Vanity Tanning
Creating the New Cancer Epidemic

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Learning Objectives

• Learn about the different types of skin cancers, and how to distinguish them.
• Discuss statistical information on all types of skin cancer.
• Identify how indoor and outdoor tanning increases ones cancer risk.
Skin Cancer

Skin cancer is the uncontrolled growth of abnormal skin cells. It occurs when unrepaired DNA damage to skin cells (most often caused by ultraviolet radiation from sunshine or tanning beds) triggers mutations, or genetic defects, that lead the skin cells to multiply rapidly and form malignant tumors.*

*Skin Cancer Foundation

Types of Skin Cancer

- Precancerous
  - Actinic Keratosis
  - Atypical Moles (Dysplastic Nevi)

- Cancerous
  - Basal Cell Carcinoma
  - Squamous Cell Carcinoma
  - Merkel Cell Carcinoma
  - Melanoma
**Skin Anatomy Refresher**

A precancerous lesion is one that is defined as a growth that has an increased risk of developing into a skin cancer if untreated.

- **Types**
  - Actinic Keratosis
  - Lentigo Maligna
  - Leukoplakia (white plaque in oral cavity)
  - Atypical Moles (Dysplastic Nevi)
  - Bowen’s Disease & Erythroplasia of Queyrat (less common lesions associated with HPV)
Actinic Keratosis (AK)

- Also known as solar keratosis
- Crusty, Scaly growth
- Occurs especially in individuals with light skin and over 50 years of age
- Caused by Frequent Exposure to Ultraviolet Radiation (UV), artificial UV-tanning beds
- Appear on face, bald scalp, ears, shoulders, neck, back on hands, forearms, parts of leg
- If untreated can develop into Squamous Cell.
- Often Elevated
- Rough in texture
- Resemble warts
- Most are red
- Some are light or dark tan, white, pink or flesh toned
- Eighth to a quarter inch
- Occasionally itch, or are tender

Treatment of Actinic Keratosis (AK)

- Cryotherapy (liquid nitrogen to freeze off lesion)
- Curettage and desiccation (scrape or shave off-followed by heat or chemical agent)
- Laser Surgery (intense light to vaporize AK tissue)
- Photodynamic Therapy (PDT) - apply light sensitizing topical agent then use strong light to activate
- Topical Treatments
  - 5-Fluorouracil-topical chemotherapy
  - Chemical peel (trichloroacetic acid)
  - Diclofenac & Hyaluronic acid
  - Imiquimod-stimulates the immune system to produce interferon, a chemical that attacks cancerous and precancerous cells
  - Ingenol mebutate-rapidly effective topical therapy derived from plants
Examples of Actinic Keratosis

**Lentigo Maligna (LM)**

- Also known as Hutchinson Melanotic freckle
- Early form of Melanoma—often reported as “insitu melanoma”
- Occurs in sun damaged skin
- Usually found on face, neck, particularly the nose and cheek
- Slow growing in diameter, usually 5 to 20 years

- More common in males than females
- Majority of patients are 40 years or older
- Peak age of diagnosis is between 60 and 80 years
- Irregular shape, usually > than 6mm
- Variable pigmentation, smooth surface
Lentigo Maligna (LM) Treatment

- **Surgical Removal**
  - This type of lesion is more likely to return so doctor may remove some of the skin surrounding the spot
  - May also do sentinel lymph node biopsy
- **Radiation Therapy**
- **Cryosurgery**
- **Imiquimod**

- **Positive Diagnosis of LM**
  - MD Determines stage
  - Breslow Thickness (the thickness of the spot helps determine stage)
  - Clark Level of invasion (how many skin layers)
  - Stages range from 0-4

Examples of Lentigo Maligna
Could it be Skin Cancer?

I should have not ignored that spot on my skin!

American Cancer Society-Skin Cancer Quiz

• Skin Cancer can almost always be cured if it is found early?
  – True
  – False

**True:** The most common types of skin cancers, basal cell carcinomas, squamous cell carcinomas, and melanoma, can almost always be cured in early stages—when they are small and have not spread.
American Cancer Society-Skin Cancer Quiz

• Skin Cancer is by far the most common type of cancer?

  – True
  – False

True: According to one estimate, about 5.4 million cases of skin cancer are diagnosed among 3.3 million people each year. Many people are diagnosed with more that one spot of cancer at the same time.

