



## **Bariatric Surgery**

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## INTRODUCTION

You are scheduled for admission to NYU Hospitals Center for a **Gastric Bypass or a Biliopancreatic Diversion with Duodenal Switch, also known as Bariatric Surgery**. Please read this handout, which discusses what you can expect during your stay in the hospital as well as after you go home. It describes how the members of the health care team - doctors, nurses, and others - will work with you, the most important team member, to ensure a smooth transition to home. Please share this information with your family members and/or friends.

**Bring the information packet to the hospital, as staff will be reviewing it with you.**

It is anticipated that **you will be discharged 3 days** after your surgery although this will vary depending on your individual needs. Many people are surprised at how quickly they can return home after surgery. The health care team will be helping you with any concerns you have about discharge. Included in this booklet is a list of questions to help you plan for your discharge. If you have any questions, please speak with your doctor or nurse.

## **BEFORE SURGERY**

### **MD OFFICE**

Once the decision has been made for surgery and insurance approval has been granted, you will be given a pre-admission packet in your doctor's office containing information necessary to complete the admission process. This packet includes the following forms:

- Personal and insurance information for the admitting office
- Health care proxy
- Health history that you will need to complete and bring with you to Pre-Admission Testing

By this point you may have already had an endoscopy by a gastroenterologist (including H. Pylori), as well as a psychology and a nutrition consult.

### **PRE-ADMISSION TESTING**

Several days to a week before your surgery, you will be scheduled for an appointment at Pre-Admission Testing. At this appointment you will:

- ◆ Have an interview and an assessment with a nurse and a resident/nurse practitioner from the Bariatric Service.
- ◆ Meet with an anesthesiologist who will explain the type of anesthesia you will have.
- ◆ Have blood tests and in some cases a chest x-ray and EKG. If you have had a chest x-ray in the last six months you can avoid another one by bringing the reports with you.

## **SPECIAL CONSIDERATIONS**

It is expected that you will follow a high protein, low calorie / low fat **liquid diet** for 2 weeks before your surgery. One of the common side effects of obesity is fatty infiltration of the liver. This fatty liver makes surgery more difficult and **may mean the difference between the surgery being performed through a laparoscope or done by a laparotomy approach** (an incision that extends from the breastbone to the navel). The liver fat will be burned up quickly by this prescribed diet. Shrinkage of the liver makes the operation significantly easier.

Please refer to **THE NUTRITION GUIDELINES** given to you by your nutritionist for a detailed description of this liquid diet.

### **After 3 PM on the day before surgery:**

- ◆ You **must** only consume clear liquids (e.g. diet gingerale, tea, broths, juice, etc.)
- ◆ Do not consume **anything** after 12 midnight.

## **ADDITIONAL PREPARATION:**

- ◆ Do not eat or drink anything after midnight the night before your surgery, nor on the morning of your surgery. This includes coffee.
- ◆ Avoid aspirin, products containing aspirin and medications from the class known as non-steroidal anti-inflammatory agents (NSAID), such as Ibuprofen or Naproxen for two weeks before surgery. However if you are taking aspirin once a day for heart, vascular or neurological reasons, check with your doctor for specific instructions.
- ◆ If you are taking Coumadin (warfarin) check with your doctor for specific instructions.
- ◆ Stop Estrogen supplements 1 week before surgery.

- ◆ Stop any oral diabetic medications the day before surgery.
  
- ◆ Shower the night before or morning of surgery.
  
- ◆ Your physician or anesthesiologist will specifically order any medications to be taken the morning of surgery. Take these medications with a sip of water. If you are taking diuretics (water pills) make sure you get specific instructions.
  
- ◆ You only need to bring slippers, toiletries, and a robe to the hospital; your family can bring other items once you are assigned a room.
  
- ◆ Please do not bring any valuables, such as furs, jewelry, cash or credit cards, to the hospital. Leave rings and good watches at home.

## **DAY OF SURGERY**

Report to the **Same Day Admit Unit, 400 East 34th Street, 6th floor** at the time specified. Here you will be admitted and final preparations for surgery will be completed.

- ◆ Immediately before you go to the Operating Room. You will need to change into a hospital gown and remove all jewelry, including wedding ring, dentures, etc.
  
