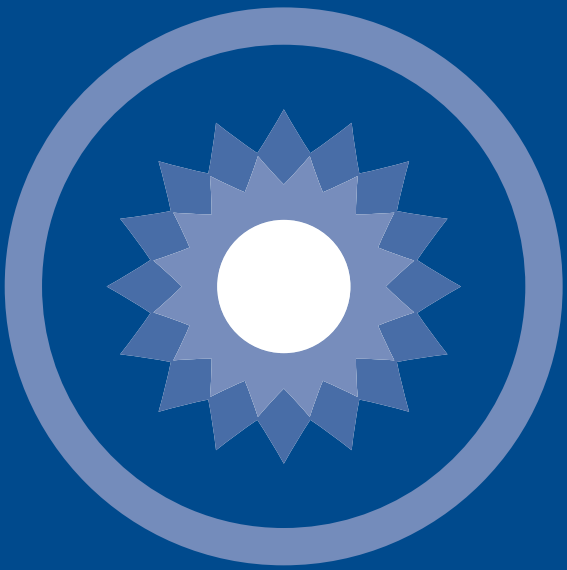

Stay Sun Safe

REXALL RESOURCE

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Everyone enjoys a day outdoors when the sun is shining and the temperature is just right. Whether it's summertime and you're heading to the beach or the golf course or it's winter and you're ready to grab your skis or skates, a day in the fresh air is a treat. But a day in the sun also poses some risks for those who don't protect their skin from exposure to the sun's ultraviolet radiation (UV rays), including sunburn, skin cancer, premature aging of the skin (wrinkles, sagging, and discolouration), and eye damage.

Long ago, medical scientists became aware that prolonged exposure to sunlight, especially during childhood, can cause skin damage and, ultimately, skin cancer. Yet the myth of a "healthy tan" persists. There is no such thing as a healthy tan! The change in skin colour that we refer to as a tan is, in itself, a sign of skin damage.

The Canadian Cancer Society estimates that each year about 4,600 cases of melanoma (the most serious type of skin cancer) will be diagnosed and that 900 people will die from the disease. In addition, an estimated 69,000 new cases of nonmelanoma skin cancer will be diagnosed. More than 90% of all skin cancers occur on the parts of the body that are subjected to repeated sun exposure.

Thankfully, damage from the sun's UV rays is largely preventable if sun protective measures are taken. Rexall has developed this booklet to give you the information you need to protect your skin from the ravages of sun damage. Everything from understanding UV rays and their effects, how to correctly apply sunscreen and treat sunburns, to regular inspection of the changes to any moles or spots you have, can be found in this handy booklet. And don't forget—your Rexall Family Pharmacist is always here to answer your questions and help you select sun protection products that are right for you and your family. We're here to help you stay sun safe!

Table of Contents

How the Sun Affects the Body

It seems odd that sunlight, which is essential for life, can also be extremely dangerous to our health, but it's true. Sunlight is made up of electromagnetic energy, which is transmitted through the air as electromagnetic waves. Some of these waves we can see; others we cannot. Too much exposure to ultraviolet radiation (UV rays), which is invisible to the eye, increases the risk for a host of problems including skin cancer, moles, premature wrinkling, sagging of the skin, as well as cataracts and other eye diseases. It can also weaken the immune system, making us vulnerable to other health problems. Too much exposure to infrared radiation (another type of invisible wave) may result in heat-stroke and similar reactions.

Understanding UV Rays

The electromagnetic wavelengths that make up UV rays are classified as UVA, UVB, and UVC. The UVC rays from the sun are completely filtered by the ozone layer surrounding the earth and, therefore, don't have much effect on us. UVA and UVB rays, on the other hand, can cause us quite a bit of trouble. The amount of UVA and UVB rays that reach your body is affected by where you are on the earth, your altitude, the season, time of day, cloudiness, and the condition of the ozone layer. In addition, reflections from sand, pavement, snow, and water increase UV exposure.

UVB rays are mostly to blame for sunburn, and they increase risk for melanoma (the most serious form of skin cancer) more than the other types of radiation. Even in amounts too low to cause skin reddening, UVB may impair the immune system, damage DNA, and increase the risk for skin cancer.

Up to 90% of UVB radiation is blocked by the ozone layer; however, damage to the ozone layer is increasing the amount of UVB that reaches the earth. It has been estimated that for every 1% decrease in the ozone layer, UVB radiation reaching the earth's surface increases by 2% each year. This is believed to increase the incidence of basal and squamous cell skin cancers by 2% to 6% annually and increase the incidence of melanomas by up to 2% per year.

About 10 to 100 times more UVA than UVB reaches the earth's surface. It is closest in wavelength to visible light, and it can penetrate glass. (UVB does not penetrate glass.) UVA is not as likely to cause skin reddening and sunburn as UVB, but it does penetrate more deeply into the skin and the layer of fat just below the skin surface.

