

Chapter 7

Skin Structure, Growth, and Nutrition

MILADY
STANDARD COSMETOLOGY INSTRUCTOR SUPPORT SLIDES



“The happiest life is that which constantly exercises and educates what is best in us.”

– Hamerton

Objectives

- Describe the structure and composition of the skin.
- List the functions of the skin.
- List the classes of nutrients essential for good health.

Objectives *(continued)*

- List the food groups and dietary guidelines recommended by the U.S. Department of Agriculture (USDA).
- List and describe the vitamins that can help the skin.

Anatomy of the Skin

- Dermatology
 - The medical branch of science that deals with the study of skin and its nature, functions, diseases, and treatment
- Dermatologist
 - A physician engaged in the science of treating the structures, functions, and diseases of the skin

Anatomy of the Skin (*continued*)

- Cosmetologist
 - One skilled in the cleansing, beautification, and health preservation of the skin
- Esthetician
 - Specializes in cleansing, beautification, and health preservation of the skin

Skin Specifics

- Largest organ of the body
- Covers two square yards
- Weighs about nine pounds
- Protects muscles, bones, nerves
- Barrier against environment
- Thinnest skin on eyelids
- Thickest skin on soles of feet
- Continued pressure causes callus

Healthy Skin

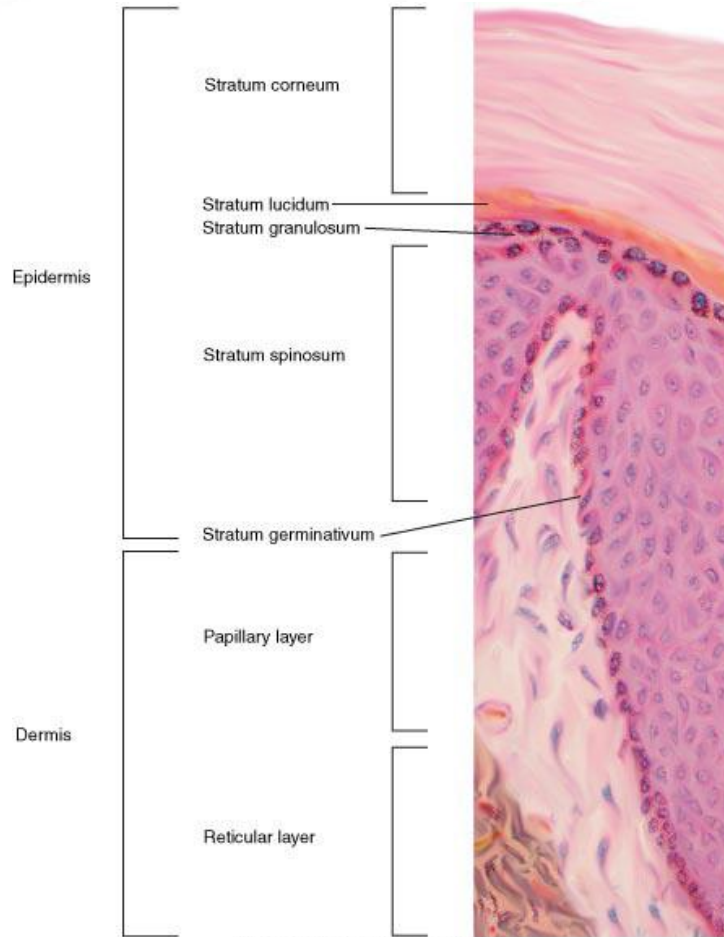
- Slightly moist
- Soft and flexible
- Smooth and fine-grained
- Possesses slightly acid reaction
- Reacts quickly to touch

