

# GRATITUDE FOR OUR BODILY SYSTEMS:

## Our Amazing Skin!

Arnie Shapiro,  
M.D.

Our skin is our largest organ and contains about 15% of our body weight. It has a surface area of 1.5-2.5 square meters in adults. Along with its accessory organs: hair, nails, sebaceous (oil) glands, and sweat glands, it forms the Integumentary System.

Skin is found in all mammals. It is much more than just an outer coating of the body. It has great importance in maintaining body temperature and the Sense of Touch. Touch includes pressure, pain, environmental stimuli, and social stimuli. It also carries an extensive "friendly" microbiome that helps resist intrusions of pathogens. Melanin pigment, from specialized cells, protects us from UV radiation. Self-oiling

(sebaceous gland secretions) helps keep us from waterlogging or drying.

There are 3 basic layers of all skin: Epidermis, Dermis, and Subdermis. The Epidermis is the outermost layer. It consists of millions of stacked cells, that are mostly structural protein (keratin), undergoing constant renewal. Outer cells are flaked off, and replaced from below. The Dermis is the middle layer, and is anatomically complex. It has rubber-like collagen protein, blood vessels, sensory nerves, hair roots, oil glands, and sweat glands. The deepest layer of skin is the Subdermis. It is mostly fatty tissue for insulation and cushion.



A crucially important function of the skin is body temperature regulation. This is accomplished by the constriction or dilation of blood vessels, under the direction of the Autonomic Nervous System. The

Hypothalamus of the brain functions as a thermostat, and sends signals to control the diameters of skin arterials.

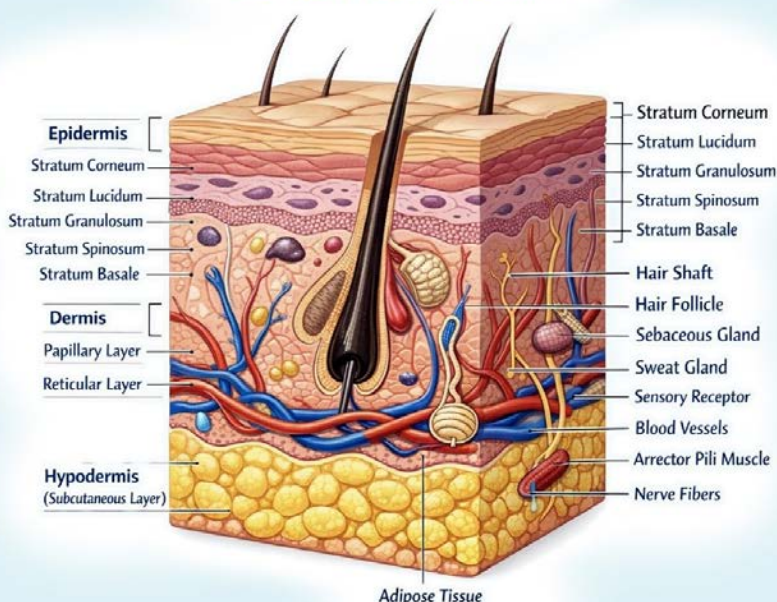
Other land mammals have fur as insulation/ heat regulation. Early humans, perhaps 300,000 years ago, started making tools and weapons, and left the forest to hunt grazing animals in the grasslands. It required long-dash, distance running, and evolution favored loss of body fur and increased presence and activation of sweat glands to provide crucial cooling. Sweat evaporates from non-furry skin and there is heat given off in the process. Hairlessness is also good for swimming and diving, which boosted the hunting success of coastal human groups.

After developing successful hunting methods in Africa, humans migrated to all corners of the globe. In colder regions, they had to make good use of animal fur to ensure survival. Use of fire was essential. Toughness was essential. It is still essential. Scandinavians developed the practice of heating up in saunas, and then plunging into cold water! This is "exercise" for the skin and circulatory system to toughen.

