Anatomy 5217

Seminar 5 Study Questions and Answers

Torso as a pressure cylinder

Note: Included here is some supplementary information that goes a bit beyond what was covered in lecture.

1. In general terms, what is a **hernia** and what is the most common type of hernia?

A hernia is a protrusion of a tissue, structure, or part of an organ through the wall of the body cavity that normally contains it. By far the most common hernia (up to 75% of all abdominal hernias) is an inguinal hernia.

2. What is the difference between a **direct** and an **indirect hernia**?

In a direct hernia some of the abdominal continues (e.g., a loop of the bowel or some of the fat attached to the bowel) pushes straight through a weak region (conjoint tendon) on the lower abdominal wall. In an indirect hernia the herniated tissue tracks down the inguinal canal following the path that the testicle took to descend from the abdominal cavity to the scrotum.

3. How is **Valsalva maneuver** performed, and what is it commonly used for?

The Valsalva maneuver is performed by forcibly exhaling against closed lips and pinched nose. This helps open the Eustachian tubes and force air into the middle ear cavity.

4. When is the **Valsalva maneuver** most commonly performed?

This maneuver is used to equalize the pressure on both sides of the eardrum in situations where the external pressure is higher than the internal pressure in the middle air cavity. This can occur when external pressure increases rapidly, such as when an airplane descends or a scuba diver descends.

5. What are **Kegel exercises** and how are they performed?

Kegel exercises are exercise designed to strengthen the muscles of the pelvic floor. They are performed by constricting or tightening and relaxing these muscles, and are believed to be beneficial in treating urinary incontinence.

6. What types of hernias are most common in men and in women?

Inguinal hernias are more common in men than women, while femoral hernias are more common in women.

7. What is the functional link between straining to defecate and the risk of a stroke in the elderly?

Forcing material out of the abdominal cavity is done by raising abdominal pressure. During forced defecation, both the abdominal and thoracic pressure is elevated. The increased thoracic pressure resists venous blood return from the head into the thorax. This raises cerebral vascular pressure and increasing the risk of a "cerebral vascular accident" (AKA a hemorrhagic stroke).

8. How do we sneeze and how does that differ from how we cough?

To sneeze we close our glottis, constrict our abdominal and thoracic walls to raise thoracic pressure, than rapidly open the glottis while our mouth is closed. This explosively forces air out the nasal passages.

In a cough we do essentially the same thing, but the soft palate is elevated and the mouth is open. This forces the air rapidly out the mouth instead of the nostrils.

9. What is a prolapsed uterus?

The uterus is said to be prolapsed when it begins to sag or descend down into the vagina.

10. What are some of the risks factors for a prolapsed uterus?

Prolapse may occur when the pelvic support system (the muscles and ligaments that normally hold the uterus in place) become stretched or slack. This is most commonly associated with chronic increases in intra-abdominal pressure that occur with long and difficult childbirth or multiple childbirths. Other factors that raise abdominal pressure -- such as obesity, coughing, or constipation (requiring excessive straining to defecate) -- can weaken the pelvic floor and lead to pelvic organ prolapse.