

The rise in glove use in healthcare has been accompanied by increasing reports of dermatitis. Royal College of Nursing guidance advises on how and when to use gloves

Appropriate glove use in dermatitis prevention

In this article...

- › **Causes of dermatitis and how to avoid it**
- › **Guidance on appropriate use of gloves**
- › **Recommendations for employers regarding risk assessment**

Author Rose Gallagher is infection control adviser; Kim Sunley is senior employment relations adviser; both at the Royal College of Nursing, London.

Abstract Gallagher R, Sunley K (2012) Appropriate glove use in dermatitis prevention. *Nursing Times*; 108: 37, 12-14. Work-related skin problems in nursing staff have risen in recent years, and inspections by the Health and Safety Executive in 2011 found a number of NHS trusts failing in their duties to prevent and manage the risks of work-related dermatitis.

In response, the Royal College of Nursing issued guidelines on glove use and the prevention of contact dermatitis in nursing (RCN, 2012). These involved close collaboration between the professional and trade union parts of the RCN because failure to prevent and manage skin problems affects the safety of both staff and patients.

Healthcare workers' hands are frequently exposed to substances and situations that may increase the risk of developing dermatitis. This risk has risen in the past 10 years because of the increased use of chemicals and gloves in clinical environments, and a greater focus on hand hygiene.

In addition to pain and discomfort leading to staff absence, work-related dermatitis can impair the ability to carry out hand hygiene, which poses a risk to patient safety. Inappropriate or excessive use of gloves also has economic consequences.

Causes of dermatitis

The largest organ in the body, the skin is complex with several functions including temperature regulation, sensation and the synthesis of vitamin D. Its main function is

protection. It acts as a barrier to prevent fluid loss, to stop micro-organisms from entering the body and to modify the effects of pressure, radiation, heat, chemicals and trauma on internal tissues and organs.

When the skin is damaged, it can become inflamed. This is known as dermatitis. Symptoms range from redness, warmth and dryness to the formation of blisters, flaking, cracking and itching.

Contact dermatitis occurs when the skin is exposed to a substance outside the body. It can occur on any part of the body but frequently affects the hands. There are two main types of contact dermatitis: allergic and irritant. Irritants cause inflammation to the skin whereas allergens cause an immune response and can lead to sensitisation.

Nurses' hands are exposed to a cocktail of irritants and allergens on a daily basis. Common substances that could present a risk include enzymatic detergents, solvents, aldehydes, topical steroids, topical antibiotics and even soap. Cold weather, dry environments or low humidity can also cause problems and exacerbate conditions, as can friction or rubbing the hands.

Although gloves play an important role in protecting the skin from chemicals and bloodborne viruses, they have the potential to harm the skin. Accelerators and chemicals used in glove manufacturing can cause allergic contact dermatitis and overuse of gloves or wearing gloves for long periods can lead to sweaty, overhydrated or soggy skin. Prolonged contact with water can have the same effect, making the skin overhydrated so that it produces fewer natural moisturising factors, thereby impairing its function as a barrier. "Wet work" – involving about 20–40 hand washes a day – is recognised as

5 key points

1 The incidence of work-related skin problems in nursing staff has risen in recent years

2 Some NHS organisations are failing to prevent and manage the risks of work-related dermatitis

3 Staff need to understand the difference between gloves used for examination and those that protect against chemicals

4 Wearing gloves is no substitute for good hand hygiene

5 Employers have a duty of care to staff around reducing the risk of contact dermatitis



Gloves protect staff and patients

a risk factor for healthcare workers and in other occupations such as hairdressing (Health and Safety Executive, 2008).

Appropriate use of gloves

Gloves are commonly used in healthcare and provide a control measure to protect staff and patients against biological and chemical hazards. Long associated with preventing contact with disease-causing organisms found in blood and body fluids/excreta, glove use has increased dramatically following the discovery of HIV/AIDS.

Inappropriate use (over- or underuse) of gloves, together with the increased use of chemicals in clinical areas and emphasis on hand hygiene provide a cocktail of exposures and challenges to the skin of healthcare workers' hands. It is essential that staff wear gloves only when clinically indicated and that they understand which type of glove is required in different circumstances.

In everyday (non-surgical) contexts gloves fall into two main categories: medical examination; and protective. Examination gloves are commonly used to protect patients (for example during aseptic techniques or in contact precautions). Examination gloves prevent liquid permeation and so protect staff against biological hazards in blood and body fluids.

