

Chapter 5

Understanding Skin Disease

Key Terms

Acute cases
Allergic contact dermatitis
Chronic cases
Dermatitis
Formal Dehyde
Fungal infections
Infection
Irritant contact dermatitis
Lice
Nits
Parasites
Sarcoptes scabiei
Scabies
Sensitization
Viral infections

Learning Objectives

After completing this chapter, you should be able to:

- Describe the different types of skin diseases and their causes.
- Understand the difference between an irritant reaction and an allergic reaction.
- List the causes for salon product allergy.
- Describe the different types of gloves.
- List the ways to avoid skin disease.



RECOGNIZING SKIN DISEASE

During your career as a hairstylist you will undoubtedly come in contact with skin and scalp diseases. In order to protect your own health and the health of the public, it is essential that you learn to recognize some of the more common skin diseases and know what you can and cannot do about them. A client with an inflamed skin disorder, infectious or not, should not be served in a salon. Hairstylists must be able to recognize these conditions and suggest the proper measures that need to be taken.

WHY DO HAIRSTYLISTS HAVE SKIN PROBLEMS?

Skin diseases, especially on the hands, affect one in five hairstylists. Problems relating to the skin are common in many occupations. In fact, skin disorders are the number one occupation-related disease in America.

Many chemicals produce symptoms ranging from itchy rashes to serious burns or allergies. In the salon, these problems are usually seen on the fingers, hands, wrists, and scalp.

Skin diseases and allergies force some hairstylists to give up successful careers. It is vital that hairstylists protect their hands from skin problems.

CONTACT DERMATITIS

Dermatitis (dur-muh-TY-tis) means an inflammation of the skin. There are two different types of contact dermatitis that are common among hairstylists:

Irritant Contact Dermatitis

Irritant Contact Dermatitis is caused by overexposure to harsh, caustic, irritating chemicals that can damage both the epidermis and dermis and cause inflammation of the tissue. Many hairstylists develop irritant contact dermatitis after years of frequent, repeated exposure to caustic and irritating salon chemicals. Irritant reactions affect everyone who comes in contact with an irritant, although the degree of irritation will vary depending on the individual. In acute cases, symptoms are noticed immediately or within a few hours. **Chronic cases** may take weeks, months, or years to develop. Symptoms range from redness, swelling, scaling, and itching to serious, painful chemical burns.

Extremely strong, corrosive chemicals can cause immediate, acute, and sometimes irreversible skin damage. Bleach, powdered off-the-scalp hair lighteners, hydrogen peroxide, permanent wave solutions, chemical hair relaxers, and chemical depilatories are examples of corrosive salon chemicals. Serious injuries must be treated immediately by a physician.

Frequent, repeated exposure to less caustic irritants, often produces chronic contact dermatitis that can be every bit as painful as the acute form. You may find it surprising that even water, especially hard tap water, is a common salon irritant. Repeated exposure to water dries the skin. Always dry your hands completely because excessive moisture between the fingers can lead to cracking, irritation, and infection.

Frequent shampooing and hand washing also damages the skin. Hairstylists who do an excessive amount of shampooing run the greatest risk of developing chronic contact dermatitis. The harsh detergents found in many shampoos disrupt

