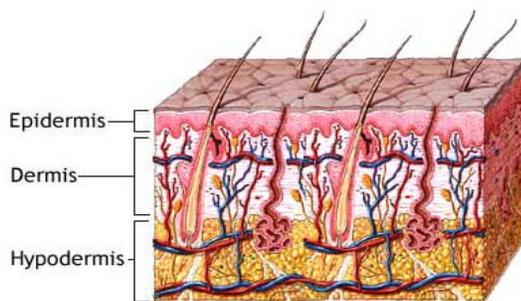


## Hey! Your Epidermis is Showing!

### Getting to Know Your Skin

The largest organ of the body is the skin, averaging nearly 3,000 square inches in size! So it's not surprising that skin problems account for a large number of job-related diseases. Knowing the structure of your skin and the damage chemicals can do will help you understand how skin problems and how you can prevent them.



### How Skin Protects

You skin has 3 layers: the epidermis, dermis and the subcutaneous layer or hypodermis. The epidermis serves as armor for the sensitive, living tissue underneath. It can take a fair amount of abuse, but when it becomes dry and cracked, irritants can easily pass through. Plus, it has holes for hair shafts and sweat ducts that can't keep out irritants. Both contain nerves, blood vessels, and glands to produce sweat and lubricating oils that protect the surface. They also regulate temperature for your whole body.

The dermis also produces new skin cells. Your skin is completely replaced about every 30 days. When the epidermis becomes damaged, irritants can penetrate to the deeper layers. When irritation occurs, the skin

takes action to protect itself by building up a thicker epidermis. This thick layer is more likely to crack, leading to further damage and exposing your body's systems to contamination.

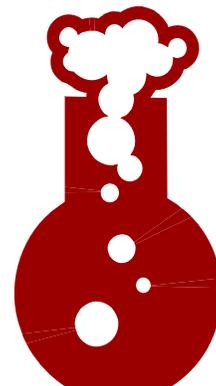


### Causes of Skin Problems

The most common workplace causes skin problems are chemical irritants such as solvents, acids or caustics.

Solvents dissolve your skin's protective, oily coating, which allows the surface to dry and crack. This is why it is unwise to clean your hands with solvents. Some solvents can pass through your skin into your body and cause damage to internal organs such as the liver and kidneys.

- **Acids** react with your skin, chemically burning it away. Some acids, such as hydrofluoric acid, do not produce pain until they have already penetrated deep into the skin and bone.
- **Bases**, or caustics, such as ammonia and sodium hydroxide, also produce a chemical burn, destroying whatever they come into contact with.
- **Metal** compounds and many other chemicals can produce allergic reactions causing allergic dermatitis.



Before using a chemical, always read the material safety data sheet (MSDS) to find out if it is hazardous and what precautions you should take. Take action to keep hazardous chemicals from getting "under your skin."

**Oregon OSHA** requires that employees have access to chemical information in the workplace. Each department must maintain a current **MSDS Binder**. If you don't see a binder for your area, check with your supervisor.

(Please **Note**: This is not a requirement for pharmaceuticals in their final form or household products widely available and used as directed.)

For guidance on starting or updating an MSDS, visit:

<http://www.ohsu.edu/xd/about/services/integrity/ehrs/safety/chem/msds.cfm>

**Environmental Health  
& Radiation Safety**  
503-494-7795





Topic of the Month:

## GOOD HAND CARE

The leading cause of hand irritation at work is skin rash. A few of the more common causes include: overexposure to water, dry air, soaps and detergents, solvents, cleaning agents, latex, and ingredients in skin care products. Healthcare, research, and employees in all areas can benefit from good hand health precautions.

### Hand Washing

Remove rings prior to washing hands since they trap soap and moisture next to the skin. Use warm water and rinse thoroughly after soaping for 10 to 15 seconds. Apply moisturizer soon after towel drying hands to retain the most moisture in your skin.



Use small quantities of soap, since soap strips natural oils from skin.

These oils help your skin retain moisture. Avoid detergents and perfumed or deodorant soaps, as these may actually irritate skin. Regardless of the type of soap used, frequent hand washing will cause increased skin dryness.

### Hand Sanitizer

Hand sanitizers are a good alternative to hand washing, unless your hands are visibly soiled. (If so, you must wash dirt away with soap and water.) Rub hand sanitizers over skin surfaces until dry. The product approved for use in OHSU Healthcare is Avagard D (available from Logistics).



