Skin Cancer Prevention.
Is your skin healthy? If you can spot it, you can stop it!

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How many of you like to sun bathe or tan?
How many of you don’t think to use sun protection when driving around in the car? Or taking your dog out for a walk?
How often do you go outdoors on a cloudy day thinking you are shielded naturally from the sun?
How often do you remember to protect your children with sunblock, but forget to protect yourself?
Basic Facts:

- > 1,000,000 skin cancers are diagnosed each in year in the US
- That equals more cancers than prostate, breast, lung, colon, uterine, ovarian and pancreas combined.
- More than 20 Americans die each day from skin cancer, primarily melanoma.
- By age 65 almost 40 % of people have experienced some type of skin Cancer.
Basic Facts

- Approximately 68,720 melanomas will be diagnosed this year, with nearly 8,650 resulting in death.
- Women aged 39 and under have a higher probability of developing melanoma than any other cancer except breast cancer.\(^3\)
- One blistering sunburn in childhood or adolescence more than doubles a person's chances of developing melanoma later in life.
- Most melanomas are due to UV radiation.
How do you know if you are at risk?

1. What is your skin type?
2. What is your family history?
   Is there a history of melanoma, squamous cell cancer or basal cell cancer?
3. Have you had repeated sun exposure/damage?
4. Are you thinking: I’m not worried, I’m only out in the sun during my once a year family vacation in Hawaii?
5. Have you had past radiation exposure?
6. Any hx of immunosuppression?
7. Do you smoke?
There are 6 skin types:

**Type 1 = always burns, never tans**
- freckled, very fair-skinned, redheads, pale blonde hair, Celtic descent

**Type II = usually burns, rarely tans**
- blue eyed, fair skinned, caucasian, most are Northern European descent

**Type III = sometimes burns, mostly tans**
- average caucasian

**Type IV = burns minimally, always tans**
- Mediterranean ancestry, dark hair/ blue or green/hazel eyes, “olive skin”,

**Type V = rarely burns, always tans**
- Hispanic, Asian, Native American, East Indians, naturally brown skin

**Type VI = never burns, deeply pigmented**
- African American (Still at risk for skin cancer)
Seborrheic Keratosis

- Most common **benign** (non-cancerous) skin growth
- Usually seen after age 30
- Genetic
- Sun exposure
- Usually are raised, with an irregular shape and have a waxy look. Often have a “stuck on” appearance. Sometimes require biopsy because their appearance can be mistaken for a malignant skin cancer.
- They are easily diagnosed and treated. Treatment may be considered cosmetic as they are benign and often just unsightly to patients.
Seborrheic Keratosis (benign)
Actinic Keratosis

- The most common pre-cancerous lesion.

- This is more common in males, fair skinned, and those who spend more time in the sun.

- Most commonly seen in people over 50.

- These are tiny, scaly, crusty, growths (lesions), most commonly appearing on the face, balding scalp and forehead, ears, backs of the hands and forearms.

- Diagnosis is made either by patient awareness or during routine physical skin exam by primary care provider. Occasionally requires biopsy.

- Treatment options are usually various simple office procedures and can be discussed with your physician.
Actinic keratosis (pre-cancerous)
Malignant Skin cancers

1. Basal cell cancers
2. Squamous cell cancers
3. Melanomas
Basal Cell and Squamous Cell Cancers

More common in men > women
Most common in Type I and Type II skin types
More common in older people, (although occurring at younger ages in recent decades)
More common on sun exposed parts of the body (although can occur anywhere):
  - face, ears, neck, scalp, back, shoulders.
Basal Cell Cancer

- Most common form of skin cancer
- Affects > 1 million Americans each year
- Most common type of skin cancer seen in Caucasians, Hispanics, Chinese, and Japanese
- Recognizable often by their nodular, translucent appearance. They have a pearly appearance.
- Sometimes they are seen as non-healing sores, that bleed, ooze, or crust.
- Although they don’t usually spread internally. They are best treated in the early stages to avoid local destruction.
- Treatment typically performed as outpatient basis.
Basal Cell Cancer (nodular)
Basal Cell Cancer…