Appendages of the Skin

- Hair
- Nails
- Sweat glands
- Oil glands

Divisions of the Skin

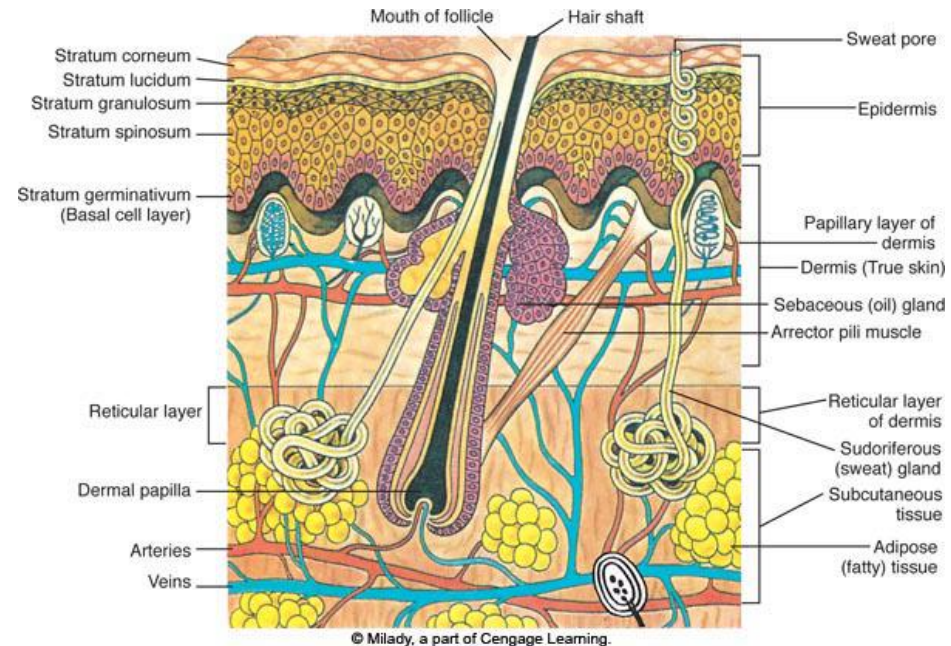
- Epidermis
- Dermis



© Milady, a part of Cengage Learning.

Epidermis

- Stratum corneum: horny, outermost layer
- Stratum lucidum: clear, transparent layer
- Stratum granulosum: granular layer
- Stratum spinosum: spiny layer
- Stratum germinativum: deepest layer



Dermis

Dermis is the underlying, inner layer of the skin.

- Papillary layer: outer layer beneath epidermis
- Reticular layer: deeper layer of dermis
- Subcutaneous tissue: fatty layer below dermis

How Skin Is Nourished

- The blood supplies nutrients, molecules from food such as protein, carbohydrates, and fats, to the skin.
- Nutrients are required for cell life, repair, and growth.
- Lymph bathes skin cells, removes toxins and cellular waste, and has immune functions.

Nerves of the Skin

- Motor nerve fibers: cause goose flesh
- Sensory nerve fibers: send messages to brain
- Secretory nerve fibers: regulate perspiration

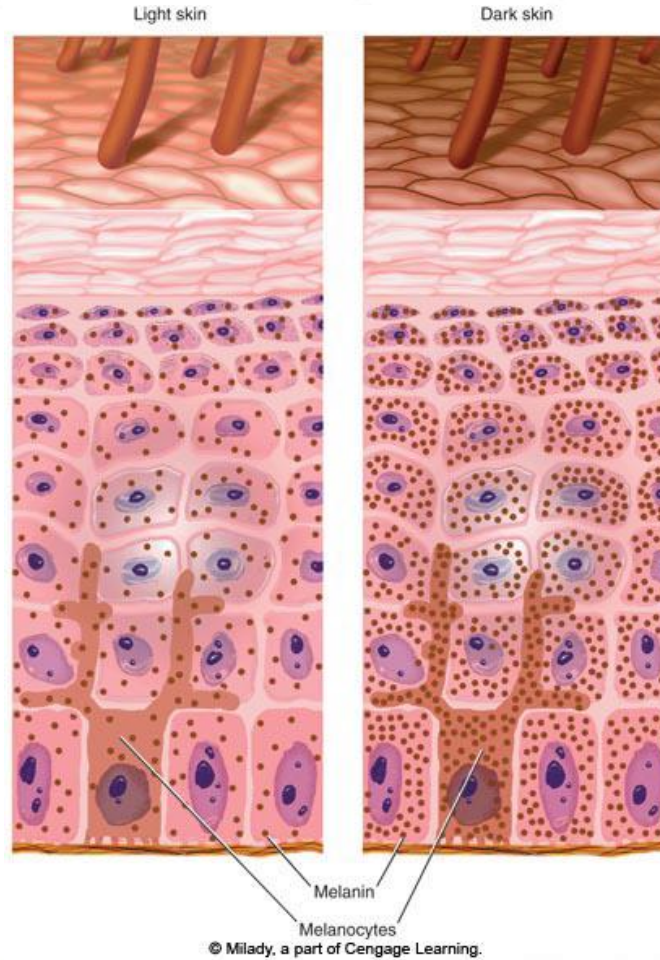
Sense of Touch

- Nerve endings found in the papillary layer.
- They register sensations:
 - Touch
 - Pain
 - Heat
 - Cold
 - Pressure

