THE GAZETTE, 27 mai 2006, p. B1

1/2

HERE COMES SIZZLING SUN

Story by MARIAN SCOTT The Gazette

YOU CAN ALREADY FEEL IT. Environmental scientists predict a blistering summer, as ultraviolet radiation from the sun reaches near-record levels.

That comes as no surprise to people who already sense a greater intensity in the sun's burning rays.

"Something's wrong out there," said Ari Demirjian, a dermatologist and Quebec spokesperson for the Canadian Dermatology Association. "These days I have a tingling in my skin I never had before. I feel the burning, which I never felt as a younger person."

What's changed?

UV radiation from the sun is expected to be even higher than last summer, when the UV index hit a record high of 11 on June 12, said Angus Fergusson, a senior meteorologist at Environment Canada.

Several factors could make this one of the riskiest summers ever for sunburns, cataracts and skin cancer:

The ozone layer is about four per cent below normal, compared with about 3.5 per cent below normal last year. Normal is considered to be the level before the 1980s, when scientists first discovered a hole in the ozone over Antarctica. The main culprit is chemical compounds like CFCs (chlorofluorocarbons), long used as refrigerants, propellants and solvents.

This year, the 11-year sunspot cycle reaches a solar minimum, which means the sun is emitting less energy. Cooler conditions in the stratosphere favour the formation of ice clouds called polar stratospheric clouds, which damage the ozone.

Global warming could be contributing to ozone thinning. While the Earth is becoming warmer, the stratosphere is cooling, setting up conditions that favour ozone damage.

Environment Canada predicts a hot, dry summer, which means fewer clouds to block those dangerous UV rays.

The ozone layer is thinnest in June and July, when the UV index routinely reaches 7 and higher. It starts to thicken in August and reaches its maximum in mid-winter, when the UV index drops to about one.

Solar radiation is higher in southern Canada and lower in the North. "In Edmonton, the UV index tops out at 7 or 8, Fergusson said. "Toronto is slightly higher than Montreal."

The ozone layer, about 25 kilometres above the Earth's surface, forms a protective blanket against the sun's UV radiation.

Ozone-damaging chemicals like CFCs have been banned under international agreements, including the 1987 Montreal Protocol, but some are still in use and the ozone hole is not expected to recover until 2050.

mascott@thegazette.canwest.com

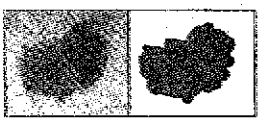
26

2/2

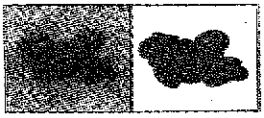
ABCDs of skin cancer

Learn the ABCDs of skin cancer. Watch for these signs and if you notice any of them, see a dermatologist:

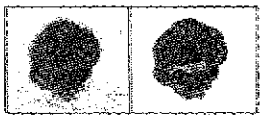
A **Asymmetry:** Moles that are an irregular shape



B **Border irregularity:** Scalloped edges



C **Colour variation:** Tones that vary from tan to brown or black



D **Diameter:** Any mole larger than a pencil eraser

NASA

There are three main types of skin cancer: basal-cell carcinoma, squamous-cell carcinoma and malignant melanoma.

Basal-cell carcinoma is the most common, accounting for about 75 per cent of skin cancers. It is slow-growing, rarely spreads and is usually not fatal. Basal-cell cancer usually develops on sun-exposed areas like the head and neck. It can appear as a raised, red, pearly wound.

Squamous-cell carcinoma is more rare and in a few cases can become fatal. It tends to develop on sun-exposed areas that are prone to blemishes or freckles. It can appear as a scaly red patch or a growth that resembles a wart. It might bleed or show up as an open sore that refuses to heal. It is most dangerous on mucous membranes like the lip.

Malignant melanoma, the most deadly skin cancer, will strike one Canadian man in 77 and one woman in 93, according to the Canadian Cancer Society. It can occur anywhere and is not always associated with sun exposure. It can burrow deep into the skin and spread quickly. Melanoma is curable if caught early. However, if the growth is more than 4 millimetres deep – smaller than a pea – the five-year survival rate is only 40 per cent. Half of melanomas occur when a harmless mole turns cancerous and the other half show up as a new cancerous growth. The mole may begin to grow, bleed, or change colour. It can be brown, black, red, white or blue and is often varied in colour. **For information,** call the Canadian Cancer Society, 1-(888)-939-3333.

