Skin of the Face

The human face consists of several layers, each serving different functions. Here are the main layers of the face:

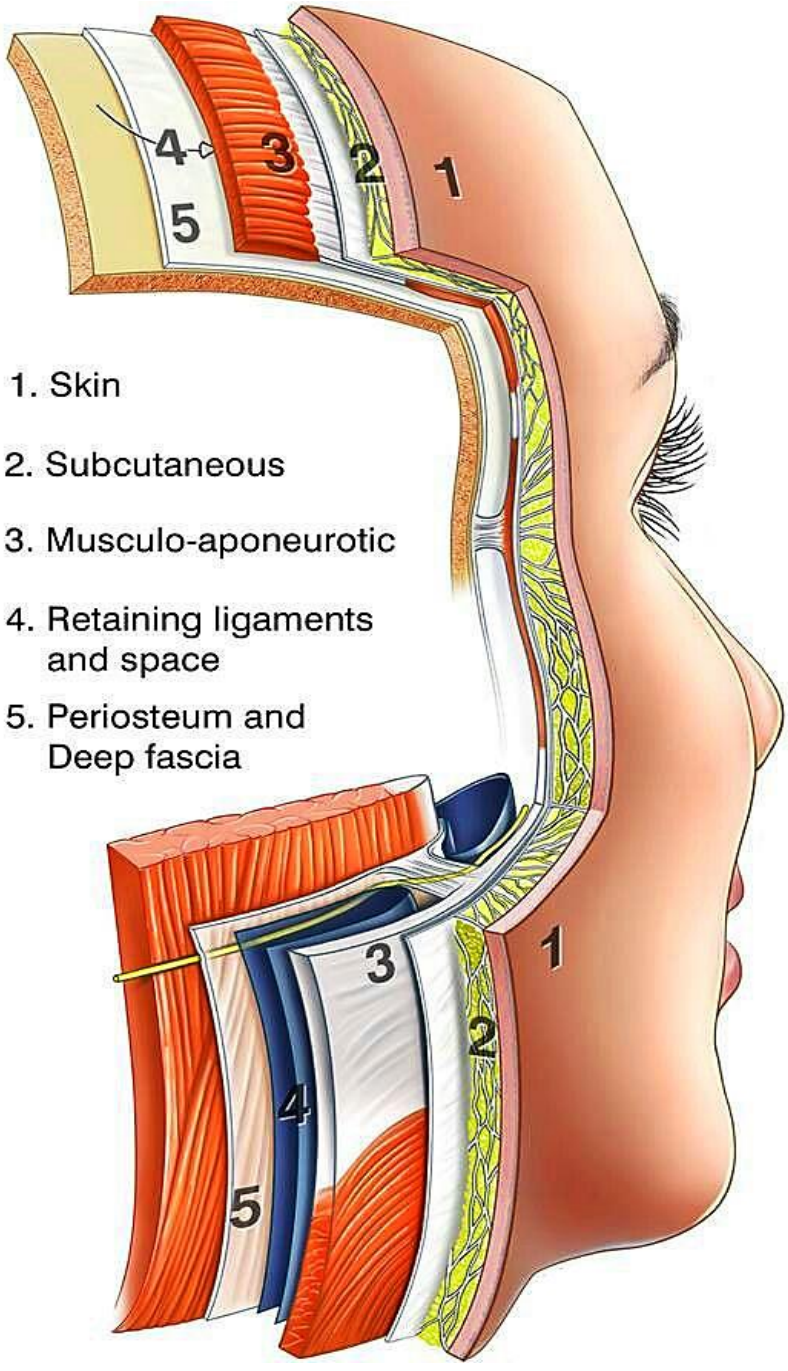

Figure 1. shows layers of the skin face

1. **Skin**: The outermost layer of the face is the skin. It acts as a protective barrier and helps regulate body temperature. The skin contains hair follicles, sweat glands, sebaceous glands, and sensory receptors.
2. **Subcutaneous Tissue**: Beneath the skin, there is a layer of subcutaneous tissue, also known as the hypodermis or superficial fascia. It consists of fat cells, blood vessels, nerves, and connective tissue.
3. **Muscles**: The face has a complex network of muscles that allow for facial expressions and movements. These muscles include the orbicularis oculi (around the eyes), orbicularis oris (around the mouth), zygomaticus (cheek muscles), frontalis (forehead muscle).