American Cancer Society-Skin Cancer Quiz

• Skin Cancer is not something young people need to worry about?

  – True
  – False

False: The risk of skin cancer does go up by age, but these cancers are seen in younger people too, probably because they are spending more time in the sun with their skin exposed. In fact, melanoma is one of the most common cancers in young adults, especially young women.
American Cancer Society-Skin Cancer Quiz

- Tanning beds are a safe way to tan; they do not cause skin cancer like sunlight does?
  - True
  - False

**False:** Exposure to ultraviolet rays is a major risk factor for most skin cancers. While sunlight is the main source of UV rays, tanning beds and lamps also use UV rays.

American Cancer Society-Skin Cancer Quiz

- People with dark skin do not need to worry about skin cancer?
  - True
  - False

**False:** Everyone’s skin and eyes can be affected by the sun and other forms of UV rays. People with light skin are much more likely to have sun damage, but darker skin people, of any ethnicity, can be affected too.
American Cancer Society-Skin Cancer Quiz

- Skin cancer is easy to see, it always starts as a new dark-colored bump that is tender?
  - True
  - False

**False:** Skin cancer can show up in many colors, shapes and sizes.

Skin Cancer Lesions
Basal Cell Carcinoma (BCC)

- Most frequently occurring form of skin cancer
- Uncontrolled growths that arise in the skin’s basal cell (outermost layer of skin)
- Look like open sores, red patches, pink growths, shiny bumps, or scars
- Caused by a combination of cumulative, intense, and occasional sun exposure
- Almost never metastasize beyond original site

Basal Cell Carcinoma (BCC) - Treatment Options

- **Curettage and Electrodesication**
  - Used for small lesions
  - Scraped off with a curette, then burned with electrocautery needle
  - Cure rates above 95% with this procedure

- **Mohs Micrographic Surgery**
  - Thin layer of tissue containing tumor removed, frozen sections mapped and examined under microscope. If any cancer is present in the cells another layer is removed. This is repeated until excised layer is cancer free.
  - Often used for large tumors
  - **Cure rates above 99% with this procedure**

- **Excisional Surgery**
  - Entire growth removed with scalpel
  - Cure rates above 95% with this procedure
Basal Cell Carcinoma (BCC)-Treatment Options

- **Radiation**
  - Radiation directed at lesion
  - Several treatments over a few weeks
  - Ideal for tumors that are hard to manage surgically
  - **Cure rates above 90% with this treatment**

- **Cryosurgery**
  - Tumor tissue is destroyed by freezing using liquid nitrogen
  - Effective for most common tumors (superficial)
  - **Cure rates above 85-90% with this procedure**

- **Photodynamic Therapy (PDT)**
  - Used for superficial or nodular BCC
  - **Cur rates above 70-90% with this procedure**

- **Laser**
  - Beam of light of specific wavelength
  - Recurrence rates similar to PDT

- **Topical Medications**
  - Imiquimod-FDA approved only for BCC
    - Cure rates 80-90% with this procedure
  - 5-Fluorouracil (5FU)-FDA approved for BCC
    - Liquid or cream rubbed on tumor twice daily for 3-6 weeks

- **Oral Medicine for Advanced BCC**
  - Vismodegib
    - FDA approved 2012
    - First medicine for advanced BCC
  - Sonidegib
    - FDA Approved 2015 for advanced BCC
Basal Cell Carcinoma Examples

Squamous Cell Carcinoma (SCC)

- Second Most common skin cancer
- Uncontrolled growth of abnormal cells arising from the squamous cell in the epidermis
- Red scaly patches, open sores, warts, or elevated growths with central depression, may crust or bleed, occur all over the body
- More than 1 million cases diagnosed yearly (115 cases diagnosed every hour)
- *Incidence has increased 200% in past three decades*
- More than 15,000 Americans die each year of disease
- Caused by long term exposure to ultraviolet radiation from sun
- *Indoor tanning* is contributing to the increase cases in young women
### Squamous Cell Carcinoma (SCC) Treatment Options