MARIAN SCOTT

THE GAZETTE, 27 mai 2006, p. B4

1/3

SUN'S OUT, SKIN CANCER'S UP

Story by MARIAN SCOTT The Gazette

IT WAS JUST A LITTLE BROWN MOLE on her lower back, nothing to worry about, Marie-Josée LeBlanc thought. Until her dermatologist uttered three words that changed her life forever: "You have melanoma."

"The word melanoma echoed in my head like a Ping-Pong ball," said LeBlanc, a customer sales representative who was just 29 when her skin cancer was diagnosed eight years ago.

"You think skin cancer only happens to other people. Well, I'm other people."

LeBlanc is among the one in seven Canadians who will develop skin cancer – a rate that's expected to rise as damage to the ozone increases our risk of burns, cataracts and skin cancer.

As we head into another summer of fun in the sun, dermatologists are bracing for a skin-cancer epidemic.

"The numbers are going up exponentially," said Jason Rivers, a skin-cancer researcher and professor of dermatology at the University of British Columbia.

The sun, source of all life on Earth, can also be a killer.

The ozone layer overhead that filters the sun's ultraviolet rays is four-per-cent thinner than the pre-1980 baseline. And with Environment Canada forecasting a hot, dry summer, doctors warn we'd better cover up and slather on the sunscreen.

It can take decades for sun damage to turn into skin cancer. So that sexy tan you soaked up 20 years ago or childhood sunburns could come back to bite you.

"Whatever damage is done to the skin comes back to haunt us," said dermatologist Ari Demirjian. "You see the impact 10, 20 or 30 years down the road."

Quebec dermatologists are seeing five times as many skin cancers as in the 1980s, said Dr. Pierre Ricard, past president of the Association des Dermatologistes du Québec. They diagnosed 24,347 skin cancers (all types) in 2005 compared with 4,312 in 1984, Ricard said, quoting statistics from the provincial health board, the Régie de l'assurance maladie.

And those numbers don't include skin cancers diagnosed by other doctors, such as general practitioners and oncologists, which could amount to as many as 10,000 more cases, Ricard estimated.

The Canadian Cancer Society estimates 68,000 Canadians will develop non-melanoma skin cancers this year. However, those numbers understate the problem because cases that don't require hospitalization are not counted, said spokesperson Joëlle Dorais.

Cases of malignant melanoma – the most deadly skin cancer – have more than doubled in 20 years and continue to rise by two per cent each year, said UBC's Rivers. The disease will strike 4,500 Canadians this year, of whom 880 will die, the Canadian Cancer Society estimates.

"Two to three Canadians die every day from melanoma," said UBC's Rivers.

One of them was Chuck Cadman, 57, the independent MP who died last July after casting the deciding vote that let Paul Martin's minority Liberal government survive a confidence motion last May.

In Ottawa last week, his widow, Dona, urged Canadians, particularly men, to get checked for skin cancer.

"I'd been bugging him for about a year to have a mole looked at," she said at an emotional press conference to launch a memorial skin-cancer screening on Parliament Hill. "But like most men, he decided other things were more important."

Such deaths are particularly tragic because most are avoidable, Rivers said. "This is a cancer which for the most part is preventable. And if you get it early enough, it's treatable."

Men account for 60 per cent of melanoma deaths. One reason is they are less inclined to see a doctor about a suspicious mole, Rivers said. "Men are generally less health-conscious than women. They delay getting it looked at."

Researchers also report a surge in skin cancers among children and young adults. Basal-cell carcinoma used to strike mostly people over 50 but is now showing up in teens and young adults, according to the Canadian Dermatology Association.

28

2/3

And, it says, one in three Canadian children, age 12 and under today, will develop basal-cell carcinoma during their lifetime.

Régen Drouin, a geneticist at the Université de Sherbrooke, said what makes the rise in basal-cell carcinoma particularly alarming is that 70 per cent of people diagnosed with it will eventually develop another type of cancer.

Melanoma is also striking at an earlier age, Drouin added. "People are coming in younger and younger."

LeBlanc said when her skin cancer was diagnosed eight years ago, she was considered unusually young. "Now it's not rare any more. There are more and more young people."

So forget what Mom said about getting outdoors to play.

"Our mothers had a much thicker ozone layer overhead," Demirjian said.