Taking certain medications—such as quinolones, tetracycline, sulfonamides, amiodarone, and tricyclic antidepressants—makes the skin more susceptible to the effects of UVA radiation, so it is particularly important to use a sunscreen that provides protection against UVA rays if you take one of these medicines (see chart on page 10). If you aren't sure whether the medications you take fall into this category, ask your Rexall Family Pharmacist.

The UV Index

The UV index was developed in 1994 to estimate UV intensity as a way of helping people assess the type of precautions they need to take when going outdoors. The index is based on the amount of time spent in the sun that it would take for a fair-skinned person to burn.

THE UV INDEX		
UV INDEX	**RISK**	**ESTIMATED TIME FOR A FAIR-SKINNED PERSON TO BURN**
0 – 2	Low	1 hour
3 – 5	Moderate	less than 20 minutes
6 – 7	High	less than 15 minutes
8 – 10	Very High	less than 10 minutes
11 and over	Extreme	less than 5 minutes

About 75% of total daily UV radiation is received between 9 a.m. and 3 p.m., with 20% to 30% received between 11 a.m. and 1 p.m. The Canadian Dermatology Association recommends limiting your sun exposure between the hours of 11 a.m. and 4 p.m., so it is wise to schedule planned outdoor activities outside of this time period whenever possible. If you do need to be outdoors during this time, be sure to use a sunscreen and take other precautions to protect yourself from the sun's harmful rays. For more tips on avoiding sun damage, see the section on sun protection on page 12.

The UV index tends to be higher in May and June (not July and August as many people think) and on bright days. Low temperatures create a false sense of security, because the UV index may actually be quite high even when the temperature is not.

Environment Canada publishes daily "UV Plots" based on a 24-hour calendar for various locations across the country. The plots can be found online at:
http://exp-studies.tor.ec.gc.ca/e/ozone/uv_plots.htm
Daily UV index readings can also be found on The Weather Network and also on the Environment Canada websites.

Unsafe Sun Practices

Sunburn

Sunburn usually begins as a reddening of the skin immediately at the end of sun exposure, and it starts to fade after several hours. Then, about six hours later, the redness returns, and reaches its peak at about 24 hours after the end of the sun exposure. Changes in the skin associated with UVA radiation are the result of damage to the blood vessels and cells. Overexposure to UVB rays can cause blisters, peeling skin, fever, chills, weakness, and shock.

Even a single severe sunburn before the age of 20 increases the risk of developing skin cancer later in life. However, this doesn't mean you get a free pass once you reach 20; sun damage is cumulative—it builds with each sun exposure.

Tanning

Tanning of the skin is related to the production of melanin, a radiation-absorbing protein the body creates in response to the damage done from UV exposure. The amount of darkening depends on the person's skin type, how long the skin was exposed to the sun's radiation, the intensity of the radiation, and whether the person already had some tanning.

UVA, UVB, and Your Skin Type

The way your body reacts to the sun's radiation is determined, in part, by your skin type. The following table shows the different skin types and how they react to UVA rays.

SKIN TYPES AND REACTION TO THE SUN'S RAYS			
SKIN TYPE	**WHAT IT LOOKS LIKE**	**SENSITIVITY TO UVA**	**REACTION TO SUN**
Type I	Caucasian, very fair skin tone, freckles, blond or red hair, blue eyes	Very sensitive	Always burns easily, never tans
Type II	Caucasian, fair skin tone, freckles, blond or red hair, blue or green eyes	Very sensitive	Usually burns easily, tans with difficulty
Type III	Darker Caucasian, light Asian, fair to medium skin tone	Sensitive	Burns moderately, tans gradually
Type IV	Mediterranean, Asian, Hispanic, medium skin tone	Moderately sensitive	Rarely burns, always tans well
Type V	Middle Eastern, Latin, light-skinned African, Indian, olive or dark skin tone	Minimally sensitive	Very rarely burns, tans very easily
Type VI	Dark-skinned African, very dark skin tone	Least sensitive	Never burns, deeply pigmented

Tanning easily does not protect the skin from damage by UVB rays; it is simply the result of increased melanin production.

There has been a large movement toward the use of tanning booths and other "sunless tanning" methods because people mistakenly believe that these tanning methods are safer than natural sunlight. Unfortunately, the UV radiation used in tanning booths has not been found to be any less dangerous than the sun's rays. Most artificial tanning devices emit light consisting of approximately 90% to 95% UVA and 5% to 10% UVB radiation. The high doses of UVA received by someone using one of these artificial tanning methods combined with increased exposure from repeated tanning sessions cause concern about the long-term consequences.

