

Skin Care for Patients with Lymphedema

Acknowledgment: This lecture on skin care was developed by Robyn “Redd” Smith, M.Ed., COTA/L, CLWT, CLT, LASH-FKT.

Disclaimers: Given that there is little evidence-based literature regarding many of these practices, the majority of recommendations and tips must, at this time, be based on the knowledge of pathophysiology, decades of clinical pragmatic evidence, and experience by experts in the field. As with any other suggestion, use your judgment and if in doubt, consult with other healthcare professionals. Always remember to work within your scope of practice.

The following information lists practical suggestions to help prevent and treat skin injury for patients at risk for cellulitis or erysipelas. Any reference to specific skin care products and/or medications is not a commercial endorsement. Patients should consult a physician prior to using any products that are mentioned.

Introduction

Skin care is an integral part of Complete Decongestive Therapy (CDT). Breaks in the skin can allow bacteria to enter and cause serious infections because of the impaired local immunity in a lymphedematous limb. About 70% of cellulitis/erysipelas cases are caused by minor injuries such as cuts, insect bites, and burns; interdigital mycosis; and radiation ulcers.¹ To decrease the chance for fungal or bacterial colonization, meticulous hygiene and proactive skin care are imperative.²



Fig. 1 Meticulous hygiene and proper skin care are integral to CDT.

If we ignore compression, MLD and exercise, decongestion is going to slow down; but if we neglect skin care, patients often end up in the hospital with cellulitis or erysipelas. These infections must be treated with oral or intravenous antibiotics. High-dosage antibiotics may cause c-diff (*clostridium difficile*). C. diff is a bacterium that causes diarrhea and life-threatening colitis, or inflammation of the colon, by releasing toxins. C. diff is sometimes considered a superbug because it is a) resistant to many antibiotics making it difficult to treat, and b) often necessitates further hospitalization or a lengthy stay in a nursing facility. Patients may require additional treatment of their lymphedema simply because their skin care was ignored.

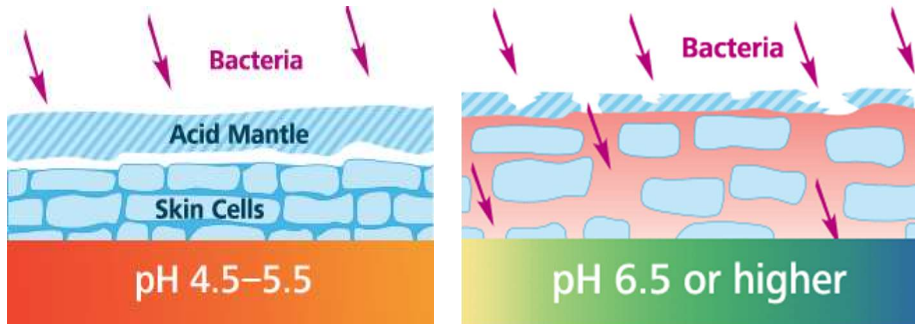
Skin as a Protector

Bacteria is all around us. There are fungal spores and viruses everywhere in our environment. Luckily our skin serves as an active protector in this environment.

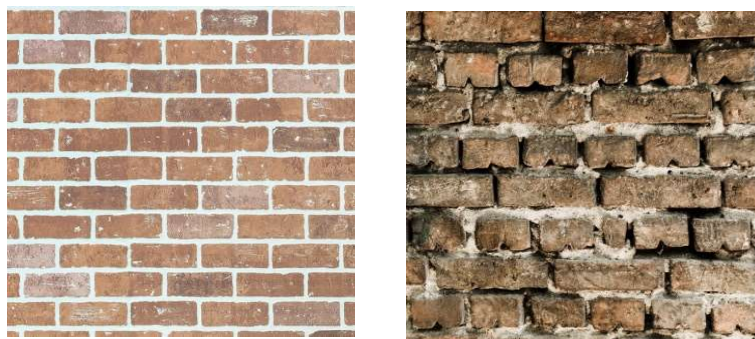
Our skin may be compared to a brick wall. In this brick wall, the skin cells are the bricks and the lipids are the mortar holding all the bricks together. Sometimes the mortar gets dry and the wall starts to crumble. We don't want a weak, crumbling wall to serve as our protector.

We have what's known as an acid-mantle on the surface of our skin. Viruses and other pathogens don't like an acidic environment. As these pathogens land on our skin, this acid-mantle deactivates them, so it is important to maintain this acid-mantle.

If skin does not have a robust acid-mantle and its lipids aren't supporting the skin cells, pathogens can enter into the body, causing infection and possibly a wound.



Figs. 2a–b A healthy acid-mantle protects the skin from bacterial invasion (left). A damaged acid-mantle allows pathogens to enter the skin, which can lead to infection.



