



Penn Medicine  
Chester County Hospital

Dermatology

# A Sunny Outlook for a Dark Disease -- Skin Cancer Prevention, Detection, and Treatment.

Dr. Sarah Todd

May 26, 2022



DERMATOLOGY  
PARTNERS



# Introduction:

Dr. Sarah Todd, FAAD

Jessica Borderieux, PA-C

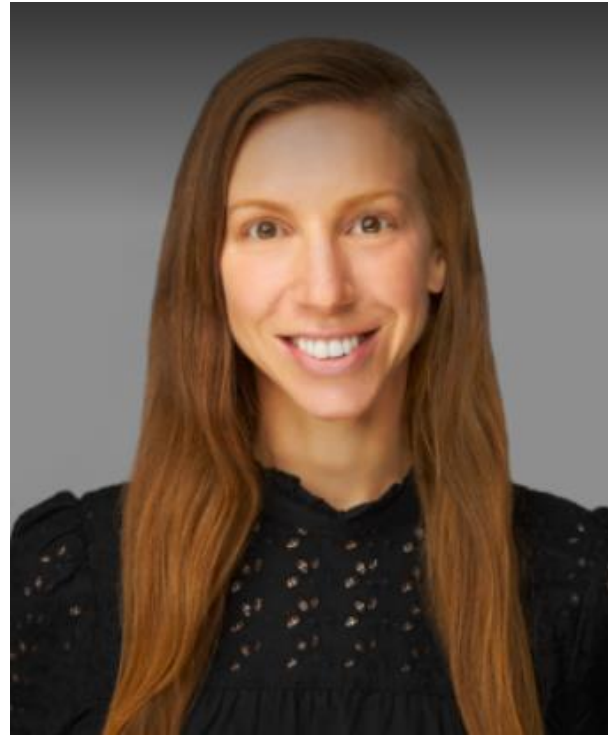
Pennsylvania Dermatology Partners

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West Chester, PA 19380

(610)436-8440



**DERMATOLOGY**  
**PARTNERS**

# Outline

- What is skin cancer?
- Who can get skin cancer?
- How do we diagnose skin cancer?
- Why do we treat skin cancer?
- How can we prevent skin cancer?



# Polling question – What is the largest organ in the body?

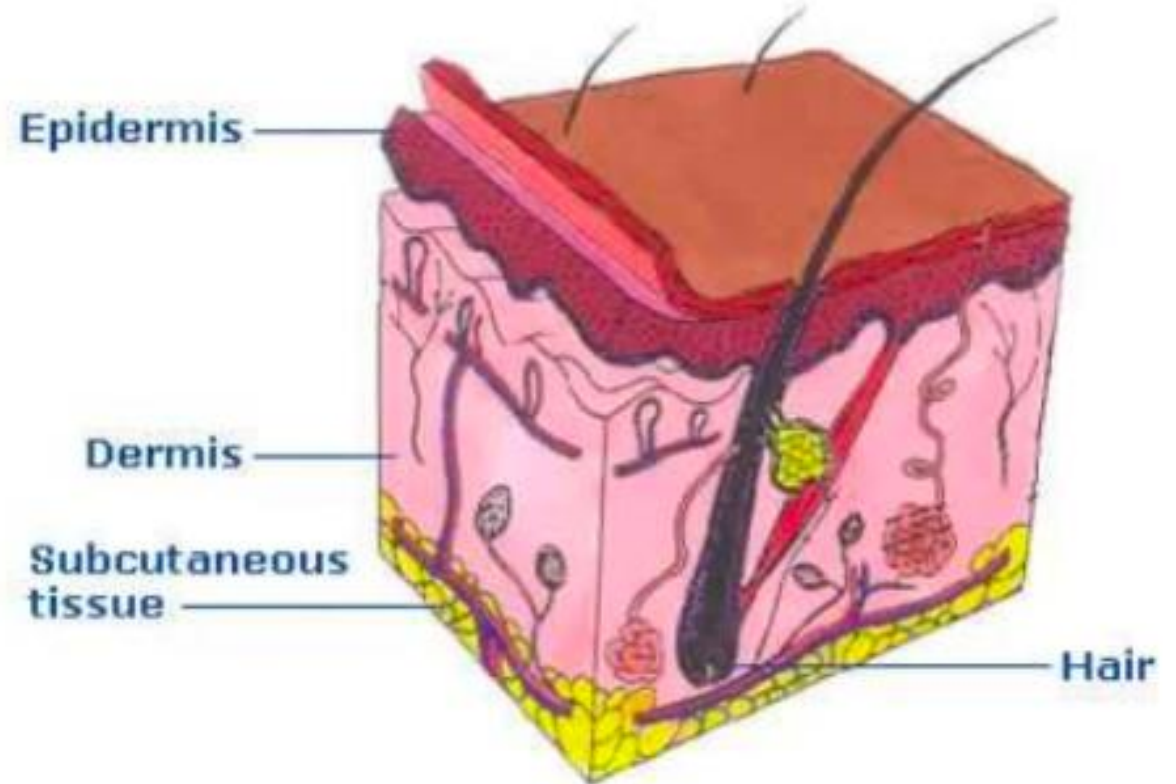
- ▶ A. The large intestine
- ▶ B. The skeleton
- ▶ C. The skin

# A few basics...

- ▶ Skin is the largest organ of the body!
- ▶ It has layers like lasagna
- ▶ Made up of different cells
- ▶ Lesion = Spot



## The Layers of The Skin

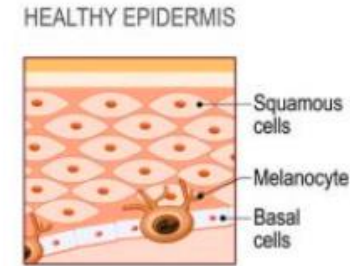


What is skin cancer?

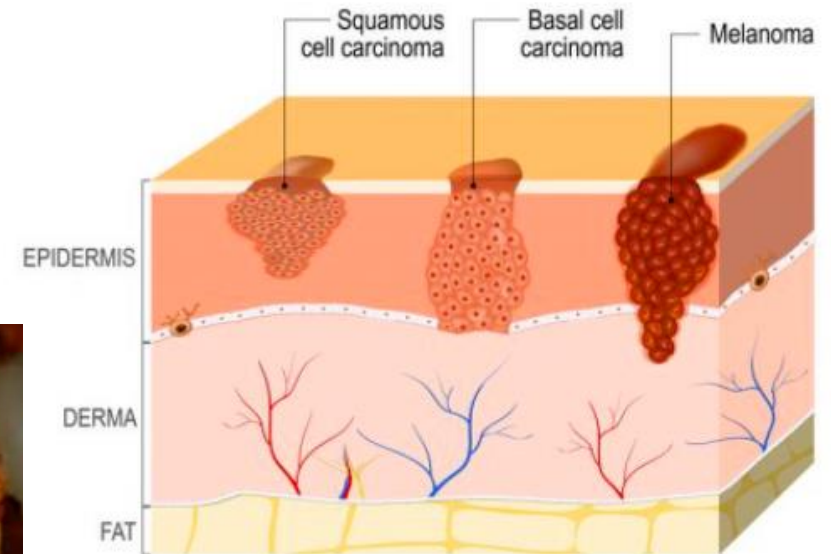


# What is skin cancer?

- ▶ Out of control growth of skin cells.
- ▶ Generally on sun exposed skin.
- ▶ Can occur anywhere.
  
- ▶ Three main types depending on cell of origin.



## SKIN CANCER

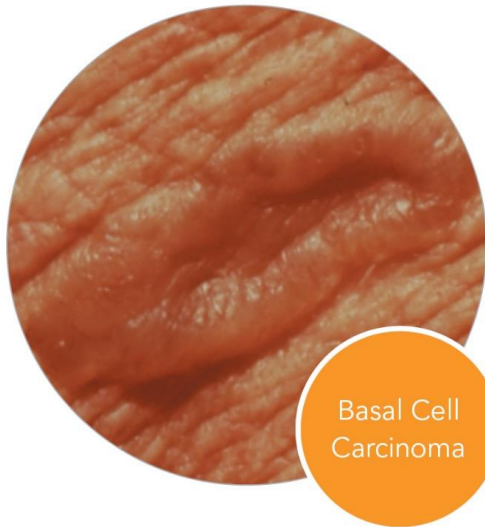




# TYPES OF SKIN CANCER



Research estimates that nonmelanoma skin cancer, including basal cell carcinoma and squamous cell carcinoma, affects more than 3 million Americans a year. More than 1 million Americans are living with melanoma.



