





Nutrition after Whipple Procedure

A Whipple procedure removes a part of your pancreas, part of your small intestine, gallbladder, and sometimes the lower part of your stomach. This can cause changes to the way your body digests and uses food.

How does a Whipple Procedure affect digestion?

Before Whipple	After Whipple
Lower Part of Stomach <ul style="list-style-type: none">The lower part of the stomach is also known as the pylorus.Controls when and how fast food moves from your stomach to the small intestine. 	Delayed gastric emptying can occur if food moves too slowly from your stomach to intestine. Symptoms include feeling full faster and longer. Dumping syndrome can occur if food moves too quickly from your stomach to intestine. Symptoms include dizziness, sweating, fast heartbeat, cramping, and diarrhea.
Small Intestine <ul style="list-style-type: none">Helps absorb vitamins, minerals, nutrients, and energy from foods. 	You might not absorb all of the vitamins, minerals, nutrients, or energy from foods.
Pancreas <ul style="list-style-type: none">Makes insulin, a hormone that helps control blood glucose.Makes enzymes that help break down the food you eat. 	Blood glucose levels may rise. Contact your doctor to check for diabetes yearly. It may be more difficult to digest your food, leading to malabsorption . You may need pancreatic enzyme pills.
Gallbladder <ul style="list-style-type: none">Stores and releases bile, which helps absorb fat from food. 	Fried, fatty, or greasy foods may be more difficult to digest, leading to malabsorption .

Malabsorption happens when food is not digested well enough for nutrients to be absorbed and used by your body. Signs of malabsorption include:




- Gas or bloating
- Cramping
- Abdominal pain
- Diarrhea
- Flatulence
- Weight loss
- Oily, sticky, or smelly stools
- Pale-colored stools
- Nutrient deficiencies





If you have these symptoms, talk to your doctor about taking pancreatic enzymes.

Your goals after surgery

- Promote healing.
- Get enough nutrition to maintain a healthy weight.
- Eat as normal a diet as possible.

You might face some challenges related to food and eating after surgery. Here are some ideas to help you **meet your goals**.

Issue	Try this	Tips for Success
Getting enough nutrition 	<p>Eat 5 to 6 small meals throughout the day.</p> <p>Eat protein at every meal.</p> <p>Eat a variety of foods.</p> <p>Take a multivitamin with minerals especially if you are eating less than normal.</p>	<p>Small, frequent meals may be better tolerated if you have a low appetite or feel full even with small portions.</p> <p>Protein helps the body heal after surgery.</p> <p>Include different kinds of protein, fruit, vegetables, and grains.</p> <p>Vitamins and minerals help your body heal after surgery. Your body may have difficulty absorbing all the vitamins and minerals from your food.</p>
Nausea 	<p>Eat slowly.</p> <p>Chew your food well.</p> <p>Choose lower fat options.</p> <p>Choose simple, low fiber foods.</p>	<p>Eating slowly and chewing well can improve digestion and tolerance.</p> <p>Lower fat foods may be easier to digest.</p> <p>Low fiber foods, such as refined grains, canned and soft fruits, and cooked vegetables may be better tolerated.</p> <p>Avoid whole grains and seeds and skins on fruits and vegetables if they cause discomfort, nausea or fullness.</p>
Dumping Syndrome 	<p>Limit sugary foods and drinks including desserts, cookies, candy, cakes, ice cream, milkshakes, sodas, and juices, especially if experiencing symptoms.</p> <p>Drink fluids between meals instead of with them.</p>	<p>If food or fluid moves from your stomach to your intestines too quickly, you may experience dizziness, sweating, cramping, fast heartbeat, and diarrhea.</p> <p>Eating or drinking concentrated sweets can cause these symptoms.</p> <p>Filling your stomach quickly with fluids and solids can cause these symptoms.</p>