- ◆ The surgery will generally take 5 hours (preparation and actual surgery) and about 2 hours in the Post-Anesthesia Care Unit (PACU).
  
- ◆ Your visitors can wait in the Same Day Admit waiting area (maximum of 2 visitors), or in the Stoler Family Waiting Area in the Tisch Hospital lobby. Identify one contact person and let the surgeon's office know where he/she can be reached after surgery.

Immediately after surgery you will be taken to the PACU on the 6th floor until the effects of the anesthesia wear off. Generally, from the PACU you will be transferred to a room on one of the surgical floors. Visitors are not allowed in the PACU but your family members or friends will be able to visit you soon after you are transferred to your room.

## WHILE IN THE HOSPITAL

The following are general guidelines regarding what you can expect during your stay in the hospital. The Patient Pathway included in this packet explains on a daily basis what you can expect and what you can do.

### **ASSESSMENT:**

- ◆ Your nurse will closely monitor your condition. Initially after surgery, your blood pressure, pulse, and temperature will be taken frequently.

### **DIET:**

- ◆ The night of surgery you will not be allowed to eat or drink anything, but you will have fluids intravenously.
- ◆ The next day you will be given ice chips.
- ◆ The second day after surgery, you will receive a clear liquid diet.
- ◆ If you tolerate liquids you will have a puree diet by the third postoperative day. However, the nutritionist will instruct you on the pureed diet you need to follow after surgery. In addition, all your medications while you are in the hospital will be crushed or in liquid form. Have your family check with the nurse before giving you anything to eat or drink.
- ◆ Remember to eat only 1 – 2 tablespoons of food several times a day.
- ◆ Sip liquids during the entire day but stop ½ hour before meals and restart ½ hour after meals. You should drink at least 6 - 8 cups (2000 ml) a day. Liquids should include:

◆ Diet Snapple/Crystal Light	◆ Flat Diet Soda
◆ Water	◆ Decaf Tea/Coffee
◆ Gatorade-3 times a day	◆ Skim Milk or Lactaid
◆ Broth	

## **ACTIVITY:**

- ◆ It is very important to get out of bed and walk around at least once after surgery. The first time you get out of bed the nursing staff will help you. You will progress to walking in the hallway independently the day after surgery.
- ◆ You will be encouraged to get out of bed as much as possible and increase your activity level as tolerated. This increase in activity level decreases the risk of blood clots in the legs and an infection in your lungs (pneumonia).

## **COUGHING/DEEP BREATHING:**

- ◆ Your nurse will show you how to do some simple deep breathing and coughing exercises. You should do these every 2 hours while awake.
- ◆ In addition, you will to use the Incentive Spirometer. You should use it 10 times every hour while you are awake in order to prevent lung problems after surgery.

## **LEG EXERCISES:**

- ◆ You will be instructed to perform simple leg exercises in order to maintain adequate circulation when in bed. It is very important that you do these exercises as recommended. An example of leg exercises are ankle pumping (ankle isotonic) where you pull your toes back toward your knees as far as you can and then move them forward as far as you can.
- ◆ In addition, a Sequential Compression Device (SCD) may be used while you are in bed. This device helps to improve circulation and minimize inflammation (phlebitis) and the formation of blood clots (thrombus) in your legs. SCDs are like loose blood pressure cuffs that massage your legs.

## **PAIN MANAGEMENT:**

- ◆ You need to let the staff know your level of pain/discomfort after surgery so that the nurse can give you the pain medication the surgeon has ordered.
- ◆ The most pain will be felt in the left upper incision after a Gastric Bypass and in the right upper incision after a Biliopancreatic Diversion with Duodenal Switch. This is because most of the operation is performed through the incisions, respectively.
- ◆ To help the staff assess your pain level you will be asked to rate your pain on a scale of 0 -10 with 0 being no pain and 10 being unbearable pain. Taking pain medication before the pain is excessive provides better relief.
- ◆ Right after your surgery you may receive pain medications into a vein using a process called Patient Controlled Analgesia (PCA) or into a muscle for pain relief. These options are explained in a separate section.
- ◆ Your surgeon will determine the most appropriate medication for your specific needs. As your level of discomfort decreases and you are able to tolerate liquids and food, you will receive crushed pills or liquid medication for pain management.
- ◆ In addition, since it is important that you do the coughing and deep breathing exercises and increase your activity, it may be helpful to take pain medications prior to these activities.