Basal Cell Carcinoma



Squamous Cell Carcinoma



Melanoma

SPOT Skin Cancer™

[SpotSkinCancer.org](http://SpotSkinCancer.org)

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# Polling question – what is the most aggressive type of skin cancer?

- ▶ A. Basal Cell Carcinoma
- ▶ B. Squamous Cell Carcinoma
- ▶ C. Melanoma

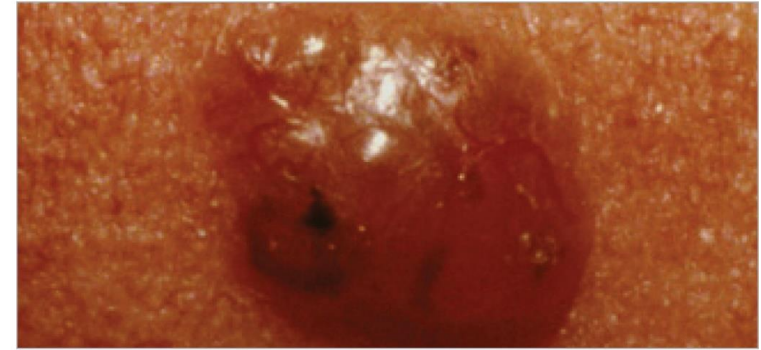
# BASAL CELL CARCINOMA

.....

The **MOST COMMON** form  
of skin cancer.

Most often appears on sun-exposed  
areas such as the **FACE, SCALP, EARS,**  
**CHEST, BACK,** and **LEGS.**

Looks like a **FLESH-COLORED,**  
**PEARL-LIKE BUMP** or a **PINKISH**  
patch of skin.



SPOT Skin Cancer™

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[SpotSkinCancer.org](http://SpotSkinCancer.org)

# Basal Cell Carcinoma

- ▶ AKA BCC
- ▶ Early: Pink bump
- ▶ Late: Non-healing wounds
- ▶ “Rat Bite Ulcer”
- ▶ RARELY Invasive
- ▶ Locally DESTRUCTIVE



# SQUAMOUS CELL CARCINOMA

.....  
The **SECOND MOST COMMON**  
form of skin cancer.

Tends to form on sun-exposed  
areas, such as the **RIM OF THE EAR, FACE,**  
**NECK, ARMS, CHEST,** and **BACK.**

Looks like a **RED FIRM BUMP,**  
**SCALY PATCH,** or a **SORE THAT HEALS**  
**AND THEN RE-OPENS.**



SPOT Skin Cancer™

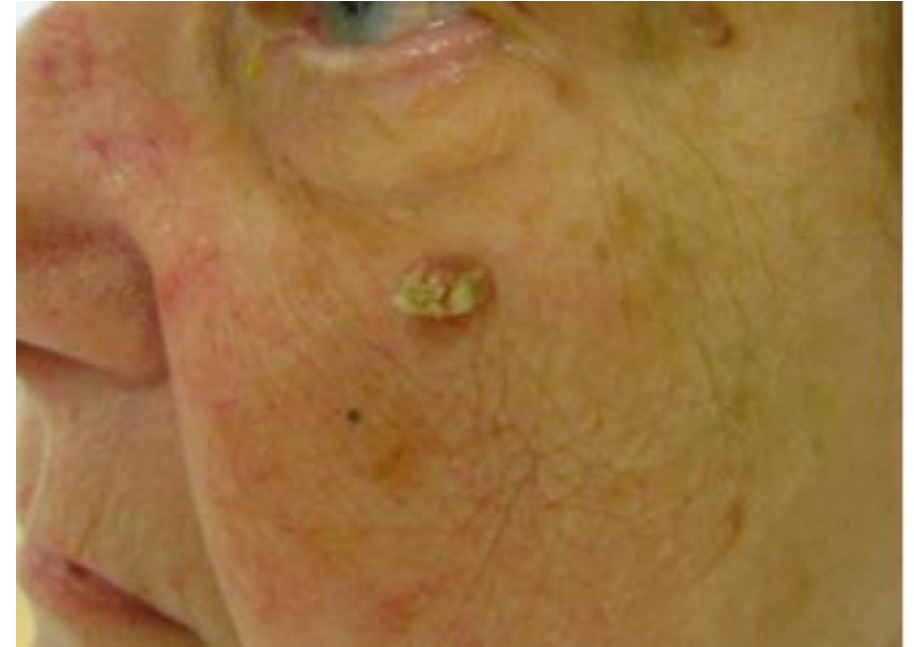
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[SpotSkinCancer.org](https://www.spotskincancer.org)



# Squamous Cell Carcinoma

- ▶ AKA SCC
- ▶ Sun exposed skin
- ▶ Previously existing lesion of inflamed skin.
  - I.e. chronic scar, skin lesion, or wound.
- ▶ Potential for aggressive behavior.



# Actinic Keratosis “AK”

- ▶ Thin layer of abnormal cells
- ▶ Considered pre-cancerous
- ▶ General rule: many increase risk of SCC
- ▶ Easily treatable



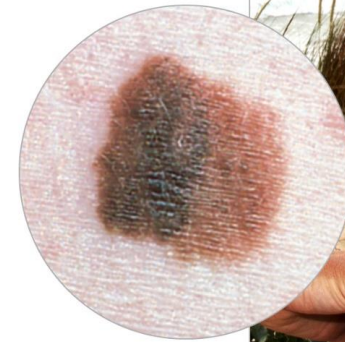
# MELANOMA

.....

The **MOST SERIOUS** form of  
**SKIN CANCER.**

Can develop in an **EXISTING MOLE**  
or suddenly appear as a **NEW SPOT**  
**ON THE SKIN.**

Most frequently appears on the  
**UPPER BACK, TORSO,**  
**LOWER LEGS, HEAD** and **NECK.**



SPOT Skin Cancer™

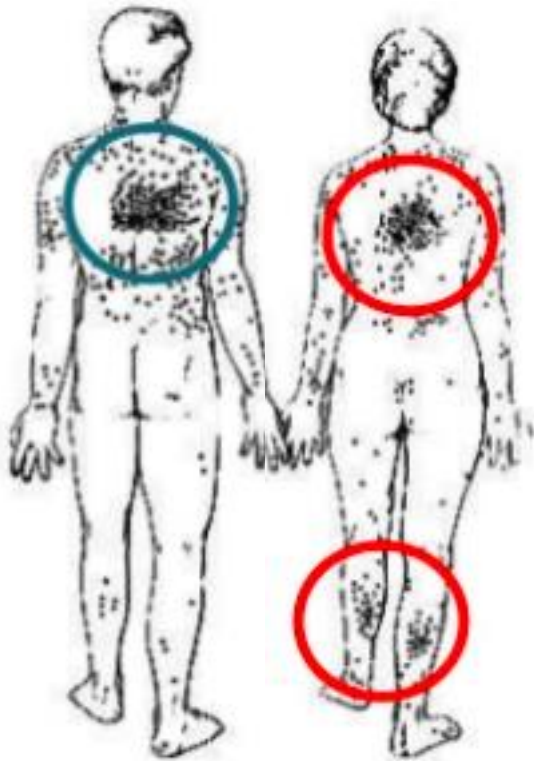
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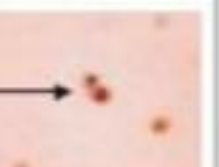
SpotSkinCancer.org



