

Pancreatic cancer and the nutritional consequences

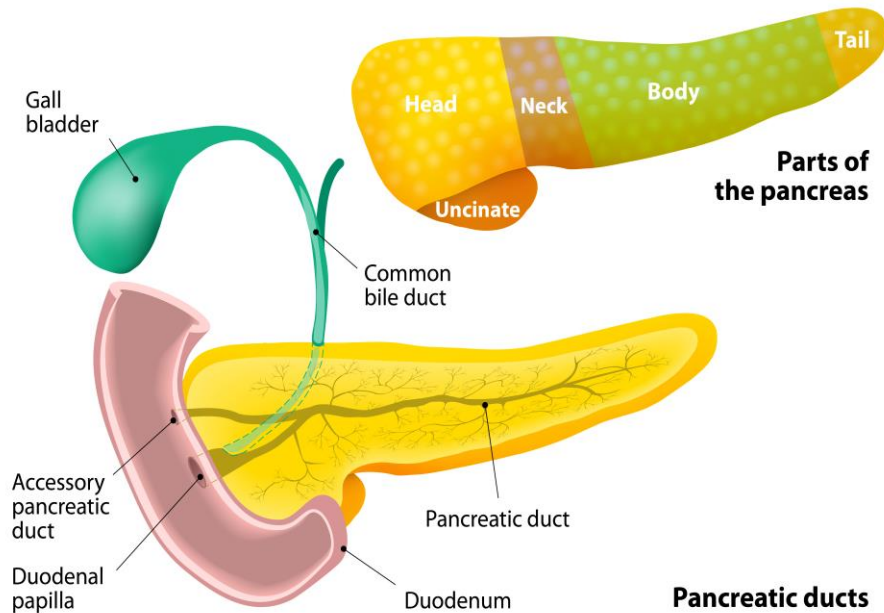
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How does pancreatic cancer impact a person's nutritional status?

ANATOMY OF THE PANCREAS



- ▶ Poor appetite driven by pancreatic cancer metabolites
- ▶ Maldigestion caused by blocked pancreatic ducts
- ▶ New onset diabetes relating to pancreatic cancer
- ▶ Increased nutritional requirements - 10% rise in energy expenditure due to tumor metabolism
- ▶ Taste changes
- ▶ 72% of people with pancreatic cancer had unintentional weight loss within a year of diagnosis (Hue et al, 2020)

How can a dietitian help?



- ▶ Optimize nutritional intake
- ▶ Gastrointestinal symptoms assessment and education regarding Pancreatic enzyme replacement therapy (PERT)
- ▶ Diabetes management
- ▶ Monitor and support
- ▶ MDT role

Poor appetite

- ▶ Severe loss of appetite - feeling full after a few mouthfuls
 - ▶ Symptoms (pain, bloating, constipation, diarrhoea, steatorrhoea, taste changes, lethargy)
 - ▶ Impact on relationships

“Having to learn how to eat again was something I never expected to experience. I couldn't even look at a food advert on TV. When the food came round the ward I had to make sure the room door was shut so I couldn't smell it”