The Canadian Dermatology Association suggests that if you are determined to use a "sunless tanning" method, your best options are a bronzer or a self-tanning cream, spray, or lotion. These products add colour to your skin without exposing it to the harmful effects of radiation. Bronzers are essentially a form of make-up. They produce an immediate result and can be removed easily with soap and water. Self-tanning creams, lotions, and sprays contain dihydroxyacetone (DHA), a chemical that interacts with the dead cells located in the upper layer of the skin to cause a colour change that usually lasts about five to seven days. These products should be applied at night and followed with an application of a sunscreen with an SPF 15 or higher that provides both UVA and UVB protection. Neither bronzers nor self-tanning products provide any protection from the sun, so the application of an SPF lotion is important.

Tanning pills, tanning accelerators, and tanning promoters have all been deemed unsafe. Tanning pills contain colour additives that are distributed throughout the body and can be harmful. The main ingredient in sunless tanning pills is canthaxanthin, a chemical that can show up in the eyes as yellow crystals, causing injury and impairing vision. Tanning accelerators and promoters can also be dangerous, and scientific studies show that they are not effective.

Harmful Effects of UV Rays

Skin Cancer

Each time skin is exposed to the sun or to an artificial tanning device and becomes tanned or burned, it damages the cells and the person's DNA. If the immediate damage is not repaired, it can contribute to long-term skin damage and tumour formation.

Many people think that melanin is dangerous because it sounds so much like melanoma (the most serious type of skin cancer). In fact, the body produces melanin to protect itself from damage by the sun's UV radiation. The reason fair-skinned people are more susceptible to the damaging effects of the sun is that their skin has low melanin content. The risk for developing all types of skin cancers (i.e., basal and squamous cell carcinomas as well as melanoma) is higher in people with skin types I and II. In fact, the rates of basal and squamous cell carcinoma are 50 times higher, and incidence of melanoma at least 10 times higher in Caucasians than in people of African descent.

There is generally a lag time of a decade or more between sun overexposure and the occurrence of skin cancer. It is important to be aware of the cumulative effect of unprotected sun exposure—the more time you spend in the sun without protecting your skin, the higher the risk of eventually developing skin cancer.

Photoaging

Photoaging refers to premature aging of the skin associated with long-term exposure to sunlight. Sun-damaged skin becomes thicker and less elastic, and it is more wrinkled, yellowed, and sagging than skin that ages normally. Damage to the tiny blood vessels in the skin may cause darkened spots to appear.

Levels of damage range from mild (uneven skin tone, rough, and dry) to moderate (deeply wrinkled, sagging, thickened, and leathery with dark patches) to largely irreversible (deeply furrowed, permanently discoloured, and high risk for skin cancer).

The areas of the body most often affected are the face, back of the neck, back of the arms and hands, the V-line of the neck of women, and the balding areas of the heads of men.

Weakened Immune System

Exposing the skin to UV rays weakens the immune system, even if the UV exposure is minimal. UV radiation can suppress the activity of the body's antibody-producing white blood cells. As a result, the body doesn't produce the antigens it needs to defend itself. This leaves the body vulnerable to diseases that a healthy immune system could fight off.

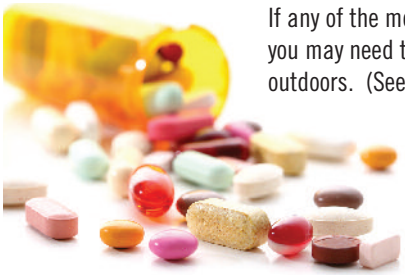
Medical scientists aren't sure exactly what effect this weakening of the immune system has on the body, but some think it may promote the development of skin cancers and activate viruses already present on the skin, such as herpes. People carrying the herpes virus should make a special effort to protect their faces against strong sunlight.

Photosensitivity

Photosensitivity is a general term for being particularly sensitive to the sun's rays. Some medications can cause photosensitivity as a side effect. People who are photosensitive experience sunburn and skin damage after much less sun exposure than people who aren't photosensitive.

The following table lists some of the medications that have been known to cause photosensitivity.

TYPE OF MEDICATION	EXAMPLES
Antibiotics	Fluoroquinolones Sulfonamides Tetracyclines
Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)	Celecoxib Ibuprofen Ketoprofen Naproxen
Diuretics	Furosemide Hydrochlorothiazide
Retinoids	Acitretin Isotretinoin
Hypoglycemics	Sulfonylureas
Neuroleptic Drugs	Phenothiazines Thioxanthenes
Anti-Fungals	Itraconazole Terbinafine
Other Drugs	Amiodarone Coal tar Dapsone Diltiazem 5-Fluorouracil Quinidine
Sunscreen Ingredients	Benzophenones Cinnamates PABA Salicylates



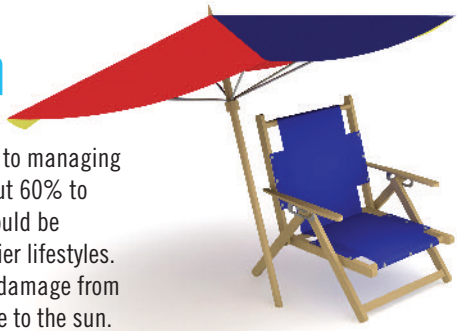
If any of the medications you take fall into these categories, you may need to take special precautions when you go outdoors. (See page 12 for tips on protecting yourself from the sun.) If you aren't sure whether your medicines fall into these categories, your Rexall Family Pharmacist will be happy to advise you.