Experts recommend staying out of direct sun between 10 a.m. and 4 p.m, covering up with long-sleeved clothing, sunglasses and a hat and slapping on generous amounts of sunscreen.

People who work or play for hours outdoors should reapply sunscreen every three hours. "You don't have to strip down to your bikini" to expose yourself to harmful rays, noted Beatrice Wang, an assistant professor of dermatology at McGill University. "You're getting sun exposure all the time: while you're walking, biking, or playing golf."

Repeated exposure to UV radiation ages the skin, causing blemishes, freckles and wrinkles.

As with smoking, it takes many years, and usually repeated exposure, to develop skin cancer, Rivers said. "You start smoking at age 13 and you don't get cancer 'til your 50s," he said.

As a teen, Marie-Josée LeBlanc, who has light-brown hair, hazel eyes and a fair complexion, envied her olive-skinned friends their dark tans.

"I spent entire days in the sun," said LeBlanc, who burned repeatedly. "I wanted to be like a movie star."

Ultraviolet radiation from the sun causes cells in your skin to release melanin, a pigment that darkens the skin.

Your skin burns when UV radiation exceeds the protective capacity of melanin in the skin. Fair-skinned people are most vulnerable, but dark-skinned people can burn, too, and should protect themselves from the sun.

When you get a burn, the outer layers of skin release chemicals that cause the blood vessels to swell, resulting in pain and redness hours later and, in severe cases, swelling and blisters after a few days.

Peeling after a sunburn is your skin's way of shedding damaged cells. However, some sunburn damage may remain and cells that survive are at risk of becoming cancerous.

But the harm occurs long before your skin starts to turn pink. "The DNA in cells can actually be damaged," Rivers said. "With continued exposure, (the damaged cells) can become malignant."

Even if you got too much sun in the past, it's better late than never to protect yourself. Sometimes, a single tropical holiday can be enough to activate decades-old skin damage and cause cancer, Rivers said.

It's a fact that people who spend a lot of time outdoors develop a natural resistance to the sun, Demirjian acknowledged. But a natural tan only provides protection equivalent to SPF 6 – not enough to ward off cancer risks, he said.

Tanning beds are not a safe way to tan and should be avoided, dermatologists say.

What about the vitamin D we need from the sun? The sun exposure you get from walking to the bus stop is all you need, Demirjian assures. Supplements are also an excellent way to get vitamin D.

Unfortunately, it seems we're still not getting the message about protecting ourselves from the sun.

"People are not following recommendations. They're taking it lightly," Demirjian said. "The majority of my patients refuse or do not want to wear hats. Men do not want to wear sunscreen."

And like emphysema and lung-cancer patients who keep puffing on cigarettes, even skin-cancer patients don't always change their ways. "Some of our patients in the melanoma clinic are still going to the tanning clinic and going down south," McGill's Wang said.

"Obviously, we can't tell people to hide in the basement," said Wang, who never goes out with out 60 SPF sunscreen and a hat. "But we want them to be a little more thoughtful."

LeBlanc, who carries sun block in her purse and frequently dabs it on small children when she notices their faces flushed from the midday sun, says people still aren't taking skin cancer seriously.

"When I go to Old Montreal, and I see the young girls in their camisoles, I feel sick, absolutely sick," she said.

"Until it happens to them, or one of their loved ones, they just don't realize the risks."

How to choose the right sunscreen

Dermatologist Ari Demirjian offers these tips on how to choose the right sunscreen and use it properly:

Sunscreen alone doesn't provide sufficient protection from the sun, particularly since it's easy to miss an area. Also cover up with a hat, long-sleeved clothes and sunglasses and try to stay in the shade.

SPF stands for sun protection factor. SPF 15 lets through one-15th of the sun's ultraviolet rays. SPF 60 lets through one-60th. Use at least SPF 15, Demirjian recommends. For fair-skinned and other high-risk people, the minimum is SPF 30.

Find a sunscreen that contains the following ingredients:

Parsol, also known as avobenzone, is a chemical sunscreen. This has to be combined with either octocrylene or mexoryl. Sunscreen should also contain either titanium dioxide or zinc oxide, which are physical sunscreens.

Avoid sunscreens that contain these ingredients:

Paba or Padimateo. Both can cause allergies and, when exposed to sunlight, can produce free radicals, which may be detrimental to the skin.

Oxybenzone can be absorbed into the body and bloodstream.

