

Keep consumer hand lotions at home

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In healthcare workers, dry, cracked skin—known clinically as cumulative irritant contact dermatitis—results largely from the frequent hand washing required to reduce the spread of germs and prevent infection. Although hand hygiene may not immediately come to mind as an infection-control practice, maintaining healthy hand skin is extremely important. Healthy skin is a barrier to infection, whereas compromised skin is vulnerable to the pathogens prevalent in healthcare facilities. The physical structure of dry, cracked skin makes it easier for pathogenic organisms to take up permanent residence.

More than any other group, healthcare workers are vulnerable to dry skin. Yet the pain caused by dry skin may discourage them from practicing proper hand hygiene, putting themselves and their patients at risk.

Skin studies

A 2002 study that compared the skin health of operating room nurses to that of administrative staff found the nurses' skin significantly drier, as measured by transepidermal water loss. Yet the nurses perceived their skin as about as dry as that of the administrative staff; they put off getting treatment, which made their skin condition worse.

Other studies have found that the resident skin flora of healthcare workers differs dramatically from that of people who don't wash their hands repeatedly throughout the day. One investigation found damaged healthcare workers' skin harbored more bacteria than undamaged skin. When compared to nurses with undamaged hands, nurses with dry skin were more likely to be colonized with *Staphylococcus hominis* or *Staphylococcus aureus*; also, gram-negative bacteria, enterococci, and yeast were more likely to be isolated from their hands.

Why you should use only approved lotions

Regular, scheduled use of an appropriate lotion is the key to maintaining healthy skin. An effective skin lotion must rehydrate the skin to maintain its flexibility and help prevent cracking. It also must replace the natural oils removed by washing to help retain moisture. The three general ingredients needed to achieve these goals are emollients, humectants, and skin nutrients.

Healthcare workers need to use hand moisturizers even if they don't think their skin is dry. But they shouldn't use just any lotion that happens to be available. In its 2002 "Guideline for Hand Hygiene in Health-Care Settings," the Centers for Disease Control and Prevention advised healthcare facilities to provide all employees with an approved lotion. (See below.)

Guidelines on hand hygiene products used in healthcare facilities

The Centers for Disease Control and Prevention and the World Health Organization recommend that healthcare facilities:

- provide workers with effective hand hygiene products that have low irritancy potential and are unlikely to cause contact dermatitis associated with antiseptics or hand washing
- maximize staff members' acceptance of hand hygiene products by seeking their opinions on the feel, fragrance, and skin tolerance of products under consideration
- determine if known interactions exist among hand-cleaning products, skin-care products, and the types of gloves used in the institution when making decisions about product selection
- educate staff on hand-care practices that help reduce the risk of irritant contact dermatitis and other skin damage
- provide alternative hand hygiene products for workers with allergies or adverse reactions to standard products
- seek information from manufacturers regarding the effects that hand lotions, creams, or alcohol-based antiseptics may have on the persistence of antimicrobial soaps used in the facility.

Hospital-grade lotions

Healthcare facilities must protect patients, staff, and visitors by maintaining control over the lotions and other products used in their facilities. Using a hospital-grade lotion to prevent dry skin may seem insignificant but can have an important impact on patient care.

Consumer lotions are great for home use but could compromise patient safety. Although most are high-quality products that work well, their formulations and packaging aren't designed for multiple users within a healthcare setting. For instance, compatibility with latex gloves or chlorhexidine gluconate (CHG) washes is critical for products used in hospitals but not for consumer products. Also, many consumer lotions are heavily scented and may irritate patients and staff with fragrance sensitivities.

As more hand washes containing CHG are made available, the effect of lotion on its antimicrobial efficacy must be considered. CHG-based products allow adsorption onto the skin surface after multiple hand washes and leave an active residue on the skin that continues to kill germs. But negatively charged emulsifying agents that hold mineral oils and water together in a lotion can bond with positively charged CHG molecules, negating this residual antibacterial effect.

Mineral oil and petrolatum, common emollients in skin-care formulations, have been shown to contribute to latex glove deterioration, according to the Occupational Safety and Health Administration. Water-based products are preferred, although they may contain enough mineral oil to compromise glove integrity. New products that use alternative ingredients, such as canola, soy, and other plant-based oils, offer excellent emollient benefits and are safer to use with latex gloves.

Lotion contamination

Though rare, contamination of lotion has been implicated in rare cases of healthcare-acquired infections. Common bacteria can be transported in or on shared lotion bottles. Pump dispensers are better at preventing lotion from becoming contaminated, whereas lotion in tub containers can easily become tainted if healthcare workers scoop out portions with their fingers.

Immunodeficient patients at special risk

Consumer lotions aren't sterile and are especially inappropriate for immunodeficient patients. Common bacteria and fungal spores may not harm a healthy person but can be deadly to patients with weakened immune systems. One children's hospital saw rising rates of bloodstream infections, including those caused by several varieties of organisms not typically occurring in its intensive care units. An investigation failed to find any changes in policies, staffing, equipment, line use, or patient population that would explain the increased infection rates. As a precaution, the hospital eliminated large bottles of personal consumer hand lotions used by the staff. Subsequently, infection rates dropped dramatically.

Certain patients, such as those undergoing bone marrow transplant, are severely immunocompromised and extremely vulnerable to infection. Fungal skin infections are common in approximately 10% of this population and may lead to significant morbidity and death. *Paecilomyces lilacinus*, a fungus related to *Penicillium*, is ubiquitous in nature and found in the ground or on decaying vegetation. It was linked to an outbreak in one hospital's bone-marrow transplantation unit, which ultimately was traced to contaminated skin lotion used for whole-body care.

Skin care, hand hygiene, and health

Proper hand hygiene is critical to preventing the spread of infection, and regular use of lotions designed specifically for hospital use is vital to any hand-hygiene program. Taking care of the skin of staff by keeping it moisturized protects patients' and staff health. Staff will find their hands feel better, too.

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