# Melanoma

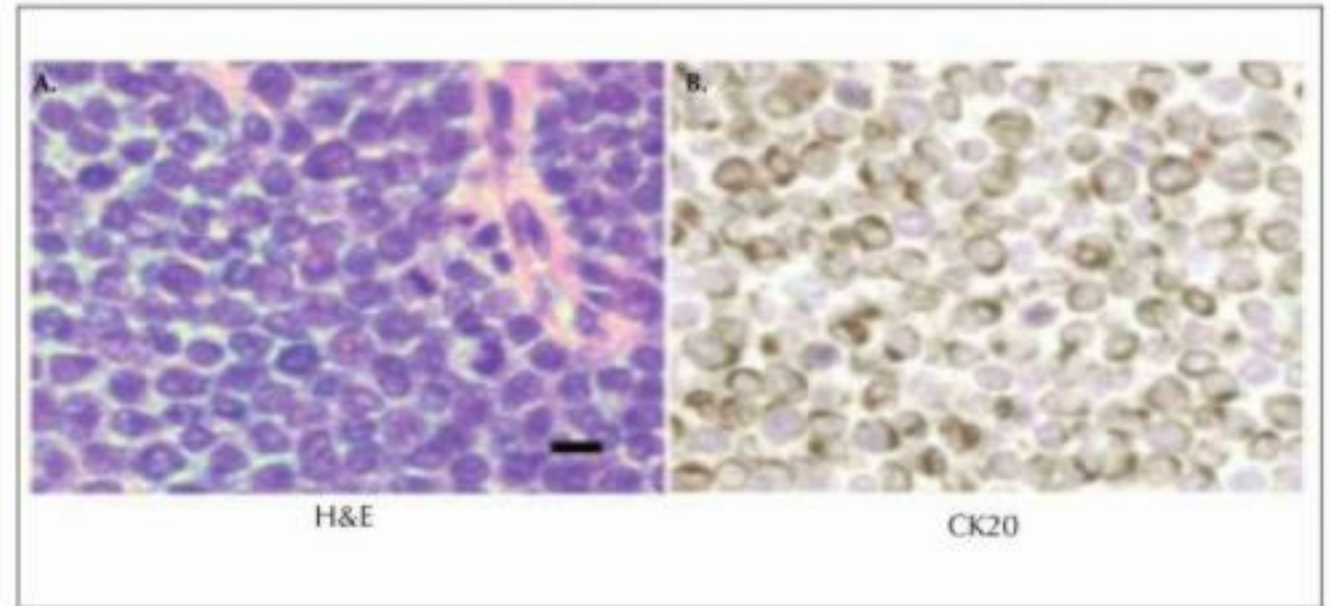
- ▶ Tumor of the pigment producing cells
- ▶ Can be flat or elevated!
- ▶ Trunk or lower extremities most common



<u>The ABCDEs of Detecting Melanoma</u>					
	<b>A</b> Asymmetry	<b>B</b> Border	<b>C</b> Color	<b>D</b> Diameter	<b>E</b> Evolving
<b>NORMAL</b>	 Symmetrical	 Borders Are Even	 One Color	 Smaller Than 1/4 Inch	 Ordinary Mole
<b>MELANOMA</b>	 Asymmetrical	 Borders Are Uneven	 Multiple Colors	 Larger Than 1/4 Inch	 Changing in Size, Shape and Color

# Other rarer types of skin cancer

- ▶ Merkel Cell
- ▶ Lymphomas
- ▶ Kaposi's Sarcoma
- ▶ Angiosarcoma
- ▶ Metastases from other cancers
- ▶ Other (sebaceous, DFSP)



**Fig 1.** MCC stained by A) hematoxylin and eosin showing mononuclear cells with scanty population and B) CK 20 showing a characteristic perinuclear pattern.

(Feng et al. Science 2008 319: 1096-1100)

Who can get skin cancer?



# Can I get skin cancer?

THE RISK

1 OUT OF 5



Americans will develop skin cancer by age 70.

# Risk Factors

- ▶ Sun exposure
- ▶ Sun burns
- ▶ Tanning beds
- ▶ Skin type
- ▶ Other



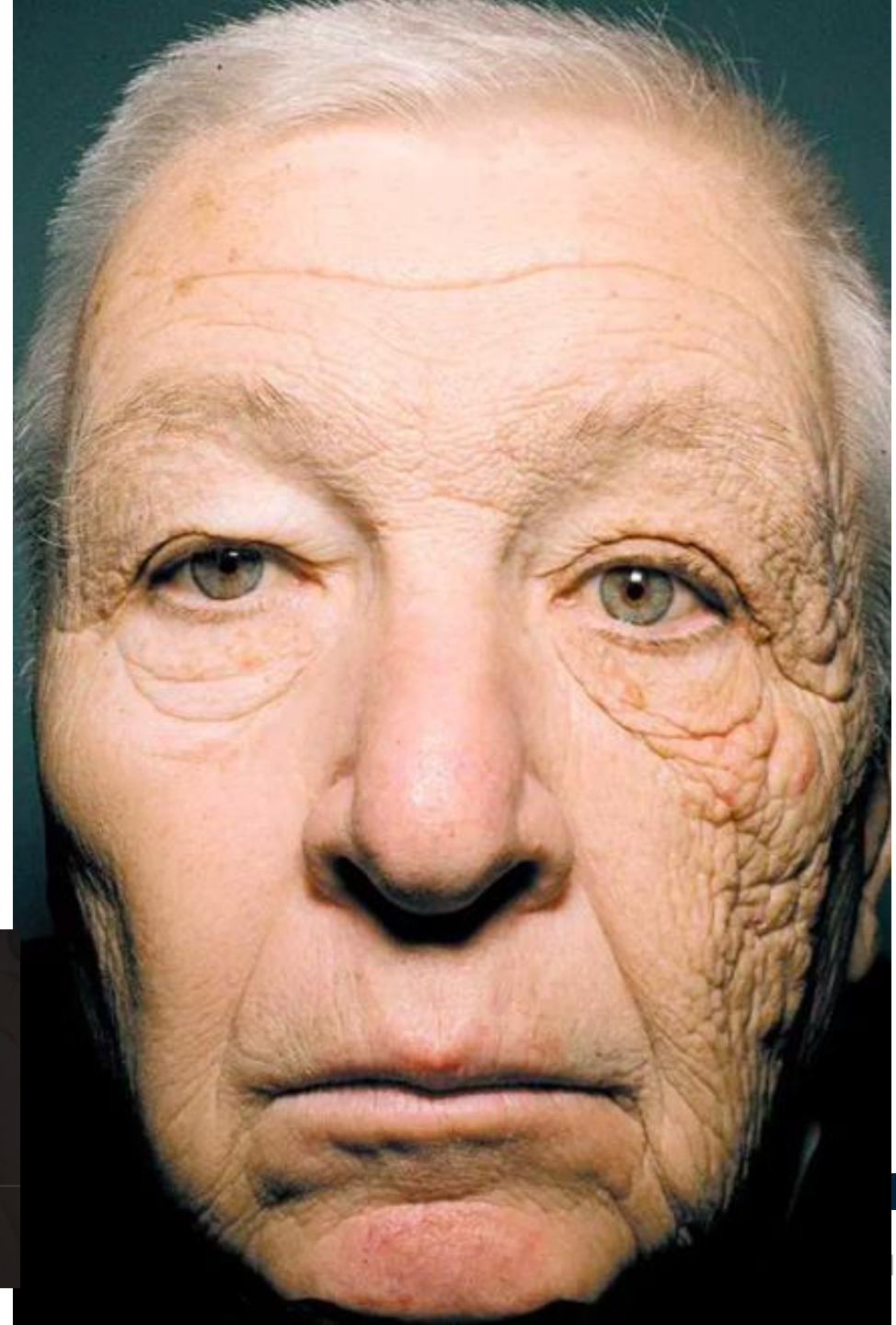


## Risk Factors – Sun exposure

- ▶ Prolonged sun exposure
- ▶ Short bursts of intense sun exposure
  
- ▶ UV damage is cumulative
- ▶ UV radiation from the sun can penetrate clouds

**Trucker accumulates skin damage on left side of his face after 28 years on the road**

BY RYAN JASLOW  
JUNE 4, 2012 / 3:38 PM / CBS NEWS



# Polling question – How many sunburns have you had?

- ▶ A. Never
- ▶ B. 1-2
- ▶ C. >5
- ▶ D. >10





# Risk Factors – Sun Burn

- ▶ Sun burns
- ▶ Redness and inflammation due to over exposure from UV radiation.



Having 5 or more  
**sunburns doubles**  
your risk  
for melanoma.