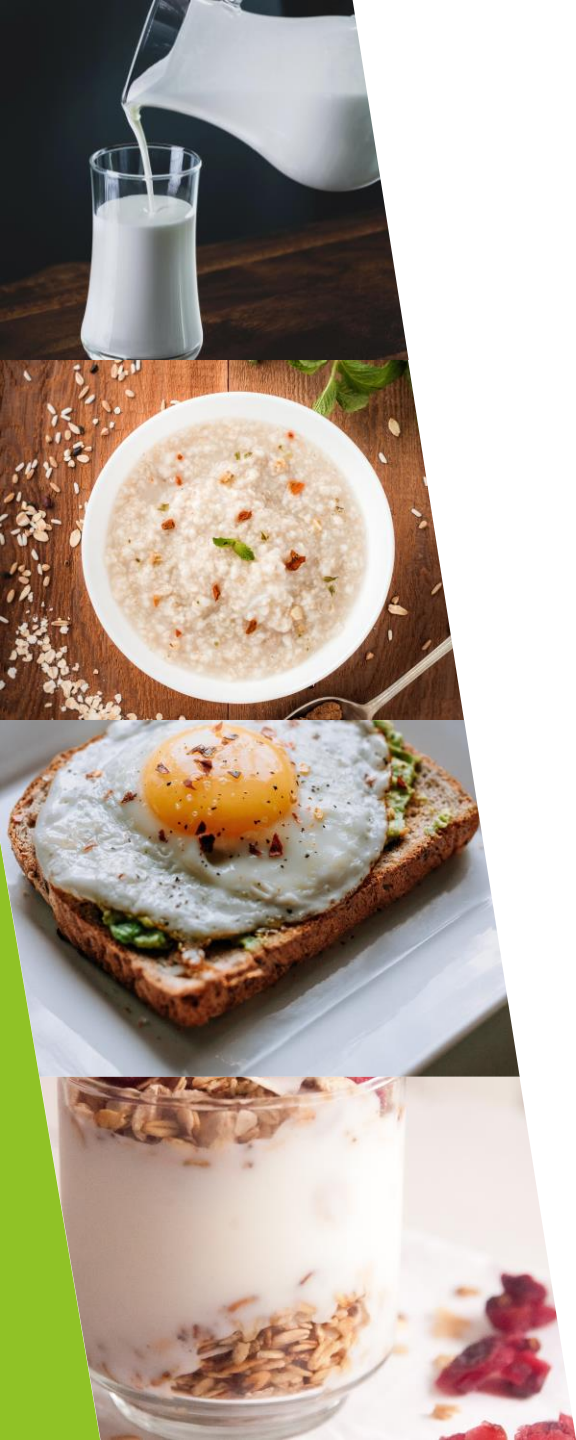
“Food has become a source of stress and upset and at times has put a strain on our relationship”

“ I lived on Solero ice cream and a Complan drink, it was the only thing I could eat and tasted normal. My weight fell from 11 to 6 stone, and it took me years to put the weight back on”

“Despite having cut down the portion size to a third of his previous meal size, he became stressed and angry, accusing me of making meals which were far too big”

Nutritional support

- ▶ Dietary preferences
- ▶ Little and often meal pattern
- ▶ High protein and high kcal food choices
- ▶ Nutritious liquids
- ▶ Prescribed oral nutritional supplements
- ▶ Softer foods
- ▶ Taste changes
- ▶ Mindless eating
- ▶ Healthier high calorie and protein choices
- ▶ Food preparation and external support
- ▶ Involve carers



Maldigestion

- ▶ At diagnosis - blocked pancreatic ducts
- ▶ Post pancreatic surgery - reduction in pancreatic tissue and change to anatomy of gastrointestinal tract.

