

# Physical Assessment Techniques

- ❑ **What is physical assessment?**

Comprehensive evaluation of an injury or condition beginning when the injury occurs and continuing through to the healing process

Includes immediate assessment, periodic re-evaluation, emergency assessment, and non-emergency assessment

- ❑ **What is your role in physical assessment?**

Diagnose?

What is the role of various professionals?

- ❑ **How does it differ from other allied health care personnel?**

Should you rely on another professional's assessment?

What areas are you specifically looking at versus others?

- ❑ **What knowledge base do you need to perform effective physical assessments?**

Human anatomy

Athletic injuries

Evaluation techniques

Signs and symptoms

Diagnostic procedures

Psychological response to injury

Healing stages and tissue response to injury

Communication skills

Understanding of legal issues

## Information & Key Components about the Body as a Whole

- ❑ **Bilateral symmetry**

- ❑ **Abdominopelvic quadrants and regions**

Abdominopelvic cavities – dorsal (cranial & spinal) and ventral (thoracic & abdominopelvic)

Abdominopelvic divisions – 9 divisions

Rt. hypochondriac, epigastric, Lt. hypochondriac

Rt. lumbar, umbilical, Lt. lumbar

Rt. inguinal, hypogastric, Lt. inguinal

Abdominal quadrants: UR, UL, LR, LL

- ❑ **Surface anatomy**

Symmetry, tone, differences M/F

## ❑ **Osteology**

### **1. Functions of bones**

Protection, support, movement

### **2. Classifications**

Long (femur, radius) - levers,

Short (carpals) - strength,

Flat (scapula, skull) – large area for attachment, protection,

Irregular (pelvic, ossicles of ear) – unique function,

Sesamoid – (patella) – pulleys

### **3. Features**

Epiphyses

Diaphyses

Articular cartilage

Periosteum

Endosteum

Marrow or medullary cavity

### **4. Bone markings**

Skeletal landmarks

Condyles

Epicondyles

Processes – styloid, olecranon

Tubercles

Tuberosity

Crests

Spines

Borders

Malleolus

### **5. Skeletal organization – 206 total bones**

#### **a. Axial**

Skull – cranium and face

Vertebral column – C, T, L, S, C

Thorax – sternum and ribs

#### **b. Appendicular**

Shoulder girdle and UE

Hip girdle and LE

## ❑ **Myology – over 600 in human body**

### **1. Muscles and bony levers**

Angle of pull and pt. of attachment are important

### **2. Anatomy of skeletal muscles**

Size and shape varies

Belly or gaster

Tendinous origin/insertion

Connective tissue – tendon

Neural tissue – motor neuron/motor unit

### **3. Muscle actions**

#### **4. Major muscles and functions**

Need to be familiar with the major muscles – reviewed with each unit  
Origins and insertions are general for most, specific for some

#### **□ Neurology**

##### **1. Organs and divisions – CNS and PNS**

Organs – brain and spinal cord and nerves and receptors

CNS – brain and SC

PNS – nerves (efferent – motor, afferent – sensory), ganglia

##### **2. Neurological Assessment**

Cranial nerves

Spinal nerves

Nerve plexuses

- Dermatomes – area of skin supplied by the sensory root fibers of a spinal nerve  
– lack of sensation
- Myotomes – muscle or group of muscles supplied by the motor root of a spinal nerve - muscle weakness or paralysis
- Deep tendon reflexes

## **Body's Response to Injury**

#### **□ Trauma**

Primary injury (Initial Insult) – blood and damaged tissue from direct trauma

Secondary injury – from the inflammatory responses

#### **□ Acute inflammatory process – w/in minutes, basic response of vascularized tissue to an injurious agent**

Vascular, chemical and cellular events

Goal – localize extent of injury, rid of waste products, enhance healing

##### **1. Acute vascular response – substrate phase**

Vascular changes and phagocytosis

Secondary responses

Hypoxic damaged tissue

Edema

Additional blood

Inflammation

Redness

Swelling

Heat

Pain

Loss of function

Pain – spasm – pain cycle

##### **2. Repair and regeneration**

Fibroplastic activity

Collagen fibers

Maturation

Scar beginning

### 3. Remodeling and maturation

Scar being remodeled – union moderately fragile

“Wolff’s law – body responds to the stresses placed on it”

#### ❑ **Chronic inflammation**

Inflammatory response repeats itself

#### ❑ **Shock**

Anaphylactic

Cardiogenic

Hypovolemic

Metabolic

Neurogenic

Psychogenic

Septic

S & S – rapid, weak pulse

Cool, clammy skin

Rapid, shallow breathing

Profuse sweating

Pale, nausea, falling BP