# Risk Factors – Indoor tanning

## ► Myths:

- Minimal Vitamin D gain
- Base tan is not protective

- TEN or more sessions are associated with increased risk of skin cancer



# Risk Factors – Skin Tone

- ▶ Using sun burn to help quantify risk.
- ▶ Higher risk:
  - Paler skin tone
  - Red hair



## THE FITZPATRICK SKIN TYPE SCALE

TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6
Light, Pale White	White, Fair	Medium, White to Olive	Olive, Moderate Brown	Brown, Dark Brown	Black, Very Dark Brown to Black
Always burns, never tans.	Usually burns, tans with difficulty.	Burns mildly, tans gradually.	Rarely burns, tans with ease.	Very rarely burns, tans very easily.	Never burns, tans very easily.

“Anyone can get skin cancer, but people with light-colored skin have a much higher risk than people with naturally darker skin color. This is because the skin pigment melanin has a protective effect in people with darker skin.”

[www.cancer.org](http://www.cancer.org)



# WHO GETS MELANOMA?



Anyone can develop melanoma



# Risk Factors

- ▶ Atypical moles
- ▶ Increased number of moles
- ▶ Previous personal history of skin cancer
- ▶ Genetics (family history of skin cancer)
- ▶ Immunosuppression
- ▶ Human Papilloma Virus (HPV)
- ▶ Other



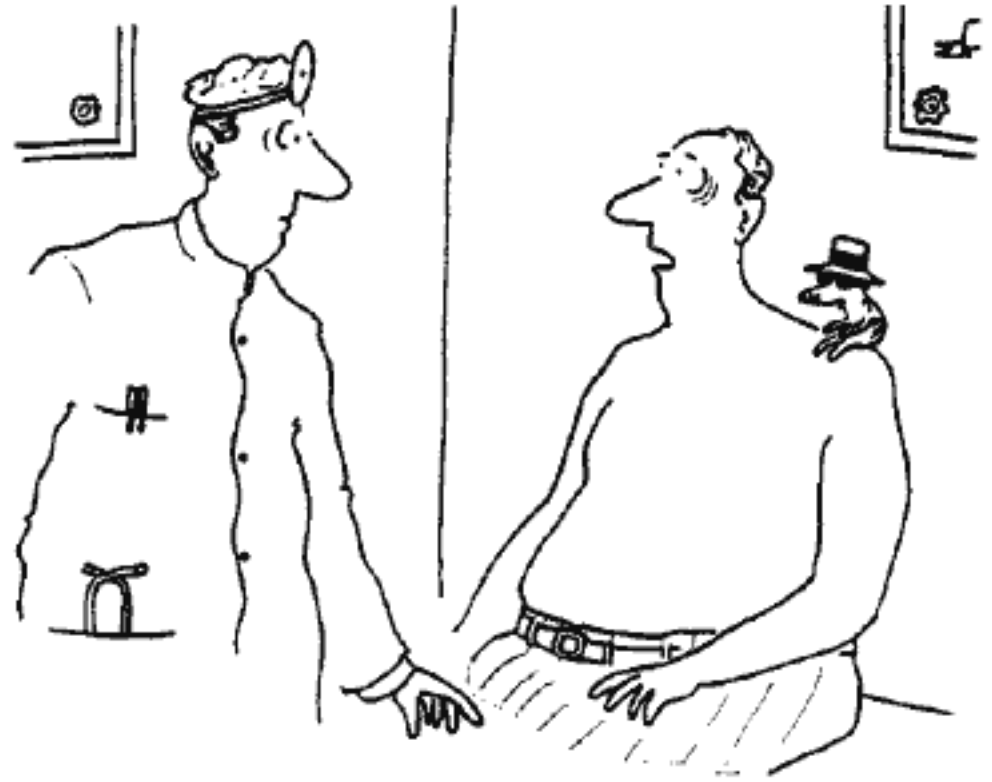
How do we diagnose skin cancer?



# Skin cancer diagnosis

- ▶ If you see something:
  - NEW
  - CHANGING
  - UNUSUAL

**See a suspicious spot,  
see a dermatologist.**



*"Doctor, I have a suspicious  
looking mole on my shoulder."*



When should I see a doctor?

# THE BIG THREE FROM THE BIG SEE®

Here are 3 things to look for when you're looking for skin cancer

**NEW**

**CHANGING**

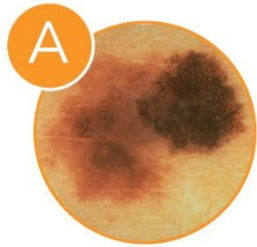
**UNUSUAL**

Hey,  
what's that?

A leopard's spots don't change –  
and neither should yours

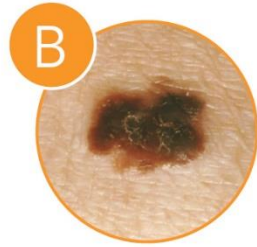
One of these things is not like the  
others...

# WHAT DOES MELANOMA LOOK LIKE?



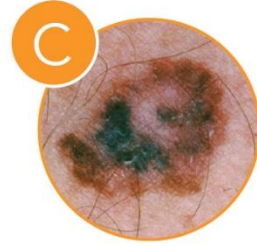
## ASYMMETRY

One half is unlike the other half.



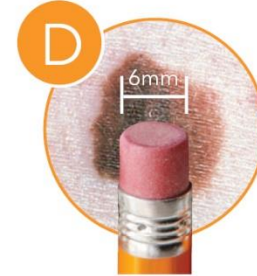
## BORDER

Irregular, scalloped or poorly defined border.



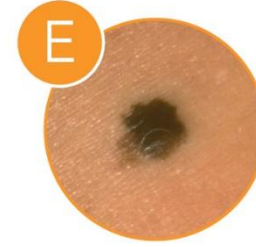
## COLOR

Varied from one area to another; has shades of tan, brown or black; sometimes white, red, or blue.



## DIAMETER

While melanomas are typically greater than 6mm (the size of a pencil eraser) when diagnosed, they can be smaller.



## EVOLVING

A mole or skin lesion that looks different from the rest or is changing in size, shape or color.

Example:




# The Ugly Duckling

- ▶ Anything that doesn't fit in.

DuPage Medical Group  
THE CARE FOR YOU


# SPOT MELANOMA



using the  
**UGLY DUCKLING METHOD**

Do you have a mole that is obviously different from others on your body?

You may be familiar with the ABCDEs (Asymmetry, Border, Color, Diameter, Evolving) method of detecting skin cancer, but if a spot on your skin looks very different from other moles or freckles on your body you need to get it checked by a dermatologist.



# Pets can (rarely) diagnose skin cancer?

CASE LETTER

## Sniffing Out Malignant Melanoma: A Case of Canine Olfactory Detection

*Cutis*. 2019 September;104(03):E4-E6

By Radhika Srivastava, BA; Jason J. John, BS; Catherine Reilly, BS; Ann M. John, MD;

[Author and Disclosure Information](#)

**cutis**



# Benign = NOT HARMFUL

- ▶ During full skin check we look at all of your spots!

# Cherry Angioma -- Benign





# Solar Lentigo -- Benign

- ▶ “Liver spots”





# Seborrheic Keratosis -- Benign

Seborrheic keratoses vary widely in appearance

© H Lui, UBCDerm

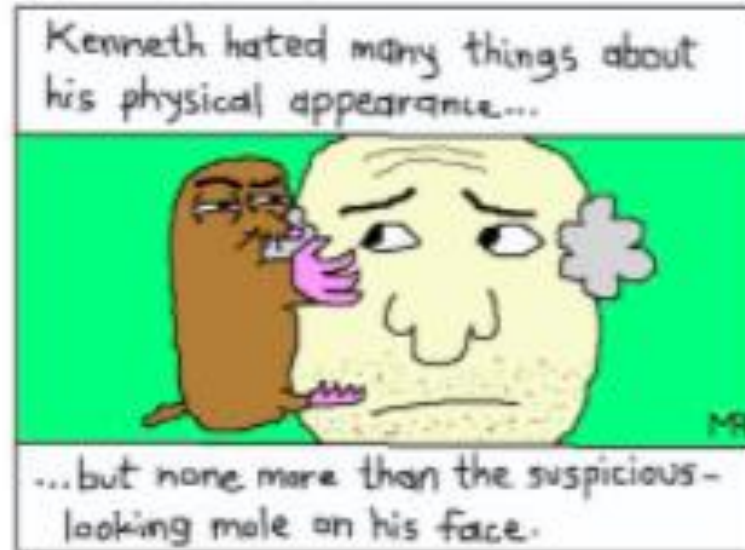


# At the dermatologist

- ▶ Discuss spot of concern
  - ▶ Discuss risk factors
  - ▶ Full skin exam
  - ▶ Dermatoscope
- 
- ▶ Before your visit:
    - Remove nail polish
    - Wear hair loose
    - Prepare to change into a gown