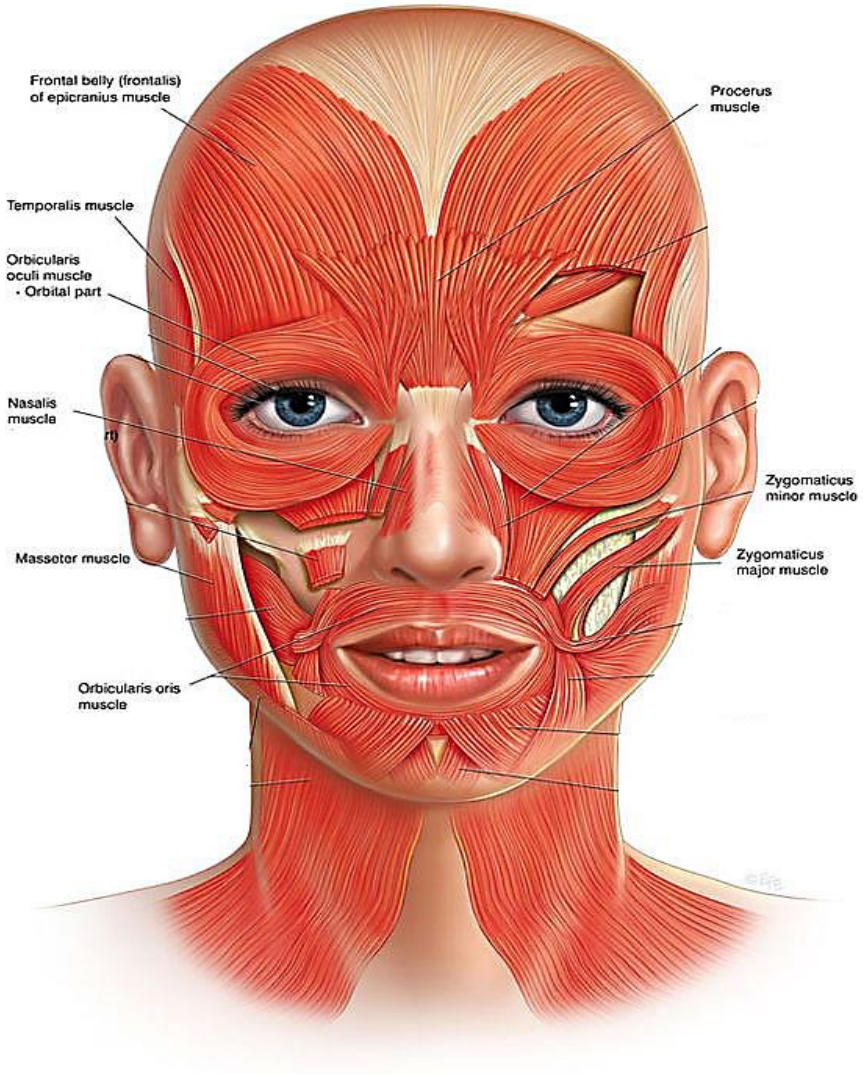

Figure 2. shows muscles of the face

4. **Fascia**: Fascia is a layer of connective tissue that surrounds and supports the muscles and other structures in the face. It provides structural integrity and helps transmit forces generated by muscle contractions.
5. **Bones**: The facial skeleton consists of various bones that provide structure and shape to the face. These include the zygomatic bones (cheekbones), maxilla (upper jaw), mandible (lower jaw), nasal bones, and others.
6. **Blood Vessels**: The face is richly supplied with blood vessels, including arteries, veins, and capillaries. These vessels provide the necessary nutrients and oxygen to the tissues, as well as remove waste products.