Skin Color

- Depends primarily on melanin
- Melanin: tiny grains of pigment in stratum germinativum
 - Pheomelanin: red to yellow in color
 - Eumelanin: dark brown to black in color
- Heredity: Skin color varies among races (dark skin contains more melanin).

Skin Color (*continued*)



MILADY
STANDARD COSMETOLOGY INSTRUCTOR SUPPORT SLIDES

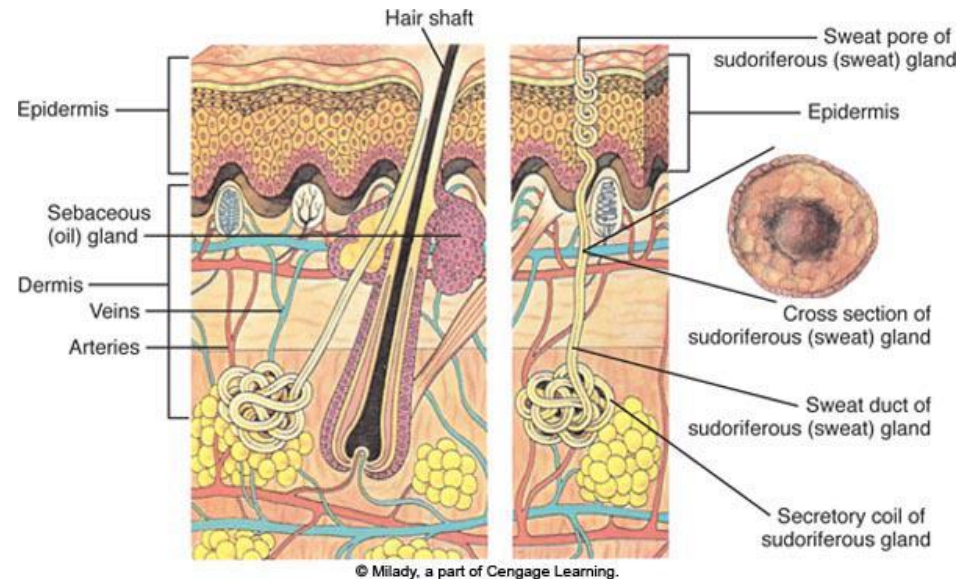
Strength and Flexibility of Skin

Collagen and elastin give strength, form, and flexibility to skin.

- Collagen: a fibrous protein allowing skin to stretch and contract
- Elastin: a protein base that forms elastic tissue; gives skin elasticity

Glands of the Skin

- **Sudoriferous (sweat) glands:** regulate body temperature and help eliminate waste; excretion of sweat is controlled by nervous system
- **Sebaceous (oil) glands:** secrete sebum that lubricates skin and preserves softness of hair