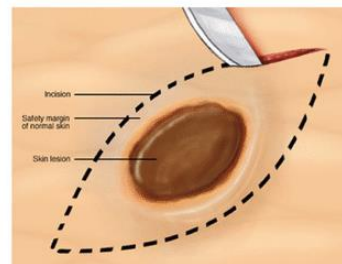
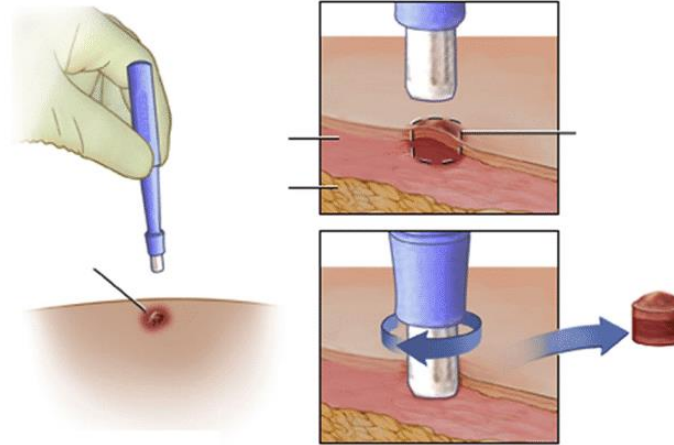
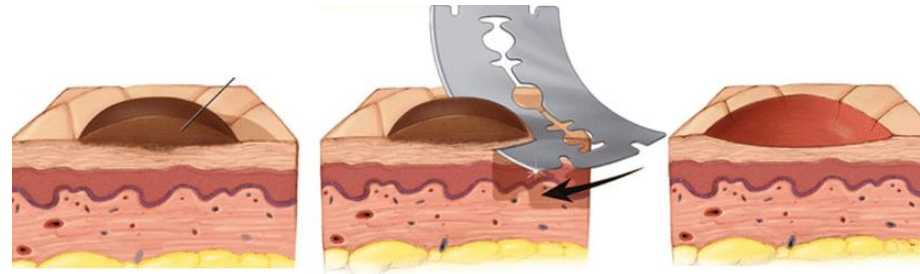
# What if the dermatologist finds a concerning spot?



SUSPICIOUS-LOOKING MOLE

# Skin Biopsy

- ▶ Gold standard
- ▶ Types:
  - Shave biopsy
  - Punch biopsy
  - Excisional/Incisional biopsy
- ▶ Alternatives:
  - Observe and measure
  - Photography
  - DermTech Tape stripping



## A review of microsampling techniques and their social impact

 Springer

August 2019 · *Biomedical Microdevices* 21(4)

DOI:10.1007/s10544-019-0412-y

Authors:



**Benson U Wang Lei**  
The University of Queensland



**Tari W. Prow**

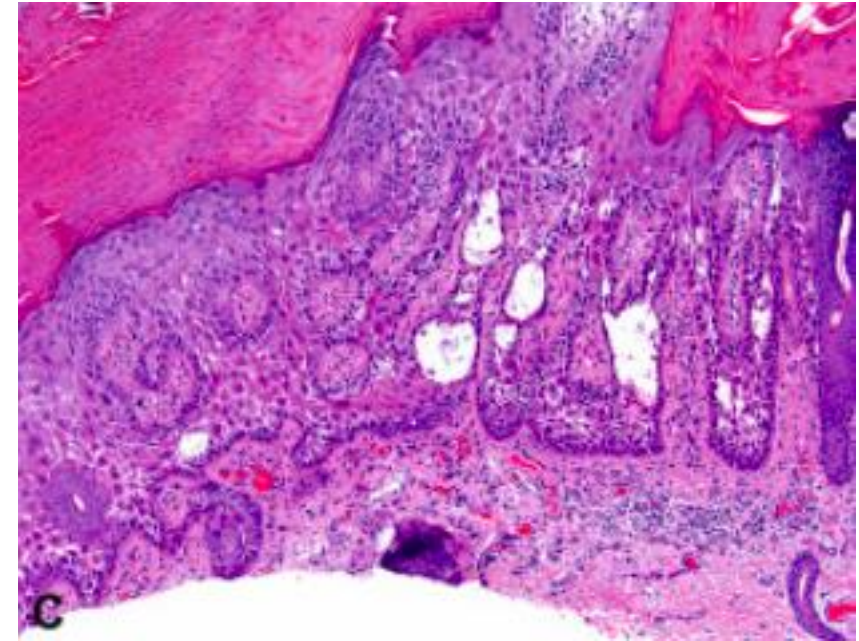


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# Biopsy Results

- ▶ Sent to the pathology lab
- ▶ Prepared and placed on a slide
- ▶ Read by a dermato-pathologist
- ▶ Your doctor will be notified of the results and will discuss the diagnosis and plan with you.





# Skin Cancer Treatment



# Skin Cancer Treatment → Depends on type

## ▶ Basal Cell Carcinoma

- ▶ Surgical removal:
  - Excision
  - Mohs surgery
  - Curettage and electrodesiccation
  - Freezing
- ▶ Light therapy
- ▶ Topical medication
- ▶ Radiation treatments
- ▶ Systemic medications

## ▶ Squamous Cell Carcinoma

- ▶ Surgical removal:
  - Excision
  - Mohs surgery
  - Curettage and electrodesiccation
  - Freezing
- ▶ Light therapy
- ▶ Topical medication
- ▶ Radiation treatments
- ▶ Systemic medications

## ▶ Melanoma

- ▶ Surgical removal
  - Excision
  - Mohs Surgery
- ▶ Sentinel lymph node biopsy/lymphadenectomy
- ▶ Radiation treatment
- ▶ Systemic medications