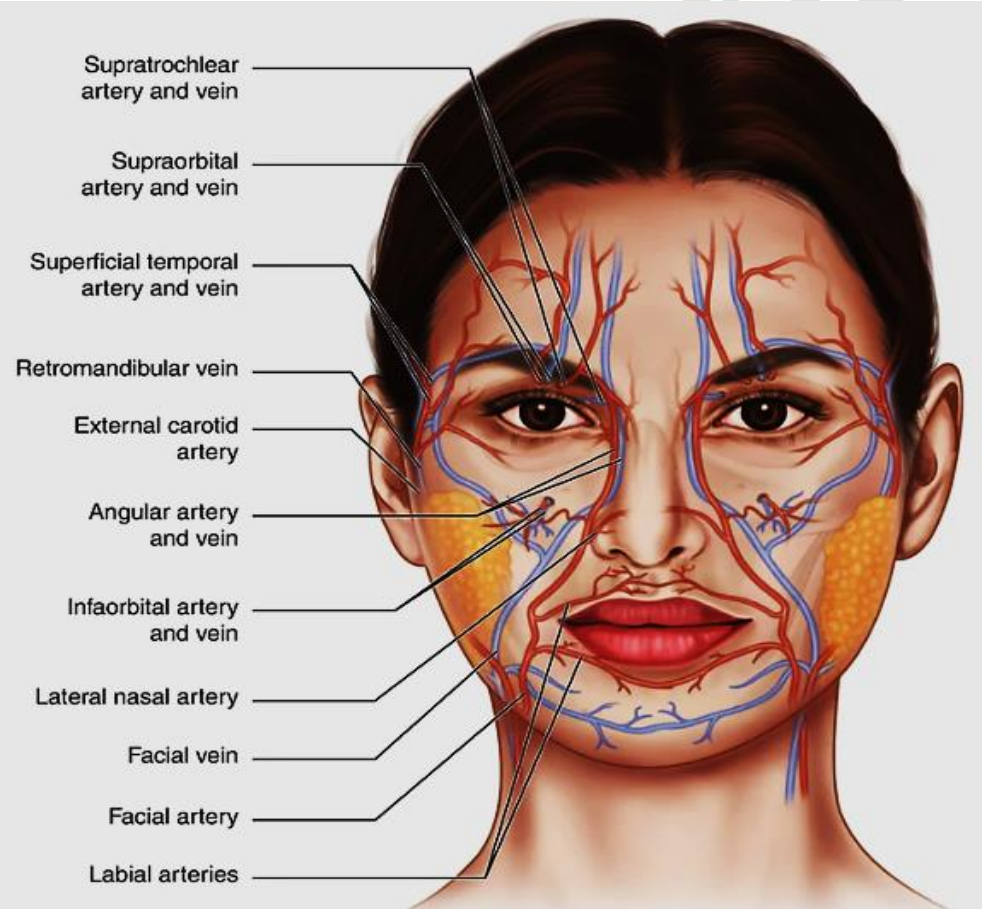

Figure 3. shows arteries and veins in the face

7. **Nerves**: The face has an intricate network of nerves responsible for transmitting sensory information and controlling facial movements. The facial nerve (cranial nerve VII) is particularly important for facial expressions.

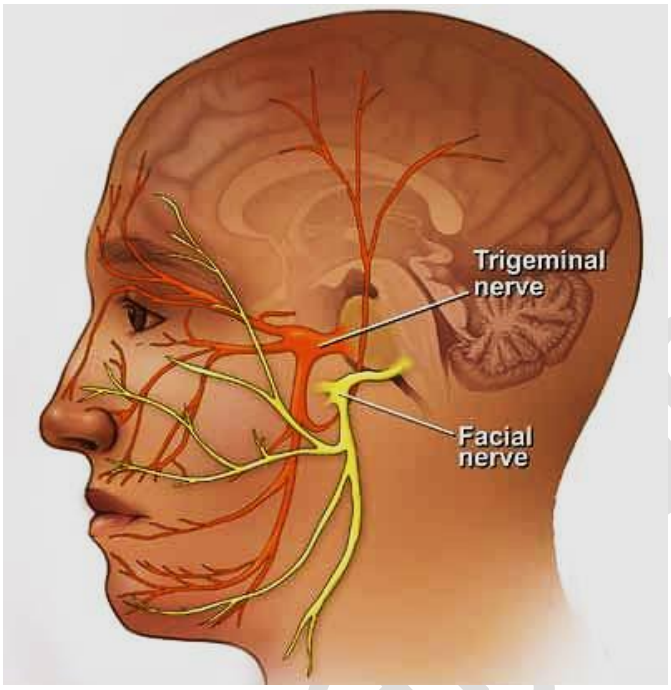

Figure 4. shows the fifth and seventh nerves in the face

8. **Subcutaneous Fat**: The face contains subcutaneous fat deposits that provide padding and contribute to the contours of the face. The distribution of fat in different areas of the face varies between individuals and can influence facial appearance.

Face Skin Layers

The skin of the face consists of three main layers: the epidermis, dermis, and hypodermis.

1. **Epidermis**: The epidermis is the outermost layer of the skin and acts as a protective barrier against external factors such as UV radiation, pollutants, and pathogens.
2. **Dermis**: The middle layer of the skin, the dermis is composed of living cells and provides support and elasticity to the skin. It contains blood vessels, nerve endings, and sweat glands.
3. **Hypodermis (subcutaneous tissue)**: The innermost layer of the skin, the hypodermis is composed of fat cells and connective tissue. It helps insulate the body, store fat, and cushion internal structures.