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Basal Cell Cancer...
Pigmented basal cell cancer

Source: Wikipedia; author, Watplay
Squamous Cell Cancer

- 2nd most common skin cancer
- Associated with Chronic sun exposure.
- Often seen in people with a history of previous skin injuries: areas of burns, scars, long-standing sores, exposure to chemicals.
- Most common type of skin cancer that is seen in African Americans and Asian Indians.
- Actinic Keratosis (seen on previous slides), the precancerous lesions – potentially develop into this cancer.
These may appear as raised & pink lesions or thick, scaly patches that can bleed if irritated. Sometimes look like warts or an open sore with a crusted surface.

Persistent, scaly red patch w/ irreg borders that sometimes crusts or bleeds. May also have associated itching or pain.

If treated early, is almost always curable. However untreated become disfiguring and a small percentage can metastasize (spread). Therefore any suspicious growth should be seen by a physician w/o delay.

Treatment is usually performed on an outpatient basis.
Squamous cell CA – arisen from an AK, here the surface is scaly and lesion has ulcerated.

Source: National Cancer Institute
Author: Unknown photographer/artist
Squamous Cell Cancer on the lip

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Melanoma

- Most serious form of skin cancer
- Fastest rising cancer
- Those born after 2000 have a lifetime risk of 1 in 5.
- Peak age is 20-45 years
- Most common locations are back, chest, arms and legs.
- If detected early it is almost 100% curable. But if not it can metastasize.
- Originates in the cells that produce our pigment - the melanin that colors our skin, hair, eyes.
- There are two kind of moles: normal moles or beauty marks that appear in the first few decades of life and atypical moles. Melanomas usually arise from the latter.
- Risk factors: childhood sunburns, intermittent sun exposure, fair complexion, number of moles, family history (esp a 1st degree relative), weakened immune system.
ABCD’s of Melanoma

- A = Asymmetry
- B = Border
- C = Color
- D = Diameter
- E = Elevation, Enlargement

Or The Ugly Duckling Sign:

The “outlier lesion” = a mole that looks, feels, different than others around it, one that changes differently over time. If there is itching, pain or tingling associated with it. ( )

Source: National Cancer Institute via Skin Cancer Foundation
Author: Stevenfruitsmaak
Superficial Spreading Melanoma

Copyright Richard P. Usatine, MD
Melanoma in-situ

Copyright Richard P. Usatine, MD ()
Seborrheic Keratosis (benign) vs. Melanoma (malignant)
Diagnosis and Prevention

- Early diagnosis is by having **routine yearly skin exams** to evaluate for skin cancers. (Especially if you have a family history or history of extensive sun exposure.) If you have any suspicious moles or worrisome lesions, seek medical attention. See your primary care physician. **Schedule an appointment at LifeConnections Health Center and I or any of the physicians will be able to evaluate you for this.**

- But what can **you** do for prevention?

- Part of it is understanding how to protect yourself.
Ultraviolet Radiation (UV rays)

- Ultraviolet rays are invisible rays that are part of the energy that comes from the sun.
- UV rays can pass through clouds.
- They can also bounce off sand, snow and other reflective surfaces, leading to extra exposure.
- Those given off by the lamps in a tanning salon can be even more dangerous than the sun.
- Trigger free radical formation
- UV rays can burn the eyes, hair, and skin if not properly protected. They increase the risk of cataracts and can suppress the immune system.
- The best way to protect against UV rays is physical barriers such as sunglasses (good ones!) / hats / sunscreen.
There are 3 different wavelengths of UV light and each affects cells and DNA in different ways.

