

How does a Whipple procedure cause diabetes?

Meagan Ahteson, a dietitian, explains how diabetes develops after a Whipple procedure and offer guidelines to healthy eating thereafter.

During a Whipple procedure (pancreaticoduodenectomy), the following are removed: part of the stomach, the small bowel (duodenum), the head of the pancreas, the lower end of the bile duct, and the gallbladder.

After these organs are removed, the surgeon attaches the remaining pancreas, bile duct, and stomach to the intestine. This allows pancreatic juice, bile, and food to flow back into the gut, so that digestion can happen normally.

This surgery normally lasts between four to eight hours. The procedure is used to completely remove pancreatic cancer and give you the best outcome. This lowers the chance of the cancer coming back. However, the chance of the cancer coming back also depends on the type of tumour that you have and stage of the cancer.

Type 3c diabetes

If you've had a Whipple procedure to remove pancreatic cancer, you will most likely develop Type 3c diabetes. This results from the damage to your pancreas that isn't autoimmune.

You may also need to take pancreatic enzymes to digest your food and may need insulin or oral diabetes medication to control your blood glucose levels.

After the surgery, you'll have to be on a fat-free diet for some time, but you'll be able to gradually increase healthy fats. Talk to your surgeon and dietitian regarding this.

After you've recovered from the surgery, you may find that your appetite improves and you start to put on weight and get stronger. It's recommended to adopt a healthy balanced diet that keeps your blood glucose level in your target range and helps keep you well.

Eating well with Type 3c diabetes

The aim is to follow a diet that you enjoy that keeps your blood glucose levels stable. Please note: this advice is only for people who are a healthy weight.

- Aim to have three meals a day with two snacks in between.
- Don't skip meals.
- Cut out added sugars and avoid chocolates, biscuits, sweets, fruit juice, etc.
- Aim to have at least two fruits and three portions of colourful vegetables a day.
- When you use fat, use olive oil-, avocado-, sugar-free nut butters rather than animal fats, such as butter, lard, or ghee.
- Eat regular portions of oily fish. Aim for one to two portions each week.
- Use small amounts of unsalted nuts and seeds as snacks or as part of a meal.
- Have protein in each of your main meals. Food containing protein include beans, pulses, nuts, seeds, tofu, soya, meat, fish, dairy, and eggs. Eat fruits with a protein (like plain yoghurt) as a snack.
- Read the nutritional information on packaged foods. Aim for foods that have low or medium levels of sugar, fat, and salt.
- If you take pancreatic enzymes, make sure you take these when you eat.
- If you take oral tablets or insulin to manage Type 3c diabetes, make sure you take these as recommended.
- If you're struggling with your weight, appetite or blood glucose levels, please see a registered dietitian as soon as possible to help with a meal plan that is individualised to you and your needs.³



Meet the expert

Meagan Ahteson is a registered dietitian who focuses specifically in oncology. She is a plant-centric foodie who promotes a nourishing approach to health and wellness using evidence-based research and guidelines only.