

## Occupational Skin Disease – It is More Than Just a Rash

This PSHSA Fast Fact is intended to provide workplace parties with information on the recognition and prevention of occupational skin disease.

### What is occupational skin disease?

An occupational skin disease (OSD) is a skin disease that is caused or made worse by a work-related exposure.

### Facts about occupational skin disease

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- OSD affects many different industries and occupations.
- OSD is MORE than just a rash – sometimes the skin disease is so bad that an employee cannot work or carry out their usual activities at home.
- *OSD is preventable.*
- *Early recognition and diagnosis of OSD leads to better outcomes.*

Every workplace should assess the risk and put controls in place to protect employees from occupational skin disease

### What are the most common types of occupational skin disease?

The most common types of OSD include contact dermatitis, urticaria and skin cancer.

### Contact Dermatitis

The primary occupational skin disease is contact dermatitis. Contact dermatitis is a skin condition caused by contact with something that irritates the skin or causes an allergic reaction. Therefore there are two types of contact dermatitis: irritant contact dermatitis and allergic contact dermatitis. Each year, 1,000 claims are reported in Ontario for contact dermatitis. Irritant contact dermatitis is more common and accounts for 75–80% of cases while allergic contact dermatitis accounts for the rest. These forms of dermatitis are difficult to distinguish from one another, although allergic contact dermatitis can occur in other places on the body that did not come in contact with the allergy-causing material. Someone who has occupational contact dermatitis may experience redness, scaling/flaking, blistering, weeping, cracking, crusting or swelling of the skin as well as itching, pain and decreased mobility.

Possible risk factors for irritant contact dermatitis include:

- Water or wet work
- Cleansers
- Detergents
- Alkalis and acids
- Oils and greases
- Cutting fluids and solvents
- Plants and animals
- Fibreglass

Possible risk factors for allergic contact dermatitis include:

- Various metals
- Rubber accelerators and other additives
- Anti-oxidants
- Resins/plastics (phenol-formaldehyde, epoxy, acrylate)
- Biocides
- Dyes
- Plants
- Fragrances
- Irritant contact dermatitis can be a factor leading to allergic contact dermatitis

Any workplace that involves excessive hand washing, hand hygiene, or wet work is at high risk for occupational contact dermatitis.

Much remains unknown about the possible personal, pre-existing risk factors for OSD. The length of time doing a particular job, age and history of or predisposition to dermatitis constitute some of the possible personal risk factors discussed in the literature.

The types of industries where employees are at highest risk for occupational contact dermatitis include:

- manufacturing
- service sector
- automotive
- health services
- agriculture.

*For a complete list of jobs and related irritants and allergens, please refer to **Workplace Contact Dermatitis: Facts for Workers in Ontario Fact Sheet** <http://www.wsib.on.ca/files/Content/OccDiseaseContactDermatitis/Workplace%20contact%20dermatitis.pdf>*

## Urticaria

Urticaria is a skin condition that consists of hives, swelling and redness and results from contact with something that causes an allergic or non-allergic reaction. Contact urticaria is different from dermatitis. In particular, it usually occurs quickly following skin contact and disappears again within hours. Common causes of urticaria include latex proteins, cold or heat, and some foods (e.g. shellfish, nuts, eggs). Industries that require employees to wear single-use latex gloves are at high risk for this type of occupational skin disease, including health, emergency and public service employees. In recent years nitrile gloves have been used to replace latex gloves in order to prevent latex allergy. Nitrile gloves are believed to provide a comparable level of protection against chemical and biological agents and are more puncture resistant than latex gloves. However, manual dexterity may be compromised with nitrile glove use which may increase the risk of sharps injuries. Hence, in addition to sensitivities to a particular glove material, factors such as working practices, glove size, fit, thickness and grip must also be taken into account when selecting the most appropriate glove type for an employee.

## Skin Cancer

Skin cancer is one of the most common types of cancer. Skin cancer accounts for about one-third of all cancers diagnosed in Ontario. According to Cancer Care Ontario, about 1 in every 7 Canadians will get some form of skin cancer (basal cell carcinoma, squamous cell carcinoma or melanoma) during their lifetime. While most skin cancers are not workplace related, there are well-recognized causes for those that are linked with occupation.

The most common causes of work-related skin cancers are:

- ultraviolet light, mainly from natural sunlight
- some chemicals, such as polycyclic aromatic hydrocarbons
- ionizing radiation, from radioactive substances and X-rays.

Industries that are at higher risk for occupational skin cancer include those that require employees to work outside in the summer including agricultural, construction and public service employees.

### How to prevent occupational skin disease

Primary prevention of occupational skin disease is possible and aims to avoid the onset of the disease. Table 1 offers a list of control measures for the prevention of OSD. Regulation 833, Control of Exposure to Biological or Chemical Agents, under the Ontario Occupational Health and Safety Act states employers are responsible for ensuring all reasonable and necessary measures are taken to protect employees from exposure to hazardous biological and chemical agents due to storage, handling, processing or use of such agent in the workplace.

