THE SKIN - INTEGUMENTARY SYSTEM

Chapter 2

Surrounding our body is a layer of material that we call our skin. Our skin and those structures closely related to it are called the **integumentary** system or the **cutaneous membrane** (actually a misnomer for the skin).

Functions of the Skin

Our skin has several functions. It acts as a protective covering for the body helping to keep foreign objects out as well as those entities which belong inside the body in. Through the process of sweating it helps to regulate and maintain body temperature. Sweating will also function to help eliminate certain body wastes. As the first thing that comes in contact with our surroundings, it serves as a bed for sensory nerve receptors, allowing us to feel and touch as well as to sense heat and cold.

Factors Which Influence Skin Color

There are various factors that have a bearing on our skin color, the most obvious being the amount, color, and distribution of pigments in our skin. This is a hereditary characteristic that we receive from our parents. Another characteristic that we might inherit is the number of superficial vessels that allow blood to be very close to the surface of the skin. If you have ever been embarrassed, you sensed the warmth of your skin as you turned red when these superficial vessels dilated, allowing additional blood closer to the surface. Your own state of health can have an effect on your skin color. Has someone ever said that you look pale when you were sick? Your age can also help to determine your skin color. Infants are sure to have some changes in skin color as they grow into childhood, much like an old person may undergo slight changes in skin color as they get older. Where you live and what type of activities you participate in can also affect your skin color due to climatic conditions. One who works outside, or is active in outdoor sports, will have a different color compared to someone who rarely goes outside.

Skin Layers

The skin is made up of two (2) primary layers. The epidermis is the outer (external) primary layer of skin. It is composed primarily of epithelial tissue laying on top of a layer of connective tissue. The internal primary layer of the skin is called the dermis and it is primarily connective tissue. *(See Fig. 5)*

The epidermis contains melanin cells which are the brownish-black pigments of the skin. The absence of these cells is called albinism, (the individual, an albino). Freckles are due to concentrations of melanin. Other related structures of the epidermis are hair and nails. Hair is an outgrowth of the epidermis. The hair follicle is the cylindrical cavity containing the root, and the shaft of the hair extends above the surface of the skin. The nails of the fingers

and toes are specialized epidermal cells.

The dermis is the inner (internal) primary layer of the skin. It is composed primarily of connective tissue. The dermis contains small blood vessels, lymph vessels, and nerves of the skin. Other related structures of the dermis are the sebaceous glands (or oil glands), which secrete sebum and serve to keep the hair and skin soft and pliable. The sudoriferous glands (or sweat glands) secrete sudor, and are found on most body surfaces. They open onto the surface of the skin through tiny openings called pores. The ceruminous glands (or "ear wax glands") secrete cerumen which helps to protect the ear canal by trapping bacteria and foreign particles. However, excess accumulations of cerumen can block the passage of sound waves entering the auditory canal.