develop from surface
- Ulceration and bleeding can occur
- Histologic subtypes and aggressiveness is based on degree of differentiation

# Early SCC in situ



# Early Recognition Basal Cell Carcinoma

- May begin as a persistent papule or sore that won't heal
- Pearly appearance to plaque or papule
- Translucent when “pinched”
- May scale, crust or ulcerate
- May bleed when provoked

# Basal Cell Subtypes

- Superficial Multicentric BCC
- Nodular or noduloulcerative BCC
- Basosquamous Cell Carcinoma
- Sclerosing (morpheaform) BCC
- Pigmented BCC
- Adenoid Cystic BCC

# Basal Cell Ca Subtypes

- Superficial Multicentric BCC
  - Usually on the trunk
  - May look like eczema
  - Grows slowly, may become nodular
  - Relatively easy to cure

# Superficial BCC



# Basal Cell Carcinoma Subtypes

- Nodular or noduloulcerative BCC
  - Classic subtype
  - Raised pearly nodule
  - Easiest to diagnose
  - Relatively easy to cure if early

# Nodular BCC



# Nodular BCC



# BCC subtypes

- Basosquamous Cell Carcinoma
  - May have overlying scale or crust
  - Clinically confused with SCC
  - Tend to be more aggressive
  - Diagnosed histologically

# Basosquamous Carcinoma



# BCC subtypes

- Sclerosing (morpheaform) BCC
  - Whitish pearly patch
  - Looks like scar
  - Indurated texture
  - Easy to miss, hardest to cure, subtle appearance

# Morpheaform BCC



# Basal Cell Carcinoma Subtypes

## ■ Pigmented BCC

- Easily confused for melanoma
- Pearly raised border is hallmark
- Dermascopy is helpful

# Pigmented BCC



# Early detection of BCC

- Can dermoscopy help??

# Melanoma incidence

- Melanoma incidence for tumors of all thickness is on the rise
- >62,000 cases/ yr diagnosed in US
- >8000 deaths from Melanoma/ year
- Largest incidence in men >65 yo

# Early Recognition of Melanoma

## Predictors of Risk

- Benign Pigmented Dysplastic Nevi
- Greater number of nevi, greater risk for developing melanoma
- Both markers of increased risk and direct precursors of melanoma
- UVR- initiator and promotor

# Multiple Nevi



# Best approach?

- Dermoscopy!
- Personal and family history
- Close and frequent exams

# Early Recognition Melanoma Diagnosis

- Important tool to aid
- 10X skin surface microscopy
- Biopsy will remain “gold standard”
- Look for “ugly duckling”

# Early Recognition Melanoma/ Precursors

- Only 30% of melanomas develop from a preexisting mole
- 70% develop denovo
- Melanoma in children is rare, but not unheard of
  - 2-15 percent of congenital nevi undergo malignant transformation
- Dysplastic nevi

# Dysplastic Nevi



# Early Melanoma in Situ

- Normal evolution of benign nevi vs. early melanoma
- Benign nevi do change and evolve
- Biopsy is still a “gold standard”

# Benign Compound Nevi



# Spitz Nevi



# Melanoma Subtypes

- Melanoma in situ and Lentigo Maligna
- Lentigo Maligna Melanoma
- Superficial Spreading Melanoma
- Nodular and Amelanotic Melanoma
- Acral Lentiginous and Mucosal Melanoma
- Subungal Melanoma
- Desmoplastic Melanoma

# Melanoma Subtypes

## ■ Melanoma In Situ

- Stage 0/ Cure rate approaches 100%
- Risk of second melanoma is increased
- Careful followup- if develops likely to catch second melanoma early

# Melanoma in Situ



# Melanoma Subtypes

## ■ Lentigo Maligna

- Most commonly develops on sun exposed areas elderly skin
- Relatively low grade, but may slowly progress to LMM

# Lenigo Maligna



# Melanoma Subtypes

- Superficial Spreading Malignant Melanoma
  - Most commonly develops on trunk
  - Radial (horizontal) growth phase
  - May develop nodular component
  - Depth of invasion greatest predictor of survival

