

DERMATITIS IN THE WORKPLACE

Dermatitis is inflammation of the skin. It affects about one in five people at some time in their lives. It can be acute (short-term) or chronic (long-term and persistent). Dermatitis is not a minor complaint: chronic dermatitis can make work impossible. It is one of the most widespread causes of ill-health at work, affecting people in many industry sectors.

Is your dermatitis caused by work?

Occupational dermatitis is normally contact dermatitis. Possible clues to a work-related cause:

- The complaint follows exposure to work to a substance, improves when the employee is away from work and recurs when s/he is again exposed to that substance on returning to work.
- The dermatitis appears on areas of skin which have been exposed to a substance at work
- Other people working with the substance have similar symptoms.

Symptoms

Itching, pain, redness, soreness, cracked skin, swelling, bleeding from skin, formation of small blisters or wheals (itchy red circles with a white centre) on the skin.

How dermatitis starts

Occupational contact dermatitis starts as a local inflammation of the skin but can lead to chronic skin disease. The inflammation is caused by an irritation or an allergy as a result of substances found in the workplace that come into direct contact with the skin.

Irritant contact dermatitis is caused by substances that physically damage the skin or its protective oils. Damage may be immediate or gradual.

Allergic contact dermatitis develops in stages. Skin reaction may occur after just a few days' exposure, or only after a lifetime's. The allergenic action of a substance depends on its ability to destroy the protective action of the skin so that the allergen can penetrate.

Once the skin is penetrated, sensitisation begins. The process can last from 4 days to 3 weeks with no sign of skin damage at this stage.

To cause sensitisation the allergenic substance combines with the skin proteins and is carried around the whole body by white blood cells called lymphocytes, which form part of the body's immune system. The immune system has a 'memory', enabling it to recognise and neutralise substances more than once. When a sensitised worker is re-exposed to the substance, the lymphocytes recognise

the allergen and react with it, releasing tissue damaging chemicals called lymphokines. This is when symptoms appear. If there is no further contact with the allergen, sensitivity may gradually decline.

Causes

- Chemical irritants: alkalis like caustic soda, fresh mixed cement, acids, metals such as nickel, solvents and hydrocarbons etc.
- Chemical sensitisers: dye intermediates, dyes, photographic developers, rubber accelerators and antioxidants, insecticides, oils, resins, coal tar derivatives, explosives and plasticisers etc.
- Plants and their products: cinnamon, henna, primrose
- Biological agents: grain, copra, scabies, dairy men itch
- Mechanical: cuts, abrasions followed by secondary infection to wound, repeated trauma between tool and skin pressure point
- Physical factors: heat causes perspiration and softening of outer layer of skin, causing rash or reddening of skin; cold – chilblain/frostbite; burns – usually by fire, electricity, sun, ionising radiation
- Amount and concentration of the substance in contact with the skin
- Length and frequency of the exposure
- Stress

What the law says

Under the Management of Health and Safety at Work Regulations 1999 (MHSW) and Control of Substances Hazardous to Health Regulations 1999 (COSHH), employers have a legal duty to assess the risks which could cause dermatitis and hence to prevent employees coming into contact with substances which can cause dermatitis. Under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR), diagnosed cases of occupational dermatitis must be reported to the Health and Safety Executive.

'Non-infective' dermatitis is a prescribed industrial disease and sufferers may be entitled to incapacity or disablement benefit.

Prevention

- Assess all hazardous substances under COSHH using both manufacturers safety data sheets and information on the specific workplace
- Stop using substances concerned, by either substituting a less hazardous substance, or

re-designing the job to eliminate chemicals altogether

- If the substance cannot be substituted, redesign the process to prevent hazardous exposures, for example by enclosing the system
- Provide adequate welfare facilities (washing and drying close to work area) and ensure aggressive cleaning materials are not themselves a factor
- Carry out health surveillance, via occupational health nurses or doctors or competent personnel
- Provide adequate information, instruction, training and supervision to employees
- Ensure substances requiring dilution are handled correctly and diluted before being distributed
- Store and label substances correctly with the appropriate hazards warning and instructions on neutralising
- Barrier creams and personal protective equipment, such as gloves, aprons, face shields and overalls, are a last resort. If used, the employer should provide and maintain them and they must be suitable for both the job and the workers. Many substances can penetrate ordinary creams and rubber gloves, which can then hold the substance against the skin.

What safety reps should do

- Find out about the extent of the problem using surveys and body mapping
- Raise awareness amongst members
- Negotiate for assessment and trials of substitute products and processes
- Make sure any member affected claims for benefits and/or brings a civil claim through union lawyers

Further information

Preventing dermatitis at work. HSE booklet no INDG233. Single copies free from HSE Books, 01787 881165. Useful booklet which mentions role of safety reps.

'*Body of evidence.*' Hazards, no 61, January 1998, p10-11. online free at www.hazards.org/diyresearch or back issues £6 (£3 for subscribers) from sub@hazards.org, tel 01142 67 8936. Article on how to do body mapping.

London Hazards Centre factsheets: Safety Data Sheets, Chemical safety law (www.lhc.org.uk/members/pubs/factsht/63fact.htm)

Jobs and substances

Just a sample of occupations where dermatitis can happen and substances responsible

OCCUPATIONS	SUBSTANCES
Artists	Turpentine, pigments, dyes, colophony, epoxy resin
Car industry	Chromates, nickel, cobalt, rubber, resins
Bakers and confectioners	Flavours and spices, orange, lemon, essential oils, dyes
Bartenders	Orange, lemon, lime flavours
Bookbinders	Glues, resins, leathers
Butchers	Nickel, sawdust
Carpenters	Stains, glues, woods, turpentine, varnishes, colophony
Cleaners	Rubber (latex) gloves, cleaning materials
Construction workers	Chromates, cobalt, rubber and leather gloves, resins, woods
Cooks and caterers	Foods, preservatives, flavours, rubber gloves,
Dentistry	Local anaesthetics, mercury, methacrylates, eugenol
Electricians	Fluxes, resins, rubber
Electroplaters	Nickel, chromium, cobalt
Embalmers	Formaldehyde
Floor-layers	Cement, resins, wood varnish
Florists and gardeners	Plants, pesticides, rubber gloves
Hairdressers	Dyes, persulphates, nickel, perfumes, rubber (latex) gloves
Jewellers	Epoxy resin, metals, soldering fluxes
Mechanics	Rubber gloves, chromates, epoxy resin, antifreeze
Medical personnel	Rubber (latex) gloves, anaesthetics, antibiotics, antiseptics
Metal workers	Nickel, chromates, additives in some cutting oils
Office workers	Rubber, nickel, glue
Painters	Thinners, fillers, adhesives, paints
Photography	Rubber gloves, developers, phenols, sodium metabisulphite
Printers	Solvents, talc, zinc stearate
Textile workers	Fibres, bleaching agents, solvents
Veterinarians	Disinfectants, wet work, animals