

What to Expect After a Whipple Procedure (Pancreaticoduodenectomy) and Post-Operative Instructions

What will the incision look like?

The incision is typically vertical in the upper portion of the abdomen. Occasionally a side-to-side incision below the ribs is used as well.

How will my pain be controlled?

Patient-Controlled Anesthesia Pump (PCA): Your pain will be controlled through a patient-controlled anesthesia (PCA) pump which is given either through the epidural in your back or an intravenous (IV) line in your arm. The anesthesiologist (pain doctor) will discuss the epidural with you in detail before your surgery. The pain medication will not completely relieve your pain, but it will bring your pain down to a level you can tolerate for sleeping, coughing, deep breathing, and walking with assistance. Please let your nurse or medical team know if your pain is not adequately controlled. The anesthesiologist or your medical team can make an adjustment to your PCA setting. Please remember that the PCA is only controlled by you, not anyone else. No one should push your PCA button while you are sleeping or any other time.

Intravenous (IV) Catheter: This is inserted into your arm or wrist in the pre-op holding area before going into the operating room. This will be done when you are awake. During and after surgery, you will get medications and hydration through this catheter.

Nasogastric Tube (NG tube): You may have an NG tube inserted through your nose to the stomach in the operating room while you are asleep. The tube will be connected to suction to remove gastric juice and air to allow your GI tract to rest and heal. The NG tube may be removed in 3-4 days depending on your recovery. While you have the NG tube, you will not be able to eat or drink anything by mouth.

Jackson-Pratt (JP): One or two JP drains may be placed during surgery. The JP drain is a plastic tube that exits out the skin and is sutured in place. This tube removes excess fluids in the abdomen to prevent an infection from the collection of fluid. The JP drain will be removed after the incisions have healed, usually before discharge from the hospital. Occasionally, you may take the JP drain home if there is leakage from the pancreas. The drain would then be removed in the office.

Foley Catheter: Will be placed in your bladder during surgery to drain urine from your bladder and help the medical team to measure your urine output. This is removed in 1-2 days after surgery. It will have to be kept in place longer if you have an epidural for pain control.

You may or may not have the following tube:

Feeding Jejunostomy tube (J-tube): The J-tube is a temporary tube that may be placed during surgery and exits out through the skin. The J-tube will be capped and flushed for possible tube feeding in case of nutrition and hydration are needed when you are not able to tolerate enough food or drink by mouth.

How long can I expect to stay in the hospital after surgery?

The average hospital stay is 7-10 days. But your overall stay will depend on how well you are recovering and to ensure there are no complications from the surgery.

On the first day after surgery, you will be expected to perform important steps to aid in healing and prevent complications:

Take deep breaths: You should begin deep breathing as soon as you awake from anesthesia. These exercises help prevent pneumonia. An incentive spirometer (IS) breathing device will be given to you. You will need to use it 10 times per hour while you are awake. A respiratory technician or nursing staff member will show you how to do the deep breathing exercises and use the IS. Please do not worry about the breathing exercises when you are sleeping.

Get up out of bed: The first day after surgery expect to be assisted to sitting in a chair.

Walk 3 times a day: You will walk with a physical therapist or the nursing staff beginning the day after your operation.

Wear your TEDS/SCDs: After surgery, it is also important to realize that you will have thromboembolic deterrent (TED) stockings on your legs and intermittent sequential compression devices (SCDs) to help with blood circulation and prevent blood clots. The TED stockings should remain on all day (coming off twice a day for 20-60 minutes) and SCDs should remain on while in bed and at night.

Nutrition Guidelines after a Whipple Procedure

Immediately after surgery, you will not be allowed to eat or drink for about 3-5 days. You will be given only IV fluids. It is normal for bowel function to slow down or stop for a while after this type of surgery. Your healthcare team will be checking daily for signs that your bowel function has returned. These include bowel sounds, passing flatus (gas), and bowel movements. After your bowel function has returned, you will be allowed to have clear liquids such as eating Jell-O and broth. If you tolerate these foods, you may then try other soft, non-spicy foods until you can change back to your usual diet. Your dietitian will begin to work with you to help you with food choices during this time. It is common for patients to have less of an appetite or nausea immediately after surgery. If you are not able to eat enough by mouth, your doctor and dietitian may recommend using your jejunostomy tube (J-tube) for tube feedings if one was placed at the time of surgery. This is important to help your bowel function return to normal and also provide enough calories and protein for healing.