Children & Young Adults

Young Canadians are particularly vulnerable to the consequences of sun overexposure. This results from a combination of high levels of sun exposure with low levels of protective behaviours. Many people still think of a tan as a "healthy glow" rather than as a sign of sun damage. This is something of a trap for young people who generally don't place their future health high on their priority list. This age group is also more likely to live in a state of denial regarding the health consequences of risky behaviours. There is a tendency to think that bad things only happen to other people.

Children and adolescents are the ones most likely to suffer from sunburn. The highest prevalence of multiple sunburns in the summer occurs in people between the ages of 15 and 24. The Canadian Dermatology Association recommends that teaching safe sun practices is an essential part of a youngster's health education.

Sun Protection



Prevention is always the best approach to managing health issues. It is estimated that about 60% to 70% of skin cancer cases in Canada could be prevented if Canadians adopted healthier lifestyles. The most effective method of reducing damage from ultraviolet radiation is to avoid exposure to the sun.

There are a number of basic sun protection tips that will help you reduce the risks of sun damage:

- Limit sun exposure between 11 a.m. and 4 p.m.
- Seek shade. If there is no shade, create it with an umbrella.
- Wear a wide-brimmed hat and clothing that covers your arms and legs.
- Wear sunglasses that provide UVA and UVB protection.
- Apply sunscreen with SPF 15 or higher. Look for a broad-spectrum product that provides protection against both UVA and UVB rays. Choose a higher SPF if you will be spending longer periods of time outdoors, if you have fair skin, or if your doctor recommends it.
- Ask your Rexall Family Pharmacist or your doctor if the medicines you take may increase your risk of sunburn.
- Women who are pregnant and those taking oral contraceptives may be at risk for darker pigmentation on the cheeks and forehead (“pregnancy mask”). If you are in this group, use a sunscreen with SPF 30 that has both UVA and UVB protection.
- If you feel you must have a tan, use a self-tanning cream or bronzer, but remember that self-tanning products do **not** provide sun protection.
- Check the UV index daily and take appropriate precautions. This information is available on The Weather Network and Environment Canada websites (among others).

Stay Sun Safe

A Guide to Sunscreens

The SPF rating on sunscreens represents the length of time that skin protected with the sunscreen can be exposed to UV rays before the skin begins to burn, compared with the length of time it takes unprotected skin to burn. For example, if it normally takes you 15 minutes to get a sunburn, a suntan lotion with an SPF of 15 would increase that time to 225 minutes (i.e., 15 minutes x SPF 15 = 225 minutes).

The Canadian Dermatology Association (CDA) recommends using a sunscreen with SPF 15 or higher that provides both UVA and UVB protection. Sunscreens are available as creams, lotions, sprays, gels, and sticks. The SPF factor of various sunscreens is influenced by a number of factors, including the amount applied to the skin, the time between when it is first applied and when the skin is exposed to the sun, and how often the product is reapplied.

The CDA permits the use of its logo on sunscreen products that meet its criteria.

The minimum criteria include:

- The product must provide UVB SPF of at least 15.
- The product must contain a broad-spectrum UVA block.
- The product must not clog pores, irritate the skin, and not be likely to cause an allergic reaction.
- The product must be minimally perfumed or non-perfumed.

Depending on the ingredients in a sunscreen preparation, that product is classified either as a chemical sunscreen or a physical sunscreen. Chemical sunscreens must be applied well before going out in the sun to allow the active ingredients to bind to the skin. They should **not** be used on babies under the age of six months.

Physical sunscreens can be applied immediately before sun exposure and are suitable even for very young children. These products contain ingredients such as zinc oxide, titanium dioxide, kaolin, talc, ferric chloride, and melanin.

Your Rexall Family Pharmacist will be happy to help you select a sunscreen that is right for you and your family.

Applying Sunscreen Properly

Many people don't get the full protective benefit of their sunscreen because they don't apply it properly. Health Canada recommends applying the sunscreen evenly to all exposed skin surfaces. If you are using a chemical sunscreen, apply it about 15 to 60 minutes before going out in the sun and reapply it approximately 20 minutes after exposure to the sun to ensure maximum protection.