<table>
<thead>
<tr>
<th>Treatment Option</th>
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<tbody>
<tr>
<td><strong>Mohs Surgery</strong></td>
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<tr>
<td>- Gold standard for SCC</td>
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<tr>
<td><strong>Excisional Surgery</strong></td>
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<tr>
<td>- For tumors discovered at early stage that have not spread beyond tumor margin</td>
</tr>
<tr>
<td><strong>Curettage and Electrodesiccation</strong></td>
</tr>
<tr>
<td>- Reserved for small tumors</td>
</tr>
<tr>
<td>- Not recommended for invasive or aggressive SCC</td>
</tr>
<tr>
<td><strong>Cryosurgery</strong></td>
</tr>
<tr>
<td>- Used for Superficial SCC’s, not used for invasive SCC</td>
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<tr>
<td><strong>Laser Surgery</strong></td>
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<tr>
<td>- Not yet approved for SCC, but some physicians use for superficial lesions</td>
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### Squamous Cell Carcinoma (SCC) Treatment Options

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<tr>
<td><strong>Radiation Therapy</strong></td>
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<tr>
<td>- Low energy x-ray beams to destroy tumor</td>
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<tr>
<td>- <strong>Cure rates about 90%</strong></td>
</tr>
<tr>
<td>- Used for tumors hard to treat surgically</td>
</tr>
<tr>
<td>- Used in combination with surgery for advanced cases</td>
</tr>
<tr>
<td><strong>Photodynamic Therapy (PDT)</strong></td>
</tr>
<tr>
<td>- May be used for superficial SCC, but not recommended</td>
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<td><strong>September 2018 FDA approved an intravenously infused drug-Libtayo for individuals with metastatic SCC</strong></td>
</tr>
</tbody>
</table>
Squamous Cell Carcinoma Examples

Melanoma

- Most dangerous form of skin cancer
- Occur due to unrepaired DNA damage as a result of UV radiation from sun or tanning beds.
- UV Radiation triggers mutations that lead the skin cells to multiply rapidly and form malignant cells
- Originate from pigment-producing melanocytes in the basal layer of the epidermis
- Resemble moles, black or brown, but can be pink, red, purple, blue or white
- Caused mainly by intense, occasional UV exposure (frequent sunburns)
- Recognized early it is curable, but if advanced it is hard to treat and can be fatal
Melanoma-4 Basic Types

- **Superficial Spreading**
  - Most common, accounts for 70% of all cases, most often seen in young people
  - Can occur in a previously benign mole or arise as new lesion.

- **Lentigo Maligna**
  - Close to skin surface, flat or mildly elevated, tan, brown or dark brown
  - Found most often in elderly
  - Most common form of melanoma in Hawaii
  - When invasive referred to as Lentigo Maligna Melanoma

- **Acral Lentiginous Melanoma**
  - Spreads superficially before penetrating deeply
  - Occurs in nails, soles of feet or palms of hands
  - Most common in African-Americans and Asians, least common among Caucasians

- **Nodular Melanoma**
  - Invasive at time of discovery
  - A bump that is usually black
  - Most aggressive of the melanomas and is found in 10-15 percent of cases

Melanoma-Treatment Options

- **Surgery Excision (Resection)**
  - Physician outlines a safe margin around tumor that includes healthy looking tissue
    - In-situ melanoma- surgeon excises 0.5-1 cm of normal skin and takes of skin layers down to fat
    - Invasive Melanoma-1mm or less in Breslow thickness the margins surrounding the lesion are extended to 1.0cm and excision goes through all skin layers down to the fascia (layer of tissue that covers muscle)
    - If melanoma is 1.01-2mm thick a margin of 1-2cm is taken
    - If melanoma is 2.01 mm thick or greater a margin of 2cm is taken
    - If melanoma is 4mm or more margins greater than 2cm does not increase survival
  - Tissue sent to lab, if any safe tissue has been invaded by cancer additional surgery required
Melanoma-Treatment Options

- Mohs Micrographic Surgery
  - Is increasingly being used for Melanoma due to its effectiveness with BCC and SCC
  - Special stains have been developed to identify these cells
    - Immunocytochemistry or immunohistochemistry (IHC) stains use a substance that sticks to melanocytes where melanoma occurs making them more visible with a microscope

Melanoma Examples
Skin Cancer: Did you Know?

- The number of skin cancer cases due to tanning is higher than the number of lung cancer cases due to smoking.
- More people are diagnosed with skin cancer each year in the U.S. than all other cancers combined.
- The annual cost of treating skin cancers in the U.S. is estimated at $8.1 billion: about $4.8 billion for nonmelanoma skin cancers and $3.3 billion for melanoma.
- Ninety percent of cases are caused by sun exposure, whether that is chronic exposure or intermittent sunburns.
- Skin cancer risk doubles with five or more sunburns in a lifetime, but just one bad sunburn can double the risk of melanoma.
- Nail Salon-LED/UV lights-low risk but still a risk.

