Solar Radiation
Burden of Occupational Cancer Fact Sheet

**WHAT IS SOLAR RADIATION?**

Solar radiation is the main natural source of exposure to ultraviolet radiation. Levels of exposure vary depending on geography, seasonality, time of day and meteorology, as well as time spent out of doors and the amount of skin exposed. All outdoor occupations have a potential for exposure to solar radiation. The International Agency for Research on Cancer classifies solar radiation as a known carcinogen (IARC 1).

**WHAT ARE ITS HEALTH EFFECTS?**

- Skin cancer
- Sunburns
- Heat stress/stroke
- Thick, scaly skin patches
- Cataracts
- Eye lesions and cancer

**THE BURDEN OF SKIN CANCER FROM WORKPLACE EXPOSURE TO SOLAR RADIATION IN CANADA**

The term ‘burden’ refers to the human impact (deaths, illness, years of life lost) and the economic costs (health care, productivity) associated with a cause or group of causes of disease.

Approximately 4,600 non-melanoma skin cancers are due to occupational solar radiation each year, based on past exposures (1961-2001). This amounts to 6.3% of non-melanoma skin cancer cases diagnosed annually.

**WHAT IS THE ECONOMIC IMPACT?**

Work-related solar radiation exposure resulted in approximately $34.2 million in costs for newly diagnosed non-melanoma skin cancer cases in 2011. This includes approximately:

- 17% in health-related quality of life losses
- 58% in direct costs including health care, out of pocket expenses, family care giving, and workers’ compensation administration
- 25% in indirect costs including output and productivity losses

Estimated yearly cost of non-melanoma skin cancer due to workplace sun exposure
ABOUT THE BURDEN OF OCCUPATIONAL CANCER STUDY

The Burden of Occupational Cancer Study quantified the number of cancers that are caused by exposure to carcinogens in the workplace in order to identify priority areas for prevention. It was a collaboration between researchers at OCRC, CAREX Canada, the Institute for Work & Health (who led the economic analyses), University of British Columbia, Université de Montréal, Institut de recherche Robert-Sauvé en santé et en sécurité du travail, and Imperial College London.

For more information, please visit OCRC at www.occupationalcancer.ca or CAREX Canada at www.carexcanada.ca.

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