Figs. 3a–b The bricks and mortar of a wall serve as a helpful metaphor for skin integrity.

Six Skin Care Tips: Cleanse, Moisturize, Keep Dry, Protect, Heal and Prevent

1. Cleanse

The Best Way to Wash

Patients should not be washing too often. You want your patients to be clean, but you don't want them washing away their acid-mantle. Make sure your patients understand the difference. Washing once in the morning and once in the evening is fine.

Patients should wash top-to-bottom. Your patients should not begin by washing their feet, working their way up. Advise them to start washing at the top of their bodies and let water flow down. This will protect the acid-mantle and wash debris off.

Advise your patients not to use loofas or exfoliating gloves. They should not be scratching their skin. The goal is to protect the wall. If your patients use these products, they will damage the acid-mantle and remove critical mortar-like lipids. Advise your patients to use a washcloth instead as it provides a very gentle form of debridement.

Patients should not be running hot water right on the part of the body with lymphedema. One of the reasons why hot water feels good is that it dilates the blood vessels bringing more blood to the area. For the lymphedema patient, more blood flow means more fluid to the area, which tends to make the lymphedema worse.

Products to Avoid

Beware: Skin care products have misleading labels. Many products market themselves as “unscented” on the front, but the ingredient list contains “fragrance.”

Manufacturers can add scents and fragrances to their product. A scent makes it smell good, like a lilac or a cookie. A fragrance is typically added to cover medicinal smells resulting from other ingredients. Regulations allow for manufacturers to add “fragrance” yet still market it as “unscented.” Make sure you and your patients are looking at the ingredient list.

Ingredients are listed in the order of the amount contained in the product. If fragrance is in the beginning of the list, there is a lot more than if it is at the end. Fragrances and scents should be avoided.



DIRECTIONS: For external use only. Wet area. Pour small amount onto hand or washcloth, and apply. Rinse thoroughly.

Ingredients: Water, Ammonium Laureth Sulfate, Ammonium Lauryl Sulfate, Decyl Glucoside, Cocamidopropyl Betaine, Disodium Cocoamphodiacetate, Sodium Chloride, Sodium Glycolate, Citric Acid, Disodium EDTA, Glycerol Oleate, Coco-Glucoside, Butylene Glycol, Iodopropynyl Butylcarbamate, Ammonium Chloride, Fragrance, Hexyl Cinnamal, Amyl Cinnamal, Alpha-Isomethyl Ionone, Benzyl Salicylate, DMDM Hydantoin, Benzethonium Chloride, Red 33, Blue 1

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Figs. 5a–b Keep in mind the front of the products are used for marketing. The ingredient list on the back cannot lie and lists ingredients contained, largest amount first. Also, avoid products with the word “para.”

Avoid products with “para” ingredients, i.e., parabens, paraffin, or methyl parabens. Products with parabens have been found to be carcinogenic. Also avoid waxes. If a patient is suffering from lymphorrhea, a waxy cream on the skin acts like saran wrap, which should be avoided.

Low pH is Good

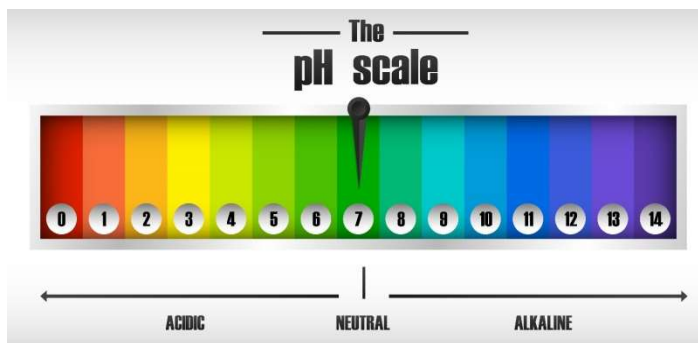


Fig. 4 The pH scale. High-pH products compromise the acid-mantle. Look carefully at products to ensure they’re low in pH; a low pH will support the acid-mantle. Make sure your patients read the labels on their products as well.

2. Moisturize

Dry skin is a common problem for patients with lymphedema. The proteins that are located just below the skin are hydrophilic, meaning “water-loving.” These proteins constantly draw moisture away from the skin’s lipid layer, effectively trying to break the skin apart. When patients feel dryness on their skin, they need to moisturize.

Patients should be encouraged to moisturize directly after cleansing. Patients should add moisturizer almost until they feel a slight residue. This may require several applications, waiting a minute or so in between each application. Do not over-apply. Do not use deep massage, but teach your patient to be gentle with their skin. Skin should feel smoother where the moisturizer has been absorbed. If the skin still feels crackling or taut, there is not enough moisturizer. A noticeable improvement should be evident after properly moisturizing.