## **BOWEL AND BLADDER FUNCTIONS:**

- ◆ You may experience some constipation after surgery. Increasing fluids can minimize this. Walking and increasing your activity is the most effective method of relieving gas pain, if it occurs.
- ◆ A catheter is usually inserted during surgery to drain urine from the bladder. This catheter will generally be removed the first day after surgery.

## **CARE OF YOUR INCISIONS:**

- ◆ Your stitches are absorbable and they are covered with steri-strips. Eventually, the steri-strips will come off by themselves while you are at home.
- ◆ The steri-strips over your incisions will not need a dressing.
- ◆ Look at your incisions before you go home so that you can report any changes to your surgeon.
- ◆ Your nurse will discuss any special instructions regarding caring for your incision.

## **DRAINS:**

- ◆ You will have one or two surgical drains coming from your abdominal area. These drains are called Jackson Pratts and are placed during surgery to help remove unnecessary fluid from your body. These drains are not painful while they are in place. You may just experience a “tugging” sensation when you move.
- ◆ The drains will be removed before you are discharged. You may feel some “pulling” or “pressure” while the drains are being removed. Your nurse can give you some pain medication prior to the removal of these drains.

## **DISCHARGE PROCEDURE:**

- ◆ You will be discharged 3 days after surgery, although this will depend on your specific needs.
- ◆ Your nurse and doctor will discuss specific discharge information at this time, and if needed, you will receive prescriptions.
- ◆ Your nutritionist will instruct you on the diet that you will need to follow at home.
- ◆ Discharge time is 10:00 am.

## GENERAL DISCHARGE INSTRUCTIONS

### DIET:

- ◆ Your diet will continue to be pureed foods and fluids for 3 weeks as instructed by your nutritionist.
- ◆ Water may cause gurgling, cramping or nausea. Try adding a little bit of juice, ice tea, or Gatorade.
- ◆ Try not to eat too fast or too much. This may cause nausea or vomiting. Chew all food thoroughly.
- ◆ You will be expected to follow up with the nutritionist 3 weeks after discharge on the same day that you see your surgeon. Your next appointment from then will be 3 months after discharge.
- ◆ Beware of “Dumping Syndrome” after Gastric Bypass. Dumping Syndrome is when the contents of the stomach empties too rapidly into the small intestine and causes a combination of profuse sweating, nausea, dizziness, and weakness. Therefore, avoid concentrated sweets and follow the nutritionist’s instructions.

### ACTIVITY AFTER DISCHARGE:

- ◆ You will be encouraged to walk often as tolerated. Do not exert yourself. Allow yourself to increase your activity level slowly. It is expected that you may tire more easily for a while after surgery, but gradually the periods of activity will get longer before you need to rest.
- ◆ No heavy lifting (greater than 5-10 lbs.) or housework (vacuuming, etc.) should be done until your doctor grants permission, usually 1-2 weeks. Light housework is permitted.
- ◆ Climbing stairs is generally permitted but it is usually recommended that you climb them slowly and pause after every few steps.

- ◆ Continue to use your incentive spirometer at home along with coughing and deep breathing exercises.
- ◆ You may shower when you get home but no bathing or swimming for 2 weeks after discharge.
- ◆ No driving for 1-2 weeks.
- ◆ You can start walking on a treadmill 1 week after discharge.
- ◆ You can usually resume sexual relations in 2 weeks after discharge. Check with your doctor.

### **CARE OF YOUR INCISIONS:**

- ◆ Generally, your steri-strips will come off by themselves. If they do not come off within 2 weeks after discharge, you may remove them yourself.
- ◆ You can expect some pain, bruising, and clear drainage at the incision sites; but if the incisions become red, more painful or swollen, or if the drainage becomes cloudy or foul smelling, call your doctor immediately.

### **MEDICATIONS:**

- ◆ You can resume your usual medications 2 days after surgery. The endocrinologist will adjust medication(s). You will be off Diabetic medication within days or weeks after surgery.
- ◆ You should see your primary doctor to adjust your other preoperative medications, such as for hypertension or increased cholesterol levels.
- ◆ You should continue to take your medications in a crushed or liquid form for 3 weeks after surgery. Start Flinstones chewables twice a day and Tums 500 2-3 times a day when you get home. The nutritionist will outline medication specifics.