# Superficial Spreading Melanoma



# Melanoma Subtypes

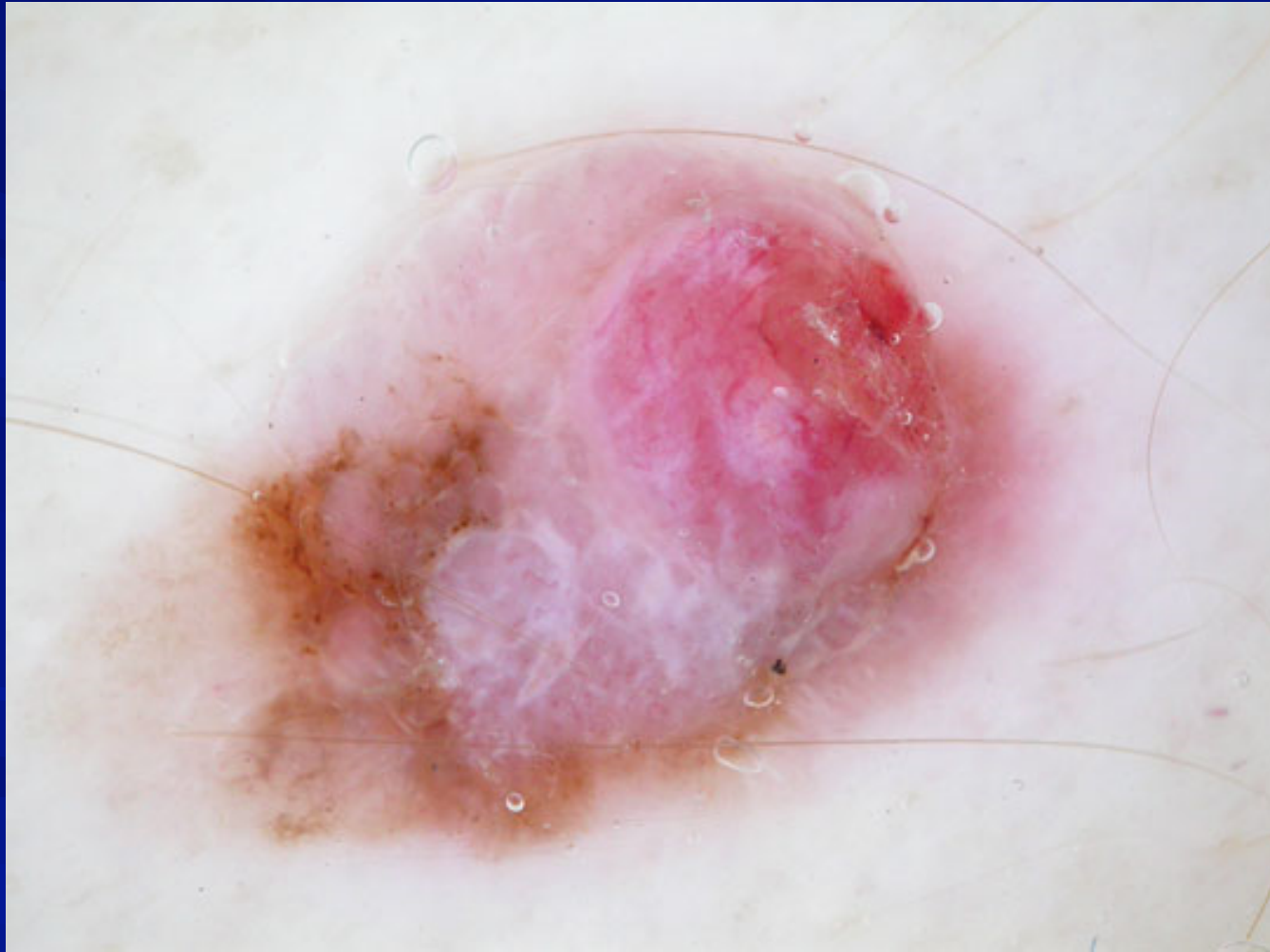
## ■ Nodular Melanoma

- Easiest to recognize
- May be raised, typically palpable
- Usually asymmetrical pigmentation
- May be blue or black

