

Section 6.3 Review Answers

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1. (a) Ulcers are caused by the acid-resistant bacteria *Helicobacter pylori* or by smoking, caffeine, alcohol intake, or stress.
(b) A gastric ulcer occurs when the thick layer of mucus that protects the lining of the stomach is eroded and the stomach acid eats away at the stomach wall. Technology to treat ulcers includes medications to either decrease the amount of acid or to strengthen the mucus layer. Antibiotics may also be used to reduce the growth of bacteria. Surgery can be done to block nerve signals that stimulate acid release or to remove part of the stomach. X-rays, and endoscopes are technologies used to diagnose ulcers.
2. Crohn's disease and colitis are characterized by similar symptoms. There is no cure for either, and treatment options are the same. They differ in that Crohn's affects any part of the digestive tract and the inflammation extends deep into the lining of the affected organ. Colitis occurs only in the colon and only the innermost lining is inflamed. Treatments include medications to reduce the pain, to reduce inflammation, or to reduce the immune response. Dietary modifications are useful in treating symptoms. As a last resort, surgery to remove the diseased parts of the digestive tract can be done.
3. Liver diseases pose serious health risks because the liver performs so many vital functions. In addition to producing bile salts for emulsification, the liver produces blood proteins, some needed for blood clotting. It stores glycogen, iron, vitamins, and poisons that cannot be broken down or excreted. The liver destroys alcohol and drugs and deaminates amino acids. It also excretes bile pigments that are by-products of destruction of hemoglobin from old red blood cells.
4. Since anorexia nervosa and obesity are connected to psychological problems, treatment involves psychotherapy as well as family therapy, and education in addition to physiological treatment. This increases the time and cost of treatment.
5. A person with pancreatitis would have difficulty digesting proteins, starch, and lipids in the small intestine because:
 - lack of trypsin and chymotrypsin would reduce protein digestion
 - lack of pancreatic amylase would reduce starch digestion
 - lack of lipase would reduce fat digestion