Basal Cell Carcinoma Statistics (BCC)

- 4 Million cases diagnosed in the United States each year.
- More that 1 out of every 3 new cancers is skin cancer, and a vast majority are BCC.
- Men have outnumbered women with the disease, but more women are getting BCC.
- About 2000 people die from BCC yearly.
- Most affected are older people.
- The disease is rarely seen in children, occasionally in teenagers.
- However, new reports show more people in their 20’s & 30’s are being treated.
Squamous Cell Statistics (SCC)

- 1 million cases are diagnosed in the United States each year
- 15,000 deaths per year
- Most commonly appears on areas of body frequently exposed to sun
- Mostly appear in people over 50 years of age
- SCC diagnosis of women under age of 40 has increased in the last 30 years-attributed to indoor tanning
- Risk of metastasis is around 3%, high risk SCC runs from 10-30%
- If an individual has developed one SCC, they are always at risk for developing another one

Melanoma Statistics

- CDC-Incidence of Melanoma has doubled in past three decades in the US
- 96,480 people in US expected to be diagnosed in 2019
- #1 most diagnosed cancer among 25-29 year olds
  - For 15-29 year olds 3rd most common in men, 4th in women
- One person dies of Melanoma every hour
- 7,000 people in the US are expected to die of Melanoma in 2019
- 20 times more common in whites than African Americans
4 Stages of Melanoma

There Are Four Stages Of Melanoma

STAGE 0
Melanoma in situ, or an asymptomatic lesion on the epidermal region of the skin.

STAGE 1 & 2
Early stage localized disease.

STAGE 3
Cancer that has spread to the lymph nodes within the region of the cancer or to the lymph vessels.

STAGE 4
Cancer that has spread to other major organs in the body.

Melanoma-Survival Rates

<table>
<thead>
<tr>
<th>Stage</th>
<th>5 Year Survival Rate</th>
<th>10 Year Survival Rate</th>
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<tbody>
<tr>
<td>IA</td>
<td>97%</td>
<td>95%</td>
</tr>
<tr>
<td>IB</td>
<td>92%</td>
<td>86%</td>
</tr>
<tr>
<td>IIA</td>
<td>81%</td>
<td>67%</td>
</tr>
<tr>
<td>IIB</td>
<td>70%</td>
<td>57%</td>
</tr>
<tr>
<td>IIC</td>
<td>53%</td>
<td>40%</td>
</tr>
<tr>
<td>IIIA</td>
<td>78%</td>
<td>66%*</td>
</tr>
<tr>
<td>IIIB</td>
<td>59%</td>
<td>43%</td>
</tr>
<tr>
<td>IIIC</td>
<td>40%</td>
<td>24%</td>
</tr>
<tr>
<td>IV</td>
<td>15-20%</td>
<td>10-15%</td>
</tr>
</tbody>
</table>

Relative Survival (%)
The Human Factor

In order to look good humans started to seek out quick, and alternative methods to get that healthy glow.

Indoor Tanning-The Unnecessary Evil

- 35% of American adults, 59% of college students and 17% of of teens have used a tanning bed in their lifetime
- 7.8 Million adult women and 1.9 million adult men tan indoors
- 52.5% start before age 21, 32.7 before age 18
- 10% of Caucasian female high school students have tanned indoors
- Nearly 70% of tanning salon patrons are Caucasian girls and young women
  - Melanoma is 2nd most common cancer in females age 15-29
- Indoor tanning revenue is estimated to be $5 billion a year
The Tanning Bed

- Invented by German Scientist Friedrich Wolff
- He used UV light to give people healthy tans in early 70’s, brought first tanning bed to US in 1978
- He created specialized lamps to focus the light and a reflector system so those who used his bed would get an even tan all over
- Wolff System Tanning beds are still in use, HQ is in Atlanta, GA

Indoor Tanning Danger

- Both the US Department of Health & Human Services, and WHO have declared UV radiation from the sun and artificial sources a known carcinogen
- Multiple studies show exposure to UV radiation from indoor tanning increases risk of Melanoma, SCC, and BCC
- Indoor tanning causes upwards of 400,000 cases of skin cancer in the US each year
- Can lead to premature skin aging, immune suppression, and eye damage including cataracts and ocular melanoma
Indoor Tanning Cancer Related Statistics

• Using a tanning bed before age 35 increases your risk of melanoma by 59%, and the risk continues to increase with each use.

