



Today, we all have an understanding about our mind, body, and soul, on how they function, what they need and what we should give. Amongst all, skin being the largest organ in our body, we need to give some extra attention to educate ourselves on skin biology. So, let's dig deep and see beneath our skin to understand its foundation.

As you might know, skin is made of different tissues forming together as a single structure to perform various critical functions. This structure is made of a complex network acting as an initial barrier against harmful UV rays, pathogens, mechanical injury, and environmental stressors. In addition, temperature can also be regulated through the sweat glands and blood vessels present. We all have various skin sensations based on touch, pain, heat, cold, pressure, and contact detected by the nerve endings. The major source of vitamin D is also through the production of D3. This structure consists of three major layers- the epidermis, the dermis, the hypodermis. All the significant functions are carried out by the topmost layer called the epidermis. So, let us review about the anatomy of all these layers.

The Epidermis

Being the outermost layer of our skin, the epidermis is made of five different layers: stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum, and stratum basale. The stratum basale is a place where keratinocytes are synthesised and eventually rise to the top of the layer through keratinization, as these cells are at the innermost layer of the epidermis. Keratinization takes around 28 days to reach the top layer, but as we age, this process slows down.

Under the deepest layer of the stratum basale lies melanocytes cells, where melanin is synthesised. It is a pigment which is generated to give a certain colour to our body. Melanin percentage varies from skin to skin based on melanocyte functioning. UV radiation can stimulate and trigger melanocytes to produce more and more melanin, resulting in hyperpigmentation and skin-aging. Here comes sunscreen to our rescue to maintain even skin tone and protect our skin's glowing abilities. So, do not forget your SPF!

The Dermis

The middle layer is the dermis, which is the area that gives us sensations due to the presence of nerve endings. The dermis is a combination of nerve endings, hair follicles, and capillaries with connective tissue. Our body sweat is produced in this part of the skin through apocrine glands and the skin's moisture is locked with sebaceous glands. These are the primary glands in this layer protecting the skin from oil clogging and maintaining moisture by producing sweat. The Dermis has two different



layers in it called papillary dermis and reticular dermis. The thinnest upper layer, the papillary dermis contains capillaries which regulate our skin temperature and provide nutrients to the epidermis. The Reticular dermis is the thickest lower layer in the dermis, containing connective tissue and collagen bundles. Being an important protein of our body, collagen provides shape and structure by giving elasticity and strength to skin. Yes, it is that one spoon of powder that we all are consuming every day to maintain our skin's strength. Elastin is another protein that supports and complements collagen by maintaining flexibility of the skin. As we grow older, both these fibers get affected by our external and internal surroundings, resulting in wrinkles. Therefore, if necessary, add collagen to your palate- it helps!

The Hypodermis

Also called as the subcutaneous layer, the hypodermis is the bottom-most layer of the skin and consists of fatty tissue. This tissue consists of fat and functions as an insulator and shock absorber conserving body heat and protecting inner organs. The hypodermis stores fat as energy reserves, connecting bones and muscles in our body by crossing through blood vessels, nerves, lymph and hair follicles.

To summarize, understanding skin biology is important to address various skin needs. So, let us all have happy skin by sharing information and educating ourselves. Tune in to our social media channels for more information!

References:

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