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| Sun Safety Facts |
| Sun exposure at work is a big deal, and the sun is a workplace hazard. |
| Exposure to ultraviolet radiation (from sunlight, indoor tanning beds, or other artificial sources) can be harmful – for example it is the primary cause of skin cancer. Outdoor workers are up to 2.5 – 3.5 times more likely to be diagnosed with skin cancers.1 Outdoor workers are also at risk for developing heat stress when working in the sun.2  1 Radespiel-Tröger, M., Meyer, M., Pfahlberg, A., Lausen, B., Uter, W., and Gefeller, O. (2009). Outdoor work and skin cancer incidence: a registry-based study in Bavaria*. Int Arch Occup Environ Health,* 82, 357–36.  2 Adam-Poupart, A., Labreche, F., Smargiassi, A., Duguay, P., Busque, M. A., Rintakamki H., Kjellstrom, T., Zayed, J. (2013). Climate change and Occupational Health and Safety in a temperate climate: potential impacts and research priorities in Quebec, Canada. *Ind Health*, 51(1), 68-78. |
| Skin cancer is the most commonly diagnosed cancer in Canada, and rates are rising. |
| Each year there are over 80,000 new cases of skin cancer in Canada, making it the most diagnosed type of cancer. There are also over 1,500 deaths from skin cancer each year and rates are increasing.3  3 Canadian Cancer Society’s Advisory Committee on Cancer Statistics. (2014). *Cancer Statistics 2014*. Toronto, ON: Canadian Cancer Society. |
| The impacts of skin cancer can be serious. |
| There are over 1,500 deaths from skin cancer each year in Canada.4 Even if treated quickly, skin cancer requires surgery and leaves permanent scarring. The average melanoma patient loses 28 days of work per diagnosis.5  4 Canadian Cancer Society’s Advisory Committee on Cancer Statistics. (2014). *Cancer Statistics 2014*. Toronto, ON: Canadian Cancer Society.  5 Canadian Partnership Against Cancer. (2010, Feb 26). *The Economic Burden of Skin Cancer in Canada: Current and Projected*. Retrieved from http://www.cancercare.ns.ca/site-cc/media/cancercare/Economic%20Burden%20of%20Skin%20Cancer%20in%20Canada%20Report.pdf |
| Skin cancer can develop in people of all ages. |
| Melanoma skin cancer is one of the most common cancers in young adults.6  6 American Cancer Society. (2015, March 19). *What are the key statistics about melanoma skin cancer*? Retrieved from http://www.cancer.org/cancer/skincancer-melanoma/detailedguide/melanoma-skin-cancer-key-statistics |
| Sunburns are a big deal. |
| Sunburns can cause long-term damage to your skin. Sunburns put you at a much higher risk to develop skin cancer.7  7 International Agency for Research on Cancer. (2012). *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans - Volume 100: A Review of Human Carcinogens, Part D: Radiation.* World Health Organization, IARC: Lyon. |
| No tan is a safe tan. |
| A tan is your skin’s physiological response to the stress caused by UV.8 Any type and amount of exposure to UV, including from tanning beds, can be harmful and increase your risk of skin cancer.  8 Svobodova A. & Vostalova J. (2010). Solar radiation induced skin damage: review of protective and preventive options. *Int J Radiat Biol*, 86(12), 999-1030. |
| A tan does not provide protection against skin damage. |
| A ‘base tan’ is a tan equivalent to a sunscreen with an SPF (sun protection factor) of 2-4, which is not sufficient to protect your skin from a sunburn or skin cancer.9  9 European Commission, Health and Consumer Protection Directorate‐General, Scientific Committee Consumer Products. (2006, June 20). *Opinion on Biological Effects of Ultraviolet Radiation Relevant to Health with Particular Reference to Sunbeds for Cosmetic Purposes*. Retrieved from http://ec.europa.eu/health/ph\_risk/committees/04\_sccp/docs/sccp\_o\_031b.pdf |
| Skin damage from UV can be irreversible. |
| Skin damage from UV is often not properly repaired by your body. Continued UV exposure and damage to your skin can lead to skin cancer and other skin conditions. |
| Regardless of skin type or colour, UV exposure increases your risk of cancer. |