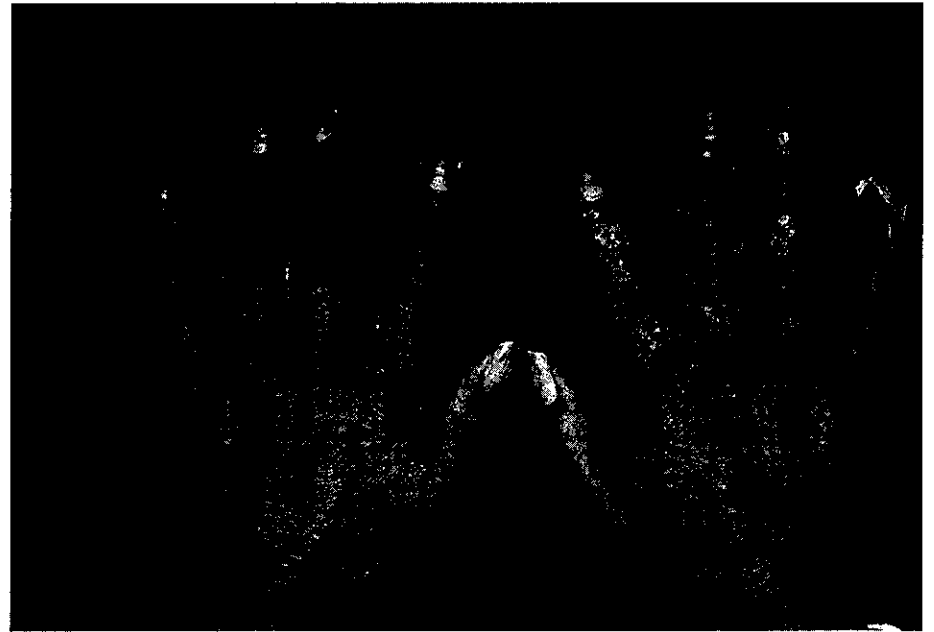


Figure 5-1 Allergic contact dermatitis in a hairstylist due to paraphenylenediamine.

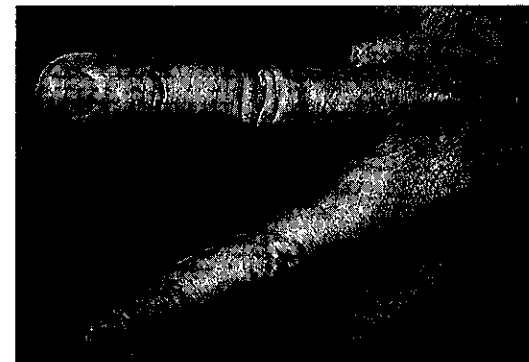


Figure 5-2 Allergic contact dermatitis due to nickel allergy.

(Courtesy Rube J. Pardo, M.D., Ph.D.)

YUCK! YOU'VE GOT DANDRUFF

Millions of dollars are spent each year to combat dry, flaky skin. The answer to most of these problems isn't found in a jar of expensive skin cream or medicated shampoo; the best solution is to avoid damaging the skin to begin with.

All shampoo contain detergents (surfactants) which strip away natural skin oils. Even mild shampoos must be able to dissolve oil or they're worthless. When a client sees flakes the normal reaction is to wash the hair more often. They don't realize that dandruff is usually caused by overshampooing or not thoroughly rinsing the hair.

Residual shampoo or constant washing causes prolonged and repeated exposure to irritating surfactants. The better a shampoo cleans the hair, the more likely it is that excessive use will cause dermatitis. Leaving the hair or scalp wet for long time periods can also cause itchy, dry, and flaking skin. Excessive use of hair conditioners can create problems, as well. Don't make the mistake of thinking more is better.

Prevention is the best solution. Avoid prolonged or repeated skin contact with shampoos and conditioners. Take time to rinse the hair completely and dry it thoroughly. In most cases, the dandruff will disappear on its own. However, if a skin disorder persists, recommend a dermatologist.

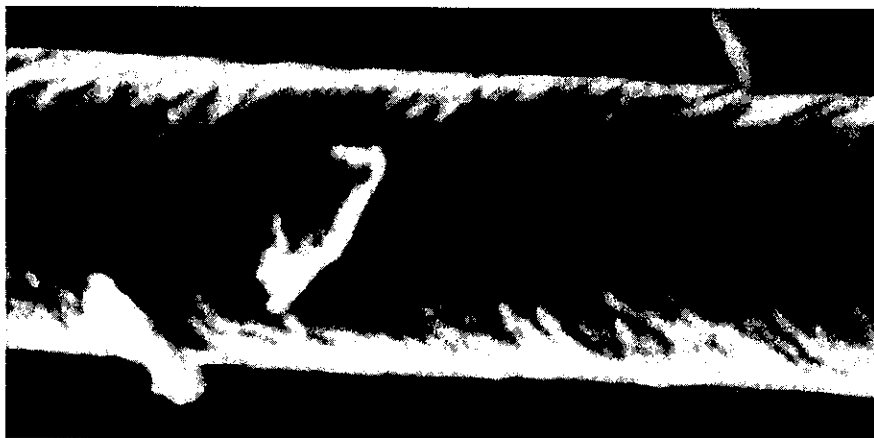


Figure 5-3 Normal hair with dandruff flakes adhering to hair fibers.