# Nodular Melanoma



# Nodular Melanoma Dermoscopy



# Melanoma Subtypes

## ■ Amelanotic Melanoma

- The great masquerader
- Commonly delayed diagnosis
- Little or no pigmentation
- Spectrum of appearance from benign nevus to eczema to Bowen's

# Amelanotic Melanoma



# Melanoma Subtypes

- Acral Lentiginous Melanoma
  - Located on fingers and toes
  - Easy to miss
  - Dangerous if deeply nodular when found

# Acral Melanoma

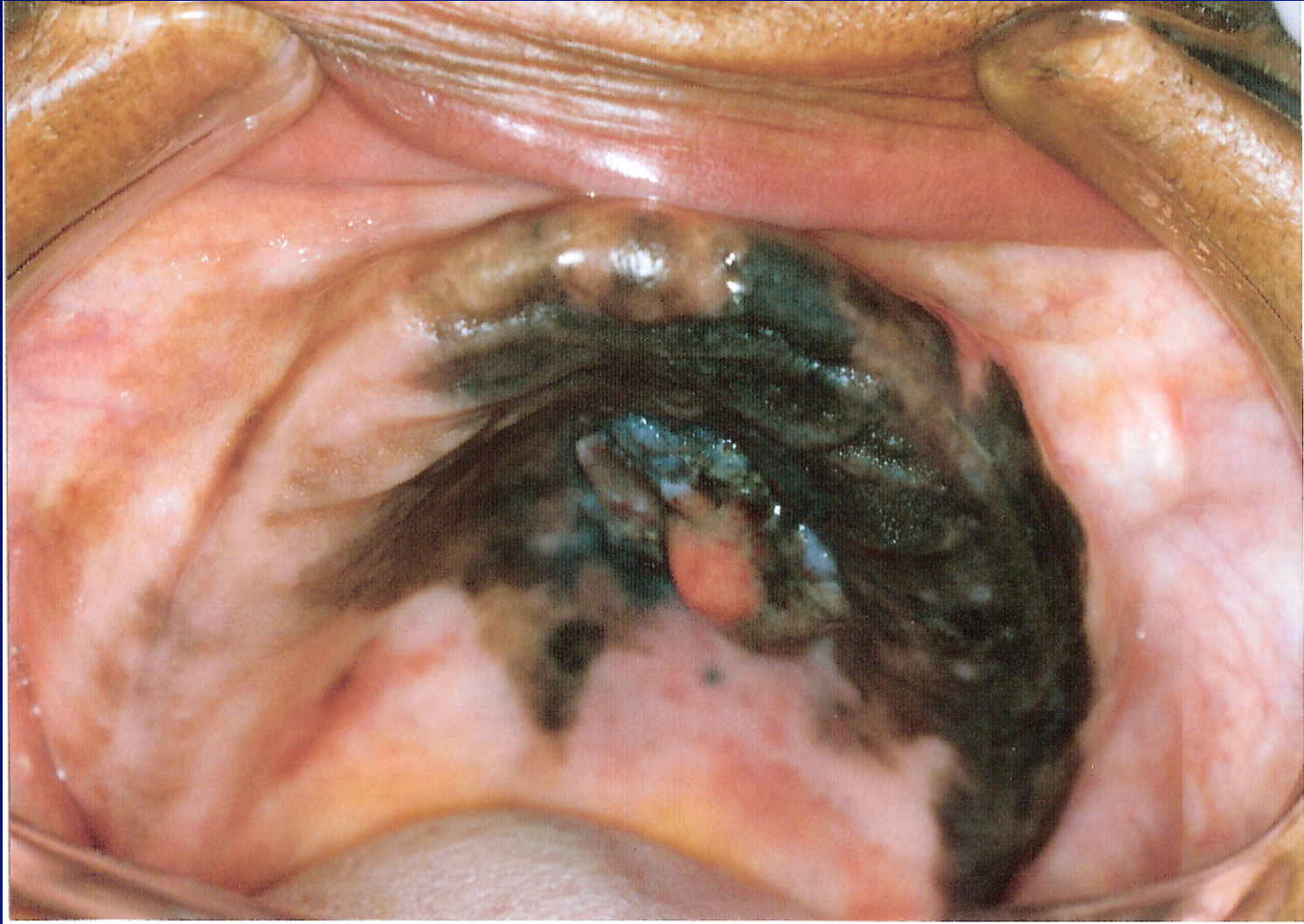


# Melanoma Subtypes

## ■ Mucosal Melanoma

- Benign genital melanotic macules easily confused for mucosal melanoma which can occur in men and women
- True mucosal melanoma tend to behave like acral lentiginous melanoma and have a greater than average metastatic potential

# Mucosal Melanoma



# Melanoma Subtypes

## ■ Subungual Melanoma

- Easy to misdiagnose
- May develop in association with a nail fungus
- Hutchinson's sign may be helpful
- May be amelanotic

# Subungual Melanoma



# Benign Subungual Hemorrhage



# Melanoma Subtypes

- Desmosplastic Melanoma
  - May or may not have much pigmentation
  - Pigmentation pattern of Lentigo Maligna
  - Fibrotic or indurated lesion

# Desmoplastic Melanoma



# Skin Cancer Primary Goal

## Early Recognition and Treatment

- Decrease local tissue destruction or loss
- Minimize scarring
- Prevent deformity
- Avoid loss of function
- Overall: decrease morbidity and mortality

# Treatment Options

## SCC Precursors- AKs

- Topical Therapies
  - Flououricil (1%-5%) cream or solution
  - Aldara (imiquimod)
- Cryotherapy (liquid nitrogen)
- Electrodesiccation and curettage
- Chemodestruction-Chemical Peel
  - Salicylic Acid, Glycolic Acid, Phenol