| While skin cancer is more common in people with fair skin, people with all skin types and colours can develop skin cancer. Skin cancer in people with darker skin is often detected at a more advanced stage and so the outcomes tend to be more serious.10  10 Agbai O. N., Buster, K., Sanchez, M., Hernandez, C., Kundu, R. V., Chiu, M. et al. (2014). Skin cancer and photoprotection in people of color: a review and recommendations for physicians and the public. *J Am Acad Derm* 70, 748-62. |
| The UV Index measures solar UV intensity. |
| The UV Index is a measure of the level of sunburning UV radiation we are exposed to. It is not related to temperature. Many factors contribute to UV levels including latitude, altitude, air pollutants, cloud, time of year, and time of day. You can monitor the UV Index by checking your local weather forecast. |
| The UV Index can still be high on cloudy days. |
| Clouds only block 20% of the sun’s UV.11 You still need to use sun protection on cloudy days.  11 World Health Organization, World Meteorological Organization, United Nations Environment Programme, & International Commission on Non-Ionizing Radiation Protection. (2002). *Global Solar UV Index: A Practical Guide*. Retrieved from http://www.who.int/uv/publications/en/UVIGuide.pdf |
| Even in winter, you need to be aware of the sun and UV radiation. |
| Snow can reflect up to 88% of UV12, which can increase your UV exposure. Reflected UV is particularly bad for your eyes and may lead to a condition called photokeratitis or snow blindness.  12 Sliney D. H. (1986). Physical factors in Cataractogenesis: Ambient Ultraviolet Radiation and Temperature. *Invest Ophthalmol Vis Sci*, 27, 781-790. |
| Sunscreen can be an effective form of sun protection when applied correctly. |
| Using a sunscreen that is SPF 30, broad spectrum, and water-resistant can be a good way to protect yourself. However, most people don’t apply it evenly or apply enough sunscreen, so the ‘real’ SPF can be much lower.13 Sunscreen should be used in combination with covering up, wearing a wide-brimmed hat or hard hat with brim and using neck flap, wearing UV protective eyewear, seeking shade, and staying out of the sun whenever possible.  13 Diffey B. (2009). Sunscreens: expectation and realization. *Photodermatol Photoimmunol Photomed*, Oct; 25(5), 233–6. |
| Sunscreens are safe. |
| Sunscreen ingredients are tested and must follow health guidelines to make sure they are safe to use. Some advocacy groups claim that certain chemicals in sunscreens are harmful and may increase your risk of developing cancer, however none of these chemicals (oxybenzone, retinyl pamitate, and parabens) have been found to pose a cancer risk.14  14 Canadian Cancer Society. (2013, Oct 31). *Canadian Cancer Society’s perspective on chemicals in sunscreen*. Retrieved from http://www.cancer.ca/en/about-us/news/national/2013/canadian-cancer-societys-perspective-on-chemicals-in-sunscreen/?region=bc |
| Sunscreen begins to work as soon as you apply it. |
| It is never too late to apply sunscreen. But, it can be absorbed better if you put it on ahead of time. It is recommended to use sunscreen as part of your preparation for the day, just like brushing your teeth. |
| Reapply sunscreen regularly. |
| Apply sunscreen as directed on the bottle, and reapply every few hours. If you’re sweating or working hard throughout the day, it’s recommended that you reapply more often. |
| You can use sunscreen and bug repellant together. |
| Apply sunscreen first before applying insect repellent.15 You should reapply sunscreen as needed, and more often if you’ve been in the water or sweating. Insect repellent tends to last longer.  15 Centers for Disease Control and Prevention. (2015, Mar 31). *Questions & Answers: Insect Repellent Use and Safety*. Retrieved from http://www.cdc.gov/westnile/faq/repellent.html |
| Vehicle windows block solar UV radiation. |
| Front windshields can be made from laminate glass, which provides good protection from solar UV. Side windows are made from tempered glass which blocks some but not all solar UV.16  16 Almutawa F., Vandal, R., Wang, S. Q. & Lim, H. W. (2013). Current status of photoprotection by window glass, automobile glass, window films, and sunglasses. *Photodermatol. Photoimmunol. Photomed.* 29, 65-72. |
| Intentional sun exposure to get vitamin D is not needed. |
