

# Skin Cancer

What you absolutely need to know if  
you work outside

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Where is the danger ?

- 1 in 5 people will get skin cancer
- More skin cancer than
  - Breast cancer
  - Prostate cancer
  - Lung cancer
  - Colon cancer

# COMBINED

# Basal cell cancer

- Most common form
- Rarely fatal, rarely spread
- Highly disfiguring



# Squamous cell cancer

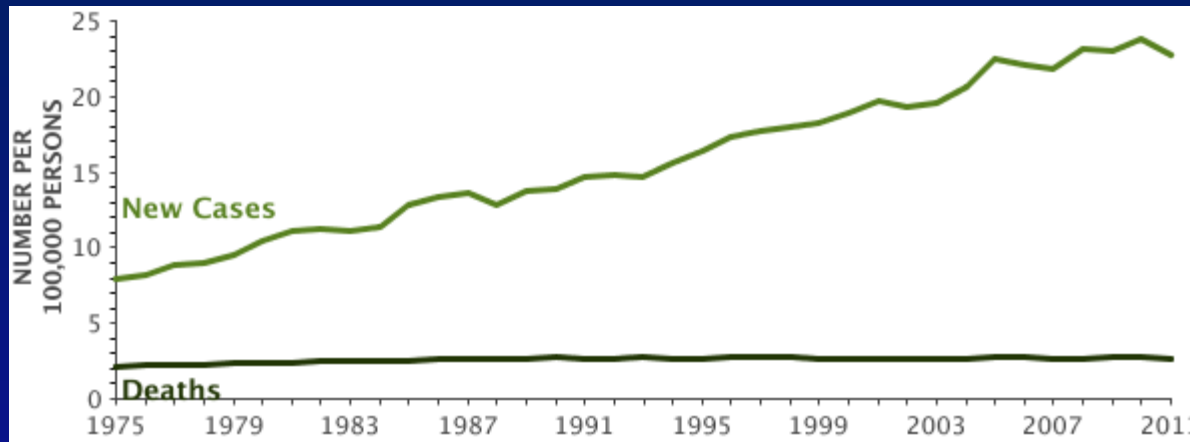
- 2<sup>nd</sup> most common cancer
- 200% increase last 30 years
- 2% die from disease



# Melanoma

- SERIOUS
- 1 person dies from melanoma EVERY HOUR
- Incidence is increasing
- Survival
  - 98% early
  - 62% lymph node spread
  - 16% distant

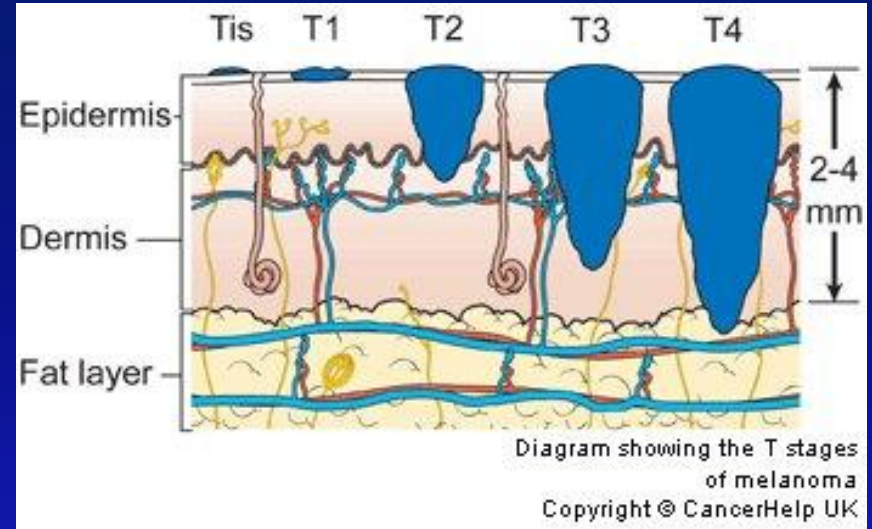
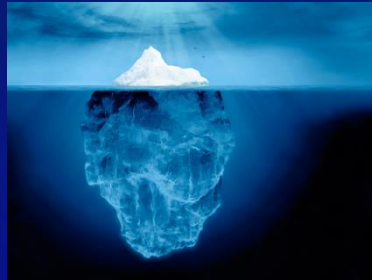




- Melanoma increasing  $\sim 1.8\%$ /year
- 24% increase among women 1970-2009
- 1 indoor tanning session increases melanoma risk by 20%



# Staging



Breslow Thickness	5-year survival
< 1 mm	95-100%
1-2 mm	80-96%
2.1-4 mm	60-75 %
> 4 mm	37-50%



