Basic Anatomy and Physiology in Relation to Thai Massage

"Nothing truly valuable arises from ambition or from a mere sense of duty; it stems rather from love and devotion towards men and towards objective things."[91]

—Albert Einstein

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Anatomy and Physiology in Relation to Thai Massage in Brief

$\mathcal{T}$he purpose of this chapter is to provide students of Thai massage with a simple guideline to anatomy and physiology for safe practice. Learners who seek a deeper understanding of the subject should undertake a full course in anatomy and physiology available at a college in their community.

The Human Body

Our body in terms of matter is composed of atoms. Several atoms combine to form molecules and the next level of molecular organization is the cell. Cells with a similar structure group together and become tissue to perform the same function. Tissues of different kinds form an organ. Several organs with related functions organize to be the organ system.[92]

Cells are the basic structural unit of all living things. An important characteristic of life is the metabolic process which is the process of all chemicals that occurs in the body.

There are about 60–90 trillions of cells in a human body ("Building Blocks of Life" by Shyamala Lyer, ASU School of Life Sciences) each performing a fundamental task such as metabolizing and digesting food.[40]

The Body Systems, Their Functions and Benefits from Thai Massage

I: Integumentary System

The integumentary system is composed of skin, oil glands, sweat glands, hair, and nails.[92]

FUNCTIONS

The primary functions of skin are:[93]
1. Act as a barrier to protect the body from external bacteria and chemical substances in the environment.
2. Excrete discharge waste through perspiration.
3. Convert ultraviolet rays in sunlight to vitamin D.
4. Prevent fluid loss or gain.
5. Regulate temperature.
6. Receive sensation.

BENEFITS FROM THAI MASSAGE

Massage stimulates circulation to the skin surface and enhances temperature enabling the movement of sweat and fatty tissue resulting in healthy skin which enhances appearance.

Skin is the gateway to sensation. Somatic sensation, as related to massage, is the sensation

of touch which results from stimulation of the tactile receptors in the skin or subcutaneous layer, and arising from stimulation of the skin's surface called "cutaneous sensations." Massage creates a sensation on the recipient's skin which may send waves of reaction throughout the body. Massage helps facilitate healthy scar tissue formation, improve nutrition to the skin, remove dead skin and enable the skin to become softer and more delicate—textured.

II: The Skeletal System

The skeletal system is composed of bones, cartilage, ligaments, and joints. The adult human body has an average of 206 bones. The skeleton is divided in two major sections: axial skeleton and appendicular skeleton.[92]

The axial skeleton is composed of bones from the central axis of the body such as skull, vertebral column, and rib cage.

The appendicular skeleton comprises the bones of the upper and lower extremities such as arms, legs, and the pelvic bone.

There are four types of bones classified by shape and body location:[40]

1. **Flat bones** are, for example, the skull and rib cage which protect underlying organs.
2. **Long bones** are like the humerus which serve as levers to raise and lower extremities.
3. **Short bones** are such as carpals in the wrist or the talus at the ankle which act as bridges.
4. **Irregular bones** are the type like the sphenoid bone of the skull, vertebrae and the ilium of the pelvis.
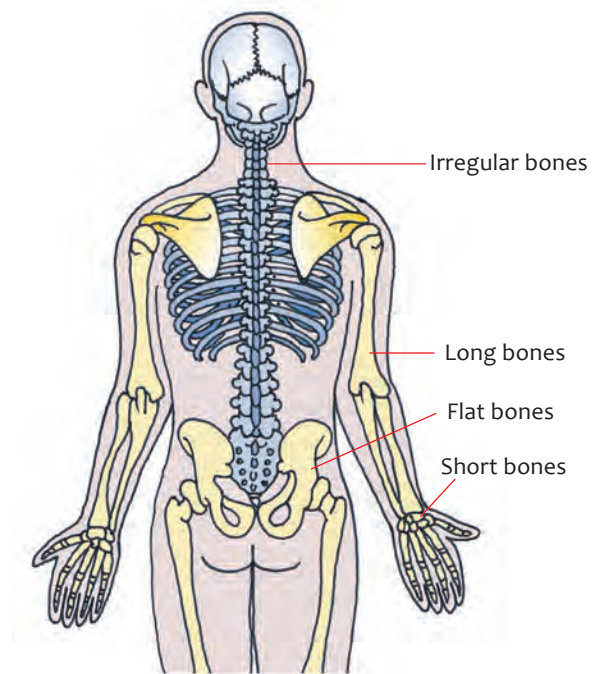

Figure 14-1. Types of bones

FUNCTIONS

Functions of bones:[92,93]

1. Support the body and secure muscles.
2. Provide movement through muscle interaction.
3. Protect the vital organs.
4. Produce blood cells.
5. Serve as storage of fats and minerals

JOINT STRUCTURE

A joint is the junction of two bones. They are classified by structure and function.