Symptoms

Wind, bloating, abdominal pain

The urgency to go to the toilet

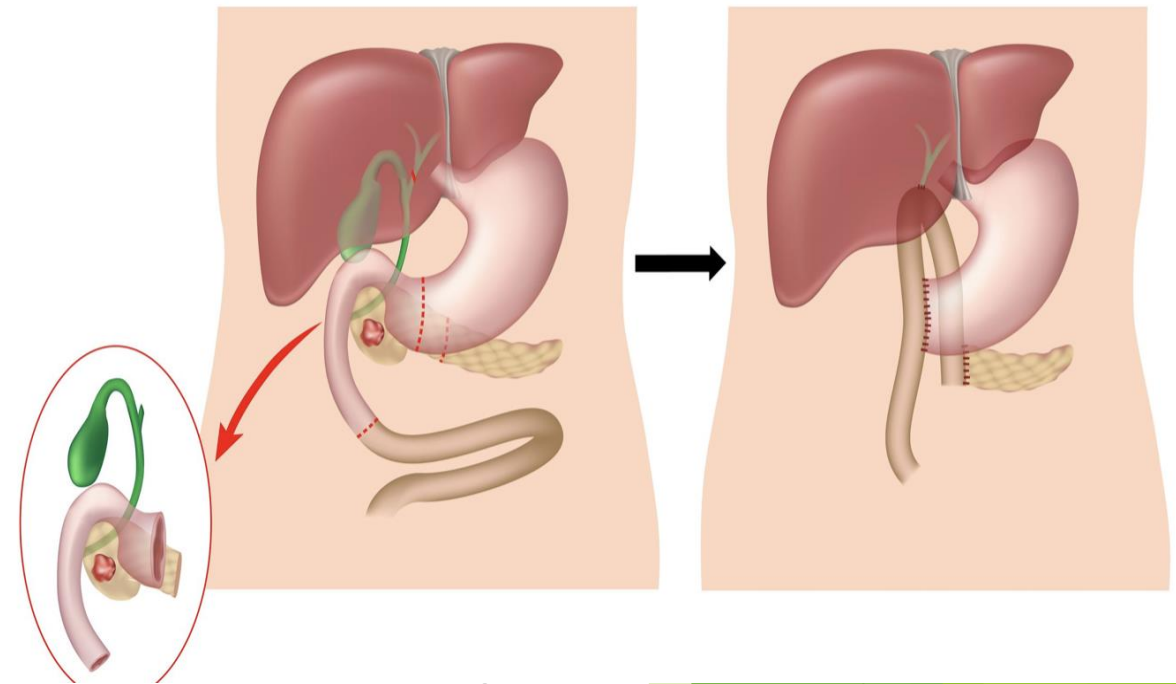
Looser stool or diarrhoea

Stools may be paler, greasy, sticky, oily

Stools may be bulkier, float and be difficult to flush

Stools and wind may smell offensive

*symptoms may be masked due to constipating pain relief

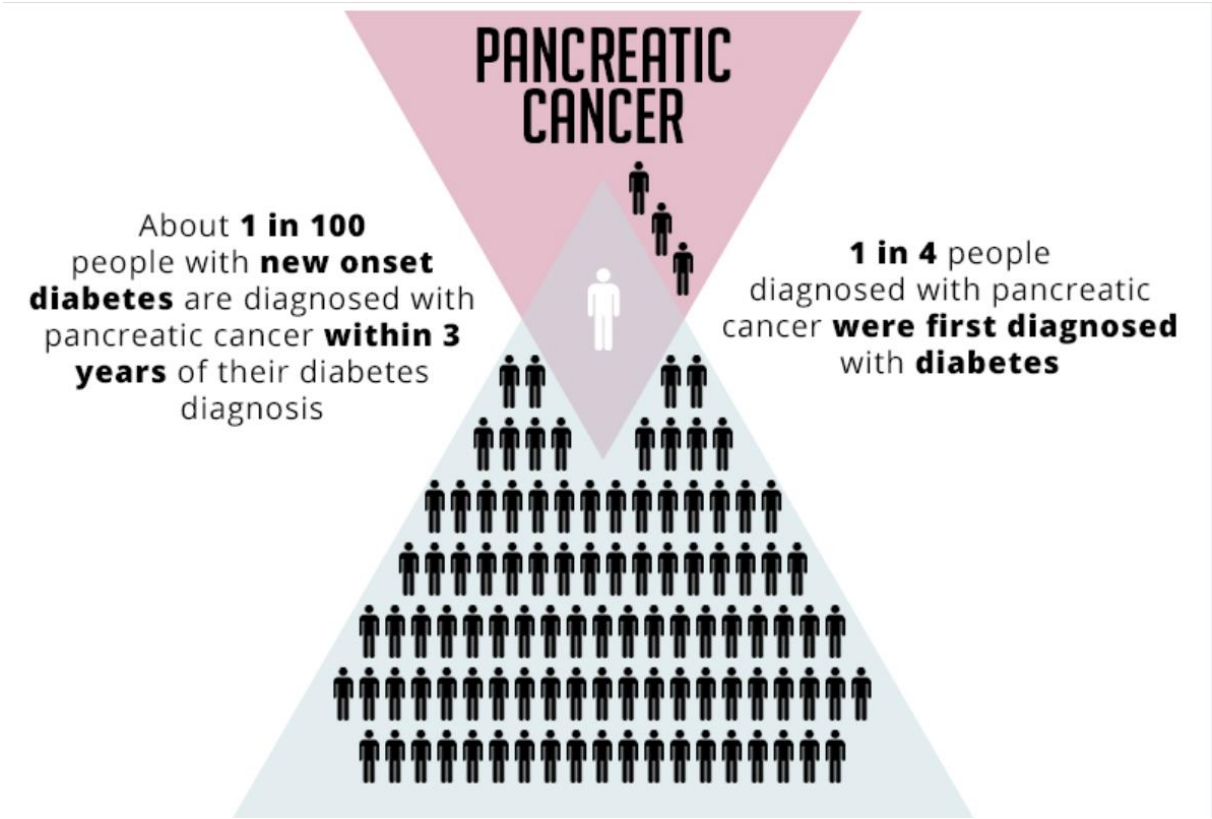




Treatment for maldigestion caused by pancreatic enzyme insufficiency

- ▶ Nice 2018 recommends that all people with unresectable pancreatic cancer should be offered pancreatic enzyme replacement therapy (PERT).
- ▶ Brands - Creon, Nutrizyme 22, Pancreas HL
- ▶ Enzymes sourced from the pancreas of pigs
- ▶ Right time, right place and right ph
- ▶ Starting dose 44 000 - 75 000 with **meals** and 22 000 - 50 000 units lipase with **snacks** and **nutritious fluids**. (Phillips et al, 2021).
- ▶ Dose adjust - depending on the nutritional content of the meal or snack (fat)
- ▶ Timing - with food
- ▶ Foods and drinks which don't require PERT
- ▶ Temperature sensitive

Diabetes relating to pancreatic cancer (type 3c)



National Cancer Institute

Dietary advice for people with type 3c diabetes

- ▶ Type 1 and type 2 diabetes - misdiagnosed
- ▶ Reframe nutritional goals if misdiagnosed - nutritional support whilst managing glycaemic control
- ▶ Specialist diabetes assessment for the initiation of oral hyperglycaemia agents and/or insulin