Survival at 5 years:

98% early

62% lymph node spread

16% distant

1. Avoid Risk

2. Detect EARLY

# Avoid Risk

- Genes
  - Red/blonde hair, fair skin
  - tendency to burn
- Sun Exposure
- Environment
  - ? Pesticide use



# Avoid Risk

- UVR= proven carcinogen
  - Cigarettes
  - Arsenic
  - Plutonium
- More people develop skin cancer from tanning than lung cancer from cigarettes



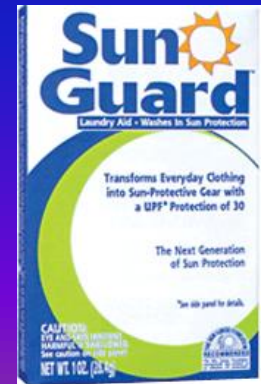
# Avoid Risk

- Stay in the shade, especially between 10-4
- Broad spectrum sunblock
- SPF 15 daily reduced risk of melanoma by 50%
- Avoid tanning

- Clothing
  - Light colored long sleeve/long pants
  - Hat with 4 inch brim- better than baseball hat



- Sun Guard
- Can “wash” SPF 30 into your clothes



# Pesticide use

- Melanoma risk is high among farmers
- High arsenic levels measured in toenails associated with melanoma
- Association does not mean causation



# Pesticide use

- National Cancer Institute
- ~60,000 licensed pesticide applicators recruited 1993-1997 Iowa, North Carolina
- Use of 50 pesticides
- Additonal Information:
  - Crops/livestock used, protective equipment, application methods used, nonfarm exposure- alcohol/smoking, etc, cooking practices, vitamin use, sun exposure, hair color .....

# 10 year follow-up

- 271 cases of melanoma
- Dose – response data analysis
  - Total years mixing/applying, days per year of use
  - Cumulative exposure estimate

# Results

- Red Hair – Strongest association melanoma
- Tended to be a little older and heavier
- Strongest association:
  - Maneb/mancozeb (dithiocarbamate fungicide)
  - Parathion (ethyl/methyl insecticide)
- Also associated:
  - Benomyl
  - Lead arsenate

# Bottom Line

- Farmers are at high risk for skin cancer
- Squamous and basal cell cancer need excision but are typically easy to treat and not life threatening
- Melanoma is deadly, especially when not caught early

# Early Detection

# For the cure:







BARBELLS  
FOR BOOBS













# Skin Cancer???

# Early Detection

- Regular skin checks
- Dermatologist every year
- Report abnormality ASAP
- Melanoma prevention easy as ABC