Most people use only 20% to 60% of the amount of sunscreen that they should. An average-size adult should apply and rub in 55 to 70 grams (2 to 2.5 oz.). Pay careful attention to vulnerable areas of the body that are often missed—such as the ears, neck, and bald spot if you have one. You should also use a lip balm with SPF 15 or higher to protect the delicate skin on your lips.

If you are going to be in the water or will be very active and perspire heavily, consider a water-resistant or waterproof sunscreen, and reapply it every one to two hours or after sweating, swimming, or towelling off.

Some sunscreens are formulated to show up in colour as they are applied to the skin to prevent missed spots; then the colour disappears. This can be particularly useful in teaching children to apply sunscreen properly.

Babies under six months of age should be kept out of direct sunlight. In children between the ages of six months and 15 years, regular use of sunscreen with SPF 15 or higher has been shown to reduce the incidence of nonmelanoma skin cancers by about 75%. Alcohol-free preparations are preferred for total body application, because lotions and gels containing alcohol may cause stinging, burning, and irritation of the skin and eyes. Lip balm of SPF 15 should be applied to the lips—it can also be used for ear tips as an alternative to lotions.

Physical sunscreens such as zinc oxide are recommended for areas such as the nose, ears, cheeks, and shoulders. Adolescents with acne are generally best to choose an oil-free, alcohol-based sunscreen that is non-comedogenic (i.e., does not clog pores) and a lip balm containing at least SPF 15.

Protective Clothing

A growing number of clothing manufacturers are creating clothing that protects against the sun's harmful rays. The rating for sun protection used for clothing is the ultraviolet protection factor or UPF. The following table outlines the UPF ratings and explains the level of protection they provide.

UPF RATINGS AND PROTECTION CATEGORIES FOR CLOTHING		
UPF RATING	**AMOUNT OF PROTECTION**	**% UV RAYS BLOCKED**
15 – 24	Good	93.3-95.9
25 – 39	Very Good	96.0-97.4
40 – 50	Excellent	97.5 or greater

In general, the type of fibre, colour, and fabric construction determine how well clothing will protect skin from the sun. For example, a cotton T-shirt affords the equivalent of a sunscreen with an SPF of 8 (in other words, not very much protection). However, a more tightly woven cotton/polyester shirt offers a UPF of 15, and a polyester/Lycra® shirt has a UPF of 35. The looser the fabric weave, the greater the amount of light penetration. When clothing becomes wet, it also allows in more light. Stretchy fabrics may allow much more UV penetration when they are stretched out. Finally, studies have shown that the closer the fabric is to the skin, the less UV protection it affords.

Eye Protection

Exposure to the sun's rays increases the risk of a number of eye problems including cataracts and eye cancers. How well sunglasses work in preventing these problems depends on a number of factors including their size, shape, and the UV-absorbing materials incorporated into the lens. Look for a label on the sunglasses that lists the type and amount of protection afforded.

Sunglasses that block at least 95% of UVB, at least 60% of UVA, and 60% to 90% of visible light are recommended. And they should be worn whenever you go outdoors during daylight hours.

Treating Sunburn

Although mild sunburn is more of a nuisance than a danger in the short term, just two blistering sunburns during childhood doubles the risk for melanoma (the most serious form of skin cancer) later in life.

You can ease the pain of mild sunburns with cool baths or by applying wet compresses for 20 minutes, four to six times a day. Acetaminophen may also help lessen the pain. A moisturizer or an after-sun lotion that contains a moisturizer (choose one without fragrance) can help prevent dryness and peeling.

Applying a vitamin E cream or lotion within two minutes after UV exposure may reduce redness. The timing is important, because the effect lessens as the time between sun exposure and application of the vitamin E lengthens.

A soothing lotion that contains aloe vera applied to the sunburn can also help relieve the discomfort.

Taking four doses of ibuprofen (400 mg each) spaced six hours apart may reduce both the redness (inflammation) and the degree of skin damage. It will also help relieve the pain.

Corticosteroid medications applied to the skin may temporarily reduce redness and stinging or itching, but they do not lessen the damage. These products should not be used on children under the age of two unless advised to do so by a doctor. You may be able to speed the healing of the redness by applying glycolic acid 8% cream once daily for one week starting within 24 hours of sun overexposure. If you are interested in using any of these medications, your Rexall Family Pharmacist can help you choose a product that is right for you.

Don't use anesthetic sprays on sunburned skin because they can actually increase the skin's sensitivity.

Blistering sunburns may require medical treatment. If your skin begins to blister after sun exposure, consult your doctor. Do **not** break open the blisters; this increases the risk of infection.

Skin Cancer

About 75,000 Canadians develop skin cancer each year. Skin cancers are generally categorized as either melanoma or nonmelanoma type. Nonmelanoma skin cancers are further categorized as either basal cell carcinoma or squamous cell carcinoma.

