

Chapter 1

Foundations of Structural Kinesiology

- A. Kinesiology & Body Mechanics
 - a. Kinesiology – study of motion or human movement
 - b. Anatomic kinesiology – study of human musculoskeletal system & musculotendinous system
 - c. Biomechanics – application of mechanical physics to human body
 - d. Structural kinesiology – study of muscles as they are involved in science of movement
 - e. Both skeletal & muscular structures are involved
 - f. Bones are different sizes & shapes – particularly at the joints, which allow or limit movement
 - g. Muscles vary greatly in size
- B. Reference positions
 - a. Basis from which to describe joint movements
 - i. Anatomical position – most common
 - ii. Fundamental position – same, except hands face the thighs
- C. Reference lines
 - a. To further assist in understanding the location of one body part in relation to another
 - i. Mid-axillary line
 - 1. Line running vertically down surface of body passing through apex of axilla
 - ii. Mid-sternal line
 - 1. Line running vertically down surface of body passing through middle of sternum
 - iii. Anterior axillary line
 - 1. Line parallel to mid-axillary line & passing through anterior fold of axilla
 - iv. Posterior axillary line
 - 1. Line that is parallel to mid-axillary line... passes through axilla on posterior side
 - v. Mid-clavicular line
 - 1. Line running vertically down surface of body passing through midpoint of clavicle
 - vi. Mid-inguinal point
 - 1. Point midway between anterior superior iliac spine & pubic symphysis
 - vii. Scapula line
 - 1. Vertical line passing through inferior angle of scapula
 - viii. Vertebral line
 - 1. Vertical line running down through spinous processes of spine
- D. Anatomical directional terminology
 - a. Anterior

- b. Anteroinferior – in front & below
- c. Anterosuperior – in front & above
- d. Anterolateral – in front & to the side, especially the outside
- e. Anteromedial – in front & toward the inner side or midline
- f. Anteroposterior – relating to both front & rear
- g. Posterior
- h. Posteroinferior – behind & below; in back & below
- i. Posterolateral – behind & to one side, specifically to the outside
- j. Posteromedial – behind & to the inner side
- k. Posterosuperior – behind & at the upper part
- l. Contralateral – pertaining or relating to the opposite side
- m. Ipsilateral – on the same side
- n. Bilateral – relating to the right & left sides of the body or of a body structure such as the right & left extremities