There are three basic types of joints:[92,41]

1. **Fixed joint** or immovable joint found between bones of the skull.
2. **Semi–movable joint** or slightly movable joint found between vertebrae in the vertebral column.
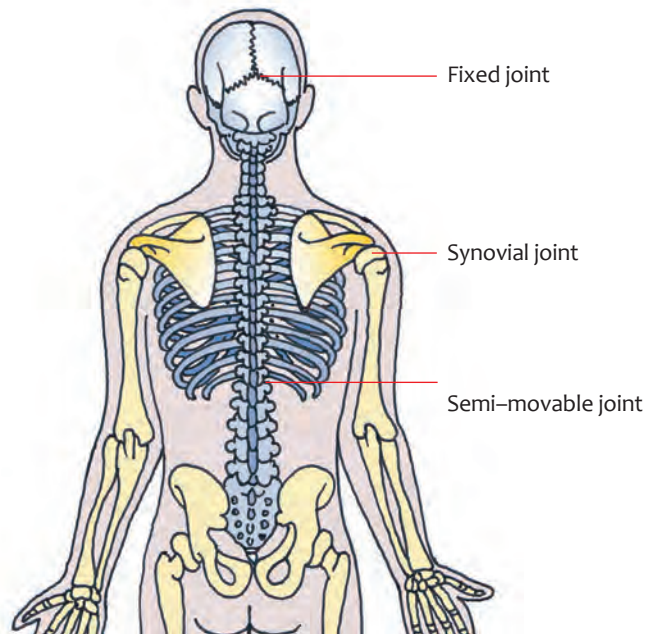3. **Synovial joint** or freely movable joint found in most joints such as knees, hip, and shoulders.

Figure 14-2. Types of Joints

Joint Movement[41,94]

Joint movement and terminology of synovial joints: They are flexion, extension, hyperextension, lateral flexion, abduction and adduction, circumduction, and rotation. There are also special movements which occur only at certain synovial joints such as the face and the feet.
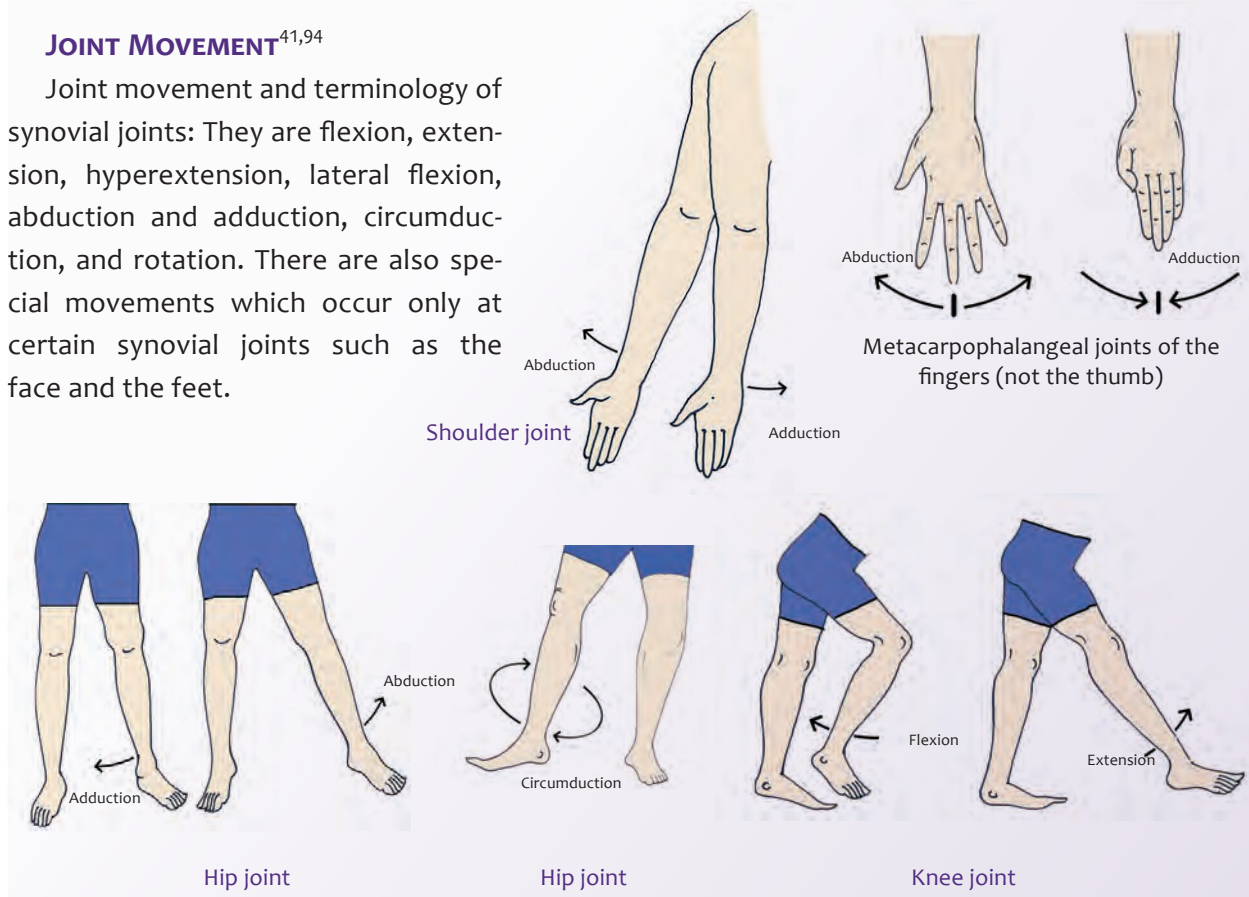

Figure 14-3. Angular Movements at Synovial Joints