

# Preventing Occupational Dermatitis



## Understanding Contact Dermatitis

Dermatitis is a condition of the skin characterized by inflammation, redness, dryness, and itching of the affected area. The two main types of dermatitis in the workplace are irritant contact and allergic contact; both can result in work-related illness claims that can be severe enough to be disabling.

Irritant contact dermatitis is the most common type of contact dermatitis. It's caused by direct skin contact with chemicals, oils, soaps, detergents, and even prolonged exposure to water. The chemicals most often used in the workplace and responsible for irritant contact dermatitis include acids, alkalis, salts, dyes, petroleum-based products, resins, antioxidants, and industrial metalworking fluids and coolants. The skin's reaction to a particular irritant will vary depending on the concentration of the irritant and duration of exposure.

Allergic contact dermatitis occurs when an individual has an allergic reaction after coming in direct contact with certain sensitizing chemicals or substances; it doesn't matter if they're common skin irritants. This elicits the body's immune response creating antibodies to combat the foreign substance and cause the skin reaction. This may occur after only one exposure or may take repeated exposure to create the sensitivity. A common example of allergic dermatitis is latex. There are even biological causes of dermatitis. One of the more common occupational exposures is bacteria that are present in industrial coolants often used in metalworking shops.

Both types of dermatitis most often affect the hands and forearms since they're typically exposed to, and come in contact with, chemicals and substances in the work environment. Dermatitis, however, can occur on any part of the body if direct contact occurs with the irritant or allergic substance. Healthy, intact skin is better able to fend off the effects of chemicals and substances that commonly cause the condition. This means making sure there are no cuts, scrapes, or broken skin that can make it easier for the substance to penetrate the epidermis or outer protective layer of our skin.

## Prevention

The best way to prevent dermatitis is to totally avoid contact with the substance or chemical as sometimes even casual contact with an irritant or allergic substance may result in symptoms of dermatitis. Good personal hygiene is essential. After contact with the irritant, workers should wash their hands and exposed skin with a mild soap and warm water as soon possible. Regular use of hypoallergenic moisturizer creams also helps prevent the skin from drying out.

If it's not possible to avoid contact, the next best control method includes using another less-reactive product to eliminate the substance

causing the dermatitis. Engineering controls can also be used to capture, and either treat or remove, the responsible irritant or allergic contaminant or substance from the workplace. This includes enclosing the point of operation to prevent substances from spraying on workers, and local exhaust ventilation to remove oil and coolant mists from the work environment at the source. Systems are also available to filter metalworking coolants and cutting oils. The addition of bactericides to coolants kills the bacteria causing the dermatitis.

If avoidance, product substitution, or engineering controls aren't possible, or are only partially effective, a good program requiring personal protective controls is in order. This includes the use of face shields, gloves, and clothing of an appropriate type for the chemical or substance, and the use of barrier creams as supplements to help prevent direct contact with the skin.

## Medical evaluation and treatment

If contact dermatitis does occur, the condition should be evaluated by a medical professional and treated promptly to prevent further exposure and a more serious case from developing. Application of over-the-counter lotions, creams, or ointments may worsen the condition.



## Summary

- The best method of prevention for contact dermatitis in the workplace is avoiding contact with the substances responsible for causing the condition.
- If avoidance isn't possible, consider substituting a chemical that's less reactive on the skin.
- Engineering controls should be employed to protect exposed skin by using process enclosures, exhaust ventilation systems, and adding bactericides.
- Personal protective equipment, such as appropriate gloves, clothing, and face shields should be worn to prevent direct contact between the substance and the skin.
- Good personal hygiene practices will help reduce onset of dermatitis by washing the chemical or substance off the skin as soon as possible.
- Check skin regularly for any signs of dermatitis, and seek medical attention to evaluate and treat the condition as soon as possible.