How much to use:

Most people don't slather on enough sunscreen and don't use it often enough. "For the average adult you need to apply six teaspoonfuls (30 mL)," Demirjian said. "That can be up to 12 teaspoonfuls for a particularly large person and two to four teaspoonfuls for children."

If you're staying indoors, one application should be enough. If you're spending the day outdoors, reapply every three hours. The sunscreen has to be absorbed by the skin. You don't

need a thick layer of white cream on top of the skin.

Combining sunscreen with other substances: Sunscreen should always be the first thing you apply to your skin.

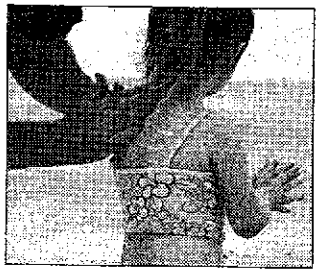
Insect repellent: Apply sunscreen first, then repellent. Slathering sunscreen on top of repellent increases the chances of toxic ingredients in the repellent being absorbed by the skin.

Makeup: Certain particles in makeup might interfere with the sunscreen's effectiveness. "It's very important that the sunscreen be applied first and left on for one hour before makeup is applied," Demirjian said. Alternatively, use makeup that contains sunscreen. However, it might not provide sufficient protection for fair-skinned people and those at high risk.

Moisturizer: Moisturizer could have the same effect as makeup. "If someone needs a moisturizer, they're better off getting a sunscreen that is richer rather than applying moisturizer on top of the sunscreen," Demirjian said.

For a list of sunscreens approved by the Canadian Dermatology Association, go to: www.dermatology.ca/patients_public/info_patients/sun_safety/recognized_sunscreens.html

MARIAN SCOTT
mascott@
thegazette.canwest.com

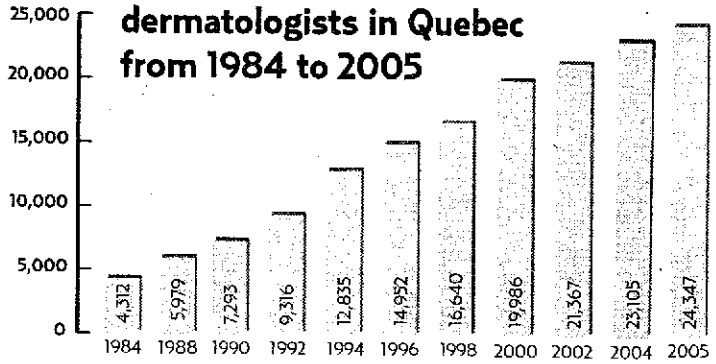


UV Index

The UV index (UVI) is a measure of the intensity of ultraviolet radiation as it relates to the effects on human skin. Environment Canada scientists created the index in 1992.

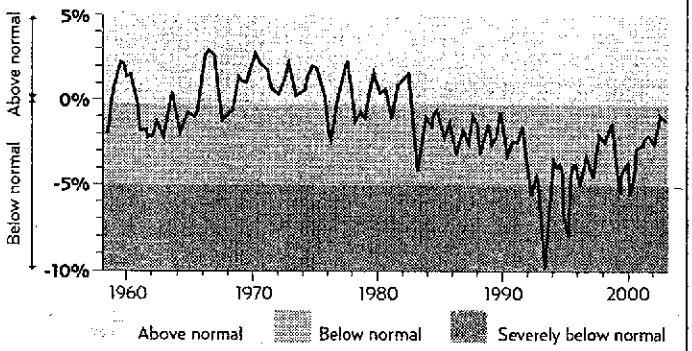
UVI	Category	Sun protection
0-2	Low	Minimal protection for normal activity.
3-5	Moderate	Cover up, wear hat, sunglasses, sunscreen if outside for 30 minutes.
6-7	High	Protection required. Reduce time in the sun between 10 a.m. and 4 p.m.
8-10	Very high	Take full precautions and avoid sun between 10 a.m. and 4 p.m.
11+	Extreme	Take full precautions and avoid sun between 10 a.m. and 4 p.m.

Skin cancer treated by dermatologists in Quebec from 1984 to 2005



SOURCE: Pierre Ricard, RAMQ

Ozone thinning over Canada



SOURCE: Environment Canada (http://www.msc.ec.gc.ca/topics/uv/uv_and_ozone_layer_e.html)