- Photodynamic Therapy

# Efudex Reaction



# Treatment Options

## ■ Topical Therapy

- Flououracil or Aldara
- Cryotherapy
- Electodessication and curettage
- Surgical excision

# Treatment Options

## Excisional Surgery

- Full thickness with closure
- Mohs Micrographic Surgery

# Treatment Guidelines

## Recommended Excisional Margins

- Well demarcated BCC or SCC, a 4 mm margin will achieve a 95% cure rate
- Otherwise depends on tumor size and location
- Also depends on subtype of tumor and degree of differentiation

# Biopsy Techniques

- Shave biopsy or punch biopsy is fine to rule out SCC or BCC
- Biopsy technique to rule out melanoma is a bit more tricky
- Importance of dermatopathologist to read pathology!

# Pitfalls to Biopsy Techniques to Rule out Melanoma

- Some say full thickness excision is the only acceptable method
- Sometimes dermal saucerized biopsy to acceptable
- Sometimes you need to avoid a punch biopsy

# Treatment Guidelines Margins for Melanoma

- Melanoma in situ
  - 0.5 cm peripheral margin to subq fat
- Breslow depth between 0.1 and 1.0 mm
  - 1 cm peripheral margin to fascia
- Breslow depth between 1.0 and 2.0 mm
  - 2 cm peripheral margin to fascia
- Breslow depth deeper than 2 mm
  - Controversial/ 2 cm peripheral margin

# Melanoma Staging

## Sentinel Lymph Node Biopsy

- Usually for Breslow depth  $> 0.76$  mm
- Controversy continues!
- Used to stage melanoma and survival

# Skin Cancer Resources

- [www.skincancer.org](http://www.skincancer.org)
- [www.mohssurgery.org](http://www.mohssurgery.org)
- [www.dermatlas.org](http://www.dermatlas.org) for pictures
- [www.aad.org](http://www.aad.org) [www.aocd.org](http://www.aocd.org)