Helpful Products for Moisturizing Skin

These products have been shown to be useful for lymphedema patients: *Free & Clear*, *Neutrogena organics or naturals*, *Eucerin*, *Aquaphor*. Even on these products, be sure to read the ingredient list.



Figs. 6a–d Among others, these products have been shown to be useful to lymphedema patients.

Regular Eucerin (like a cream) and Aquaphor (like an ointment) are both excellent moisturizing products for patients with lymphedema. Most drug or big box stores also sell their own generic version. Always check the ingredient list to confirm the same ingredients.

Note: Eucerin products do use mineral oil. Problems may occur should lymphedema patients repeatedly apply Eucerin without regular washing.



Dry skin in the lymphedematous area may be confused with psoriasis. It is instead a secondary skin change from having chronic lymphedema. Upon misdiagnosis, physicians prescribe a waxy cream, which is terrible for a lymphedematous limb. Talk to the physician or referring clinician and work together on your patient’s skin care protocol. This is the way to get the best results. Your collaboration will also educate this physician for dealing with future lymphedema patients.

3. Keep Dry

Too much moisture causes maceration and maceration can lead to infection and wounds. Fungal growths thrive in warm, moist environments. Be attentive to wherever moisture is present, and especially where there is a skin fold, including the axilla, the groin, under breasts or a pannus, and between the toes. Frequently seen is folliculitis, an infection of the hair follicle, which can be very painful. Keep moisture in balance: not too wet or dry.

When skin breaks down, there is a continuum. The skin starts turning red and looks inflamed. The redness then progresses into a rash. Then an open wound occurs allowing a direct path for pathogens into the body. The goal is to stop this progression. If your patient displays redness or a rash, you can stop the progression at that point. Excess moisture has many sources.



Figs. 7a–b Skinfold under the breast where excess moisture tends to cause maceration and inflammation (left). InterDry® is a helpful product that absorbs and wicks away moisture (right).

A Helpful Product to Keep Skin Dry

InterDry® is a fabric quite effective at keeping skinfolds dry. Sold on a roll or as small sheets. Cut a piece large enough so that once tucked into the fold, a couple of inches extend beyond the fold. The product will then wick the moisture from the fold. When showering or bathing, advise your patient to remove the piece and reinsert it once they are done cleansing. The piece can be used several times before it becomes soiled and should be replaced.

4. Protect

One common skin problem, called intertriginous shear, is when two skin surfaces rub against one another causing chafing. Ways to guard against this include wearing additional undergarments that are smooth, a stocking or a pair of shorts. A barrier cream will also help against intertriginous shear. If incontinence is an issue for your lymphedema patients, advise them to be sure to change their briefs often and apply a barrier cream.

Itching is another problem with lymphedema. Patients must learn they cannot scratch. Advise your patients that they have two different choices if they have an itch a) you can use the pad method, or b) you can use the push method. They may not use the scratch method. Anti-itch creams will also help.

Helpful Products to Protect Skin

Body Glide® goes on like a deodorant and protects the skin. The silicone content significantly mitigates the intertriginous shear. Bandlettes or liners are a thigh-high nylon without the stocking below or

above. Wearing these will reduce chafing for your patients. The Dimethicone product Nutrashield® is effective for patients with incontinence. An effective anti-itch cream is Calmoseptine®. On the Calmoseptine’s website, you can request their packet of samples for you to give to your patients.



Figs. 8a–f Products that help to prevent intertriginous shear and subsequent skin irritation: Liners; Nutrashield® protectant cream; C Body Glide®; Lantiseptic®; Liners; Calmoseptine®

5. Heal

Patients with lower extremity lymphedema often suffer from lymphorrhea, a leakage of lymph fluid directly impacting the breakdown of skin. Flowing through, the lymph fluid ends up on the outside of the skin. This fluid is caustic and will burn into the skin. Do not ignore lymphorrhea. A single drop of lymphorrhea can turn into a massive wound and/or blister.

Generally in nursing, one does not pop a blister. However, lymphoratic blisters must be drained. If it's not within your scope of practice, make sure your patient sees a professional trained in wound care.