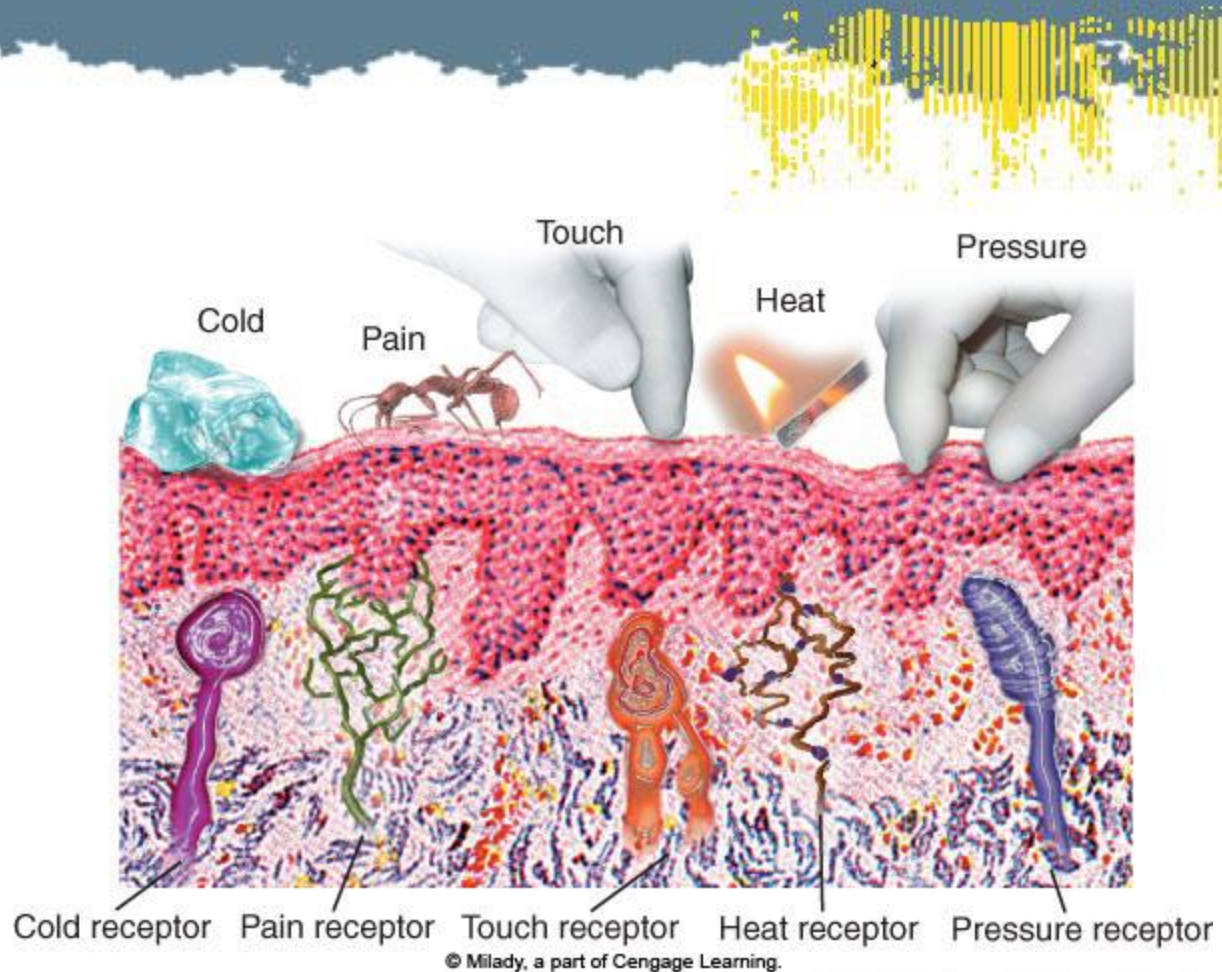


Sebaceous Gland Secretions

- Acne: chronic inflammation of sebaceous glands
- Papule: small, round elevation on skin; contains no fluid but may develop pus
- Pustule: inflamed pimple containing pus