Nonmelanoma Type Skin Cancers

Nonmelanoma type skin cancers are the most commonly diagnosed cancers in Caucasians. The rate of occurrence among people of other races is only about 2% of what it is among Caucasians. These cancers rarely occur before 40 years of age, and they are more common in men than in women. Skin type (see table on page 6 to determine your skin type) plays a large role in the development of these types of cancer.

About 80% of the nonmelanoma cancers are basal cell carcinomas, which are most commonly associated with intense short-term sun exposure. The remaining 20% or so of nonmalignant skin cancers are squamous cell carcinomas, which are associated with the cumulative damage caused by repeated sun exposure over time.

Any suspicious looking growth or any sore that doesn't heal within four weeks should be evaluated by a physician.

Basal Cell Carcinoma

There is generally a delay of 20 to 50 years between the time of sun exposure and the occurrence of basal cell carcinoma, which is why so few cases are found in people under the age of 40. Basal cell carcinoma doesn't usually spread to other parts of the body and is rarely fatal.

Basal cell carcinoma can take on many forms. The most common is a translucent growth with rolled edges that may be brownish or have small blood vessels on the surface. But it may show up as an open sore that bleeds, heals, and then repeats the cycle. Or it can appear as a cluster of slow-growing, shiny pink or red spots that is slightly scaly and bleeds easily. Growths may also appear as flat or slightly depressed areas that feel hard to the touch. They may be white or yellow and have indistinct borders or appear as a waxy scar that is skin-coloured, white, or yellow. The different types and descriptions of basal cell carcinoma are outlined in the following table.

TYPES AND DESCRIPTIONS OF BASAL CELL CARCINOMAS

Nodular basal cell carcinoma (most common type)
- Most often appears on the head, neck, and upper back
- Waxy inflamed bump with a dip in the centre
- Usually resembles a smooth, round, waxy pimple that is pale yellow or pearl-grey
- May vary in size from a few millimeters to 1 centimeter
- Pearly appearance
- May be an open sore
- Bleeding
- Crusting
- Rolled, raised border
- Translucency
- Enlarged blood vessels over the surface
- Bleeds easily

Pigmented basal cell carcinoma
Same features as nodular carcinoma, but:
- Darker brown or black in colour
- More common in patients with dark skin

Superficial basal cell carcinoma
- Scaly patches or inflamed bumps that are pink to red-brown in colour, often with clear centres
- Thread-like borders are common
- More common on the trunk of the body

Micronodular basal cell carcinoma
- Less likely to be an open sore
- May appear yellow-white when stretched
- May have a well-defined border

Morpheaform and infiltrating basal cell carcinoma
- Scarlike patches or inflamed bumps (may be mistaken for scar tissue)
- Borders not well defined
- Open sores, bleeding, and crusting are uncommon

Cystic basal cell carcinoma
- Translucent, blue-grey lumps

Actinic Keratosis and Squamous Cell Carcinoma

Actinic keratosis is a pre-malignant lesion (one that is not yet cancer but that may turn into cancer). Over 80% of the occurrences of actinic keratosis happen on the upper limbs (most commonly on the back of the hands and the forearms) and the rest on the head and neck—areas that are frequently exposed to the sun. Actinic keratosis lesions (sores) located on the head and neck, and especially on the ears, scalp, and neck are the ones most likely to progress to squamous cell carcinoma. Squamous cell carcinomas are the second leading cause of skin cancer death in North America.

The following table describes the different appearances of actinic keratosis and squamous cell carcinoma.

TYPES AND DESCRIPTIONS OF ACTINIC KERATOSIS AND SQUAMOUS CELL CARCINOMA

Actinic Keratosis (most common appearance)

- Skin colour to reddish-brown or yellowish-black, poorly defined round or irregularly shaped scaling patch or bump on a sun-exposed area.
- Lesions are usually 1-3 mm in diameter, but they can be several centimeters in size. Sometimes there are quite a few lesions; other times they merge into larger areas.
- The skin around the lesions may have a yellowish colour or appear to have broken blood vessels.
- Scaliness can often be felt before the lesion can be seen. The skin may feel like sandpaper. Rough, elevated bumps may be red or skin-coloured.
- Lesions may be tender, itch, or burn, but they rarely bleed.

Cutaneous Horn (actinic keratosis)

- A type of actinic keratosis with cone-shaped lesions that rise above the skin surface.

Actinic Cheilitis (actinic keratosis)

- The mouth (especially the lower lip) appears rough, scaly, and red and may also show cracks, scaliness, and sores.

