

## Pancreatin, Pancrelipase (Pancreatic Enzymes)

Pancreatic enzymes can be given as digestive enzyme supplements for those missing pancreatic enzymes, or those who have pancreatic insufficiency. Pancreatin and pancrelipase are mixtures of several exocrine pancreas-produced digestive enzymes, like amylase, lipase and protease. Indications include patients with cystic fibrosis, and pancreatic inadequacy. GI distress is a common side effect, and patients should have their 24 hour fat excretion measured to measure effectiveness.



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### Mechanism

#### Pancreatic Enzymes

##### [Pancreas Enzymes](#)

Pancreatin and pancrelipase are manufactured mixtures of several digestive enzymes produced by the exocrine cells of the pancreas. They are enteric coated, delayed-release capsules that dissolve in the duodenum and jejunum and should not be crushed or chewed.

### Indications

#### Cystic Fibrosis

##### [Sisters with Fibrous-sacks](#)

Patients with cystic fibrosis often have their pancreatic ducts blocked and are unable to normally digest food. Thus, exogenous pancreatic enzymes are indicated in helping aid digestion.

#### Pancreatic Insufficiency

##### [Broken Pancreas](#)

Those who have pancreatic insufficiency or insufficiency can also benefit from the administration of pancreatin or pancrelipase. Causes for this condition include pancreatitis, obstruction of the pancreatic duct, and patients who have had pancreatectomy, leading to impaired function.

### Side Effects

#### GI Distress

##### [GI with Flare-gun](#)

If given in large doses, these commercial pancreatic enzyme mixtures can lead to GI distress. Patients can complain of diarrhea, nausea, and vomiting.

### Considerations

#### Inactivated by Gastric Acid

##### [Inactivated by Stomach with Acidic-lemon](#)

These enzymes are inactivated by gastric acid. Thus, some patients are given H2 blockers and PPIs to decrease stomach acid secretion. Furthermore, these oral enzyme mixture tablets are enteric coated to prevent inactivation by gastric acid.

## **24 Hour Fat Excretion**

### [24-hr-clock with Fat being Excreted](#)

Patients taking these enzymes should have their 24 hour fecal fat excretion measured in order to view their effectiveness. There should be a profound decrease in fat excretion, as these enzymes help fat absorption.

## **Take with Every Meal and Snack**

### [Take-out for Breakfast, Lunch, and Dinner](#)

Patients are instructed to maximize nutrient absorption and take pancreatic enzymes with every meal and snack. Usually 1 to 5 capsules are taken with food intake, based on the patient's body weight, and they should be taken within 30 minutes of eating. It's important to teach patients to take this medication with a generous amount of liquid and not to retain it in mouth prior to swallowing as may cause mucosal irritation.