Gloves used to protect staff from chemicals must be able to withstand chemical permeation and are therefore considered an element of personal protective equipment. Different standards of gloves reflect their purpose and the protection required.

It is important that healthcare workers and staff who order supplies of gloves understand the subtle differences in types. This is particularly the case for staff (both healthcare and domestic) using disinfectants. They may assume that examination gloves are suitable for protection against common environmental disinfectants or chemicals but this is not so. Manufacturers should always be contacted for information on suitability if any uncertainty exists.

Infection control

There is a close relationship between glove use and hand hygiene. Hand hygiene remains one of the most effective ways of preventing the spread of microorganisms between patients and staff. Gloves are not a substitute for hand hygiene and washing gloves is not acceptable. Glove use must be coupled with hand hygiene (handwashing or use of sanitiser), and hands cleaned immediately after glove removal.

Gloves are an efficient vehicle for transmitting microorganisms between patients and the environment. They should not be

TABLE 1. WHEN TO WEAR AND REMOVE GLOVES

Gloves on	<ul style="list-style-type: none"> ● Before an aseptic procedure ● When anticipating contact with blood or other body fluid, and including contact with non-intact skin and mucous membrane ● Contact with a patient (and their immediate surroundings) during contact precautions ● When anticipating contact with chemical hazards such as disinfectants or preserving agents <p>Please note: any cuts or abrasions present on hands should be covered (eg with a plaster) before donning gloves</p>
Gloves off	<ul style="list-style-type: none"> ● As soon as gloves are damaged (or non-integrity suspected) ● When contact with blood, another body fluid, non-intact skin and mucous membrane has occurred and has ended ● When contact with a patient and their surroundings or with a contaminated body site on a patient has ended ● When there is an indication for hand hygiene ● When contact with chemicals has ended

Adapted from WHO (2009)

used indiscriminately on a "just in case" basis or worn for long periods between patients to protect the wearer, as this seriously undermines hand hygiene strategies and places staff skin at risk from overhydration. Table 1 shows when to wear gloves and when to take them off and dispose of them.

If hand hygiene is not carried out correctly, it can increase healthcare workers' risk of dermatitis. Poor habits include:

- » Applying soap directly to dry hands;
- » Using water that is too hot (around 32°C is ideal);
- » Poor rinsing and drying of hands (use soft, absorbent, disposable hand towels).

The use of moisturisers should be encouraged to support skin health.

Managing occupational dermatitis

Employers have a legal duty to prevent and manage risks of work-related contact dermatitis and to report cases of it to the regulator. However, HSE inspections of about a third of acute hospitals in Britain found a number were failing to do this (HSE, 2011).

Regulations require employers to carry out a Control of Substances Hazardous to Health (COSHH) risk assessment to establish what could be hazardous and whether there is a risk of skin coming into contact with the product. Frequent handwashing should be identified as part of the risk assessment and employers need to ensure that hand hygiene is undertaken correctly.

Employers must prevent staff exposure to substances that can cause contact dermatitis. The best way of doing this is to eliminate the substance or substitute it with a less harmful alternative. Employers also need to look at limiting exposure, for example by having an enclosed automated

cleaning process for endoscopes, and ensuring safe work systems. Gloves also protect staff from chemical exposure; they must be the right type and must fit.

Detecting problems early on before symptoms develop is an important part of management. Under COSHH, employers need to put processes in place to check the skin of staff at risk of contact dermatitis, as well as prompt support and follow-up.

GPs are best placed to treat the condition. Occupational health advisers can provide specialist advice to help find out what is causing the problem and advise on temporary redeployment, if required, to allow healing or reduce infection risk to patients.

Conclusion

Nursing is a hands-on profession and hands are the tools of the trade. If they are damaged, care can be affected, and there can be long-term implications for the nurse's health and wellbeing. Occupational health, infection control, health and safety advisers, procurement leads, managers and safety representatives need to collaborate.

The RCN has made several recommendations to ensure better protection for both nursing staff and patients. We need to see these recommendations turned into action both nationally and locally. **NT**

References

- Royal College of Nursing (2012) *Tools of the Trade. RCN Short Guide for Healthcare Staff on Glove use and the Prevention of Contact Dermatitis*. London: RCN. tinyurl.com/glove-derm
- Health and Safety Executive (2011) *Dermatitis Inspection Report 2008/09 - Prevention and Management of Work Related Contact Dermatitis in the NHS Acute Sector*. tinyurl.com/HSE-dermatitis
- World Health Organization (2009) *Save Lives: Clean Your Hands*. Geneva: WHO. www.who.int/gpsc/5may/en/