Squamous Cell Carcinoma

- May look like a crusted or scaly area on the skin with a red, inflamed base.
- May appear on the lip as a patch of thickened skin or as a sore that doesn't heal.
- May appear on the skin as a wart-like growth or patch, a sore that does not heal, or as red, scaly patches or bumps.
- Tumours may reach 2.5 cm in size and may develop into large masses.
- It can be difficult to tell the difference between actinic keratosis and squamous cell carcinoma without a skin biopsy. Therefore, it is important to have a doctor evaluate any unusual skin changes.

All actinic keratosis lesions, if left untreated, have the potential to progress to squamous cell carcinoma and eventually spread to other parts of the body. The progression to squamous cell carcinoma can be prevented through identification and early treatment. An important first step is to do monthly skin self-examinations (see page 24).

Melanoma Skin Cancer

Melanoma accounts for only 4% of skin cancer cases, but it causes about 79% of skin cancer deaths. It has been estimated that 60% to 70% of the cancer cases in Canada could be prevented if Canadians adopted healthier lifestyles that include preventive measures such as protecting your skin from sun damage and doing monthly skin self-exams.

In men, melanoma is most common on the upper back. In women, the back of the calf is the most common site and the back is the second most common. However, it can appear anywhere on the skin, especially on areas that are exposed to the sun. Melanoma usually starts as a flat brown spot that looks like a freckle.

Some people are more likely than others to develop melanoma. Among the factors that increase a person's risk are:

- having numerous and unusual types of moles (nevi), especially those with irregular borders
- a family history of moles (more than one other family member)
- fair or freckled complexion (type I or II—see table on page 6)
- having had a severe sunburn during childhood.

Melanomas are divided into four main types, depending on their location, shape, and whether they grow outward or downward into the skin. These categories are:

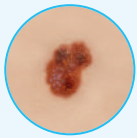
- **Superficial, spreading or flat:** grows outward at first to form an irregular pattern on the skin with an uneven colour. Superficial is the most common type and accounts for 70% of all melanomas.
- **Nodular:** lumpy and often blue-black in colour; may grow faster and spread downward.
- **Acral melanoma:** occurs on the palms of the hand, soles of the feet, or nailbeds.
- **Lentigo maligna:** usually occurs on the faces of elderly people.

Any of the following changes in the appearance of a mole may be cause for concern and should be reported to a doctor. They are often referred to as the **ABCDE's** of melanoma detection.

- **Asymmetry** – The shape on one side does not match the other.
- **Border** – The border of the visible edge is irregular, ragged, and imprecise.
- **Colour** – There is a variety of colours within the mole (brown, black, red, grey, or white within lesion).
- **Diameter** – There is growth in the diameter and width of the mole.
- **Evolution** – There is a change in the size, shape, symptoms (e.g., itching, tenderness), surface (especially bleeding), or colour.

Guide To Recognizing Melanoma

Normal Mole



Colour: black, brown, red, blue, or white

Shape: irregular border but well defined

Size: enlarges

If you notice any new suspicious growths or changes in the appearance of moles, report this to your doctor.

Assessing Your Risk

Although anyone can develop skin cancer, some people are more likely than others to develop it. The most important factor in increasing risk is exposure to the sun. The following lists will help you assess your risk level.

Risk Factors for Nonmelanoma Skin Cancer

- Age, particularly after 50
- Fair or freckled complexion
- Severe sunburn before age 20
- Use of tanning beds, tanning salons, or sun lamps
- History of keratoses (non-cancerous growths on the skin)
- Workplace exposure to certain substances, including arsenic compounds and petroleum products
- History of immune disorders
- Treatments for previous skin disorders
- Severe skin damage, including burns

Risk Factors for Melanoma

- Lots of moles, particularly unusual moles called dysplastic nevi
- More than one relative who has (or who had) melanoma
- Blond or red hair
- Fair or freckled complexion
- Severe sunburn during childhood

Skin Self-Examinations

One of the most efficient methods of detecting skin cancer when it is in its earliest, most treatable stage is through monthly skin self-examination.

What To Look For

- Any change in a birthmark or a mole—look for any changes in shape, colour, size, or surface.
- Any new growth on your skin—any new growth should be noted, but pay particular attention to pale, pearly nodules that may grow larger and crust and to patches that are red, scaly, and sharply defined.
- Any sore that doesn't heal.
- Any patch of skin that bleeds, oozes, swells, itches, or becomes red and bumpy.

How To Examine Your Skin

The best way to perform a skin self-examination is to stand in front of a full-length mirror and use a hand-held mirror to help you view every inch of your skin. It can also be helpful if there is someone available to assist you in checking the difficult-to-access areas such as the back of your neck and legs and behind your ears. Keep track of your findings in a skin self-exam diary (see page 28).

Step #1:
Get to know your skin. Learn where your birthmarks, moles, and blemishes are and what they look like. Each month when you perform your self-exam, look for the appearance of new spots and changes in the appearance of existing ones.

