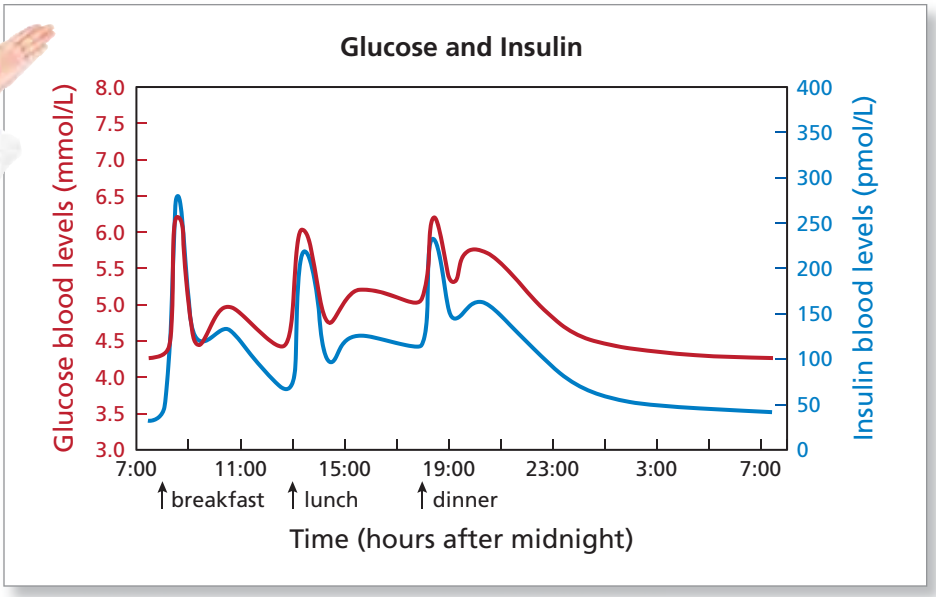
Cholesterol is a fat-like substance that occurs naturally in all areas of the human body. Your body needs some cholesterol to help it work properly. About 75% of the cholesterol in your body is produced by your liver. The rest comes from foods like meats, eggs, and dairy products. The biggest influence on your blood cholesterol level is fats in your diet, not the amount of cholesterol in the food you eat.

	HDL Cholesterol	LDL Cholesterol	Total Cholesterol	Triglycerides	
Desirable	60+	160+	240+	200+	High
Borderline low	40–59	130–159	200–239	150–199	Borderline high
Low	0–39	0–129	0–199	0–149	Desirable
	Milligrams per deciliter		Milligrams per deciliter		

EXAMPLE 6 Describing Insulin and Glucose Interaction

Use the graph to describe the interaction between glucose and insulin in a typical daily diet.



Testing your cholesterol and glucose levels is a standard part of a physical examination by your doctor. Both of these tests require you to fast for several hours before the test.

SOLUTION

Food that you eat is broken down into glucose, the simple sugar that is the main source of energy for your body's cells. But, your cells cannot use glucose without insulin, a hormone secreted by the pancreas. Insulin helps the cells take in glucose and convert it to energy.

Throughout the day, each time you eat, your pancreas receives a signal to produce insulin. The graph shows that the amount of insulin a healthy person produces is proportional to the amount of glucose in the blood.

Checkpoint

Help at Math.andYOU.com

Use the Internet to describe the relationship between cholesterol, glucose, and cardiovascular health.