(Courtesy: Gillette Company Research Institute, Rockville, Maryland)

the skin's natural acid mantle, damage the protective layer of lipids (oils) and deplete the Natural Moisturizing Factor (NMF). The NMF is composed of a mixture of amino acids and salts (e.g., pyrrolidone carboxylic acid and lactic acid) which protect the skin from damage. The lipids within the epidermis also help to maintain moisture and are essential to healthy skin.

Allergic Contact Dermatitis

Normally the immune system protects us from pathogens and disease, but in the case of an allergic reaction the immune system actually causes the problem by doing its job too well. An allergic reaction occurs when our immune system mistakes a harmless substance for a toxic one and mounts a major defense. Severe allergic reactions can result in high fever and *anaphylactic* (an-ah-fah-LAK-tik) *shock*, which can be life threatening.

An allergic reaction is an immune system response that is caused by repeated exposure to an allergen (sensitizer). Initial exposure to an allergen will not cause an allergic reaction. The development of hypersensitivity is the result of repeated exposure to an allergen over time. This process is called **sensitization** (SEN-sih-tiz-a-shun) and may take months or years depending on the allergen and the intensity of exposure.

That's why the FDA requires that a patch test be performed 24–48 hours prior to each application of any aniline dye. Although your client may not have a reaction the first few times you apply the color, sensitivity may still develop after continued exposure. Although you may have colored a client's hair repeatedly in the past without an allergic reaction, that's no guarantee that your same client won't experience an allergic reaction with the next application, even with the same formula. A patch test, prior to each color application, is the only way to know if your client has become sensitized and is prone to an allergic reaction.

Poison ivy is a common allergen. Although approximately 75 percent of the population is allergic to poison ivy, the remaining 25 percent will never have a reaction no matter how many times they are exposed. Individuals who are not predisposed never become sensitized and won't develop allergies. Also remember

ARE YOU ALLERGIC TO SCISSORS?

Many hairstylists with allergic contact dermatitis are actually sensitive to their scissors. Nickel-plated scissors, pins, clips, rods, and rollers are believed to be the third leading cause of allergic reactions.

Nickel is one of the most common contact allergens in the world. Studies show that 11 percent of people tested are sensitive to nickel. Usually, nickel-plated jewelry and earrings are to blame. One study revealed that young girls with pierced ears are ten times more likely to be allergic to nickel.

If you have pierced ears, there is a good chance that you are already sensitized to nickel. Skin contact with this metal can cause dermatitis in the sensitive individual.

If you develop a rash or irritation where the scissors touch the skin, switch to a brand that is not nickel-plated. If the skin problem doesn't go away, see a dermatologist for treatment.

that different people develop allergies to different allergens. Individual predisposition may be inherited, as sensitivity seems to run in families.

The symptoms of allergic reactions are similar to those caused by simple irritants. Previously irritated, broken, or damaged skin increases the chance of developing an allergy. Unlike irritant contact dermatitis, the symptoms are not always isolated to the contact area. Swelling and other signs may occur far from the point of contact, and symptoms may take as long as 48 hours to appear. The most common culprits of **allergic contact dermatitis** are semi-permanent and permanent (oxidation) haircoloring products.

Formaldehyde (for-MAL-duh-hyd) is also commonly known as formalin, paraformaldehyde, oxymethylene, formic aldehyde, or methanal. Formaldehyde is a biocide that is used in cosmetics as a preservative. Formaldehyde is toxic by inhalation, a strong irritant, and a carcinogen. Formaldehyde is a sensitizer that may cause allergic reactions, even at low concentrations.

Skin Infection

Infection (in-FEK-shun) occurs when pathogenic microorganisms gain access to the body, overcome the body's natural defenses, multiply, and cause injury. The four groups of pathogens that cause infection are bacteria, fungi, parasites, and viruses.

Bacterial Infection

Approximately 80 percent of teenagers experience acne. Acne is a common, complex, and chronic disease that is caused by the blockage of hair follicles. The characteristic blackheads and whiteheads are called comedones. Fortunately for most people, acne usually clears up by itself once they reach their early twenties. Acne is the most common *bacterial infection*.

Fungal Infections

Fungi live on the skin and are harmless when in balance with "normal" bacteria. **Fungal infections** usually develop after these "normal" bacteria have been killed by treatment with antibiotics. Tinea pedis, commonly known as athlete's foot, is the most common fungal infection.

