



# A quick guide to pancreatic cancer and pancreatic enzyme replacement therapy (PERT)

## Pancreatic exocrine insufficiency (PEI)

PEI occurs when the pancreas is unable to produce sufficient enzymes or produce them at the right time to ensure adequate digestion. This can result in food not being digested properly and can lead to malabsorption.

**PEI is very common in pancreatic cancer and should be considered with every diagnosis.**

### Common symptoms

<b>Indigestion</b> 	<b>Abdominal pain and discomfort</b> 	<b>Steatorrhoea* Diarrhoea</b> 	<b>Weight loss</b> 	<b>Jaundice</b> 	<b>Other symptoms include:</b> <ul style="list-style-type: none"><li>• Increased stool volume / frequency</li><li>• Constipation</li><li>• Nausea</li><li>• Burping</li><li>• Flatulence</li><li>• Bloating</li></ul>
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\* Pale, oily, offensive smelling stools that are difficult to flush

# Pancreatic enzyme replacement therapy (PERT)

The main treatment for PEI in pancreatic cancer is PERT. For people with pancreatic cancer, the clinical suspicion of PEI (based on typical symptoms and signs of malabsorption and malnutrition) justifies the empirical use of PERT without prior testing.

## NICE Guidelines for diagnosing and managing pancreatic cancer

1.6.1 Offer enteric-coated pancreatin for people with unresectable pancreatic cancer

1.6.2 Consider enteric-coated pancreatin before and after pancreatic resection

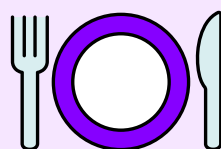
## Preparations

- PERT contains lipase, amylase and protease.
- Brands available in the UK include: Creon<sup>®</sup>; Nutrizym<sup>®</sup>; Pancrex<sup>®</sup>
- Normally given as capsules to be swallowed with food.
- Available in different strengths with Creon 25,000 units being the most common.
- PERT contains pork products so discuss this with your patients as this will affect some people with religious beliefs, vegetarians, vegans and people with allergies and intolerances.

## Benefits

- **Tolerance of treatment**
- **Relief from digestive symptoms**
- **Better quality of life**
- **Improved survival**

## Recommended starting dose



**Main meals**  
50,000 - 75,000  
units



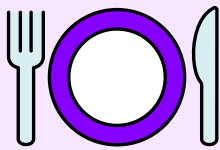
**Snacks**  
25,000 - 50,000  
units

**THINK PANCREATIC CANCER. THINK PERT.**

## How to take PERT

- Capsules should be **swallowed with a cold drink**
- If patients forget to take PERT, they should wait until their next meal and then take as usual

### PERT should be taken with:



**All meals**



**All snacks**



**All milky drinks**

(more than  
50% milk)



**Nutritional  
supplement  
drinks**

### PERT is not needed with:

#### **Drinks with only a splash of milk**

(including tea or coffee)

#### **Fruit juice, fruits quashes or fizzy drinks**

(except fruit smoothies)

#### **Alcoholic drinks**

(unless they contain milk, cream or egg).  
PERT is not needed with stout

#### **Small amounts of fruit or dried fruit**

(except avocados)

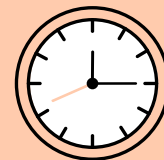
#### **Small amounts of vegetables**

(except potatoes, beans and pulses such  
as lentils)

#### **Sugary sweets**

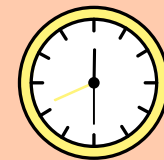
(such as jelly babies, wine gums, fruit pastilles  
or marshmallows)

### Meal timings



#### **15 minutes or less**

Dose: All at start



#### **15 - 30 minutes**

Dose: 1/2 at start,  
1/2 in middle



#### **30 - 45 minutes**

Dose: 1/3 at start,  
middle and end

## Titrating the dose

- **Review the dose regularly** with your patients and increase as needed
- **Gradually increase dose** until symptoms are managed
- Encourage patients to **titrate the PERT dose to their diet**, not alter their diet to their symptoms. Fat restriction can exacerbate weight loss
- Patients will need to take **more PERT for larger meals or food with more fat in**
- Pancreatic enzyme production may reduce over time due to advancing disease or post-pancreatic resection and **PERT dose may need to be increased**

## Do not:

- Swallow with hot drinks as it stops them from working effectively
- Chew or sprinkle on food as they can cause mouth irritation and ulcers

## If unable to swallow capsules

- Patients can open the capsules and mix granules inside with a teaspoon of cold, soft, acidic food such as fruit puree, jam or yoghurt
- They should swallow this mixture straight away, wash down with cool drink and begin eating / drinking

## Troubleshooting

- Check **adequacy of dose, timing, diet and storage** (below 25°C in a cool, dry place)
- **Prescribe a Proton Pump Inhibitor (PPI)** which can help improve efficacy of PERT
- Consider **differential diagnoses** if symptoms persist after a high dose of PERT and PPI
- **Discuss digestive symptoms and PERT** every time you see your patient

## Looking for more information about PERT?

- [Take our short, online course](#) CPD approved by the British Dietetic Association
- [Order and download free information](#) for your patients