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Occupational Contact

Dermatitis and Urticaria

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**A Guide for Occupational Health
Professionals, Safety Professionals
and Safety Representatives**

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March 2010

British Occupational Health Research Foundation

This leaflet summarises the key evidence based advice for policy and practice on the risk management of occupational contact dermatitis and urticaria.

The full guidelines, report, and analysis of relevant research is available from the British Occupational Health Research Foundation. It can also be accessed on the BOHRF website at www.bohrf.org.uk.

BOHRF is an award-winning, innovative niche charity specialising in the provision of evidence based solutions to practical questions asked by employers and their advisers in both private and public sectors.

Our mission is:

'Bringing employers and researchers together to produce research that will contribute to good employee health and performance at work'.

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The cost of producing the summary leaflets for the evidence review on occupational contact dermatitis has been generously provided by Pfizer Ltd. Neither Pfizer nor any of their employees has been involved in deciding which research is within scope of the review, nor have they been involved in the analysis or presentation of either the review or the summary leaflets.

OCCUPATIONAL CONTACT DERMATITIS & URTICARIA

A Guide for Occupational Health Professionals, Safety Professionals and Safety Representatives

British Occupational Health Research Foundation

Occupational skin disease is one of the commonest occupational diseases and occupational contact dermatitis is the most common occupational skin disease in developed countries, accounting for 70% to 90% of all reported cases of occupational skin disease. Occupational contact urticaria accounts for between 1% and 8% of reported cases of occupational skin disease.

Which conditions does this leaflet cover?

This leaflet covers the following three conditions:

- **irritant occupational contact dermatitis**
This is the commonest type of occupational contact dermatitis where agents have a direct toxic effect on the skin e.g. wet work, detergents, alkalis, solvents, friction
- **allergic occupational contact dermatitis**
which involves a delayed or type IV hypersensitivity reaction to skin sensitizers such as epoxy resins, preservatives, etc. Allergic contact dermatitis often carries a worse prognosis than irritant contact dermatitis.
- **occupational contact urticaria**
○ which can be divided into 2 broad categories: non-immunologic contact urticaria and immunologic contact urticaria that involves an immediate or type I hypersensitivity reaction, associated with the presence of specific immunoglobulin E. Contact urticaria is associated with proteins in food and latex gloves, especially in health care workers and with some low molecular weight agents.

This leaflet summarises the results of a recent review of the scientific evidence that sought to answer some of the key questions about the prevention, diagnosis and management of these conditions*. The information in this leaflet is intended for Occupational Physicians, Occupational Health Nurse Practitioners and Safety Professionals in planning programmes for prevention, rather than for medico-legal purposes.

* Occupational Contact Dermatitis and Urticaria: Systematic review and recommendations. British Occupational Health Research Foundation. London March 2010

What are the causes?

The most frequently and consistently reported agents include:

Irritant occupational contact dermatitis:

alcohols, cutting oils and coolants, degreasers, disinfectants, petroleum products, soaps and cleaners, solvents and wet work. Physical irritants (e.g. friction and low humidity) can also cause or contribute to occupational dermatitis.

Allergic occupational contact dermatitis:

cobalt, chromium and chromates, cosmetics and fragrances, epoxies, nickel, plants, preservatives and resins and acrylics.

Occupational contact urticaria:

cow dander, food and animal products, flour and grains and natural rubber latex

Occupational contact dermatitis can present at any stage in a worker's career or apprenticeship. There may be an increased risk within the first 3-12 months of any new employment.

Who is most at risk?

The workers reported to be at increased risk of developing occupational contact dermatitis include hairdressers, beauticians, health care workers, cleaners, construction workers, cooks and caterers, mechanics, metalworkers and vehicle assemblers, chemical/petroleum plant operatives and agricultural workers.

Those at greatest risk of developing occupational contact urticaria include bakers, farmers, health care workers and those preparing food.

How can they be prevented?

Employers are required by law to assess their workplace for known agents and the risk of exposure, which depends on how the substance is being handled. **Exposure to causes should be reduced by elimination or substitution. Where this is not possible-effective control of exposure at source should be implemented.**

Appropriate gloves and cotton liners should be provided. They must be selected according to their chemical and physical resistance properties and their general suitability for the job tasks. The employer must ensure that workers understand how to wear, remove and replace them.

The occlusive effect of gloves may be detrimental to the skin barrier and cotton liner gloves can help prevent this impairment.

After-work or conditioning creams help to prevent the development of occupational contact dermatitis. They should be readily available in the workplace and their use encouraged.

Pre-work creams (barrier creams) are **not** generally effective. Their use should not be promoted as this may confer on workers a false sense of security and encourage them to be complacent in implementing more appropriate preventative measures.

Education Workers should be provided with appropriately targeted and sustained information and education in order to induce behavioural changes. They should be informed about the causes and the need to report symptoms as soon as they develop.

(See: BOHRF leaflet aimed at managers, workers and their representatives)

What should be done at the pre-employment stage?

A Health Practitioner should ask workers offered jobs that will expose them to causes of:

- occupational contact dermatitis, if they have suffered dermatitis, especially in adulthood and
- occupational contact urticaria, if they have a personal history of atopy and advise them of their increased risk, and to care for and protect their skin

Evaluating a worker presenting with skin problems

Health Practitioners should take a full occupational history whenever someone of working age presents with a skin rash, asking about their job, the materials with which they work, the location of the rash and any temporal relationship with work.

Care must be taken to distinguish between occupational and non-occupational disease since the occupational management will differ. The work-relatedness of symptoms and signs and/or the presence of a rash on the hands only provide causes to suspect an occupational cause, and do not confirm an occupational causation.

Health practitioners and safety professionals should **ensure that workers who develop dermatitis or urticaria are assessed promptly by a physician who has expertise in occupational skin disease for diagnosis and recommendations regarding appropriate workplace adjustments.**

The identification of any offending allergen by patch or prick tests is a major objective, since exclusion of an offending allergen from the environment can contribute to clinical recovery in the individual worker and avoidance of new cases of disease.

When any one employee develops confirmed occupational skin disease the workplace should be investigated for sources of exposure and other workers should be asked about symptoms.

How should affected individuals be managed?

The pharmacological treatments for dermatitis and urticaria do not differ irrespective of whether the cause is occupational or non-occupational. This guide therefore only addresses the occupational management of affected individuals. Practitioners should encourage the worker to consult their general practitioner for treatment and to use any medication as prescribed.

Redeployment to a low exposure area or the introduction of exposure controls may lead to improvement or resolution of occupational contact dermatitis and urticaria in some workers (especially if the problem is picked up early and adequately reviewed while working in the new area), but is not always effective. Likewise, the enhanced use of gloves or protective clothing may improve or prevent symptoms in some but not all workers who continue to be exposed to the causative agent.

Conditioning creams can improve skin condition in workers who have developed occupational contact dermatitis. Likewise, appropriately targeted educational programmes have been shown to be effective in inducing important behavioural changes that help to improve outcome in those who have developed occupational contact dermatitis.

What is the outcome?

The prognosis of occupational contact dermatitis varies widely and, in some occupational settings, reasonable control of symptoms and job retention is possible. Similar proportions of patients report either improvement/complete resolution or ongoing symptoms. As many as about one in ten patients continue to have persistent or post-occupational contact dermatitis in the very long term, even after removal from exposure.

Loss of job or complete change of employment is common among workers with occupational contact dermatitis; however, most manage to continue working in some capacity.

There is little if any evidence related to the prognosis of occupational contact urticaria.

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