**Skin Webquest**

Congratulations!! You have graduated from medical school, completed your family practice residency, and are ready to begin practice. You will be beginning your practice in cooperation with other doctors from your graduating class. You have decided to set up shop in the lovely town of Melanin Bay in the Sunshine state. Your practice will be associated with Hospital del Sol and your first order of business is to learn about sun and its effects on the skin. You will need to answer the listed questions for each of the following patients using the given links. GOOD LUCK DOCTOR☺

***Number and answer these questions in your notebook or a separate sheet of paper. You may work as a table group to answer these questions.***

***Basic Information***

***(All STUDENTS MUST ANSWER THESE QUESTIONS INDEPENDENTLY)***

[**http://www.brainpop.com/health/bodysystems/skin/**](http://www.brainpop.com/health/bodysystems/skin/)

**Science Explorer Textbook**

1. What are the functions of the integumentary system? (Textbook)
2. How does the integumentary system help maintain homeostasis? (Textbook)
3. Why does the body need sunlight? Why does the body need vitamin D? (Textbook)
4. What is the largest organ in the body?
5. What is the top layer of skin called? How many layers is it made up of?
6. Where are the oldest skin cells found? How many do you lose each day?
7. How often does the epidermis regenerate itself?
8. What is found in the dermis? (5 things)
9. What areas of the body do not have a hypodermis?

***Finding Out About Self Tanners***

Your patient, a 26 year old woman, hasn’t been able to get in the sun as much as she did as a teenager. She’s very self conscious about her veins in her skin and wants to know what she can do to make her skin look better. She has questions about sunless tanners.

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[**http://www.medicinenet.com/script/main/art.asp?articlekey=23898**](http://www.medicinenet.com/script/main/art.asp?articlekey=23898)

1. How do sunless tanners work?
2. What is the chemical involved?
3. Is it safe?

[**http://www.medicinenet.com/script/main/art.asp?articlekey=23898**](http://www.medicinenet.com/script/main/art.asp?articlekey=23898)

[**http://health.howstuffworks.com/skin-care/beauty/sun-care/question639.htm**](http://health.howstuffworks.com/skin-care/beauty/sun-care/question639.htm)

1. Will it protect me from sunburn? Will it protect me from cancer?
2. What does SPF mean?

[**http://www.skincancer.org/ask-the-expert-can-sunless-tanners-cause-cancer.html**](http://www.skincancer.org/ask-the-expert-can-sunless-tanners-cause-cancer.html)

1. Will sunless tanner cause skin cancer?

***Holy moley, I’ve got moles***

A 9 year old patient, Tim, comes in with his dad. They both have many questions about Tim’s skin.

[**http://my.clevelandclinic.org/healthy\_living/Skin\_Care/hic\_Moles\_Freckles\_Skin\_Tags\_Benign\_Lentigines\_and\_Seborrheic\_Keratoses.aspx**](http://my.clevelandclinic.org/healthy_living/Skin_Care/hic_Moles_Freckles_Skin_Tags_Benign_Lentigines_and_Seborrheic_Keratoses.aspx)



[**http://www.aad.org/public/publications/pamphlets/common\_moles.html**](http://www.aad.org/public/publications/pamphlets/common_moles.html)

1. What is the difference between freckles and moles?
2. Are all moles cancer? Will all moles turn into cancer?
3. What does my son need to look for if his moles change?

[**http://www.skincancer.org/skin-cancer-video.html**](http://www.skincancer.org/skin-cancer-video.html)

1. What causes a mole to turn cancerous?

[**http://nwitimes.com/app/gethealthy/?p=1631**](http://nwitimes.com/app/gethealthy/?p=1631)

1. When I go out, I put on sunscreen right before exposure (so it lasts longer) – but I still get burned. Why is that the case?

***Tell me about tanning beds***

A teen magazine publisher comes to you for a consultation about tanning beds. She wants to know if she should publish ads for tanning booths. They have presented data showing that it is safer than being in the sun.

1. They say we don’t need to wear goggles because the beds are safe. Is this true? If not, what kind of eye damage can you suffer from a tanning bed?

[**http://kidshealth.org/teen/safety/safebasics/tanning.html**](http://kidshealth.org/teen/safety/safebasics/tanning.html)

1. Will tanning beds affect the way that a person ages?

[**http://www.webmd.com/skin-problems-and-treatments/news/20060120/indoor-tanning-bad-docs-say**](http://www.webmd.com/skin-problems-and-treatments/news/20060120/indoor-tanning-bad-docs-say)

1. ****Are tanning beds really safer than the sun?
2. What are the types of UV radiation? Which is the most dangerous? Why?
3. Is it a good idea to get a “base-tan” before going on vacation?

[**http://health.howstuffworks.com/skin-care/beauty/sun-care/question639.htm**](http://health.howstuffworks.com/skin-care/beauty/sun-care/question639.htm)

1. What’s up with the tan accelerators? How do they work?

***Soccer Mom***

A very active soccer mom comes to your office. At the age of 45, she has been a lifeguard, is an avid skier, mountain biker, and gardener. She noticed the texture of her skin has become less soft. She also has an increase in dark pigmentation on her skin. She is wondering what she can do to improve the overall quality of her skin.

