

INNATE INTELLIGENCE

GALLBLADDER

Normal Function – To store and concentrate bile, produced by the liver.

Innate Stimulus – Chyme entering the duodenum stimulates the production of the hormone cholecystokinin, which stimulates contraction of the gallbladder to release bile into the duodenum. It is also involved in appetite control and feelings of satiety.

Innate Response – Bile, a greenish-yellow fluid, emulsifies fats, which allows the action of lipase from the pancreas to hydrolyze fat molecules that allow for their absorption from the small intestine. After absorption, lipids are transported by the circulatory and lymphatic systems, eventually arriving at the liver.

Gallbladder (bile)

Emulsifies fats necessary for pancreatic lipase to function



Duodenum

SYMPTOMS OF ENERGY DEFICIENCY	
STRESS RESPONSE	ORGAN EXHAUSTION
Increases nutrient requirements	Deficient nutrients available
Relaxes muscle and contracts sphincter	Inadequate bile secretion Possible stone development
FREQUENT SYMPTOMS	
Abdominal pain, nausea, and fatigue	Changes in stool and urine color, and itchy skin
NUTRITIONAL CONSIDERATIONS	
Improve Digestion and Absorption	
Focus on foods rich in fiber, healthy fats, and antioxidants, while limiting processed foods and excessive fat intake. Foods like leafy greens, lentils, apples, beets, and avocados are good choices, along with whole grains, nuts, legumes, and fish. Use bitter herbs, spices, and prebiotic foods like garlic and artichokes.	
CLINICAL CONSIDERATIONS	
Involuntary muscle contractions	
Sympathetic Nerve Supply	T5-T9 for the greater splanchnic nerve T10-T11 for the lesser splanchnic nerve
The gallbladder and pancreas receive sympathetic nerve supply primarily from the celiac plexus, which in turn is derived from the splanchnic nerves. These splanchnic nerves carry preganglionic sympathetic fibers from the thoracic spinal cord.	

Supplementing nutrients to counter symptoms is little more than educated guesswork. Symptoms are Innate's signal that a system, organ, or tissue is unable to produce adequate energy to meet its responsibilities for maintaining homeostasis and normal physiological function. **Carbohydrates, protein, lipids, vitamins, and minerals** are **building blocks** used in producing energy. They must be put to work. They are not workers.

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