Exocrine Pancreatic Insufficiency

A quick guide for patients with pancreatic cancer

Exocrine Pancreatic Insufficiency or **EPI** occurs when the pancreas (a large gland behind the stomach) doesn't make enough digestive enzymes. This results in the body not being able to break down food and get the nutrients it needs.

EPI Symptoms

People with EPI have a particularly difficult time breaking down food and absorbing fats, which can lead to:







Diarrhea





Unexplained weight loss

Management and Treatment of EPI



Pancreatic Enzyme Replacement Therapy (PERT)

Your provider may prescribe PERT to help treat your EPI.



Diet and Lifestyle Changes

Your provider or dietitian can share tips for eating well to manage EPI.

- Eating smaller meals and more often may help
- Continue eating healthy fats

Your provider may ask you to avoid alcohol or quit smoking.



Vitamin Supplements

Your provider may suggest taking supplements to increase vitamin levels in your body.

Your healthcare provider can help find the right treatment plan for you.

Why EPI Treatment Is Important



EPI treatment with pancreatic enzyme replacement therapy (PERT) can improve the absorption of fat.

PERT Facts

✓ What is PERT?

PERT is a prescription medication that contains a mixture of digestive enzymes including lipases, proteases, and amylases. The pancreas normally releases these enzymes into the upper part of the small intestine (the duodenum) to help break down food.



Lipase breaks



Protease breaks down proteins



Amylase breaks down carbohydrates

✓ Who may need to take PERT?

Anyone who has EPI and can't digest food normally may need PERT. Your provider may prescribe PERT based on your symptoms, medical history, an exam, and results from a stool test.

✓ When and how should you take PERT?

Follow your healthcare provider's advice for taking PERT. Do not crush or chew PERT. Take it every time you eat a meal or snack. Always take PERT with food.

✓ What should you look out for while on PERT?

Call your provider right away if you have any unusual or severe abdominal pain, bloating, trouble passing stool, nausea, vomiting, or diarrhea.

Why is it important to follow up with your provider after starting PERT?

Make sure to follow up with your provider 1 to 2 weeks after starting PERT. Your provider may change how much PERT you take based on how it's working for you and the amount of fat you consume per day. This is also a time to ask any additional questions about EPI or PERT.



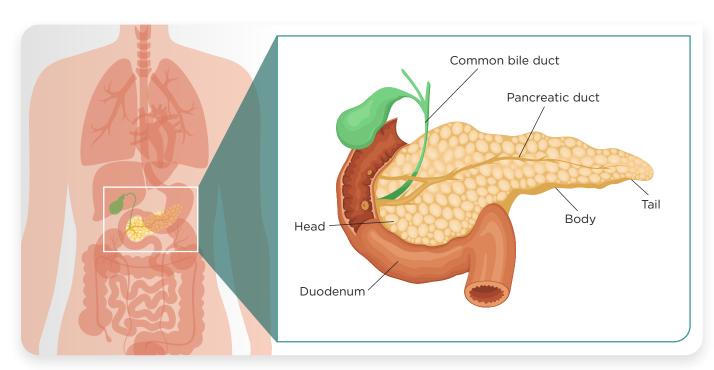


Exocrine Pancreatic Insufficiency (cont.

A quick guide for patients with pancreatic cancer

The Pancreas

The pancreas is a large gland located behind the stomach.



The pancreas serves two main functions in the body



- Exocrine function: The pancreas makes and releases digestive enzymes into the upper part of the small intestine (the duodenum) to help break down food
- Endocrine function: The pancreas makes and releases hormones that control blood sugar

References: 1. Alkaade S, Vareedayah AA. *Am J Manag Care*. 2017;23(12)(suppl):S203-S209. 2. Capurso G, Traini M, Piciucchi M, Signoretti M, Arcidiacono PG. *Clin Exp Gastroenterol*. 2019;12:129-139. 3. Drugs@FDA: FDA-approved drugs. US Food & Drug Administration. Accessed December 21, 2023. https://www.accessdata.fda.gov/scripts/cder/daf/ 4. Exocrine pancreatic insufficiency. American Gastroenterological Association. Accessed December 21, 2023. https://patient.gastro.org/exocrine-pancreatic-insufficiency/ 5. Exocrine pancreatic insufficiency. National Institute of Diabetes and Digestive and Kidney Diseases. Accessed December 21, 2023. https://www.niddk.nih.gov/health-information/digestive-diseases/exocrine-pancreatic-insufficiency 6. Lindkvist B. *World J Gastroenterol*. 2013;19(42):7258-7266. 7. Martini FH, Nath JL, Bartholomew EF. *Fundamentals of Anatomy & Physiology*. 11th ed. Pearson; 2018:610-655. 8. Othman MO, Harb D, Barkin JA. *Int J Clin Pract*. 2018;72(2):e13006. 9. Pancreatic enzymes. Pancreatic Cancer Action Network. Accessed December 21, 2023. https://pancan.org/facing-pancreatic-cancer/living-with-pancreatic-cancer/diet-and-nutrition/pancreatic-enzymes/ 10. Phillips ME, Hopper AD, Leeds JS, et al. *BMJ Open Gastroenterol*. 2021;8(1):e000643. 11. Sabater L, Ausania F, Bakker OJ, et al. *Ann Surg*. 2016;264(6):949-958. 12. Singh VK, Haupt ME, Geller DE, Hall JA, Quintana Diez PM. *World J Gastroenterol*. 2017;23(39):7059-7076. 13. Trapnell BC, Maguiness K, Graff GR, Boyd D, Beckmann K, Caras S. *J Cyst Fibros*. 2009;8(6):370-377. 14. Whitcomb DC, Lehman GA, Vasileva G, et al. *Am J Gastroenterol*. 2010;105(10):2276-2286.





Mimule