

Functions of the Skin: How Can A Skin Injury Affect the Body?

Scar Removal / By [admin](#)

When talking about beauty, one of the most common phrases we always hear is: “it’s not what’s on the outside but what is on the inside that counts.” This quote rings true in a philosophical sense, but it may not always be the case when it comes to health. Smooth and healthy skin does not only give aesthetic and cosmetic benefits. It’s actually important to maintain the skin’s health as it can significantly affect the bodily systems and their overall function.

The skin’s most important function is its ability to act as the first line of defense against many harmful environmental factors. So if its structure and integrity get compromised, you’ll be exposed to many microorganisms that can cause sickness and damage the body’s internal systems over time.

Read on below to learn how skin injuries can interfere with bodily functions and some tips on how you can prevent this from happening.

What makes the skin important?

The skin is the largest organ in the body that serves as its protective barrier against outside invaders. It is made up of three main layers: the epidermis, dermis, and hypodermis.

Each layer contains specific structures and substances that work together to protect the body from physical, mechanical, and thermal hazards. It also adds a layer of protection against disease-carrying microbes (parasites and bacteria) through the help of oil, sweat, and hair follicles. Some of the skin’s other functions include the following:

- **Barrier against radiation**

Besides harmful elements and microorganisms, the skin also protects the body against UV radiation from the sun and other sources.

- **Thermoregulation**

The skin helps regulate the body temperature through sweat production and blood vessel dilation and constriction. The skin’s melanin content absorbs the bulk of the radiation so that the deeper layers won’t get damaged.

- **Immunologic surveillance**

The epidermis houses the Langerhans cells (immune cells), which guard the body and prevent microorganisms from entering. Once these cells detect a foreign invader, they will send signals that will stimulate other immune cells (T cells, APCs) to travel toward the foreign antigen’s location.

The skin’s Langerhans cells may also trigger inflammation if necessary to help destroy the detected microbes.

• Biochemical function

The skin is also a place where vital biochemical processes occur, such as the synthesis of Vitamin D. As the skin gets exposed to sunlight, it stimulates the production of inactive Vitamin D, which will then be transported into the liver and kidneys to be converted into its most potent form.

Moreover, the skin is also one of the main locations where bioactive substances get produced, such as proteins, lipids, glycans, signaling molecules, and immune cells.

• Sensation

The thousands of nerve endings in the dermis layer allow the body to recognize certain sensations that may be harmful to it, such as heat and pain.

So if the skin's integrity gets compromised, there's a huge chance that it won't be able to do its function anymore, thus leaving the body vulnerable to many hazards.

What happens if the skin gets injured?

The skin is a tough and flexible organ made up of collagen and elastic fibers allowing it to withstand breaking or tearing. But with enough pressure, the skin can still succumb to different types of injuries, such as cuts, lacerations, abrasions, and burns.

Fortunately, the body has its own set of defense mechanisms to treat skin injuries on its own.

In the event of a minor wound or mild injury, the skin will take action immediately to start repairing the damaged part. Upon injury, the damaged skin cells will release certain chemicals to enlarge the blood vessels so more immune cells can get into the wounded area.

An injury will also trigger inflammation or swelling to increase the blood flow and attract more immune cells to the area. These protective cells will rush to the site, remove pathogens and debris, and then form a blood clot to seal the wound and prevent it from bleeding. This clot will then turn into a scar as the skin works on creating new layers of collagen and blood vessel networks.

Unfortunately, severe wounds and skin injuries will require medical care and assistance before they can successfully heal independently.

If optimal treatment is not given, then the body may suffer from several consequences, such as:

- Compromised immunity which can lead to infection and other diseases
- Hypothermia due to lack of thermoregulation
- Dehydration as the dermal water balance gets disrupted.
- Scarring and disfigurement, especially for burn victims.
- Loss of mobility and disability

Furthermore, severe, penetrating skin injuries that damage muscle and internal tissues may affect the body's organs and systemic functions.

How to improve skin injury repair and healing?

Skin injuries heal at different rates depending on the severity of the damage, location, and the patient's underlying medical condition. However, healing can also greatly depend on how well you take care of it.

So, here are some of the best practices that you can observe to enhance wound healing and repair:

- Make sure to take the medicine prescribed by your doctor to prevent wound infection. Do not take drugs that may interfere with your healing process (e.g., anti-inflammatory drugs).
- Observe proper nutrition. Eat foods rich in proteins, vitamins, and minerals to aid injury repair.
- Keep your body hydrated.
- Use appropriate topical agents or cleansing sprays as indicated by your doctor.
- Keep the injury properly dressed, as this promotes faster healing. Change the dressing as often as your doctor indicates to avoid complications.
- Practice careful mobilization so as not to put unnecessary stress or pressure on the injured area.
- Quit smoking since this will only hamper down your healing process.

Once healed, some skin injuries may leave permanent scarring or disfigurement, which can affect your body's function and appearance. Fortunately, these things can easily be remedied with the help of an experienced [Miami plastic surgeon for scars](#), like Dr. Zaydon.



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If you have a skin injury that requires medical attention or a healed scar that may have been causing physical and emotional distress, then Dr. Zaydon should be your go-to physician.

Dr. Thomas Zaydon is a board-certified plastic surgeon specializing in a variety of practices—from cosmetic and reconstructive surgery to IMEs, and expert witness duties in court. He is the leading plastic surgeon for scars, with over 20 years of experience under his belt.

Contact us now at (305) 856-3030 to learn more about our services, whether it's plastic surgery for burns, abrasions, scars, or disfigurement.

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