

Exam Three: Question 139

A physical therapist assistant reviews a laboratory report for a patient recently admitted to the hospital. The patient sustained burns over 25 percent of her body in a fire. Assuming the patient exhibits hypovolemia, which of the following laboratory values would be the MOST significantly affected?

1. **hematocrit**
2. erythrocyte sedimentation rate
3. oxygen saturation rate
4. prothrombin time

Correct Answer: 1 (Paz p. 266)

Hypovolemia refers to a state of decreased blood volume, most often related to a decrease in blood plasma. The reduction of blood volume often occurs following a burn due to the shift in fluid to the interstitium, which reduces plasma and intravascular fluid volume. This results in a variety of hemodynamic and circulatory changes, however, hematocrit would likely be the laboratory value most affected.

1. **Hematocrit is the volume percentage of red blood cells in whole blood. The hematocrit rises immediately after a severe burn and gradually decreases with fluid replacement.**
2. Erythrocyte sedimentation rate is a non-specific test for inflammatory disorders often associated with conditions such as cancer, autoimmune diseases, and infection. The test is based on how quickly red blood cells sink to the bottom of a test solution containing anticoagulated blood.
3. Oxygen saturation indicates the saturation of hemoglobin with oxygen. Normal oxygen saturation is 95-98 percent. Oxygen saturation is not related to total blood volume.
4. Prothrombin time is most commonly used to monitor oral anticoagulant therapy or to screen for selected bleeding disorders.

System Specific: Other Systems

Content Outline: Clinical Application of Physical Therapy Principles and Foundational Sciences

Exam Three: Question 140

A physical therapist assistant conducts an upper quarter screening on a patient diagnosed with rotator cuff tendonitis. With the patient in sitting, the MOST appropriate action to facilitate palpation of the rotator cuff is:

1. passive abduction of the humerus
2. active medial and lateral rotation of the humerus
3. **passive extension of the humerus**
4. active extension and flexion of the elbow

Correct Answer: 3 (Hoppenfeld p. 13)

The rotator cuff is composed of the supraspinatus, infraspinatus, teres minor, and subscapularis. The rotator cuff muscles are important in shoulder movement and in maintaining glenohumeral joint stability. Tenderness elicited during palpation may be due to localized inflammation, a tear or detachment of a tendon.

1. Passive abduction of the humerus would tend to keep the rotator cuff obscured beneath the acromion which would make palpation extremely difficult.
2. The physical therapist assistant should make sure that the area being palpated is as relaxed as possible. As a result, active movement would be less desirable than passive movement.
3. **The rotator cuff lies directly beneath the acromion and therefore must be rotated out from underneath the acromion before it can be palpated. Passive extension of the humerus makes it possible for a therapist to palpate a portion of the rotator cuff although the individual muscles cannot be easily distinguished from each other.**
4. The rotator cuff acts on the shoulder and not the elbow. As a result, elbow flexion and extension would not influence palpation of the rotator cuff.

System Specific: Musculoskeletal System

Content Outline: Data Collection