# Non-Surgical Options

- ▶ Topical medication
- ▶ Intra-lesional chemotherapy



<https://kelownaskincancer.com/topical-treatment/>

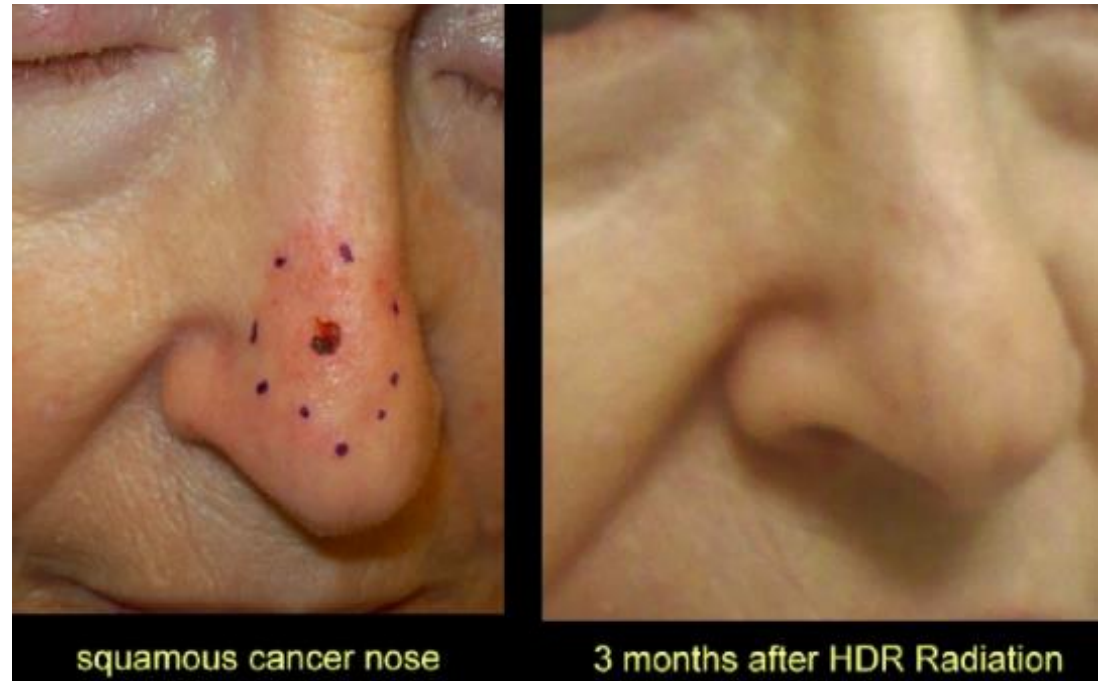
# Non-Surgical Options

- ▶ Photodynamic therapy



<https://kelownaskincancer.com/topical-treatment/>

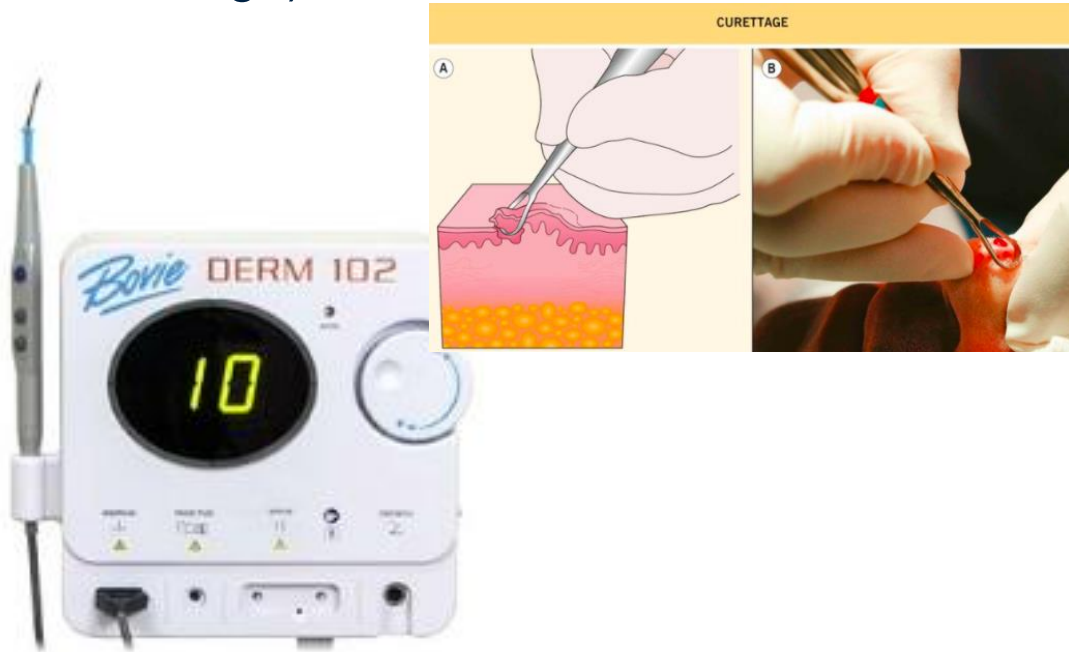
- ▶ Radiation therapy



<https://www.wellspringoncology.org/>

# Alternate types of surgery

- ▶ Electro-surgery (electrodessication and curettage)



<https://www.justmedicalstore.com/>

- ▶ Cryosurgery



<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/cryotherapy>

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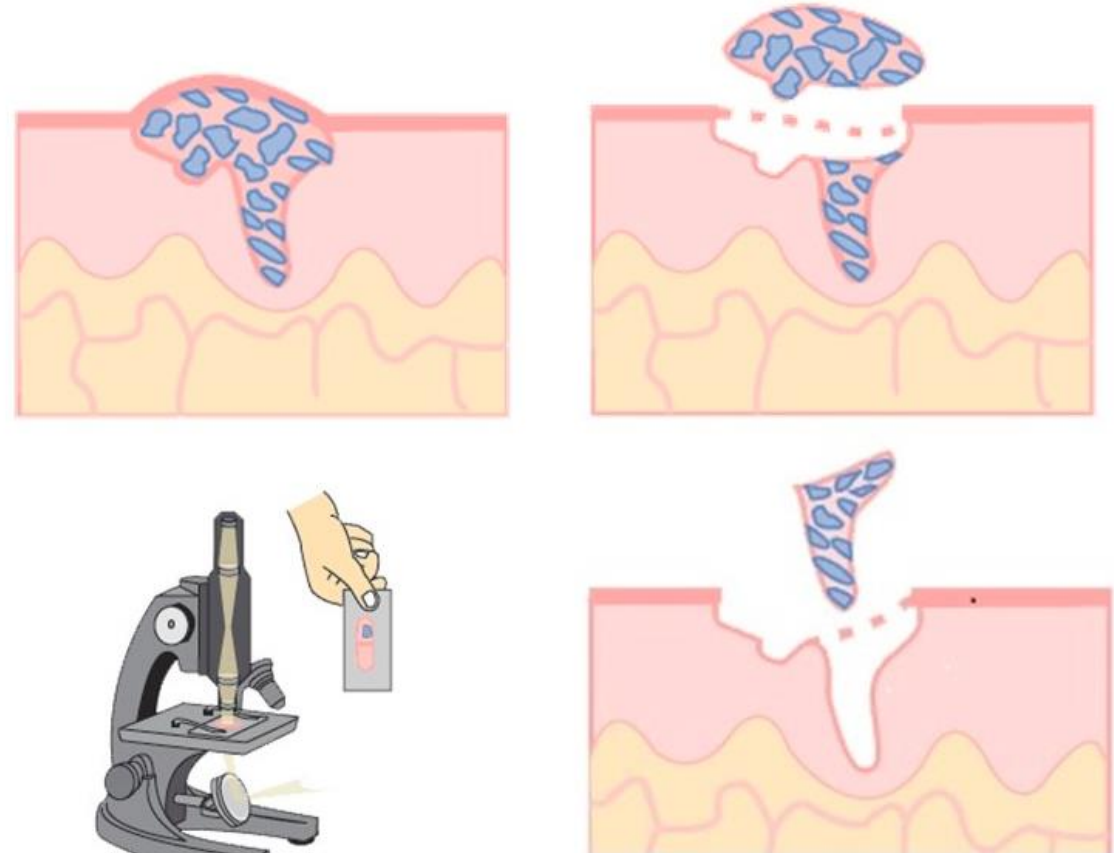
# Excision

- ▶ Excision



# Mohs Surgery

- ▶ Rhymes with toes.
- ▶ Margins evaluated in real time.
- ▶ Specimen is frozen and analyzed to determine if the margins are free.
- ▶ Continue until all tissue is normal (cancer free).



# Melanoma

- ▶ Depends on depth
- ▶ Wide local excision with large margins
- ▶ With or without sentinel lymph node biopsy
- ▶ New successes with immunotherapy



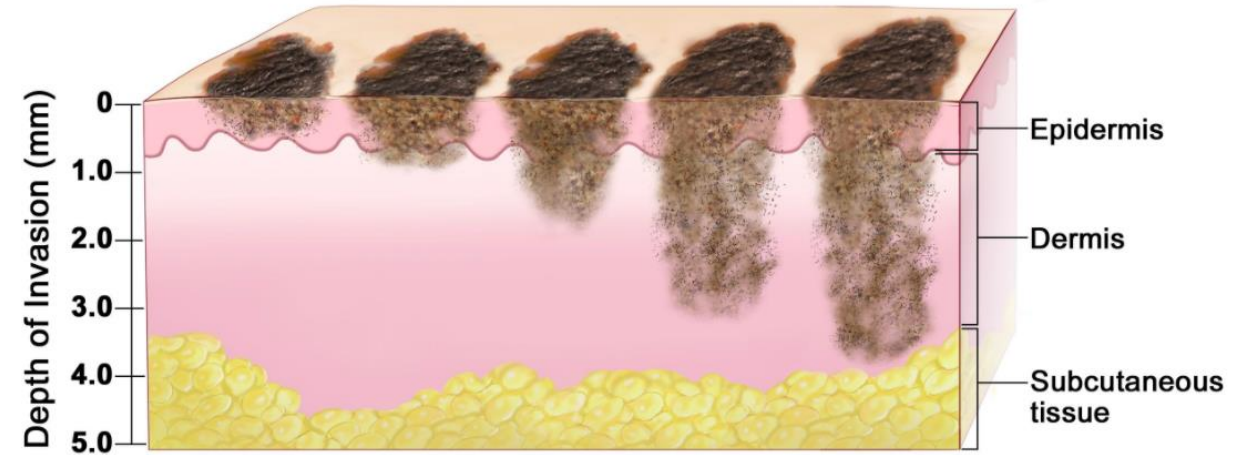
NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)