| For most locations in Canada, we often receive enough solar UV from incidental exposure throughout the day to produce sufficient vitamin D.17 Vitamin D can also be obtained safely from foods like dairy products, fatty fish, fortified foods, and supplements.18  17 Fioletov, V. E., McArthur, L. J., Mathews, T. W, & Marrett, L. (2010). Estimated ultraviolet exposure levels for a sufficient vitamin D status in North America. *J. Photochem. Photobiol. B –Biol,* 100, 57-66.  18 Health Canada. (2012, March 22). *Vitamin D and calcium: updated dietary reference intakes*. Retrieved from http://www.hc-sc.gc.ca/fn-an/nutrition/vitamin/vita-d-eng.php |
| Heat stress is a big deal. |
| Heat stress can occur from sun exposure, your environment, and physical activity.19 Heat stress can lead to a range of serious health issues such as heat cramps, dizziness, fainting, heat exhaustion, heat stroke, and sometimes it can lead to death.  19 Centers for Disease Control and Prevention. (2014). *NIOSH Fast Facts: Protecting yourself from heat stress*. Retrieved from http://www.cdc.gov/niosh/docs/2010-114/ |
| Wearing long clothing doesn’t make you hotter. |
| Some clothing can be hotter to wear, but research indicates that wearing long pants does not appreciably affect your body temperature or your body’s response to working in a hot environment.20  20 Sinclair, W.H., Brownsberger, J.C. (2013). Wearing long pants while working outdoors in the tropics does not yield higher body temperature*. Aust. NZ J Public Health* 31(1), 70-75. |
| Acclimatization can get your body used to working in the heat, but it can be lost quickly. |
| Acclimatization your body’s ability to adapt to working in a hot environment. This happens by slowly increasing the time and intensity of your outdoor work in a hot environment. However, you can quickly lose the benefits of acclimatization, even over a weekend. After seven consecutive days of not working in a hot environment you are no longer sufficiently acclimatized, and should begin the process again.21 Some agencies in Canada indicate that outdoor workers generally do not work long enough at high enough temperatures to become acclimatized.22  21 WorkSafeBC. (2005). *Preventing Heat Stress at Work*. Retrieved from http://www.worksafebc.com/publications/health\_and\_safety/by\_topic/assets/pdf/heat\_stress.pdf  22 Ontario Ministry of Labour(2014, June). *Heat stress.* Retrieved fromhttp://www.labour.gov.on.ca/english/hs/pubs/gl\_heat.php |
| Everyone is different when it comes to acclimatization. |
| People who are not physically fit or who have a range of underlying health conditions take longer to become acclimatized.22  22 Ontario Ministry of Labour.(2014, June). *Heat stress.* Retrieved fromhttp://www.labour.gov.on.ca/english/hs/pubs/gl\_heat.php |
| Drink enough water that you never become thirsty. |
| Being sufficiently hydrated is critical to avoiding heat stress. Once you are thirsty, you are already dehydrated. During moderate activity in moderately hot conditions, workers should drink about one cup of water every 15-20 minutes.23  23 Centers for Disease Control and Prevention. (2014, Jun 6). NIOSH Fast Facts: Protecting Yourself from Heat Stress. Retrieved from http://www.cdc.gov/niosh/docs/2010-114/ |
| Salt tablets to prevent heat stress are not recommended. |
| To help prevent heat stress, eat a balanced diet rather than taking salt tablets.24 Too much salt can cause higher body temperatures, increase thirst, and lead to other illness.  24 Oudyk, J. (2014, Oct 30). Doing Something About Heat Stress Presentation*. Occupational Health Clinics for Ontario Workers.* Retrieved from http://www.ohcow.on.ca/uploads/Resource/AnniversaryPresentations/Doing%20something%20about%20heat%20stress%20Oct%2031%202014s.pdf |
| Heat stress significantly impacts outdoor workers and younger workers. |
| Heat illnesses as a result of heat stress are seen more often in younger workers, those who are new to the job and in industries with substantial outdoor work.25  25 Fortune, M. K., Mustard, C. A., Etches, J. J., Chambers, A. G. (2013). Work-attributed illness arising from excess heat exposure in Ontario, 2004-2010. *Can. J. Public Health* 104(5), e420-e426. |

Contact sunsafetyatwork.ca for more information.

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