- ◆ At 3 weeks after discharge, start Actigall 300 mg once a day for 6 months to prevent gallstones. This prescription will be given to you at your follow-up appointment.
- ◆ At 3 weeks after discharge, change to a multivitamin pill from Flinstones chewables. In addition, begin taking Niferex, a combination of Iron and B vitamins. The nutritionist will outline medication specifics.

### **BLADDER AND BOWEL FUNCTIONS:**

- ◆ You should be able to pass urine without difficulty. Call your doctor if you experience any burning, pain, bleeding, hesitancy, or frequency.
- ◆ You may experience some constipation after surgery. You are allowed to take Milk of Magnesia if necessary. If constipation does not resolve in the first week, call your doctor.
- ◆ You may experience diarrhea for several days after surgery. If diarrhea persists beyond one week after discharge, call your doctor. This is more common after the Biliopancreatic Diversion with Duodenal Switch.

### **REST/SLEEP:**

- ◆ Your recovery will take several weeks depending upon your age and general health. Feelings of fatigue are normal, and you should try to rest as needed.

### **RETURN VISIT TO DOCTOR:**

- ◆ You will be expected to see your doctor 3 weeks after discharge. You will also be expected to see the doctor at 3, 6, 9, and 12 months after surgery then yearly thereafter.
- ◆ Call your surgeon's office to arrange an appointment.

### **RETURN TO WORK:**

- ◆ Generally, you can return to work 1 week after surgery.

## WHEN SHOULD I CALL THE DOCTOR?

Contact your doctor for the following symptoms (possible danger signs):

- ◆ Increased pain, swelling, or redness of incisions. An infection will require antibiotics
- ◆ Drainage from the incisions sites that is cloudy or foul smelling
- ◆ Fever over 100.8° F on two or more occasions during the first 1-3 weeks after surgery. For a reliable temperature reading, no aspirin, acetaminophen (Tylenol), ibuprofen, should be taken for 3-4 hours before. Hot liquids should not be taken immediately before taking your temperature.
- ◆ A fast heart rate, usually greater than 120 beats per minute (Place your index finger over your pulse on the inside of your wrist nearest your thumb; count the number of beats for 15 seconds and multiply by 4)
- ◆ Rigors or night sweats
- ◆ Persistent pain, nausea, and/or vomiting after eating.
- ◆ Persistent diarrhea beyond the first week after discharge. Diarrhea after eating fatty foods is normal after Biliopancreatic Diversion with Duodenal Switch.
- ◆ New onset of upper back, chest, or left shoulder pain. Lower back pain can be expected.
- ◆ Persistent hiccups and abdominal pain for more than 2 hours
- ◆ Prolonged or unusual fatigue, disorientation, confusion, and depression
- ◆ Signs of a bladder infection such as burning, pain, bleeding, hesitancy, or frequency in urinating. If a bladder infection is suspected, a urinalysis must be done. A course of antibiotics will generally resolve the problem.

After you have completed reading this handout, please speak to your nurse regarding any additional questions or concerns you may have. Please remember that we would like to make your stay as comfortable as possible.

Thank you.

**SURGEON'S NAME:** \_\_\_\_\_

**SURGEON'S NUMBER:** \_\_\_\_\_

**YOUR NEXT OFFICE  
VISIT/APPOINTMENT:** \_\_\_\_\_

## RESOURCES

### ANATOMY OF THE GASTROINTESTINAL SYSTEM

**THE GASTROINTESTINAL SYSTEM** is composed of the following:

The **STOMACH** is the food reservoir and the first major site of digestion. It receives partially processed food and drink from the mouth and gradually feeds liquefied food into the small intestine. Food must pass through a valve called the pylorus.