## Melanoma

NCCN.org

NCCN Guidelines for Patients® available at [www.nccn.org/patients](http://www.nccn.org/patients)

### How deep is the cancer?

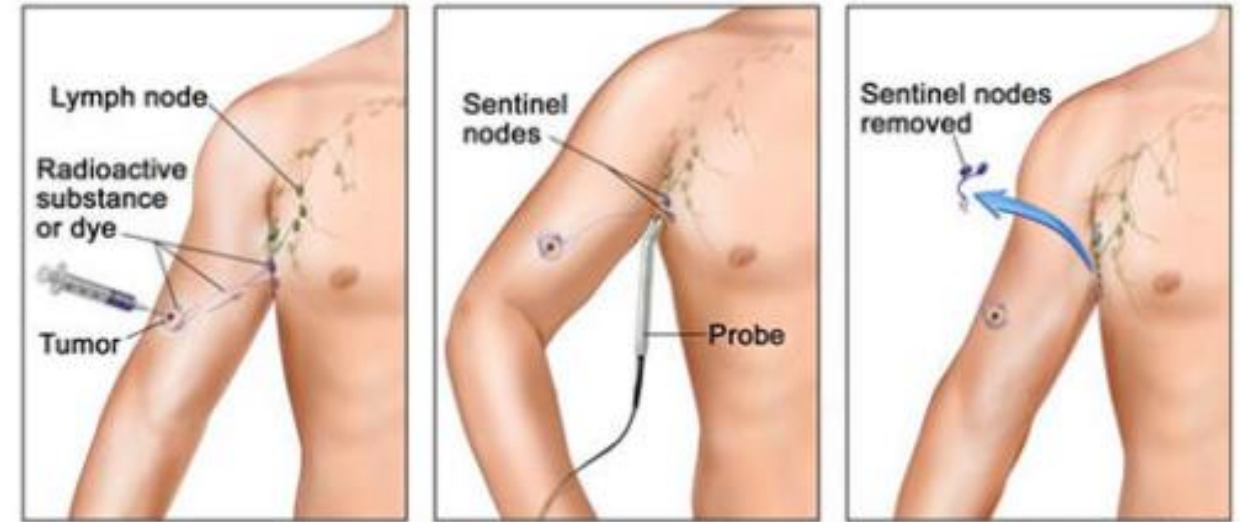
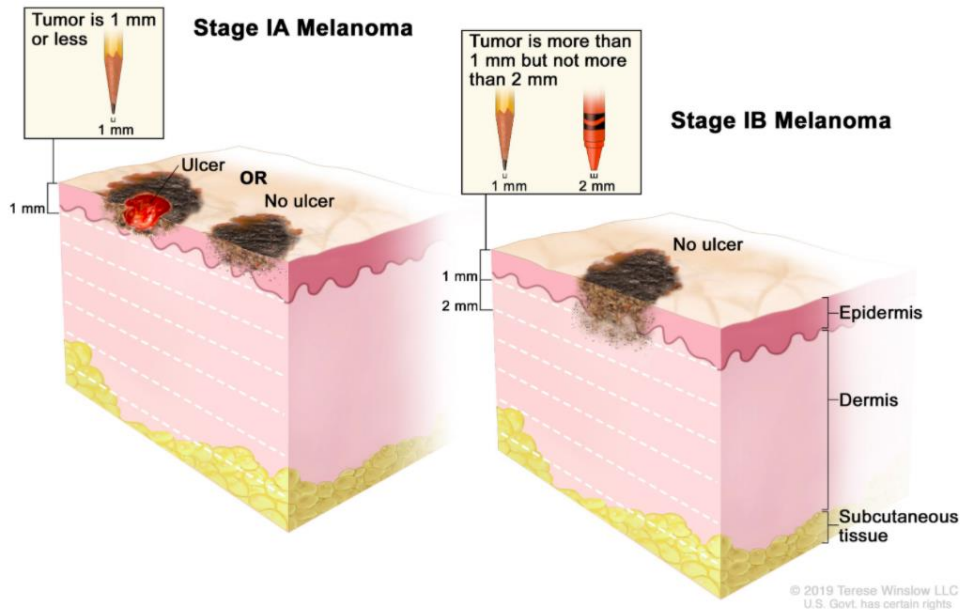


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<https://nci-media.cancer.gov/pdq/media/images/799465.jpg>

# Sentinel Lymph Node Biopsy

- ▶ Ideally occurs at the same time as excision



Sentinel lymph node biopsy in a patient with melanoma. A radioactive substance and/or blue dye is injected near the tumor (first panel). The injected material is located visually and/or with a device that detects radioactivity (middle panel). The sentinel node(s) (the first lymph node(s) to take up the material) is (are) removed and checked for cancer cells (last panel). Sentinel lymph node biopsy can be done before or after the tumor is removed.

<https://www.cancer.gov/about-cancer/diagnosis-staging/staging/sentinel-node-biopsy-fact-sheet>

# Prevention





# Practice Sun Protective Behavior

## PREVENT SKIN CANCER

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[SpotSkinCancer.org](http://SpotSkinCancer.org)

# Seek sun protection – on cloudy days!



# Seek sun protection – year round!



INTELLECT

## Study: For college students, skin cancer risk remains high in winter months

BYU

By Cami Buckley, December 16, 2020

# WHAT CAN I DO TO PROTECT MYSELF?



The American Academy of Dermatology recommends choosing a sunscreen that states the following on the label:

## **BROAD-SPECTRUM**

This means a sunscreen protects the skin from ultraviolet A (UVA) and ultraviolet B (UVB) rays, both of which can cause skin cancer.



## **SPF 30 OR HIGHER**

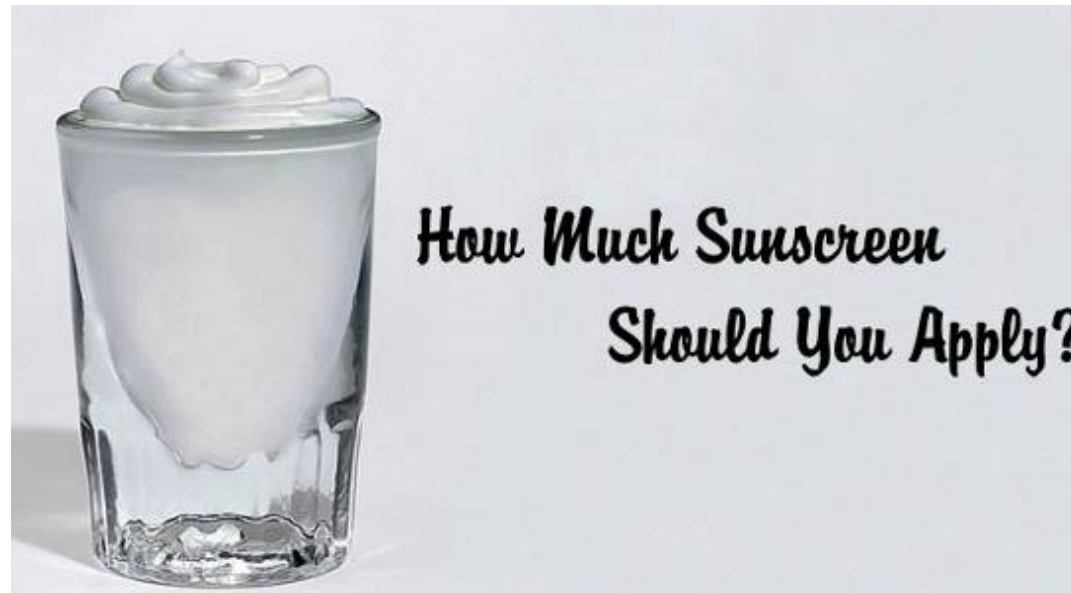
This indicates how well a sunscreen protects you from sunburn.

## **WATER RESISTANT OR VERY WATER RESISTANT**

While sunscreens can be “water resistant” (for 40 minutes) or “very water resistant” (for 80 minutes), sunscreens are not waterproof or sweatproof and need to be reapplied.