<table>
<thead>
<tr>
<th>UV</th>
<th>Wavelengths</th>
<th>Effect</th>
</tr>
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<tbody>
<tr>
<td>UVC</td>
<td>200nm-290 nm</td>
<td>Blocked by the ozone and atmosphere.</td>
</tr>
<tr>
<td>UVB</td>
<td>290nm-320nm</td>
<td>Causes burning in the upper layers of the skin (the epidermis). The main cause of sunburn. Can result in pre-cancerous and cancerous lesions and contributes to aging.</td>
</tr>
<tr>
<td>UVA</td>
<td>320nm to 400nm</td>
<td>It penetrates into the deeper layers of the skin (from the epidermis to the dermis). It is associated with aging/wrinkles, “leathering” of the skin, age spots, and implicated in skin cancers, photosensitivity, suppression of the immune system, free radicals, etc... Not blocked by window glass. Is what penetrates thru clouds/fog.</td>
</tr>
</tbody>
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Contrary to popular belief, most of a person’s lifetime sun exposure is not acquired by age 18; only about 25% occurs before then.

<table>
<thead>
<tr>
<th>Ages</th>
<th>Average Accumulated Exposure</th>
</tr>
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<tbody>
<tr>
<td>1-18</td>
<td>22%</td>
</tr>
<tr>
<td>19-40</td>
<td>47%</td>
</tr>
<tr>
<td>41-59</td>
<td>74%</td>
</tr>
<tr>
<td>60-78</td>
<td>100%</td>
</tr>
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Sunburn

- Redness of the skin caused by overexposure to the sun’s harmful UVB rays, that can cause pain and itching later on.
- If associated with dizziness, nausea, vomiting or confusion = Heat Stroke
- Rx: cool shower, aloe lotion, loose clothing, cool compresses, bathe w/ baking soda for the itching.
- Seek medical attention if there is blistering or associated symptoms.
- Remember: One Sunburn can cause long-lasting damage to the skin and increase one’s risk for skin cancer with even a one time severe exposure especially if it occurs as a child or young adult.
Photosensitivity: Things that make you more vulnerable to the sun.

- Many medications MIGHT trigger photosensitivity:
  A few commonly prescribed ones:
  cipro, septra, tetracyclines, furosemide (lasix),
  hydrocholorothiazide (HCTZ),
  St. John’s Wort, naprosyn, retin A, tazorac,

- Foods and natural products:
  Parsnip, parsley, lime, celery,
  Essential oils of lemon, lime, rosemary, cedar.

- Certain medical conditions:
  Lupus, solar urticaria, and a few others.
Sunscreens / Sunblocks
What does it all mean, anyway?

- Sunscreen is a chemical agent that protects against the penetration of UV rays.
- Sunscreens vary in their ability to protect against these.
- Chemical barriers = sunscreen = Paba derivatives, salicylates, & cinnamates
  Best against UVB absorption.
- Physical barriers = Sunblock = titanium dioxide, zinc oxide, avobenzone, oxybenzone & ecamsule (Anthelios sx or Helioplex tm).
  Best against UVA rays.

What is SPF?

= Sunscreen Protection Factor.

Refers to the product's ability to screen or block out the sun's harmful rays. For example, if you use a sunscreen with an SPF 15, you can be in the sun 15 times longer than you can without sunscreen before burning.

Realistically - everyone should re-apply their sunscreen every 2 hours!

- Look for: SPF 15 or higher.

So should I buy the highest SPF on the market? ()
Compare SPF ratings: 15 vs. 30 vs. 50? The percentage difference is not much, but for some this is a big difference.

<table>
<thead>
<tr>
<th>SPF</th>
<th>Blocks % of UVB</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPF 15</td>
<td>Blocks 93 % of UVB</td>
</tr>
<tr>
<td>SPF 30</td>
<td>Blocks 97 % of UVB</td>
</tr>
<tr>
<td>SPF 50</td>
<td>Blocks 98 % of UVB</td>
</tr>
</tbody>
</table>
Sunscreens: Which ones!?@! So many different brands on the market – so confusing!