Step #2:
Standing in front of a mirror, check the front and back of your body. Then raise your arms and check both your right and left sides.

Step #3:
Look carefully at your hands, including the palms, and the tops and undersides of both your forearms and upper arms.

Step #4:
Check your legs—both front and back.

Step #5:
Look between your buttocks and around your genital area.

Step #6:
Examine your feet, including the soles and spaces between your toes.

Step #7:
Check your face, neck and scalp. If necessary, use a comb or blow dryer to move your hair so you can get a better look.

If you find anything unusual or if you are unsure or confused by what you find, see your doctor. The earlier skin cancer is found, the better the chance it can be cured.

My Action Plan for a Healthier Life

I will limit total daily sun exposure to:

_____

I will limit my time in the sun when the UV rays are strongest (10 a.m. to 4 p.m.) to:

_____

I will use a sunscreen with an SPF of:

_____

I will ask my pharmacist if the medications I take increase the risk of sunburn.

Medication: _____

Medication: _____

Medication: _____

Medication: _____

Medication: _____

Medication: _____

I will perform a monthly skin exam.

Date: _____ Exam performed:

Date: _____ Exam performed:

Date: _____ Exam performed:

Date: _____ Exam performed:

Date: _____ Exam performed:

Date: _____ Exam performed:

Date: _____ Exam performed:

Date: _____ Exam performed:

Date: _____ Exam performed:

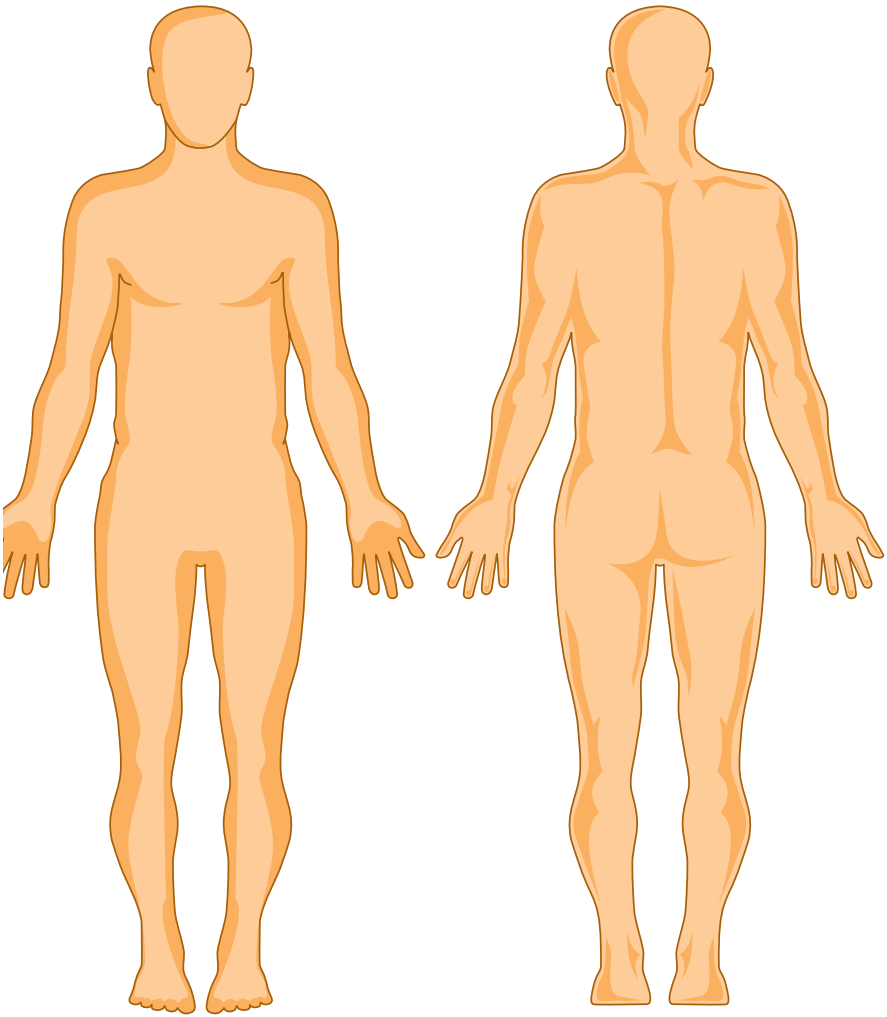
Date: _____ Exam performed:

Date: _____ Exam performed:

Date: _____ Exam performed:

Skin Self-Examination Diary

Begin your self-examination program by becoming familiar with your skin. Mark any existing birthmarks or moles on the figures below.



Once each month, examine your skin thoroughly (see instructions on page 24) and note any changes in the chart below. Tell your doctor if you find anything unusual.

DATE	CHANGES NOTICED/COMMENTS

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