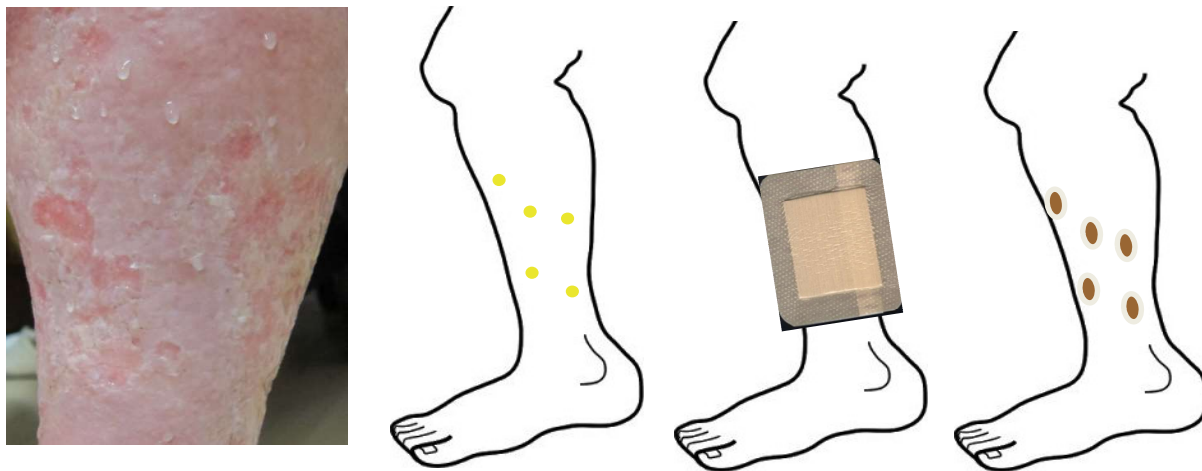


Fig. 9a–d From left to right, lymphorrhea: the leakage of lymph fluid through skin. Notice the droplets of fluid running down the lower leg (left); Schematic of lymphorrhea; Inappropriate dressing size; Appropriate dressing size.

How NOT to Dress Lymphorrhea

A common danger in treating lymphorrhea is over-dressing, e.g. choosing a dressing that is too large.

How to Best-Dress Lymphorrhea

The best way to treat lymphorrhea is with small, targeted dressings. Place Band-Aids® over each of the leaking areas only. Curad® and Nexcare® work well, too. Place these little dressings on leaking spots and encourage your patients to wear their compression garments or bandages. This approach will take care of the lymphorrhea without making it worse. Leave extra dressings with your patients so they can change them if they need to. Also remind your patients they can purchase more and place new dressings should they see new areas open up.

When making a dressing from absorbent Drawtex® and Hypafix®, fit the pad portion of the dressing to the wound as closely as possible. This will avoid further skin maceration. Hypafix® allows you shape your dressing to the wound and can be used with the ultra-absorbent Drawtex®. Dressings should be sized a half-inch to an inch around the wound.



Figs. 10a–d Products that may be used to control lymphorrhea.

Helpful Products to Heal Skin

In addition to the above-mentioned products (Band-Aids®, Curad®, Nexcare®, Hypafix® and Drawtex®), Elasto-Gel® is a cooling hydrogel that eases patients' pain and helps maintain the balance of moisture.

Medihoney™ is also extremely effective at healing. Medihoney's osmolarity is similar to that of human skin. Medihoney™ will donate moisture to a wound that is too dry; and take moisture away from a wound that is too wet.

6. Prevent Skin Problems

As a professional it is your job to prevent and stop problems from escalating. In addition to everything you have been trained to do, teach your patients risk reduction practices. First, advise your patients to follow their prescribed care plan. Help your patients understand the reasons behind what you tell them to do. Encourage and assure your patients. They too can monitor their affected extremity for irritation and skin breakdown. Advise them to contact their health care provider if they discover new problems. Advise them to never ignore lymphorrhea.

Helpful Products to Prevent Skin Problems

Sunburns can be very harmful to a patient with lymphedema. Advise patients to wear sunblock every time when they go outdoors. If your patients will be outside where there are many insects that bite, advise them to wear insect repellent.

Advise your patients to protect their hands and feet. Gloves for gardening and when hand-washing dishes in hot water for example, lymphedema patients should always be wearing slippers inside and shoes outside.



Fig. 11 Products that help prevent skin irritation and injury.

Patients with lymphedema must wear their compression garments which also help to prevent skin problems.

If problems aren't prevented by taking the above measures patients can spend years in and out of the hospital with life-threatening infections, and their quality of life can deteriorate rapidly.

Skin hygiene cannot be ignored! Along with the other main parts of decongestive therapy, skin care must be implemented with equal importance. Remember skin hygiene with all of your patients.

Help your patients understand that lymphedema is a lifelong diagnosis. It's a condition they need to participate in by checking themselves every day of their lives. If they do this, they can lead a great, healthy life.

Conclusion

Skin is our best defense against the elements of the outside world. Advise your patients to keep their skin clean, dry, moisturized, and protected so it too can protect them for a healthy lifetime.

References

1. Weissleder H, Schuchhardt C. Lymphedema Diagnosis and Therapy, 2nd edition. Koln: Viavital Verlag GmbH, 1997: p. 97.
2. National Lymphedema Network (NLN), lymphnet.org