FROM THE FLEET SURGEON — *Kristine Schaefer*

How To Avoid Being Part of "The Human Lobster Season"

Submitted by Roger Daisley c/o Dan Chesnut of the Boca Ciega Yacht Club in St. Petersburg, FL. This quiz is excerpted from a much longer article describing the hazards of exposure to UV rays. Give the quiz a try and look for the answers on the next page.

1) (True/False) Sunburn occurs when the air temperature is approximately 83 degrees or higher.
2) (True/False) On the Florida west coast In the summer, the sun is highest in the sky at approximately 1:30 p.m.
3) (Multiple Choice, trick question) UV radiation is strongest in the a) Summer b) Fall c) Spring d) None of the above e) All of the above
4) (True/False) When the sun is high, but I am under shade (tree, porch, beach umbrella, large hat), UV radiation cannot reach my skin.
5) (True/False) UV radiation passes through car windows.
6) (True/False) The sun is high up, but behind a cloud. UV will not affect me.
7) (True/False) I can become a burned-to-a-crisp "Human Lobster" even when my skin is wet and cool.
8) (True/False) Sunburns at any age are equally likely to promote skin cancer later in life.
9) (True/False) Sunscreen alone is enough to protect me from sunlight.
10) (True/False) My lips are vulnerable to UV damage. I should apply a high SPF lip balm while in the sun.
11) (True/False) My eyes are far enough in my head to avoid damage from UV rays.
12) (True/False) Sunscreens are too messy to – you know, mess with.
13) (True/False. Trick question.) The UV Index is 9 out of 10 today. I should apply sunscreen before I go outside.
14) (True/False) Premature aging of the skin caused by UV radiation will gradually reverse once I begin to practice safe sun precautions.
15) (True/False) It is windy today. I should apply sunscreen and/or lip balm to protect myself from windburn.
16) (True/False) Vitamin D is important for my overall health, including my immune system. Being in the sun is how the body creates Vitamin D. Yet the sun's rays are harmful. So, sunlight is actually beneficial, too.
17) (True/False) Ozone depletion in the atmosphere allows greater penetration of UV radiation to the earth's surface where it affects us.
18) (True/False) Ozone depletion in the atmosphere contributes to global warming.

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Quiz answers:

1) False. Disregard the temperature for UV questions. Sunburn is possible any time the sun is at a high enough angle for UV rays to pass through clear air to the ground. It is not affected by whether the air is hot or cool.

2) True! Why 1:30, not 12:00? Daylight Savings Time adds one hour, so that makes it 1:00, and the Florida west coast is at the western edge of the Eastern time zone, and that adds another half hour. The standard advice of avoiding sun between 10:00 a.m. and 2:00 p.m. is misleading and unhealthy for Florida. It is better to avoid sun altogether from 10:30 a.m. to 4:30 p.m. Going fishing at 1:00 with sunscreen and a hat is a bit like buckling the seat belt and driving 100 m.p.h., IMHO. Even if your favorite sail out time is 2:00, the science of skin care remains what you see here. The good news is that UV does not easily penetrate air, so when the sun is bright and hot but at a low height where the air is relatively thick, the amount of UV reaching us is either very low or nonexistent. This also means that at higher altitude, where air is thinner, UV intensity is higher. I once got sunburned in just 15 minutes atop Grandfather Mountain, North Carolina where it was 65˚.

3) D. None of the above! The sun's height and UV intensity are highest on June 21st, the first official day of summer (and last day of spring). So, UV radiation is equally strong in late spring and early summer. (April 21st through August 21st)

4) False. UV radiation scatters a lot, meaning it tends to come from all directions. If you can see the sky, UV can get to you, even in the shade.

5) True. Even though some windshields have some UV protection, 80-90% of UV radiation reaching ordinary glass windows passes through them. Left arms and left sides of face tend to get the most skin damage.

6) False. UV radiation not only can pass through thin clouds but scatters back at us from other parts of the sky.

7) True. Sunburn is not caused by your skin getting hot. It is caused by unfelt ultraviolet radiation. Keeping your skin cool using water, the breeze, etc. offers no protection from this type of burn.

8) False! (Mostly) Young people are much more vulnerable to this effect. Our children (or grandchildren) are in a dynamic state of growth and their systems have not fully developed. Their DNA has not stabilized. A radiation burn can disrupt their DNA more than an older person's, and so later in life they will be more likely to get skin cancer. Teach children how to wear protective clothing, apply their own sunscreen, and mostly, avoid the outdoors from 10:30 to 4:30. (My view is that UV radiation is nasty stuff, and full sunlight should be avoided no matter what other precautions are taken.)

9) False. Never rely on sunscreen alone. It's too easy to miss places on the skin. Use a broad rimmed hat, gloves, long sleeves, etc., and most of all, avoid sun between 10:30 and 4:30 p.m., plus the breeze is often better early and late in the day.

10) True. Some very good products are available now to protect lips from UV damage. Chapstick is more than it used to be.

11) False. Eyes are vulnerable. UV rays can cause cataracts and other vision losses. Always use UV sunglasses. Warning: Non-UV sunglasses are worse than none at all. The darkening effect of the lens opens our pupils more than their natural width in the bright light and lets in more UV than no sunglasses.

12) True, but cosmetic UV creams are also available that aren't messy at all. (They are not water resistant, though.) Look for these products in grocery stores and pharmacies. I use the one made by Olay, recommended by my dermatologist, for when I'm driving, taking walks, etc.

13) False! The daily UV index is only for high noon. Hours long before or after noon time have lower levels of UV or none at all, depending on the hour. See chart below, or find a website with hourly UV levels. (Using sunscreen is generally still a good idea, however.)

14) Wrinkling and other aging caused by UV damage does not reverse naturally, although a dermatologist or cosmetic surgeon might be able to somewhat improve the appearance of damaged skin.

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15) False. Wind does not actually contribute to sunburn, but by drying the skin, it may make sunburn symptoms worse, and who wants that?

16) So true. Unfortunately, the same rays that harm our skin also help us form vitamin D. One solution is to block all the UV rays you can for the sake of your skin, but take vitamin D supplements and eat more salmon. Even cod liver oil high in vitamin D now comes lemon flavored with no fishy taste.

17) True. Lower amounts of ozone allow even more UV radiation to reach us, plus this higher level of UV radiation tends to kill oceanic plankton, which is the basis of the food chain for much of the ocean. Thanks to proactive measures being taken, ozone levels are slowly recovering and are expected (hopefully) to be back to normal sometime in the late 21st century.

18) False. Lower ozone levels do not allow more warming light to reach the Earth's surface, which is how air gets hotter. This item was included in order to separate the UV effects on skin health from climate related issues. A final thought. Since these skin issues are largely not reversible, so it is better to take care of ourselves proactively, not after it is too late.