

Anatomy and physiology

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Anatomy and Physiology Question One Bony Callus refers to the deposits of bone that is formed around and between the edges of fractured bones during the fourth week of normal fractured healing processes. This process involves seaming of the sprouting vessels of the granulation tissue by osteoid. There is also differentiation of the osteoblasts from the pluripotent mesenchyme in order for the bony callus to be replaced finally by a strong bone tissue. As stated by White & Folkens (2005), bony callus consists of the initial fibrous connective tissues that function to bridge the broken bone surface thus tying them together and takes about six weeks to fully develop.

Question Two

The woman was diagnosed with Gouty arthritis. The main symptom that was used to identify this disease was the swelling and the speed of onset as well as the target bones. But most importantly are the inflammation and the fact that only one toe was affected. When the woman was asked whether she has suffered from the symptoms earlier she said that she recalled a similar attack two years earlier that had disappeared as suddenly as it had come. While Gouty arthritis is faster and takes place within hours, it can be relieved by the body systems. . Another symptom is that the pain was only on the right toe which is typical for Gouty Arthritis. Gouty Arthritis affects the toes, Knees, ankles and elbows. As stated by (Loue, & Sajatovic, 2008), Gouty Arthritis symptoms often affect one side of the body limited to one side of the joint. This is different from other types of arthritis in which symptoms are symmetrical and for the case of this woman, would have affected both right and left toes.

Question Three

It is harmful for a growing 13 year old to include lifting heavy weights as part
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of his daily workout because of the severe consequences that it poses to his growth. As stated by Brown et al (2009), children are born with cartilages at the end of each and every long bone. The end of the bone is where new structures are formed thus allowing growth to take place. During growth and as individuals grow older, these cartilages grow narrower until such a time that physical maturity is attained and thus they are completely replaced by bones thus a person starts growing in height. Heavy weight lifting by teenagers is likely to damage these growth plates since they are much softer than the bones. The consequence of damaged plates is that the growth of these teenagers may be impaired or stop completely depending on the nature and the extent of plate injury (Brown et al, 2009). Apart from the risk of growth plate injury, heavy weight lifting by a 13 year old is harmful since it poses a potential injury to the joints. It is however important to note that moderate workouts are very important for helping teenagers build strong bones.

Question Four

Jan was diagnosed with osteoporosis because Jan had Celiac disease but did not follow the gluten free diet prescribed. As stated by Boushey & Coulston (2008), people with poorly managed Celiac disease are likely to suffer from osteoporosis because the disease results into malnourishment which leads to anemia, weight loss and delayed growth in children. It is also important to note that improperly treated celiac disease results into inability of the body to develop optimal bone mass due to lack of nutrients thus results into increased risk of osteoporosis (Boushey & Coulston, 2008). Empirical evidence has also shown that people with celiac disease do suffer from fractures than individuals with the disorder which is an indication of weak bones.

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References

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