

CAUSATIVE AGENT: WET WORK

SKIN IRRITANT

DEFINITION

Activities where a worker's hands are: in liquids more than 2 hours per shift, washed more than 20 times per shift, or in water-resistant gloves (e.g. rubber or plastic) more than 2 hours per shift.

SECTORS: Health services, education, municipal.

JOBS

Health Services

Acupuncturist, cleaner/custodian, dental personnel (i.e. dentist, dental technician, orthodontist), hospital chef, laboratory technician, laundry workers, medical radiation technologist, midwife, nurse, orderly, paramedic, physician, physiotherapist, police officer, respiratory therapist, surgeon, veterinary staff (i.e. veterinarian, veterinary technician)

Education

Cleaner/custodian, childcare worker (i.e. daycare worker, elementary school and kindergarten teachers), grounds/maintenance worker

Municipal

Cleaner/custodian, community care worker, correctional service officer, grounds/maintenance worker, long term care worker, public health nurse, public pool personnel (e.g. lifeguard, swim instructor, pool cleaner), sanitary worker, sewage worker, shelter staff, water treatment plant worker

HEALTH EFFECTS

Irritant contact dermatitis: a skin rash triggered by over-exposure to water, solvents, friction, or contact with irritating substances (e.g. soaps, detergents)

HOW COMMON ARE THE HEALTH EFFECTS?

The prevalence of hand dermatitis amongst healthcare workers ranges from 17-30%

Wet-work accounts for approximately 20% of irritant contact dermatitis

KEY PREVENTION STRATEGIES

Substitution

- Use mild skin care products (i.e. mild soap for cleansing, mild detergent for industrial cleaning, waterless hand cleanser for oil and grease removal)

Engineering Controls

- Use tools to prevent direct contact with irritants

Administrative Controls

- Provide training on proper glove use (i.e. use cotton liners with nitrile gloves)
- Provide training on skin care (i.e. apply moisturizing cream after washing hands, at the end of a shift, and before bed; apply cream to the spaces between the fingers)
- Provide training on hand hygiene (i.e. use lukewarm water, avoid hot; use alcohol-based hand rubs when the hands are not visibly soiled; avoid industrial hand cleaners containing pumice)
- Job/task rotation (i.e. distribute wet work exposure among workers so no one is burdened with constant wet work)

CAUSATIVE AGENT: WET WORK

KEY PREVENTION STRATEGIES (CONTINUED)

Personal Protective Equipment

- Avoid gloves made from natural rubber latex (consult manufacturer; if necessary, use low-protein and powder-free styles)

OTHER CONSIDERATIONS

- Frequent hand washing as well as repeated physical abrasion (rubbing) of the skin can cause workers to develop contact dermatitis
- Trace amounts of irritants (e.g. detergent, soap, water) can collect under jewelry or inside gloves (if donned incorrectly) and affect the skin's condition
 - Avoid wearing rings at work
 - Wash and dry your hands well before you put on gloves as well as after removing them
 - Check for holes or wear and tear before wearing gloves
 - When removing gloves, avoid touching the outside portions that may be contaminated or dirty
- Public Health Ontario is working on a project on dermatitis in the healthcare sector involving partners from both the OHS and Public Health systems

SOURCES

Australian Government, 2005. Guidance on the Prevention of Dermatitis Caused by Wet Work.

Behroozy, A., Keegel, T.G., 2014. Wet-work Exposure: A Main Risk Factor for Occupational Hand Dermatitis. *Safety and Health at Work* 5, 175–180.

British Association of Dermatologists, 2012. Hand Dermatitis - How to Care for Your Hands.

Canadian Centre for Occupational Health and Safety, 2008. Dermatitis, Irritant Contact.

Hamnerius, N., Svedman, C., Bergendorff, O., Björk, J., Bruze, M., Pontén, A., 2017. Wet work exposure and hand eczema among healthcare workers: a cross-sectional study. *British Journal of Dermatology*. doi:10.1111/bjd.15813

International Labour Organization, 2018. International Hazard Datasheets on Occupations (HDO).

Kudla, I., Gomez, P., 2013. Occupational Skin Disease: Beyond Skin Deep. Centre for Research Expertise in Occupational Disease.

Public Services Health & Safety Association, 2012. Occupational Skin Disease – It is More Than Just a Rash.

Smit, H.A., Burdorf, A., Coenraads, P.J., 1993. Prevalence of hand dermatitis in different occupations. *International Journal of Epidemiology* 22, 288-293.