Some symptoms and side effects are more common than others after a Whipple. Most people have at least some of these symptoms and they can range from very mild to very bothersome. Your specific diet recommendations will need to be adjusted with the help of a dietitian to find foods that work best for you.

Nutrition related symptoms after a Whipple procedure may include:

Common

- Feeling full quickly
- Poor appetite
- Loose or fatty bowel movements

Less Common

- Delayed Gastric Emptying (continuous nausea or vomiting)
- Diabetes

You can manage these symptoms by eating small, frequent meals throughout the day. After surgery, most patients feel full after eating small amounts of food. To get the nutrition that you need, you should eat three small meals with three snacks in between. Your breakfast, lunch and dinner should be about half the size you were eating before the surgery. Using a salad plate for your meals can help determine your new meal size. Snack between meals are very important to make up for the smaller portions and lack of calories at mealtimes.

Choose foods for meals and snacks that provide a lot of calories and protein in a small portion. This is called calories or protein density. It is important to get enough protein in your diet to help with healing, fight off infection, build blood cells, and rebuild muscle. You should include protein at each meal and snack.

Examples of foods that have a high density of calories and protein are ice cream, yogurt, milk, cheese, peanut butter, eggs, and granola bars. Limit fried foods and tough meats.

At first you may have difficulty tolerating fatty foods such as fried foods, heavy sauces, and gravies. Choose meats that are tender and cooked with moist heat. Limit fatty foods to small amounts until you know whether or not you can eat them without feeling bloated or queasy after the meal.

High Protein/High Calorie Liquid Supplements

Milkshakes, Boost®, Ensure®, or other liquid supplements can help you increase the calories and protein in your diet without feeling as full. Liquids are usually well-tolerated and can be used to help maintain your weight and speed recovery. Calorie-free liquids (water, coffee, tea, sugar-free beverages) should be consumed in between meals and snack times.

Delayed Gastric Emptying

After surgery, you may find that you feel full quickly after eating only a small amount of food. This can be due to the decreased size of your stomach after surgery. This can be due to delayed or slowed gastric emptying also known as gastroparesis. This is a common side effect after Whipple Surgery.

Fluids are Very Important

It may work best to drink fluids between meals, instead of with meals, to reduce the feeling of fullness at meal times; however, it is VERY important to get enough fluids to prevent dehydration. Most people need to have between 6 and 8 cups of fluids each day. This includes anything that is liquid at room temperature. Keep a bottle of water or other fluid with you at all times as a reminder to take sips throughout the day. It is important to drink enough fluids during the weeks before your surgery and after your surgery. Thirst is not always the best indicator of proper hydration so it is important to pay attention to the amount of fluids you are drinking. Any fluids (except alcohol) count towards your daily intake, so if you do not like water, other fluids like tea, coffee, and flavored beverages are okay. It is important to drink enough fluids before your surgery and after your surgery.

Important Reminders About Eating After a Whipple

- It is common to have a decreased appetite after surgery. This will return but you may never be able to eat the same amount that you did before and your appetite may not be as “hearty”.
- Eat frequent (5-8) small, high-protein meals/snack daily.
- It may take a few weeks or months to tolerate all the foods you were used to eating before. Trying a small amount of a variety of foods one at a time is the best way to know what works for you.
- Getting enough calories and protein with good nutrition is extremely important for your recovery. If you are not eating enough and you are instructed to use your feeding tube, it is very important that you do so.
- If your doctor prescribes pancreatic enzymes, it is very important that you take these as directed.
- Be sure to keep track of your fluid intake each day and make sure you are taking in enough to prevent dehydration. Keeping a daily journal of your diet after surgery can also help to determine which foods work best for you.
- Consider meeting with a dietician for ongoing nutritional support.

Examples of ways to increase calories:

Food	Suggested Uses
Eggs	<p>Add chopped hard-boiled eggs to salads, vegetables and casseroles.</p> <p>Add extra eggs to:</p> <ul style="list-style-type: none">• Custards• Puddings• Quiches• Scrambled eggs• Omelets• Pancakes• French Toast
Cheese*	<p>Melt on top of casseroles, potatoes, and vegetables. Add to omelets. Add to sandwiches.</p>
Peanut Butter	<p>Spread on graham crackers or toast.</p>
Milk*	<p>Pour on hot or cold cereal Pour on chicken and fish while baking. Mix in hamburger and meatloaf. Make hot chocolate with milk.</p>

*May need to lower fat content if experiencing pancreatic insufficiency.

Note: Based on information from National Cancer Institute, 2011 Food