### Lotions and Moisturizers

If hand or forearm skin becomes irritated, lotion should be used after hand washing. The only lotion approved for use in OHSU Healthcare is Cavilon (also available from Logistics). Other lotions may be used in non-clinical areas and while away from work.

Apply moisturizers liberally after hand washing and immediately after bathing for best moisture retention. When selecting moisturizers, the simpler and messier the better (think petroleum jelly)!



Water-based moisturizers are usually the least effective.

### Gloves

Nitrile, plastic, and vinyl are easier on hands than latex. Powder-free is less likely to irritate than powdered gloves. Just make sure that you have the right glove to protect you from chemicals and/or biologicals you use. If in doubt, seek advice from Environmental Health & Radiation Safety.



### Stretching

If you use your hands for fine detail work (e.g. - typing, surgery, handwriting, etc.), it is important that you take breaks to stretch your hands and wrists. Go through a full range of gentle motions, including flexion, extension, and rotation. These will keep muscles and joints warmed and ready to perform! See suggested stretches on the next page.

### Other Precautions

- Wear gloves when peeling or pressing oranges, lemons, grapefruits, tomatoes, peppers, or onions.
- Avoid skin contact with solvents, stain removers, fuels, and cleaning products.
- Don't pick at loose skin or cuticles. These are best trimmed using a sharp nail clipper or scissors.



### Questions?

Good hand care is essential to preserve your ability to remain comfortable while working. If hands remain dry or irritated for more than a couple of days and attempts to soothe and repair them fail, consult Employee Health at 503-494-5271.

**Employee Health on the Ozone:**

<http://ozone.ohsu.edu/employeehealth/>

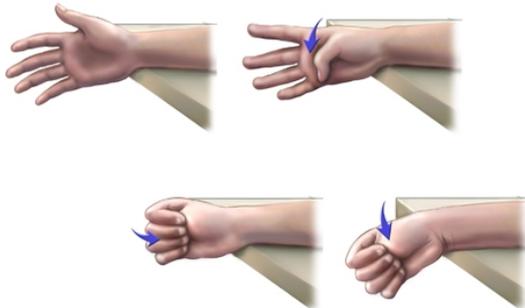
## Break for Hand Stretches

Here is a selection of stretches that can be done while seated or standing.

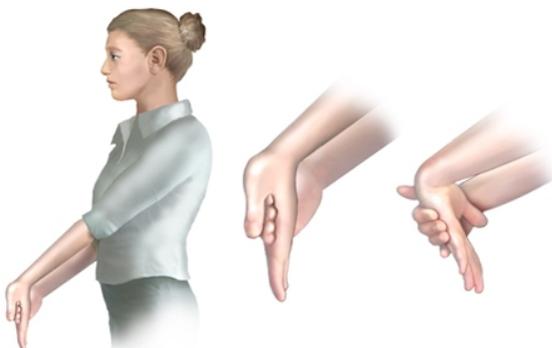
If you feel any discomfort or pain while performing any of these stretches, STOP immediately and consult your health care provider before continuing.



**Wrist Circles**



**Thumb Stretch**



**Flexing Forward and Back**

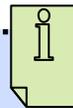
## Staying Healthy through the Season



In winter months, the heating, ventilation and air conditioning (HVAC) units within our buildings work hard to provide fresh and comfortable air to your work-space. When it's especially cold outside, these units work even harder. Indoor heating may result in lower humidity in a given work area or building. This is normal for indoor seasonal change.

The drying out of indoor air can occasionally lead to upper respiratory symptoms such as dry throat, dry mucus membranes, and itchy, watery eyes. Similar symptoms can surface in our home environments as we adjust to the heating season, particularly for homes with forced air heating.

The best way to combat these symptoms is to make sure you stay well hydrated. Drink plenty of fluids while maintaining healthy habits, and be season-smart!



**For a current issue of SafetyNews online, and for archives, visit:**

<http://www.ohsu.edu/xd/about/services/integrity/ehrs/safety/gen/safetynews.cfm>

**The SafetyTeam page is available at:**

<http://www.ohsu.edu/xd/about/services/integrity/ehrs/safety/gen/safetyteam.cfm>

These pages are updated regularly. If there are OHSU resources you'd like to see linked, please send suggestions to the SafetyTeam Coordinator at:

[safeteam@ohsu.edu](mailto:safeteam@ohsu.edu)

**Questions?** Ask Environmental Health & Radiation Safety:

**503-494-7795**