In compliance with the regulations and to ensure best practices, a Skin Care Management Program should be incorporated into the employer's overall health and safety program.

A Skin Care Management Program structures the workplace, equipment and work practices to minimize the risk of skin exposure causing damage to health. The following are program elements:

- 1) Leadership and Commitment – senior management commitment to the prevention of OSD through the provision of resources to implement and sustain the program.
- 2) Hazard Identification and Risk Assessment – all possible skin allergens and irritants in the workplace must be identified and assessed. This should be done in partnership with the joint health and safety committee or health and safety representative. Review Material Safety Data Sheets for information on potential skin hazards and appropriate preventative measures.
- 3) Risk Management and Control – to reduce or eliminate exposure
  - a. Eliminate the agent or substitute an agent for another with less skin reactivity
  - b. Enclose, contain or isolate the agent through use of splash guards, ventilation, etc.
  - c. Administrative controls
    - i. Policies, procedures and safe work practices to reduce exposure
    - ii. Education – workplace education is required. It should focus on general awareness of OSD, identification of job tasks where exposure to allergens and irritants are most likely, early signs and symptoms of disease, proper use of personal protective equipment (PPE), proper hand hygiene, controls in place to prevent disease and what to do if an employee suspects they may have an OSD

- iii. Work scheduling/task rotation, employee assignments and signage
- iv. Workplace Hygiene/Housekeeping – work surfaces and tools should be kept clean, personal protective equipment and clothing should be closely monitored and kept clean. Prompt cleanup of spills and proper disposal of wastes
- v. Regulations – follow the requirements of the WHMIS regulation and Regulation 833 Control of Exposure to Biological and Chemical Agents
- d. Provide PPE such as gloves, aprons, long sleeves, safety eyewear and sun protective clothing.

4) Skin Surveillance – it is important for employers to be aware of workplace irritants and allergens that can result in aggravation of pre-existing skin conditions.

- a. Ideally, employees should be examined for active skin disease before job placement.
- b. Recommend periodic monitoring of employees in high risk jobs is important to identify early skin disease and take action to prevent further skin damage.
- c. Regular review of Material Safety Data Sheets.
- d. Report requirements to WSIB and/or MOL
- e. Analyze reports of contact dermatitis in a workplace for trends

5) Employee Responsibilities – employees play an important part in preventing OSD

- a. Personal Hygiene – proper hand hygiene techniques should be followed including drying the skin thoroughly and use of skin moisturizers
- b. Wear appropriate personal protective equipment
- c. Report concerns to the supervisor
- d. Get assessed by a health care professional when suspect an OSD

**Table 1: Hierarchy of control measures**

1. Elimination	Remove the hazard from the workplace
2. Substitution	Replace the hazard with a safer alternative
3. Engineering Controls	Enclosure or automation of the process, ventilation
4. Administration Controls	Safe work practices, health surveillance
5. Personal Protective Equipment	Gloves, safety goggles, sun protective clothing

Source: Nicholson, PJ, 2011, Occupational contact dermatitis: known knowns and known unknowns. Clinics in Dermatology 29, 325-330.

## Resources:

*Canadian Centre for Occupational Health and Safety (CCOHS) - Diseases, Disorders and Injuries* - <http://www.ccohs.ca/oshanswers/diseases/>

*Cancer Care Ontario* - <http://www.cancercare.on.ca/>

*Centre for Research Expertise in Occupational Disease (CREOD) - Occupational Skin Disease* - <http://creod.on.ca/occupational-skin-disease/>

*Just Clean Your Hands* - <http://www.oahpp.ca/services/jcyh/>

*Provincial Infectious Diseases Advisory Committee (PIDAC), Best Practice Manual: Hand Hygiene. In All Healthcare Settings* - <http://www.oahpp.ca/resources/pidac-knowledge/best-practice-manuals/hand-hygiene.html#BPMInfection>

*Public Services Health and Safety Association (PSHSA) - Fast Facts* - <http://pshsa.ca>

- *Preventing and Reducing Latex Allergies*
- *Occupational Illness: Requirements to Report to the Ministry of Labour*
- *Preventing the Spread of infections in Health and community Care Settings*

*St. Michael's Hospital Occupational Health Clinic - Primary Prevention Strategies of Occupational Contact Dermatitis* - [http://www.stmichaelshospital.com/pdf/programs/occupationalhealth\\_occ\\_dermatitis\\_prevention.pdf](http://www.stmichaelshospital.com/pdf/programs/occupationalhealth_occ_dermatitis_prevention.pdf)

*Workplace Safety and Insurance Board - Occupational Diseases* - <http://www.wsib.on.ca/en/community/WSIB/230/ArticleDetail/24338?vgnextoid=db584c23529d7210VgnVCM100000449c710aRCRD>