- Buy one with SPF 15-50 (gives UVB protection)
- Buy a quality one that also has UVA protection
  Look for ingredients such as titanium dioxide, zinc oxide, avobenzone, ecamsule, or oxybenzone.
In the future, UVA status will be labeled directly onto the container.
- Look for sunscreens with a seal from the AAD or Skin Cancer Foundation or purchase from a high end spa.
- Try any variety of lotions, creams, gels, sprays, and sticks.
- Most sunblocks are in the original strength & stable for up to 3 years – so you can use last year’s left-overs!
- But you shouldn’t have too much left if you are using enough SPF each time. Average use should be = shot glass full of sunscreen.
- During a day at the beach, 1 person should use around ¼ to ½ of an 8 oz. bottle. (waterproof sunblock lasts 40 min in H2O, reapply when out)

Not designed for infants < 6 months. They should be kept out from the sun and protected by shade and clothing.
- SPF Clothing
Myths of Sunscreen:

- If it’s cold or cloudy, I don’t need sunscreen?
  60% of the sun’s UV radiation still reaches the earth on a cloudy day. These are often the days when people sustain the worse sunburns.

- Using Sunscreen will lead to Vitamin D deficiency?
  Unproven and controversial - it is still better to protect against skin cancer and obtain Vitamin D thru diet.
Vitamin D

Vitamin D can be obtained from the sun’s UV radiation. However, the health risks of UV exposure are significant.

Why do we need Vitamin D?

It prevents Rickets and osteomalacia (=softening of bones potentially leading to fractures and deformity.) Vitamin D aids in the absorption of calcium and phosphorus. This suggests it may protect from diseases such as osteoporosis, rheumatoid arthritis, certain cancers, autoimmune diseases, and high blood pressure.

- The American Cancer Society Recommends Vitamin D 1000 IU daily from food sources fortified with Vit D:
  - milk, OJ, soy milk, yogurt, margarine, cereal, egg yolk, fish (cod, salmon), Vitamin supplements
- Dark skinned individuals & elderly, may not actually produce enough Vit D from sun exposure alone and need it thru diet anyway.
- During winter, UV radiation is insufficient to produce Vitamin D in people living above 42deg. N latitude which includes Boston and Northern CA.
Aging is brought on by environment, sun exposure, pollution. → formation of premature lines, wrinkles and pigmentation, and increased risk of skin cancer.

Free radicals are produced by melanin and other skin tissues when exposed to UVA. The skin uses antioxidants to defend itself these damaging free radicals. The body’s ability to produce antioxidants diminishes with age along with the accumulation of damage from sun exposure and this leads to skin aging.

Products to help against the effects of aging are Vit C Cream, Vit E cream, Collagen cream, hyaluronic acid, Retinol, strivectin; Pigmentary changes can be helped with lightening agents with hydroquinone or kojic acid.

There are treatments such as Botox, dermal fillers or chemical peels and lasers as well.
Basics on Skin Care

**Cleanse**
Use a gentle cleanser and lukewarm water to wash your face.

**Hydrate**
If skin tends to be dry, nourish and protect the skin and restore elasticity. Use moisturizers at night if needed and during day under sunscreen or in combination with sunscreen.

**Exfoliate**
Exfoliating products can be used once or twice weekly to remove the rough outer layer of the skin in order to reveal newer skin and improve the texture and appearance of skin. Examples: enzyme or sulfur masks, pumice scrubs, alpha-hydroxy acids (glycolic acids)

**Protect**
With a broad-spectrum UVA/UVB protection and will help reduce photoaging & promote healthy skin. Use a Moisturizer with Sunscreen. SPF of 15 or higher. Use this under make-up. Use shaving products that have SPF in it.

Come in to LifeConnections Health Clinic to get more info on this from me and an individualized skin care program to protect your skin and look better in the process!
So how do we prevent?
Stop skin cancer & aging!

- Try to find shade between 10am and 4pm
- Avoid burning.
- Avoid tanning and UV tanning booths
- Use sunscreen SPF 15 or higher daily even on cloudy days. Protect skin and lips.
  
