Office of the Chief Medical Health Officer
Fact Sheet

The Ozone Layer
An atmospheric layer at heights of approximately 32 to 48 km. High ozone concentrations block most solar ultraviolet radiation from entry into the lower atmosphere.

Ultraviolet Radiation and the Role of Our Ozone

After a long dark winter, being outdoors is great for mental and physical health. In addition, 5-15 minutes of daily exposure to sunshine ensures healthy levels of Vitamin D. However there are also risks to being outside for extended periods of time, that is because of exposure to ultraviolet (UV) radiation from the sun. More exposure to the sun means a greater chance for skin, eye and immune system damage. In particular, exposure to UV rays increases wrinkling of the skin as well as the chances of developing skin cancer and cataracts. In the north, extended daylight hours results in people being in the sun for longer periods. In addition to this, exposure to UV radiation has increased over the years due to changes in our lifestyle and to depletion of the ozone layer, which acts as a natural barrier.

Frequently Asked Questions:

What is the UV Index?

The UV Index is a simple measure of the intensity of the sun's ultraviolet (UV) rays, using a scale that runs from 0 (lowest intensity) to 12 (highest).

What are UV rays?

UV rays are a form of invisible, high-energy light. UV rays have shorter wavelengths than visible light.

Why should I refer to the UV index?

The UV Index tells you when to be most careful. Sunburn is the immediate result of too much exposure to UV rays, but skin cancers and cataracts can develop many decades later as a result of excessive exposure earlier in life. Since most of our exposure to sunlight occurs during childhood and adolescence, proper precautions in these years can prevent serious health problems later on.

When should I look for the UV Index?

Every day, especially from May to September. The sun's UV rays are stronger on some days than on others. These variations are due to things like seasonal changes in the angle of incoming sunlight, daily changes in the ozone layer, and cloudiness. However the danger of UV ray damage does not just exist in the summer months. During the winter and early spring, fresh white snow can reflect UV radiation, increasing the amount of UV rays you receive by as much as 85%. High UV levels kill the outer cells

of the eye. Even on cloudy days, up to 80% of UV rays can penetrate cloud cover and cause damage.

How do I use the UV Index?

It's easy. The higher the index, the more careful you have to be.

When the Index is between 0 and 2...

UV isn't usually a problem. But be careful when it's bright and there's snow on the ground. UV rays bounce back from the snow. Special UV sunglasses will help to protect your eyes.

When the Index is between 3 and 7...

Take care. Some people get sunburned in about 30 minutes. Wear big hats and clothes that cover your skin. Put sunscreen on skin that you can't cover. Don't be fooled if it's cool or slightly cloudy. The UV still gets through.

When the Index is 8 or more...

Look out! Some people get sunburned in only 15 minutes. Don't stay too long in the sun, especially between 11 a.m. and 4 p.m. Wear your sunglasses (the special UV ones) and stay in the shade. Put on more sunscreen every 2 hours or after swimming or working up a good sweat. Be especially careful when you're down south on winter holidays. On clear, sunny days in the tropics, the UV Index is normally between 11 and 14.

What is the UV index in the Northwest Territories?

The Northwest Territories is a zone of moderate UV radiation, with a UV index of 4.5-5.5, a value which can vary with cloud cover and season. However the danger of UV ray damage does not just exist in the summer months. During the winter and early spring, fresh white snow can reflect UV radiation, increasing the amount of UV rays you receive by as much as 85%. These extreme UV levels kill the outer cells of the eye. Even on cloudy days, up to 80% of UV rays can penetrate cloud cover and cause damage.

Where do I find the UV Index?

With your daily weather forecast - on radio and TV, in your paper or visit

http://www.msc-smc.ec.gc.ca/education/uvindex/forecasts/forecastmap_e.html

For more information on the impact of our ozone layer on UV exposure, visit

http://www.msc-smc.ec.gc.ca/cd/brochures/understandozonelayer_e.cfm

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The Northwest Territories lies in a region of moderate to low UV Index levels

UV Index Sun Protection Messages

UV Index	Description	Sun Protection Actions
0 - 2	Low	• Minimal sun protection required for normal activity • Wear sunglasses on bright days. If outside for more than one hour, cover up and use sunscreen • Reflection off snow can nearly double UV strength. Wear sunglasses and apply sunscreen
3 - 5	Moderate	• Take precautions – cover up, wear a hat, sunglasses and sunscreen - especially if you will be outside for 30 minutes or more • Look for shade near midday when the sun is strongest
6 – 7	High	• Protection required – UV damages the skin and can cause sunburn • Reduce time in the sun between 11 a.m. and 4 p.m. and take full precautions – seek shade, cover up, wear a hat, sunglasses and sunscreen
8 - 10	Very High	• Extra precautions required – unprotected skin will be damaged and can burn quickly • Avoid the sun between 11 a.m. and 4 p.m. and take full precautions – seek shade, cover up, wear a hat, sunglasses and sunscreen
11 +	Extreme	• Values of 11 or more are very rare in Canada . However, the UV Index can reach 14 or more in the tropics and southern U.S. • Take full precautions. Unprotected skin will be damaged and can burn in minutes. Avoid the sun between 11 a.m. and 4 p.m. , cover up, wear a hat, sunglasses and sunscreen • White sand and other bright surfaces reflect UV and increase UV exposure

Adapted from Environment Canada, May 2004