• Women younger than 30 are six times more likely to develop melanoma if they tan indoors.

• Even if you do not burn after indoor tanning and sun exposure you are at an increased risk of developing melanoma.

• One indoor tanning session increases risk of developing skin cancer:
  – Melanoma 20%  SCC 67%  BCC 29%

The cost of treating skin cancers attributable to indoor tanning is $343.1 million a year.

Legislation and Regulations

• May 2014 the US Food and Drug Administration issued new regulations strengthening warnings for indoor tanning devices:
  – Recommend not to be used by minors under age 18.
  – Move from Class I o Class II medical device:
    • They are now considered a “moderate to high risk”.
    • FDA mandates additional oversight on all Class II medical devices, manufacturers have to provide more safety assurances.
  – Labeling:
    • Clearly inform users about the risks.
    • Warns that frequent exposure to sunlamps should be regularly screened for skin cancer.
    • Alert users that tanning beds are not recommended for users under age 18.
Regulations at the State Level

- States that prohibit tanning bed use under the age of 18
  - **California**, Delaware, the District of Columbia, Hawaii, Illinois, Kansas, Louisiana, Massachusetts, Minnesota, Nevada, New Hampshire, New York, North Carolina, Oklahoma, Rhode Island, Texas, Vermont and West Virginia
  - Oregon and Washington have passed laws prohibiting use under age 18 unless prescription is provided (Vitamin D deficiency/psoriasis)
  - Connecticut, New Jersey and Pennsylvania have passed laws banning minors under age 17
  - Minors under age 16 in Indiana and Wisconsin
  - Minors under age 14 in Alabama, Georgia, Idaho, Maine and North Dakota

Ultraviolet Rays

Sunlight consists of 3 types of ultraviolet rays:
- **UVA** rays are most common and cause skin aging and wrinkling. Tanning beds usually use UVA rays.
- **UVB** rays cause sunburns, cataracts, and immune system damage.
- **UVC** rays, the most dangerous, are absorbed by our ozone layer.
Tanning Bed Rays

- Utilize UVA rays.
- UVA rays have longest wavelength of the three rays emitted by the sun.
- UVA Rays are used in tanning beds because they lead to skin darkening, but do not cause visible skin redding or sunburn.

Skin Cancer Cases

- SCC-multiple lesions, common occurrence with this skin cancer.
- SCC-Due to Immunosuppression.
- SCC-Ignoring the lesion.
SCC-Multiple Lesions

- 88 year old Male
- 4/11/17-Right Medial Temple, differentiated SCC Stage 1 T1 N0 M0
- 5/24/17-Left Posterior Ear SCC in situ Stage 1 T1 N0 M0
- 1/22/18-Right Naris-verruca vulgaris (which is a common wart)
- 7/19/18-Left Superior Central Forehead-Well differentiated SCC
- 8/2/18-Left parietal scalp
- 5/24/19-Post-auricular lesion Melanoma in situ
Lesions

- Subdermal nodule (left anterior)
- Subdermal nodule measures about 1.5 cm
- Posterior ear squamous cell

Lesions Treated

- Scalp outside circle/fin block
SCC Carcinoma-Scalp/L Upper Forehead

- 68 Year Old Male
- While receiving PDT for another lesions, lesion on L forehead discovered
- Lesion measured 1.2 x 1.0, punch biopsy performed
- Mohs procedure was then done due to:
  - Location
  - Large Size
  - Ill defined borders
  - Difficulty establishing depth
  - Aggressive Pathology
  - Immunosuppressed patient-due to Kidney Transplant

Skin Cancer after Organ Transplants

- More than 300,000 organ transplants are performed yearly, most common is kidney, followed by liver, heart and lung
- Patients have to take medicine the rest of their life to suppress immune system so it will not reject or attack organ
- Puts individual at high risk for cancer-skin cancer most common
- SCC is most common, followed by BCC, melanoma and Merkel cell
- Lesions usually begin to appear 3-5 years after transplant
- Cancer behaves very differently in these patients, more likely to metastasize
- Surgical removal much more intense, can cause disfigurements on patient
Why does the risk change?