Issue	Try this	Tips for Success
Stomach pain 	<p>Limit high fat foods such as oil, butter, cream, mayonnaise, greasy, and deep-fried foods.</p> <p>Pancreatic enzyme pills.</p>	<p>Fat may be harder for your body to break down after your surgery. High fat food may cause discomfort or diarrhea.</p> <p>If high fat foods do not cause discomfort, you may include them in your diet.</p> <p>If you have pain or malabsorption after eating, your doctor may prescribe pancreatic enzyme pills. Enzymes help you digest food.</p>
Weight loss 	<p>Drink 1-3 oral supplements per day.</p> <p>Choose beverages with calories.</p> <p>Add protein powder to foods, snacks, and beverages.</p>	<p>If your appetite is low, include high protein drinks such as Glucerna, Boost, Ensure, or Premier Protein.</p> <p>If you have a poor appetite, make every sip count.</p> <p>Boost calories and protein intake whenever possible.</p>
Dehydration 	<p>Stay hydrated. Aim for 6 to 8 cups of fluid each day.</p>	<p>Drink water, milk, protein shakes, or oral rehydration solutions such as Pedialyte or Drip Drop. Limit juice and soda.</p> <p>Ask your healthcare team about if or when it is okay to drink alcohol.</p>
High blood glucose 	<p>Limit sugary foods and drinks such as candy, cookies, cake, desserts, sodas, and juices.</p> <p>Limit sugar, honey, and syrups.</p>	<p>Normally, the pancreas makes insulin, a hormone that controls blood glucose levels. Because part of your pancreas was removed, it may not make enough insulin to control blood glucose levels.</p> <p>If you have high blood glucose levels, you will need diet advice and you may require medication to control your blood glucose levels.</p>

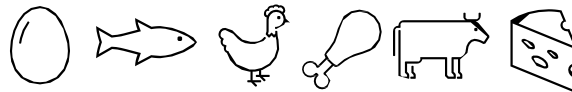
What kinds of foods can I eat?

Here are some examples of foods you can include in your diet to maximize recovery and nutrition after your Whipple procedure. Start with lower fat, lower fiber foods for best

tolerance. Slowly add in higher fiber, higher fat foods as tolerated. If a certain food causes discomfort after your surgery, avoid it for another week or two. You can try it again later and monitor symptoms. You may be able to tolerate more foods over time.

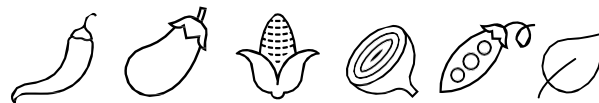
Protein: eggs, chicken, lean beef and pork, white fish and tuna, nut butters, tofu, edamame, soymilk, low fat cheese, milk and yogurt, protein shakes, pureed lentils or beans.

- Nuts are high in protein but also high in fat. Start with just a small amount of peanut butter or a few nuts at a time at first, and increase serving size as tolerated.



Vegetables: Start with well cooked, soft vegetables without seeds or skins. Select cooked and peeled potatoes or carrots, soft-cooked squash and pureed vegetables for the first few weeks after surgery.

- Slowly add in higher fiber vegetables as tolerated if you are not experiencing any nausea or bloating. Add in vegetables as tolerated such as bell pepper, bok choy, broccoli, cauliflower, cucumber, mushroom, salad greens. Start with small amounts. If you experience any nausea, bloating or early fullness with higher fiber vegetables, avoid them for another week or 2 then try adding them back in as tolerated.



Fruit: Start with soft, canned or pureed fruits without seeds or skins such as applesauce, bananas, melons, peeled fruits for the first few weeks after your surgery.

- Slowly add in raw, whole fruits with seeds and skins as tolerated such as apricots, berries, cherries, grapes, kiwi, mango, melon, oranges, peaches, tangerines. Start



with small amounts and increase as tolerated.

Grains: Start with lower fiber, refined grains such as white bread, low fiber cereals, cream of wheat, white noodles, polenta, white rice, flour tortillas. Avoid high fiber grains for the first few weeks after your surgery.

- Add in higher fiber whole grains as tolerated: barley, brown rice, millet, oats, quinoa, rye, soba noodles, whole grain bread, whole wheat pasta.



How to prepare: bake, boil, broil, grill, microwave, poach, sauté, steam, roast

- Limit high fat, deep-fried foods.