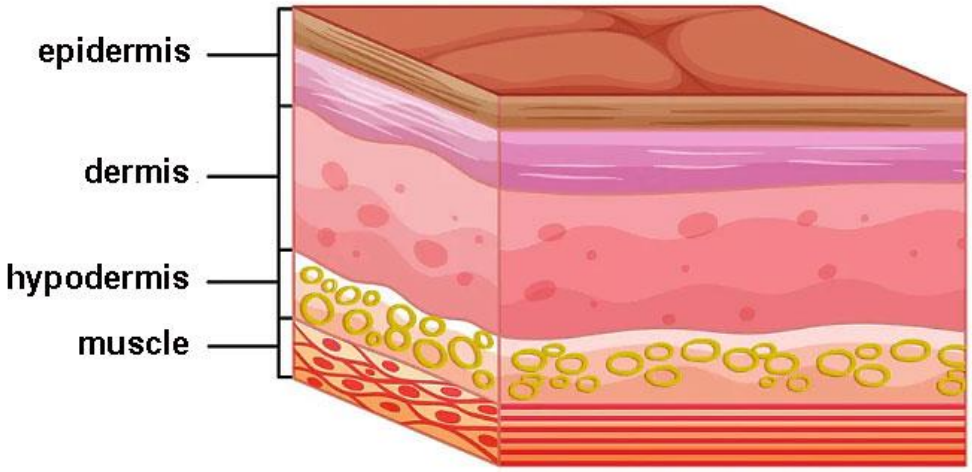

Figure 5. shows face skin layers

✓ **Sebaceous Glands**: Sebaceous glands are small oil-producing glands located throughout the skin, including the face. They are most abundant in areas such as the forehead, nose, and chin. Sebaceous glands produce sebum, an oily substance that helps lubricate and protect the skin.

✓ **Sweat Glands: Sweat glands help regulate body temperature by producing sweat, which evaporates from the skin's surface. They are particularly abundant on the face and contribute to the skin's hydration.**

The skin of the face has several important features and functions:

- **It is relatively thin compared to other areas of skin on the body. Facial skin thickness ranges from 0.5 mm to 2 mm depending on the location.**
- **It has hair follicles and hair including eyebrows, facial hair in men, and very fine almost invisible vellus hairs. Hair provides some protection and also aids in distribution of sebum oils.**
- **Facial muscles lie close to the skin, allowing a wide variety of facial expressions.**
- **The skin color, texture thickness, and exact features vary among individuals and ethnicities. For example, skin may be oily, dry, smooth, wrinkled, thin, thick etc.**
- **It has a high number of sebaceous (oil) glands, especially in areas like the forehead, nose and chin. These glands produce sebum which helps moisturize and protect the skin. Too much sebum can lead to acne.**
- **There are high numbers of sensory nerves in the facial skin making it very sensitive to touch, pain, pressure and temperature. This helps with communicating emotion and environmental awareness.**
- **It is constantly exposed to the external environment so contains higher levels of melanin to protect deeper layers from UV radiation. The melanocytes increasing melanin production leads to tanning**

SUMMARY

- The face consists of several layers: skin, subcutaneous tissue, muscles, fascia, bones, blood vessels, nerves, and subcutaneous fat.
- The outermost layer is the skin which contains hair follicles, sweat and sebaceous glands, and sensory receptors. It acts as a protective barrier.
- Facial muscles like orbicularis oculi, orbicularis oris, zygomaticus, and frontalis allow for facial expressions and movements.
- Facial nerves, especially the facial nerve (CN VII), transmit sensory information and control facial muscle movements.
- The skin consists of three layers: epidermis, dermis, and hypodermis.
- The epidermis acts as a protective barrier.
- The dermis provides support and elasticity.
- The hypodermis cushions internal structures.
- Facial skin thinner than body skin.
- Many sebaceous glands, especially on nose and forehead.
- Abundant sensory nerves make it very sensitive.
- More melanin pigment compared to body skin for sun protection.
- Allows wide variety of facial expressions due to proximity of muscles.

HOME WORK

1. Research and find one interesting fact about the human face skin that is not mentioned in the lecture. Write a brief explanation of this fact.
2. Why does the facial skin contain higher levels of melanin compared to other areas of skin on the body?
3. Explain one reason why the sensory nerves in facial skin are important.