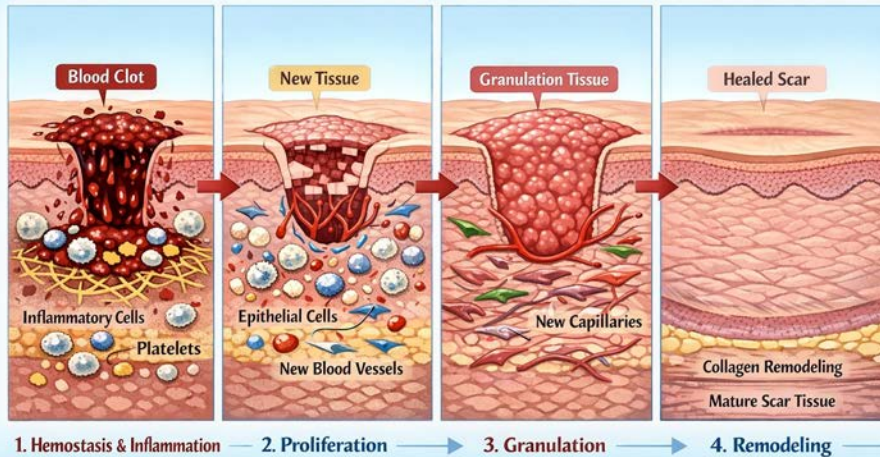
Skin-to-skin touch is important in all mammals. The very fact that newborns and infants nurse from their mothers' breasts initiates life-long patterns of touch that binds family and social groups. Touching includes giving and receiving.

Being exposed to the outside world, our skin is subject to injury. It has excel-

### Structure of the Skin



## Stages of Wound Healing



lent self-healing mechanisms. Possible injuries include cuts, scratches, scrapes, bruises, punctures, burns, and frostbite. Stages of healing include: stopping bleeding, immune system protection/ white blood cells/ inflammation, and rebuilding. Scabs are a temporary, protective layer of hard, dried blood clots. New skin grows in from the edges inward. They are best left undisturbed.

Many external irritants can cause allergic reactions in exposed skin. This is known as allergic contact dermatitis and is characterized by redness and swelling due to Immune System activation. There could be severe itching. Many industrial chemicals can cause allergic dermatitis.

Ultraviolet exposure from sunlight is dose-related, and the highest doses occur between the two hours before and after noon, especially in summer. It is advisable to use wide-brimmed hats, protective clothing, and/or high-SPF sunscreens for outdoor midday activities.

Local skin “growths” can take the form of cysts (fluid-filled), lipomas (fatty accumulation), moles, or warts. Darkly pigmented, flaky, or waxy-looking growths could be skin cancer.

The main rule-of-thumb for growths is to be aware of A, B, C or D changes. A is for Asymmetrical (odd-shaped). B is for Border irregularity/indistinct border, C is for Color changes/ variations over time. D is for steadily increasing Diameter. See a dermatologist if these changes occur.

Skin is surprisingly able to reveal internal disorders. Many diseases produce visible skin changes. Examples are:

- **Yellowish skin**—liver disease
- **Blueish skin**—low oxygen levels
- **Pale skin**—anemia or poor circulation
- **Purple spots**—clotting disorder
- **Darkening patches**—diabetes, lung cancer

**H**ow can you best take care of your amazing skin?

- 1) Protect yourself from UV rays from sun exposure. Avoid tanning salons.
- 2) Clean your skin gently. Don't over wash or over soap. Soap is best used in sweaty, odorous areas. Avoid strong fragrances.
- 3) Keep skin moisturized.

Apply mild moisturizer—I recommend Vanicream, CeraVe, or Cetaphil—after bathing, and as needed.

- 4) Eat a balanced diet, with fruits, vegetables, healthy protein, and healthy fats.
- 5) Keep well hydrated.
- 6) Exercise regularly, for optimal circulation.
- 7) Wear rubber gloves if using harsh cleansers or solvents.
- 8) Get annual dermatology exams or if you notice skin changes.

In summary, our skin is a multifunctional organ and system. It is exposed to the outside world and protects us 24/7/365! It receives essential information from the outside world, alerts us to dangers, and participates in familial and social bonding. It is amazingly versatile.

Nature has accomplished a brilliant design. It is amazingly versatile. The Tree of Life has gifted us with an advanced outer layer and it will function well and lifelong, if cared for. ■

**Namaste!**  
—Dr. Arnie

*Dr. Shapiro is a career clinic physician who has utilized relaxation techniques with many of his patients. Prior articles*



*by Dr. Shapiro can be found in the [Archives at NaturalLife News.com](#). His YouTube channel is: “[Arnie Shapiro, MD • Breathing Easy.](#)” Email Dr. Shapiro at: [alloydshapiro@gmail.com](mailto:alloydshapiro@gmail.com).*