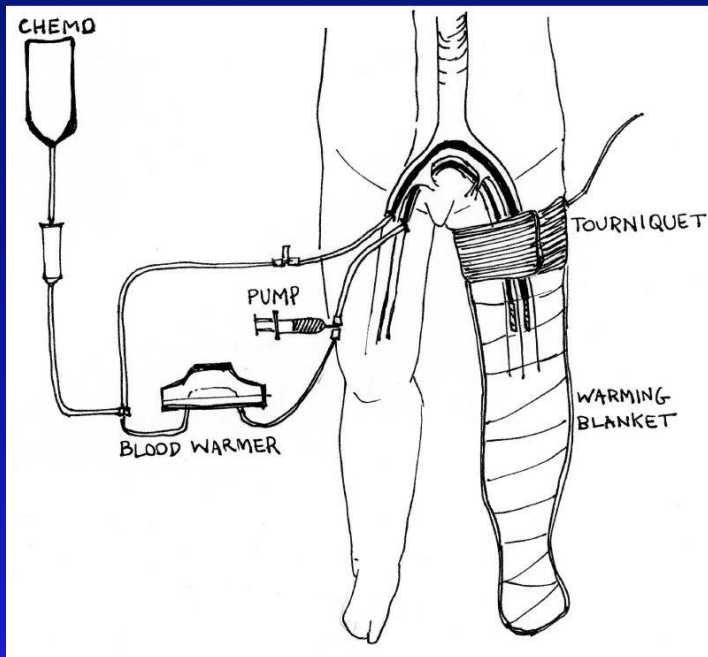
# Melanoma ABCDE

NORMAL		CANCEROUS
	<b>"A" IS FOR ASYMMETRY</b> <ul style="list-style-type: none"> <li>• If you draw a line through the middle of the mole, the halves of a melanoma won't match in size.</li> </ul>	
	<b>"B" IS FOR BORDER</b> <ul style="list-style-type: none"> <li>• The edges of an early melanoma tend to be uneven, crusty or notched.</li> </ul>	
	<b>"C" IS FOR COLOR</b> <ul style="list-style-type: none"> <li>• Healthy moles are uniform in color. A variety of colors, especially white and/or blue, is bad.</li> </ul>	
	<b>"D" IS FOR DIAMETER</b> <ul style="list-style-type: none"> <li>• Melanomas are usually larger in diameter than a pencil eraser, although they can be smaller.</li> </ul>	
	<b>"E" IS FOR EVOLVING</b> <ul style="list-style-type: none"> <li>• When a mole changes in size, shape or color, or begins to bleed or scab, this points to danger.</li> </ul>	

# Treatment

- Wide Excision
- Sentinel lymph node biopsy
- Lymph node removal
- Advanced therapy
  - Isolated limb infusion
  - Removal metastatic melanoma
  - Chemotherapy

# Isolated Limb infusion





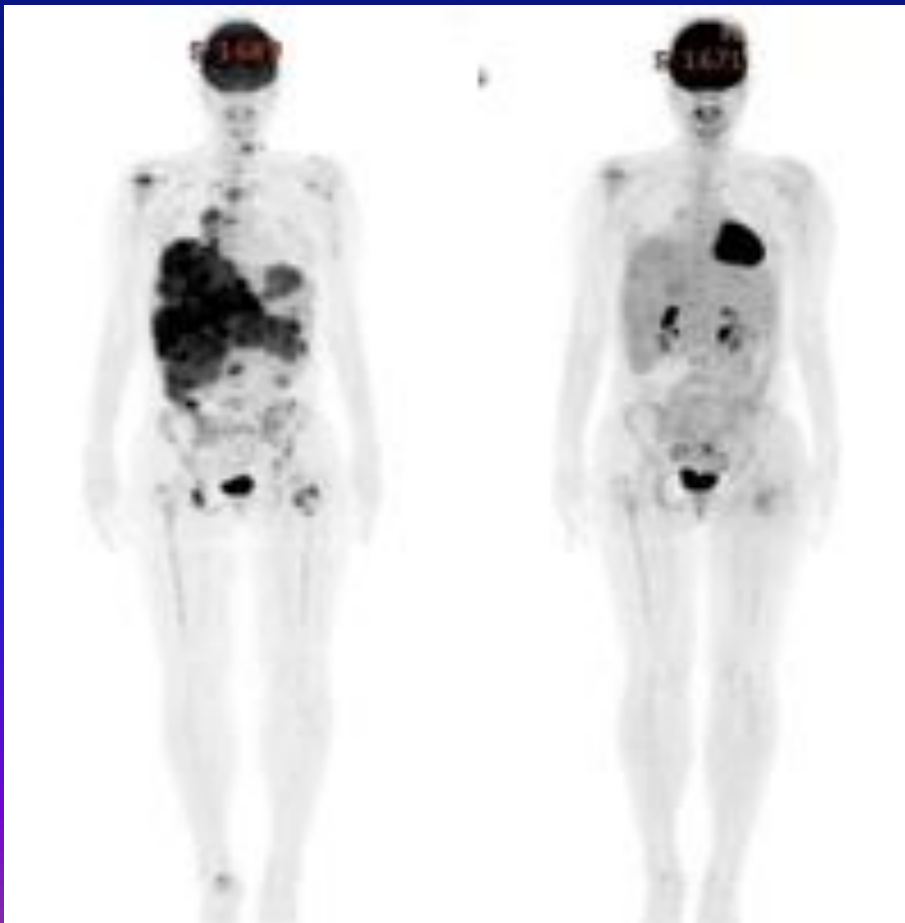
# Chemotherapy

- 1970s
  - 1 drug
  - Extremely toxic
- 1990s
  - 1 drug
  - Toxic, very marginal improvement
- 2011
  - Rebirth chemotherapy
  - 1<sup>st</sup> new drug in 13 years
- 7 new drugs in 3 years



# Advanced Melanoma

- Vemurafenib BRAF inhibitor



PET – widespread disease

Repeat PET 2 weeks after therapy

Future:

New drugs as adjuvant therapy  
Combination regimens

# Cutaneous Oncology Health Quest

- Surgical Oncology
- Plastic Surgery
- Medical Oncology
- Radiation Oncology
- Nurse Navigation
- Radiology
- Perfusionists
- Pharmacists
- Case Management
- Thoracic Oncology
- Dermatology
- Survivorship Planning
- Nuclear Medicine
- Lymphedema Support
- Anesthesiology
- Administrators

# Questions?

