

**Standard Infection Control Precautions Literature Review:  
Hand Hygiene:  
Skin Care**

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<b>HPS ICT Document Information Grid</b>	
<b>Description:</b>	This literature review examines the available professional literature on Hand Hygiene (Skin care) in healthcare settings.
<b>Purpose:</b>	To inform the Standard Infection Control Precaution (SICP) section on hand hygiene (Skin care) in the National Infection Prevention and Control Manual.
<b>Target audience:</b>	All NHS staff involved in the prevention and control of infection in NHSScotland.
<b>Circulation list:</b>	Infection Control Managers, Infection Prevention and Control Teams, Public Health Teams
<b>Update/review schedule:</b>	Updated as new evidence emerges with changes made to recommendations as required
<b>Cross reference:</b>	National Infection Prevention and Control Manual <a href="http://www.nipcm.scot.nhs.uk/">http://www.nipcm.scot.nhs.uk/</a>
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## 1. Objectives

The aim of this review is to examine the extant scientific literature regarding skin care for standard infection control purposes. The specific objectives of the review are to determine:

- How can skin integrity be maintained when performing hand hygiene in order to minimise the development of irritant contact dermatitis?

## 2. Methodology

This targeted literature review was produced using a defined methodology as described in the [National Infection Prevention and Control Manual: Development Process](#).

### 3. Recommendations

This review makes the following recommendations based on an assessment of the extant scientific literature on minimising irritant contact dermatitis following hand hygiene for standard infection control purposes:

#### **How can skin integrity be maintained when performing hand hygiene in order to minimise the development of irritant contact dermatitis?**

Alcohol based hand rubs containing emollients should be used for hand hygiene instead of liquid soap and water when:

- hands are not visibly soiled, dirty; and/or
- spore forming organisms are not suspected/proven.

**(AGREE rating: Recommend)**

**(Grade D recommendation)**

Hands should **not** be washed immediately after using alcohol based hand rubs as this may remove any emollients that were present in the hand rub and the superficial skin sebum.

**(AGREE rating: Recommend)**

**(Grade D recommendation)**

Emollient hand creams should be used regularly after washing hands (e.g. when off duty, going for breaks). Hand creams should be applied all over the hands including between the fingers and the back of the hand.

**(AGREE rating: Recommend)**

**(Grade D recommendation)**

Communal tubs of hand cream should **not** be used.

**(Grade D recommendation)**

Emollient hand creams used in the healthcare setting must not affect the efficacy of the hand hygiene products or gloves used (oil-based products are known to have a potentially damaging effect on gloves).

**(AGREE rating: Recommend)**

**(Grade D recommendation)**

## 4. Discussion

### 4.1 Implications for practice

#### **How can skin integrity be maintained when performing hand hygiene in order to minimise the development of irritant contact dermatitis?**

Irritant contact dermatitis and dry skin is often reported by healthcare workers following contact with irritants such as hand washing solutions.<sup>1-3</sup> Hand washing products contain surfactants which remove dirt from the surface of the skin however they can also compromise the lipid barrier of the skin leading to dryness, redness and irritation.<sup>4-8</sup> Allergic contact dermatitis is a less common condition associated with hand hygiene products and is caused by a reaction to one of the ingredients (e.g. fragrances, preservatives).<sup>2</sup> Many of the symptoms of allergic contact dermatitis (with the exception of severe cases where it has been associated with respiratory distress and other symptoms of anaphylaxis) are similar to those of irritant contact dermatitis, therefore making it difficult to differentiate without specialist knowledge.<sup>2</sup>

Alcohol based hand rubs containing emollients should be used for hand hygiene instead of liquid soap and water when hands are not visibly soiled or dirty.<sup>3;6;9-12</sup> Several experimental studies have demonstrated that alcohol based hand rubs were generally well tolerated following repetitive exposure over the study period.<sup>13-19</sup> In addition, trials conducted within healthcare settings have demonstrated high user acceptability and tolerability of alcohol based hand rubs.<sup>20-29</sup>

**(AGREE rating: Recommend)**

**(Grade D recommendation)**

There is consensus in the literature that hands should not be washed immediately after using alcohol based hand rubs.<sup>4;6;10;11;30</sup> This procedure may remove any emollients that were present in the hand rub along with superficial skin sebum and thus has the potential to deteriorate skin conditions.

**(AGREE rating: Recommend)**

**(Grade D recommendation)**



Systematic reviews of the evidence surrounding the prevention of irritant contact dermatitis have concluded that there is generally a lack of high quality evidence;<sup>31;32</sup> however, one double-blind randomised control trial was identified that demonstrates use of emollient hand creams can prevent loss of skin integrity caused by hand washing.<sup>8</sup> There is consensus in published guidelines that emollient hand creams should be used regularly, for example when off duty and during breaks, to prevent irritant contact dermatitis caused by frequent hand hygiene.<sup>2;33;34</sup> When hand creams are applied they should cover all of the hands including between the fingers and the back of the hand.<sup>3-7;10-12;35;35-43</sup> Communal tubs of hand cream should not be used as these have the potential to become easily contaminated.<sup>3;33;38;44</sup> Another aspect that has to be considered when introducing hand creams is that they should not affect the efficacy of hand hygiene products (e.g. antiseptic agents) or the integrity of gloves (oil-based products are known to have a potentially damaging effect on gloves).<sup>2;6;11;37</sup>

**(AGREE rating: Recommend)**

**(Grade D recommendation)**

## 4.2 Implications for research

Further research, of robust methodological quality, on interventions to minimise irritant contact dermatitis among healthcare workers would increase the evidence base, facilitating the development of stronger recommendations for practice.

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