- ▶ Limit simple sugar-containing foods and drinks
- ▶ Include nutritious foods which include protein, fat, carbohydrates (including sugar)
- ▶ Monitor blood glucose control across their treatment pathway (diagnosis, preoperative, post-operative, during chemo/radiotherapy, after recovery, during palliative/best supportive care, end of life with discussion).

Example meal plan for poor appetite and diabetes - menu

- ▶ Breakfast - Porridge made with all milk (full fat)
- ▶ Snack - Greek yogurt with a handful of berries or slices of banana
- ▶ Lunch - Lentil and tomato soup sprinkled with grated cheese and served with bread and butter - torn into crouton-size pieces on top of soup at serving
- ▶ Snack - Crackers and cream cheese
- ▶ Evening meal - Small portion of lasagne
- ▶ Snack - a piece of cake served with ice cream

- ▶ Drinks - milky coffee, hot chocolate or malt drink made with all milk, glass of milk, oral nutritional supplements - milky, yogurt, savoury style

Additional things to consider

- ▶ Taste change advice
- ▶ Mouth care
- ▶ Anti emetics
- ▶ Timing of analgesia
- ▶ Constipating effect of analgesia
- ▶ Constipation
- ▶ Co-existing health conditions - heart disease - cholesterol, type 2 diabetes, allergy/intolerance, weight management

Aims of nutritional treatment

- ▶ Improved tolerance for treatments (chemotherapy)
- ▶ Improved recovery from surgery
- ▶ Improved quality of life - functional status

