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# Disclosures

⌘ Today's program sponsored by 3Gen,  
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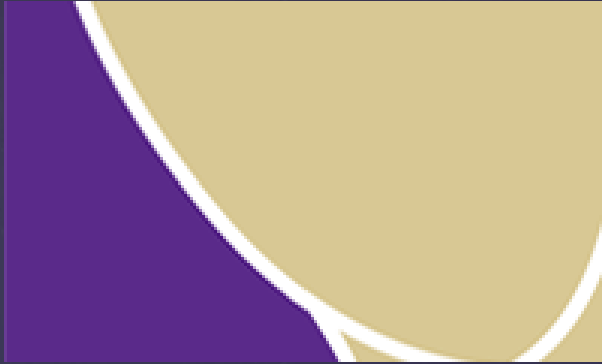
⌘ Today's program will focus on the science and technique of dermoscopy rather than the sale of specific devices manufactured by 3Gen

# Mitigation of Bias



# Dermoscopy: A closer look

Jenni Holman MD



## DERMATOLOGY ASSOCIATES *of* TYLER

- BS Zoology, University of Oklahoma
- M.D., University of Oklahoma
- Dermatology Residency, University of Missouri
- Currently in Tyler, TX in dermatology group practice
  - Medical, surgical, and cosmetic dermatology
- Married to ER physician and mother of 3

- Define dermoscopy
- Explain the applications of dermoscopy
- Recognize dermoscopy basics
- Identify dermatoscopic characteristics of melanoma
- Identify dermatoscopic characteristics of common non-pigmented lesions

## Dermoscopy: A Closer Look

# DERMOSCOPY ATLAS



DERMNETNZ.ORG

- Dermoscopy: The examination of skin lesions with a dermatoscope
- Primarily used as a aid to differentiate benign and malignant lesions

Dermoscopy defined





Oil Immersion Dermatoscope



# Dermlite



# Dermoscopy Photography



# Smartphone Dermatoscopes

- Introduced in 1663 by Kolhaus
- Improved by addition of oil immersion in 1878 by Ernest Abbe
- Johann Saphier added a built-in light source
- Goldman coined the term “dermoscopy”

## History of Dermoscopy

- Aid in melanoma diagnosis
- Monitor pigmented lesions
- Diagnosis of scabies or pubic lice
- Wart diagnosis
- Fungal diagnosis
  - Differentiate and diagnose tinea vs alopecia areata
  - Trichoscopy
- Surgical margin determination

## Dermoscopy Applications

- Increase diagnostic accuracy for melanoma
  - Increased sensitivity by 20%
  - Increased specificity by 10%

Dermoscopy Applications



# Dermoscopy Basics



# FIRST STEP

Is it melanocytic or  
not?

- Melanocytic lesions are composed of 3 basic structures
  - Pigment Network
  - Dots and Globules
    - Streaks
  - Amorphous Areas
    - Blue Areas

# FIRST STEP

- A delicate regular grid of brownish lines over a light brown background
- Correlates to rete ridges (pigment) and dermal papillae
- A pigment network is the hallmark of a melanocytic lesion

# Pigment network

- A Pigment Network
  - Reticular Pattern
  - Lattice like structure
  - Localized or Diffuse

# Pigment Network

Dots and Globules?

# Amorphous Areas

Is it melanocytic?

Melanocytic:  
Benign or Not?





Color

# Symmetry

- Shape
- Pattern

# Dermoscopy of Melanoma

- Multiple Methods
  - 3 point Rule
  - Menzies Method
  - 7 point Rule
  - Pattern Analysis
  - ABCD
  - Kittler Method

# Melanoma Diagnosis

- Asymmetry of Color
- Asymmetry of Pattern
- Blue or White Structures

## 3 Point Method

- Major Criteria
  - Irregular Pigment Network
  - Blue White Veil
  - Irregular vascularity
- Minor Criteria
  - Irregular dots and globules
  - Irregular streaks
  - Irregular blotches
  - Regression Structures

# 7 Point Method

# Non-Melanocytic Lesions

- Pigmented non-Melanocytic Lesions
  - Seborrheic Keratoses
  - Pigmented Basal Cell Carcinoma
  - Dermatofibromas



- No true network/globules
- Milia-like cysts
- “Fat Fingers”/ Cerebriform Surface
- Fissures/Ridges
- Blue-Gray dots

# Seborrheic Keratosis

Milia Like Cysts?

Cerebriform Surface?

- Absence of pigment network
- Linear and arborizing telangiectasia
- Leaf like areas on periphery
- Blue-grey ovoid nests or globules
- Spoke wheel areas

# Basal Cell Carcinoma

Arborizing Telangiectasia?

Basal Cell Carcinoma  
leaf like areas

Basal Cell Carcinoma  
Blue-grey areas

- Widespread blue/red lacunae
- Homogenous red-blue-black areas

# Vascular Lesions



# Vascular Lesions

## Lacunae

Hemorrhage