- Biggest reason is the anti-rejection drugs, which reduce ability to fight off cancer
  - Azathioprine (immunosuppressant)
  - Voriconazole (fungal infections)
- Many transplant patients are older, male and fair skinned
- Previous sun exposure and sunburns
- In comparison with AIDS patient, risk is still higher
- Study shows that switching from calcineurin inhibitors to mammalian Target of Rapamycin (mTOR) inhibitors consistently led to a significant reduction in the risk of developing new skin cancers.
- Exposure to sun has to monitored, and all precautions should be taken with these patients
- Patients need to be diligent about going to Dermatologist and monitoring skin lesions

![American Cancer Society](image)
Treatment

- 60Gy in 30 TX
- Due to being immunosuppressed treated with large margins
- Because of subdermal presentation being an ominous presentation, it was determined that aggressive treatment was needed to prevent recurrence
- Treated with 6MeV
- Thermoplastic mask for patient stabilization
- 0.5cm .decimal Uniform Bolus

Treatment Setup
SCC of Nasal Vestibule

- 65 year old Male
- Melanoma removed from L Upper Back 1999
- Prostate Cancer T1c treated with ADT and XRT in May 2018
- SCC Carcinoma Nasal Tip-Biopsy Proven May 2018
  - SCC of Nasal Vestibule, invading nasal cartilage
  - 3.5 cm Mass
  - Rhinectomy July 2018
  - Final path- well-differentiated keratinizing invasive squamous cell carcinoma measuring 3.5 cm with final margins being negative
  - Tumor as arising from the nasal skin and deeply involving the septal cartilage, angiolymphatic invasion was not identified
  - Nasal bone was removed and negative for malignancy

Treatment

- Vmat to Primary/Facial Nodes
  - 50Gy/25 TX
- Boost to Primary
  - 10Gy/5 TX
- Total Dose 60Gy
- Thermoplastic Mask
- Align RT for Motion Management/Bolus Alignment
- Custom wax bolus in Cavity
- 0.5 cm .decimal Uniform Bolus to cover primary GTV
Setup-Showing Wax bolus/Dot Decimal Bolus

CT View of Cavity
Skin Cancer Prevention

What we can do to prevent skin cancer?

As professionals in the cancer community we need to educate others.
Ways to Prevent Skin Cancer

- Seek shade, especially between the hours of 10AM-4PM
- Don’t get sunburned
- Avoid tanning and never use UV Tanning Beds
- Cover-up with clothing, broad brimmed hat, and UV blocking sunglasses
- Board Spectrum (UVA/UVB) Sunscreen-SPF of 30
- Examine skin monthly
- See a dermatologist annually for professional skin exam

Sunscreen

- Works by absorbing, reflecting, or scattering sunlight
- Contains chemicals that interact with skin to protect it from UV rays
- SPF-this is the number that rates the effectiveness in blocking UV rays
- Re-apply every 2 hours, after swimming, sweating or toweling off
- Expiration Date: Sunscreen without an expiration date has a shelf life of no more than 3 years. Shelf life is shorter if it has been exposed to high temperatures
That Healthy Glow—What are our options

- Sunless Tanning—Gives your skin the tanned look without exposure to UV Rays
  - Lotion
    - Active ingredient is DHA, a chemical derived from beet or cane sugar
    - DHA works by reacting to the amino acids present in the top layer of the skin
    - DHA is approved by the Federal Food, Drug and Cosmetic Act
    - Because tanners and bronzers are cosmetic they do not require FDA approval
    - Do not contain sunscreen
  - Pills—contains canthaxanthin which is not safe
  - Spray on Tan
    - Studies have looked at whether when DHA is inhaled it could increase risk of asthma, COPD or cancer

Educate Others on the Risk of Tanning

- Encourage yearly visits to the dermatologist
- Resources
  - American Cancer Society www.cancer.org
  - Skin Cancer Foundation www.skincancer.org
  - American Academy of Dermatology www.aad.org
  - Free printable resources on line
  - National Council on Skin Cancer Prevention www.skincancerprevention.org
  - Many articles on sun safety
  - Centers for Disease Control and Prevention www.cdc.gov
  - Podcast
Sources

- American Academy of Dermatology, Public & Patients, Skin Cancer https://www.aad.org/public. 2019
Thank You!