  Apply 30 min. before going outdoors and reapply every 2 hours & on lips!
- Protect w/ clothing, broad-brimmed hats and UV-blocking sunglasses. (this also protects against aging around the eyes and helps reduce the risk of cataracts later in life.)
- Keep newborns out of the sun. Use sunscreen on children > 6 months of age.
- Examine your own skin head to toe every month.
- See your primary care provider or a LifeConnections medical provider every year for a professional skin examination.
Preventative Care

- Protect your skin
- We are scheduling special skin screenings this week or next week during our Skin Cancer Awareness Month at LifeConnections Health Clinic!
References

- **American Academy of Dermatology**
  Skin Cancer Fact Sheet
  Facts About Sunscreen

- **American Cancer Society**
  All About Skin Cancer - Basal and Squamous Cell

- **American Melanoma Foundation**
  Facts About Sunscreen

- **Daniel J. Van Durme**, MD. Florida University College of Medicine
  Skin Cancer Update
  **American Academy of Family Physicians** - Electronic Conference, 2009

- **LumiPlexion SkinCare**, Pamela Swartz, LE, [http://www.lumiplexionskincare.com/contact.htm](http://www.lumiplexionskincare.com/contact.htm), 2010
  (925)933-8425

- **Skin Cancer Prevention and Early Detection**
  [http://www.cancer.org/docroot/PED/content/ped](http://www.cancer.org/docroot/PED/content/ped)  3/5/2010

- **The Skin Cancer Foundation**
  **Actinic Keratosis/Basal Cell Carcinoma/Melanoma/Squamous Cell Carcinoma/Skin Cancer Facts/Sunburn/Sunscreen/Vitamin** D
Additional Health Resources for Cisco Employees & Families

- **LifeConnections Health Center**
  [www.ciscolifeconnections.com](http://www.ciscolifeconnections.com)
  - Onsite medical facility for Cisco employees and their families

- **Alere, formerly Matria Healthcare**
  [www.alerehealthconnections.com](http://www.alerehealthconnections.com)
  - Online health information, condition management and health coaching services

- **HealthConnections**
  [wwwwin.cisco.com/go/health](http://wwwwin.cisco.com/go/health)
  - Cisco’s health-enhancement program, with information and resources to take charge of your health in the areas of nutrition, fitness, sleep, life balance, preventive care, and condition management
Additional Health Resources for Cisco Employees & Families

- **OptumHealth Behavioral Solutions**
  [www.liveandworkwell.com](http://www.liveandworkwell.com)
  - Confidential Employee Assistance Program (EAP) services for Cisco employees and their families

- **LifeConnections Fitness Center powered by Plus One**
  - Onsite fitness center located in SJC-Q. Offers multiple specialty areas for exercise, group fitness, stress management, one-on-one personalized instruction, teambuilding, and social networking.
Upcoming Events at LifeConnections Health Center

- **June 1 – August 31: FREE Physicals at LCHC**
  - Employees covered under CIGNA and UnitedHealthcare plans are eligible
  - For more information, call (408) 424-2000

- **June 9, 12—1 p.m.: Dialing Down Stress**
  Led by Mike Mombrea, MA, MFT

- **June 11, 12—1 p.m.: Intro to Cholesterol**
  Led by Warner Hudson, MD, FAAFP, FACOEM

- **June 17 *or* June 22, 8 a.m.—7 p.m.**
  FREE Skin Cancer Screening

- **June 23, 12—1 p.m.: Intro to Cholesterol**
  Led by Denise Buckner, RN

- **June 25, 12—1 p.m.: Diversify Your Diet**
  Led by Danielle Derr, RD, LDN
Sunglasses That Protect Your Eyes From UV and HEV Rays

- To best protect your eyes from the sun's harmful UV and HEV rays, always wear good quality sunglasses when you are outdoors.
- Look for sunglasses that block 100 percent of UV rays and that also absorb most HEV rays.
- To protect as much of the delicate skin around your eyes as possible, try at least one pair of sunglasses with large lenses or a close-fitting wraparound style. Depending on your outdoor lifestyle, you also may want to explore performance sunglasses or sport sunglasses.
- The amount of UV protection sunglasses provide is unrelated to the color and darkness of the lenses. A light amber-colored lens can provide the same UV protection as a dark gray lens. Your optician can verify that the lenses you choose provide 100 percent UV protection.
- But for HEV protection, color does matter. Most sunglass lenses that block a significant amount of blue light will be bronze, copper or reddish-brown (see lens tint guide).
- Again, your optician can help you choose the best "blue-blocking" lenses.