# Not just the what, HOW DO I APPLY SUNSCREEN?

- ▶ When? 15 minutes before heading outside.
- ▶ Where? Exposed skin, all of it!
- ▶ How much? One ounce for the body, one almond for the face.
- ▶ AGAIN?? Don't forget to re-apply every two hours!





# AVOID TANNING BEDS



<https://healthtalk.unhealthcare.org/paying-a-hefty-price-for-a-killer-tan/>

## But what about Vitamin D?

- ▶ Food
- ▶ Supplements
- ▶ Sun



# Self skin exams

- ▶ Once a month
- ▶ And of course, come see us!



# Questions?



Thank you for your time!



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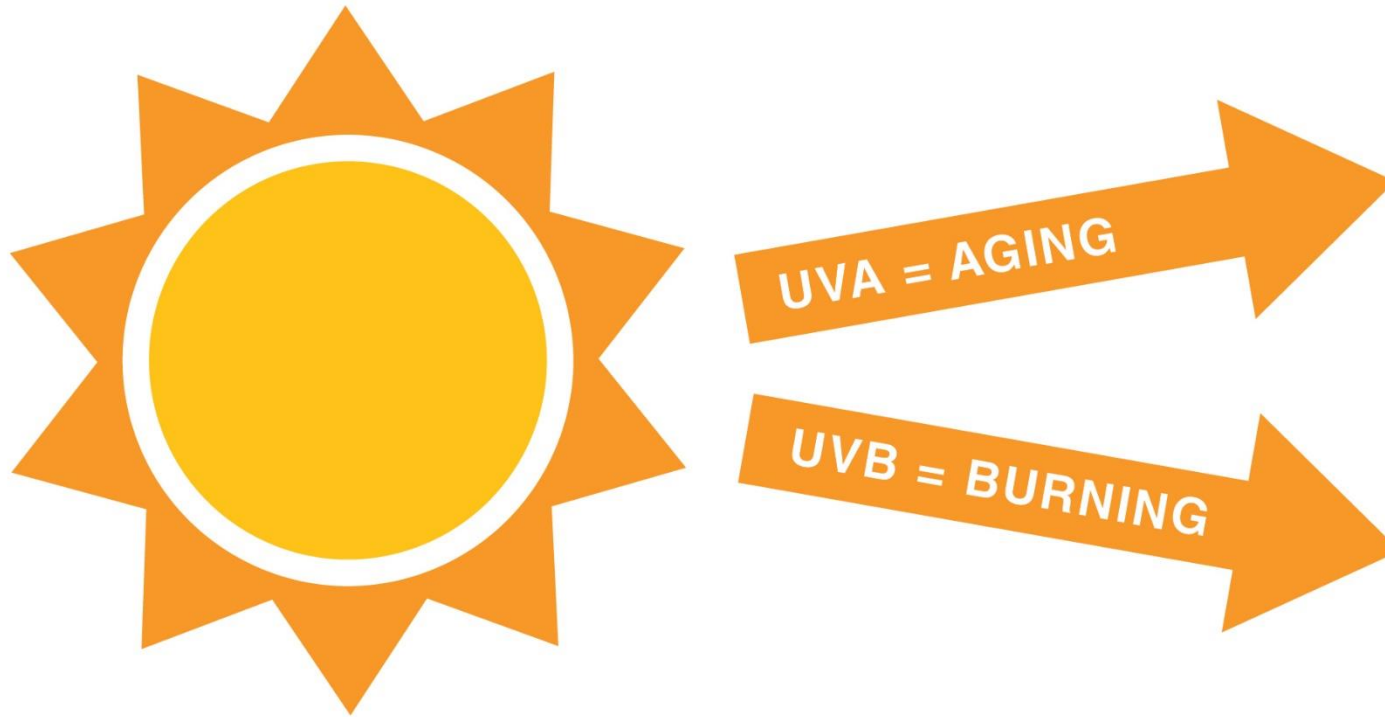
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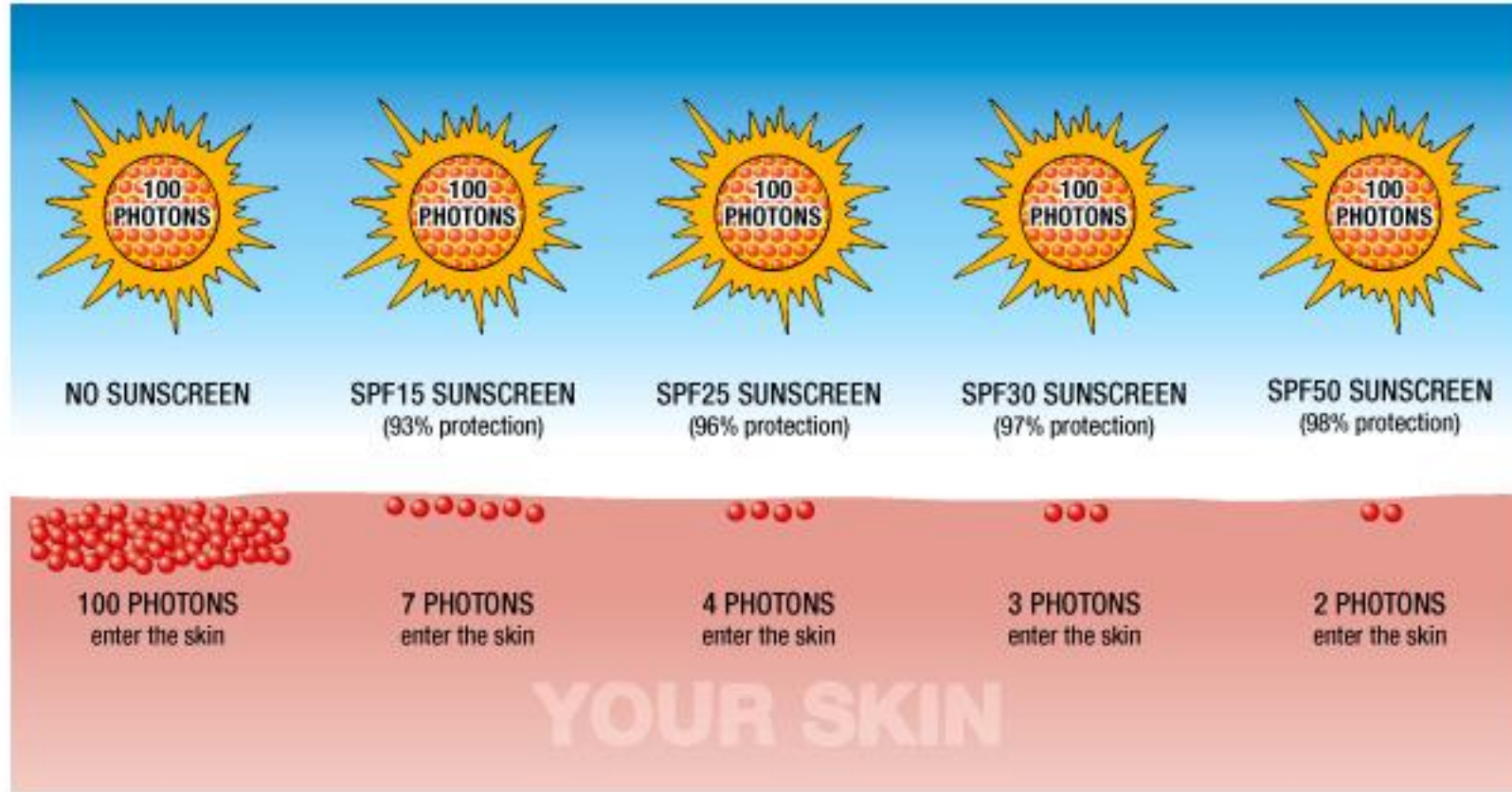


# HOW DOES THE SUN AFFECT YOUR SKIN?

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# Quick and Easy Guide to SPF



from your friends at Badger  
[badgerbalm.com](http://badgerbalm.com)



CRUELTY FREE



Benign = NOT HARMFUL



# Cherry Angioma -- Benign



# Seborrheic Keratosis -- Benign

Seborrheic keratoses vary widely in appearance

© H Lui, UBCDerm





# Solar Lentigo -- Benign

- ▶ “Liver spots”