Parasitic Infections

The skin can become infested with **parasites**. **Scabies** is caused when the mite *Sarcoptes scabiei* buries into the skin and lays eggs, leading to itching and inflammation. Lice are flat, wingless insects that attach to the body and suck blood. Their eggs, which attach to the hair, are called **nits**. Treatments for these infestations are available as over the counter drugs.



Figure 5-4 *Impetigo is commonly seen on the face.*

(T. Fitzpatrick, Color Atlas and Synopsis of Clinical Dermatology, 3e. Reproduced with permission of The McGraw-Hill Companies, 1996.)

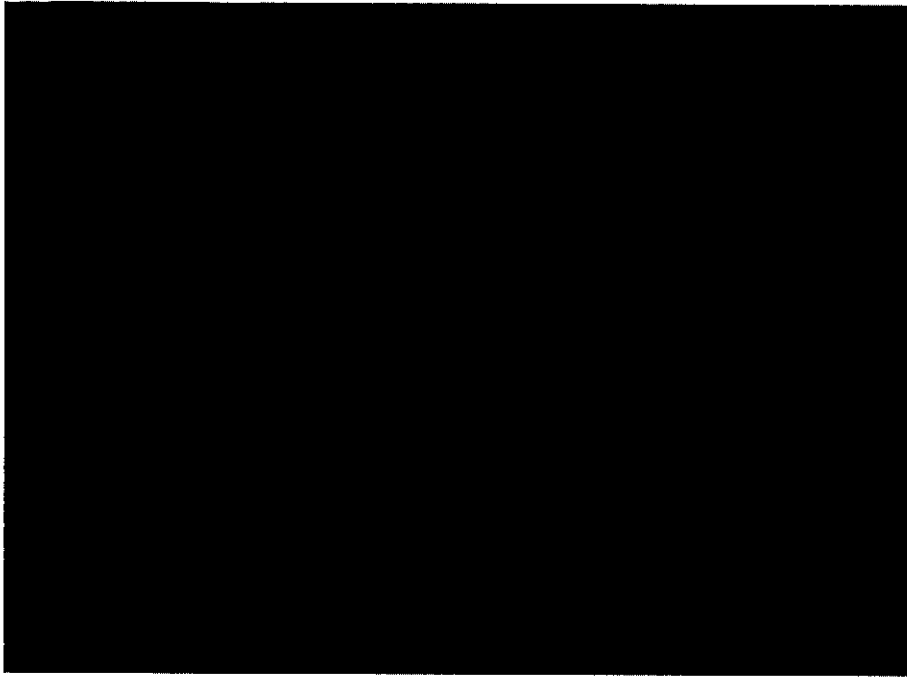


Figure 5-5 *Folliculitis on the back.*
(Courtesy Rube J. Pardo, M.D., Ph.D.)



Figure 5-6 *Tinea corporis infection on the leg.*
(Courtesy Rube J. Pardo, M.D., Ph.D.)

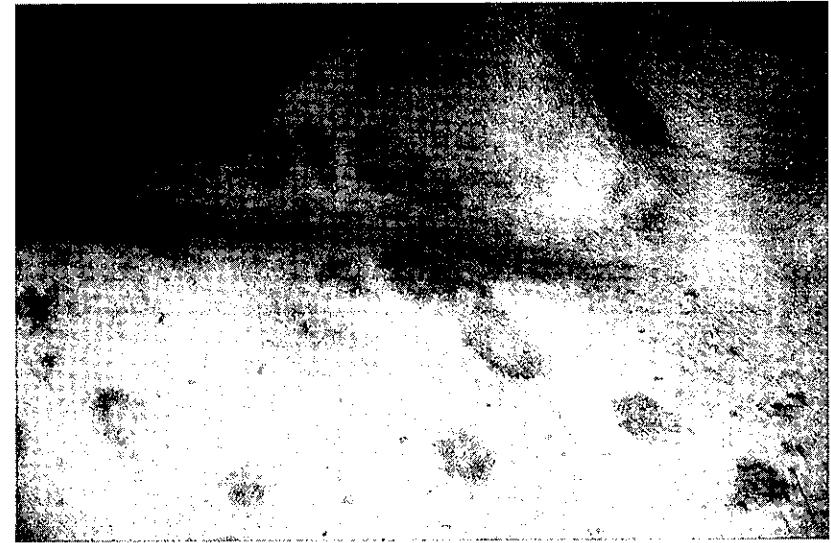


Figure 5-7 *Pityriasis rosea.*
(Courtesy Mark Lees Skin Care, Inc.)