Functions of the Skin

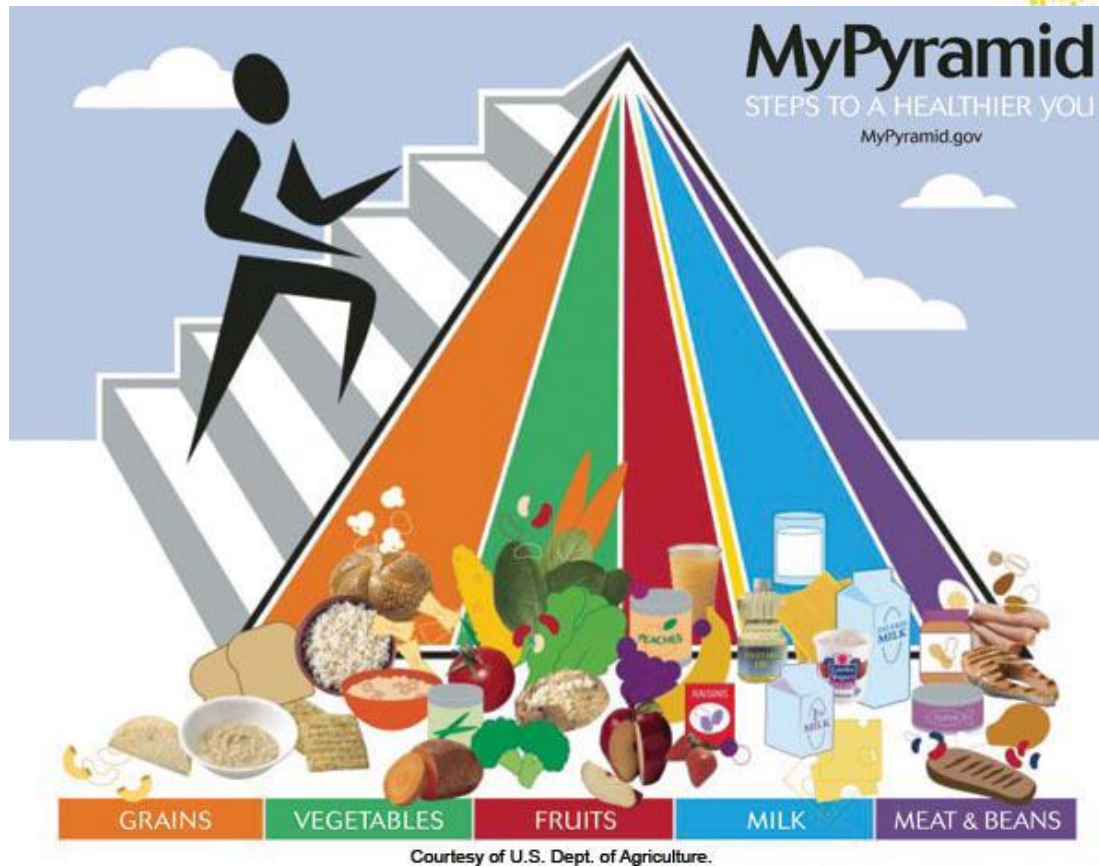
- Protection
- Sensation
- Heat regulation
- Excretion
- Secretion
- Absorption



Nutrition and Maintaining Skin Health

- Essential nutrients
 - Carbohydrates
 - Fats
 - Proteins
 - Vitamins
 - Minerals
 - Water

Food Pyramid Groups



MILADY
STANDARD COSMETOLOGY INSTRUCTOR SUPPORT SLIDES

Dietary Guidelines

- Eat a variety of foods.
- Eat fruits, vegetables, and grains.
- Eat moderate salt and sugar.
- Drink appropriate amount of water.
- Minimize alcohol intake.
- Exercise appropriately.
- Maintain/improve body weight.

Maintaining Skin Health

We are what we eat!

- Vitamin A: improves elasticity and thickness
- Vitamin C: accelerates healing process
- Vitamin D: enables absorption of calcium
- Vitamin E: protects against sun's rays
- Food supplements: should not replace healthful eating

Water and the Skin

- Comprises 50 to 70 percent of body's weight
- Sustains the health of cells
- Aids in elimination of toxins and waste
- Helps regulate body temperature
- Aids in proper digestion

Water Benefits

- Mild dehydration slows metabolism by 3 percent.
- Drinking water reduces hunger pangs.
- Water reduces cracked skin on feet and lips.
- Dehydration causes fatigue.
- Drop in body water of 2 percent can cause fuzzy, short-term memory.

Summary and Review

- Define *dermatology*.
- Briefly describe healthy skin.
- Name the main divisions of the skin and the layers within each division.

Summary and Review (*continued*)

- List three types of nerve fibers found in the skin.
- Name the two types of glands contained within the skin and describe their functions.
- What are collagen and elastin?

Summary and Review (*continued*)

- Explain how collagen and elastin can be weakened.
- What are six important skin functions?
- What are six classes of nutrients the body needs and how are they obtained?

Summary and Review (*continued*)

- What are the five basic food groups?
- Can the skin be nourished with cosmetics?
- Name four vitamins than can help the skin and describe how they help
- What is the one essential item that no person can live without, and why is it essential to the skin and body?

Congratulations!

You have completed one unit of study
toward course completion.

MILADY
STANDARD COSMETOLOGY INSTRUCTOR SUPPORT SLIDES