Chloe’s story

Science, Anatomy

Which serous membrane in Chloe’s abdomen most likely contains the greatest adipose tissue? The peritoneum is the largest serous membrane of the body which contains the greater omentum, the largest peritoneal fold. The greater omentum normally contains a considerable amount of adipose tissue. The adipose tissue content can greatly expand with weight gain, giving rise to a characteristic “ beer belly” seen in some individuals. B. What involuntary muscle process initiated by deglutition of water may cause Chloe pain?

Swallowing is the involuntary contraction of pharyngeal muscles which sets peristalsis begins with coordinated contractions and relaxation of muscles in the esophagus and into the stomach, where she just had surgery. C. Why might reduction of the size of Chloe’s stomach reduce her acid reflux? The stomach empties quicker, due to the bypass of the duodenum where the most, if not all the churning takes place with digestive enzymes that could force the sphincter to emit the reflux. D. How will protein digestion be affected by Chloe’s surgery?

The proteins would be flushed out of the body quicker than usual with the high vulnerability of malabsorption. Normally, pepsin begins the enzymatic digestion of the ingested proteins; they linger in the stomach longer than most of the ingestedfoodwith the end result of gastric protein digestion is a chyme of mostly polypeptides and some free amino acids to be absorbed in to the body. Pancreatic Protease digests protein in the basicenvironmentof the small intestine. E. Which pancreatic enzymes would Chloe need to breakdown the fats in her nutritional drink?

Lipase works with bile excreted from the liver breaking down fat molecules. F. Why might Chloe be at risk for gallstones (crystallized cholesterol which can block the flow of bile from the gallbladder)? A change in diet, no longer consuming high fatty and high cholesterol laden foods. Rapid weight loss. The gall bladder aid in the digestion and absorption of fats in the duodenum which is no longer being used. G. Would absorption of nutrients be substantially altered in the small intestine following Chloe’s gastric bypass surgery? Why or why not?

Yes, absorption is greatly affected following the gastric bypass surgery. The time the food stays in the body is severely limited, along with the additional malabsorption of important vitamins and nutrients will change. H. Why is vitamin B12 deficiency a serious concern? Vitamin B12 deficiency impairs the body’s ability to make blood, accelerates blood cell destruction, and damages the nervous system resulting in possible irreversibility. I. With which complications should Chloe be concerned following the surgery? Not to overeat; ingesting too much food could overly stretch damaging the reduced stomach.

J. Why is monitoring nutrition so important to Chloe now? The digestion has been permanently altered; digestion and absorption of nutrients have been compromised. Vitamin supplements must be taken to aid with the body maintaining homeostasis. K. Chloe went on a liquid diet immediately following her surgery. Based on what you have learned about nutrition in this chapter, which substances would you include in a liquid diet? My diet would include essential vitamins and minerals including all four food groups. There

are many amino acids that cannot replicate other than the body produces them.