Viral Infections

A virus is a parasite that cannot feed or reproduce on its own and requires a host cell to “live.” **Viral infections** can be difficult to treat because the virus may hide from the host’s immune system inside the host’s own cells.

Viral warts occur when the virus enters the body through direct contact with the skin. Measles results from the virus gaining access through the respiratory system. Systemic infections like measles often affect a number of other body systems as well as the skin.

Venereal disease (VD) is a contagious disease acquired by contact with an infected person during sex. VD can be avoided by abstinence or practicing safe sex.

GLOVES

Keeping irritating substances away from the skin prevents allergies and related diseases. Wearing gloves is an excellent way to lower skin exposure. Excuses, such as “I need to feel the hair,” “they’re too uncomfortable,” or “it’s inconvenient,” are common statements of justification.

There is no need to feel the hair while applying chemicals and no one can check the progress of a chemical application by feel. Feel the hair for texture and condition before the products are applied or after removal. Otherwise, always wear gloves.

GLOVES ARE THE SKIN'S BEST FRIEND

Rubber gloves are probably the last thing you'd suspect to cause allergic contact dermatitis. However, some hairstylists have become allergic to the chemicals found in rubber. Others develop sensitivities to the cornstarch used to make powdered gloves. Although these are not common occurrences, hairstylists should be aware of the possibility.

Sometimes the allergy is not from the glove but, instead, from moisture buildup between the glove and hand. When prolonged, skin wetness can create problems; using powdered gloves often eliminates the symptoms.

If you become sensitized to rubber gloves, there are other alternatives. Gloves can be obtained in a wide variety of materials. A dermatologist can advise which one is best suited to your condition.

Don't be fooled into believing you can't wear gloves because you're sensitive. Gloves will protect the skin and prevent chemicals from being absorbed into the bloodstream.

Disposable Gloves

Material Type	Benefits
Vinyl	Inexpensive, exceptional sensitivity, and chemical resistance
Natural Latex	Inexpensive, improved strength, good sensitivity, and chemical resistance
Polyethylene	Lowest cost, but lower sensitivity, strength, and chemical resistance
Polyurethane	Excellent chemical resistance and strength, tough, sheer, and high sensitivity

Without question, wearing gloves can be uncomfortable and inconvenient. Painful rashes, blisters, open sores, and cracked, dry skin are even more uncomfortable. The long-term health risks of skin absorption can be inconvenient. Many hairstylists with extreme sensitivities to salon chemicals are forced to leave the profession. Wearing gloves is far less inconvenient than finding new employment. Besides, properly fitted gloves can be comfortable. Once you get in the habit of wearing gloves, you'll feel uncomfortable without them!

Today, hundreds of different types of gloves are available in dozens of materials. These range from gloves that reach the shoulders to individual finger gloves. You can choose powdered or powder-free, cotton-lined or unlined,

straight or naturally curved fingers, and ultrasheer to heavy duty. Some gloves even have a rough texture for improved grip and handling ability.

Try different types of gloves to determine which is right for you. Companies that distribute safety equipment often provide assistance in choosing proper gloves (see Appendix for sources of safety information).

Thanks to new technology and increasing chemical awareness, there is no reason to risk your health. Skin disease is easily avoidable, but you must make an effort to protect yourself. Working safely is working smart!

REVIEW QUESTIONS

1. What is a common occupational disease for hairstylists?
2. Which is more dangerous to the skin, irritants or corrosives? Explain why.
3. Name the two most common types of skin diseases found on clients who patronize salons.
4. What is the difference between an irritant and an allergen (sensitizer)?
5. What irritant substance is most commonly used in the salon?
6. Which type of skin disease may take up to 48 hours to develop symptoms?
7. Define *sensitizer*.
8. At what stage in a cosmetology career are you at the greatest risk of developing irritant contact dermatitis? Why?
9. At what stage in a cosmetology career are you at the greatest risk of developing allergic contact dermatitis? Why?

DISCUSSION QUESTIONS

1. Carefully examine the list of different types of disposable gloves. Which glove do you feel offers the best combination of affordability, comfort, strength, and chemical resistance? Did you pick the same glove your classmates chose?