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[**http://www.webmd.com/skin-problems-and-treatments/effects-of-aging-on-skin**](http://www.webmd.com/skin-problems-and-treatments/effects-of-aging-on-skin)

1. How does skin change as we age?

[**http://yourtotalhealth.ivillage.com/sunscreen-what-you-need-know.html**](http://yourtotalhealth.ivillage.com/sunscreen-what-you-need-know.html)

1. Why do I still tan even when I am wearing sunscreen?

[**http://pediatrics.about.com/od/sunscreen/a/sunscreen\_myths.htm**](http://pediatrics.about.com/od/sunscreen/a/sunscreen_myths.htm)

1. I have been trying to garden more on cloudy days – do I still need to wear sunscreen?

[**http://www.cdc.gov/cancer/skin/basic\_info/prevention.htm**](http://www.cdc.gov/cancer/skin/basic_info/prevention.htm)

1. I use face moisturizer in the morning that has an SPF of 15. Is this enough protection to last the entire day?

[**http://dermatology.about.com/cs/beauty/a/wrinklecause\_2.htm**](http://dermatology.about.com/cs/beauty/a/wrinklecause_2.htm)

1. My twin sister (the indoor one) seems to have fewer wrinkles than I do. What does sun do to the epidermis? What does sun do to the dermis?

***Son of the Sun***

A young man who comes from a family with a history of skin cancer comes to see you for a consultation. His mother has gone in for a preventative skin cancer treatment (PDT) and he is concerned with his predisposition and wonders what actions he can take.

[**http://cancer.about.com/od/skincancermelanoma/f/skincancersympt.htm**](http://cancer.about.com/od/skincancermelanoma/f/skincancersympt.htm)

[**http://www.mayoclinic.com/health/skin-cancer/DS00190/DSECTION=treatments-and-drugs**](http://www.mayoclinic.com/health/skin-cancer/DS00190/DSECTION=treatments-and-drugs)

1. What are the three skin cancer types? How are the skin cancers different from each other?
2. What is the most common type of skin cancer and is it the most dangerous?
3. What are the 8 types of skin cancer treatment?

[**http://www.skincancer.org/scc-recurrence-and-prevention.html**](http://www.skincancer.org/scc-recurrence-and-prevention.html)

1. What are the chances of skin cancer reoccurrence?

[**http://www.sciencedaily.com/releases/2009/07/090706113656.htm**](http://www.sciencedaily.com/releases/2009/07/090706113656.htm)

1. Is there genetic link to skin cancer? If so, which chromosomes are involved?

***Baby Fun in the Sun***

A couple with a new blonde baby girl (2 months old) comes in to ask how they can best protect theirbaby from the sun.

[**http://parenting.ivillage.com/baby/bsafety/0,,3q6f,00.html**](http://parenting.ivillage.com/baby/bsafety/0,,3q6f,00.html)

1. Why is it important to not over sunscreen infants / small babies?
2. How should we protect our baby?

[**http://www.mayoclinic.com/health/sunscreen-expire/AN01968**](http://www.mayoclinic.com/health/sunscreen-expire/AN01968)

1. I use the same sunscreen bottle for years. Does sunscreen ever expire?

[**http://www.seattlecca.org/diseases/risk-factors-skin-cancer.cfm**](http://www.seattlecca.org/diseases/risk-factors-skin-cancer.cfm)

1. What are five of the risk factors for melanoma?
2. What are five risk factors for basal and squamous cell carcinoma?

[**http://nutrition.about.com/od/askyournutritionist/f/sunlight.htm**](http://nutrition.about.com/od/askyournutritionist/f/sunlight.htm)

1. How much sun / UV radiation is needed to be healthy?

**Extra Credit: (10 pts HW extra credit)**

**Please answer the following questions based on what you have learned today and your own knowledge.**

1. I used baby oil to get dark when I was a teenager. Do you think it has an SPF?
2. I was lifeguard, I had the 3 to 8 shift. Should I have used sunblock at that time of day?
3. My son’s a golfer. He’s a redhead with a fair complexion. What do you recommend that he does to protect himself?
4. I used to get thrown in the pool with my clothes on by my older brothers. Is a wet t-shirt good protection from the sun? If not, what would have been better?
5. What causes the tan from the lights in a tanning bed (how are the tubes different from household lights)?
6. Nobody likes tan lines. How do you think tan-through swimsuits work?
7. Do you think sunscreen works to prevent burns in tanning beds? Why or why not?
8. Salons clean tanning beds in between customers (most of the time). What happens to the bacteria if they are not killed by the cleaner?
9. Tanning salons often say that an indoor burn is not as bad as an outdoor burn. Knowing what you do about how sunburns (real or fake) occur, do you think there is a difference?