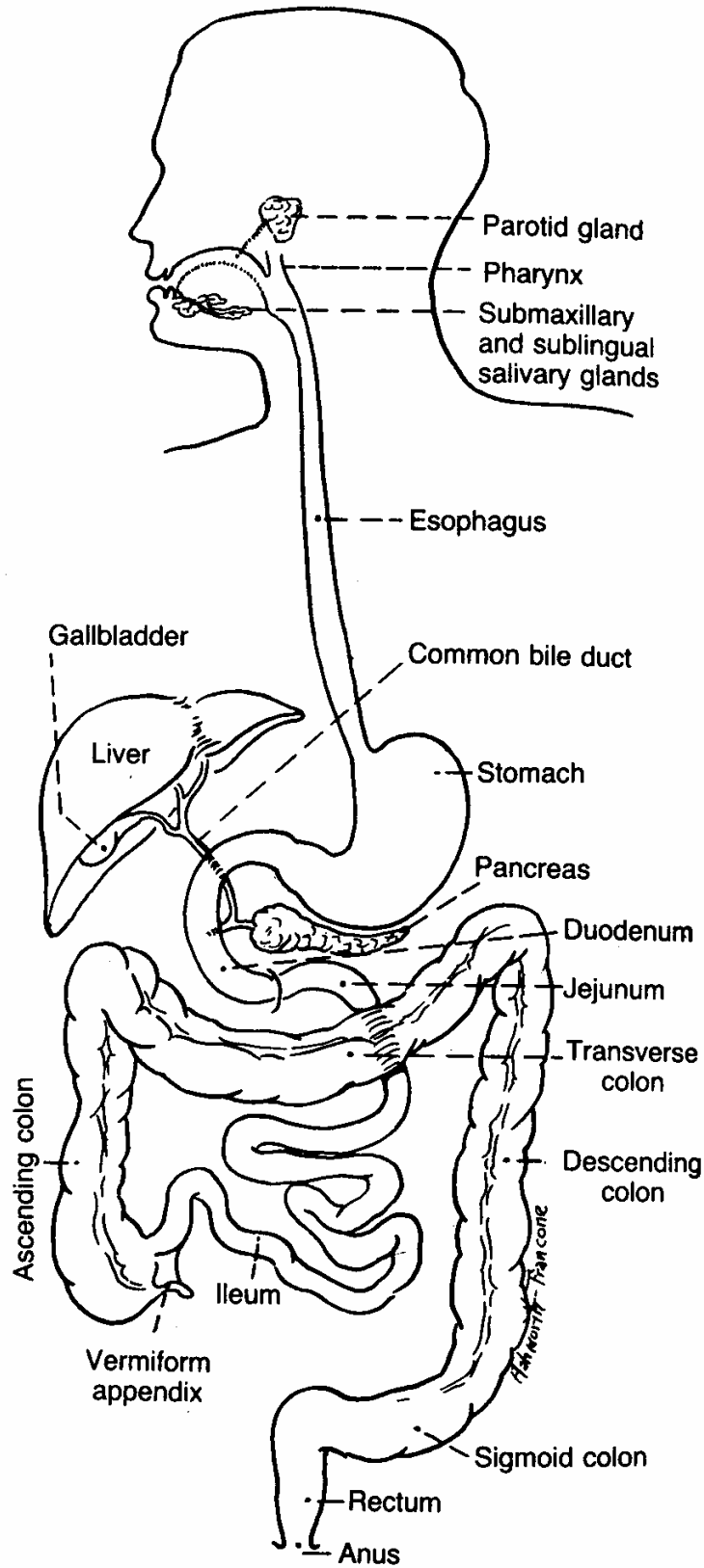
The **LIVER** is the largest gland of the body. Some of the major functions performed by the liver are the production of bile, secretion of glucose, proteins, vitamins, and fats.

The **PANCREAS** is an elongated gland that stretches horizontally across the abdomen. It secretes various substances such as digestive enzymes, insulin, and glucagon. Through a series of ducts, the pancreas secretes these substances into the duodenum of the small intestine to aid in digestion.

The **SMALL INTESTINE** is the longest part of the digestive system extending from the bottom of the stomach to the large intestine. It is divided into three areas: (a) the duodenum, (b) the jejunum, and (c) the ileum. It functions in digestion and is the major organ that absorbs prepared food, vitamins, and minerals. It is about 500 cm or 15 feet long.

The **LARGE INTESTINE** is the lower part of the digestive tract that is responsible for reabsorbing liquids from the small intestine.

# Normal Digestive System



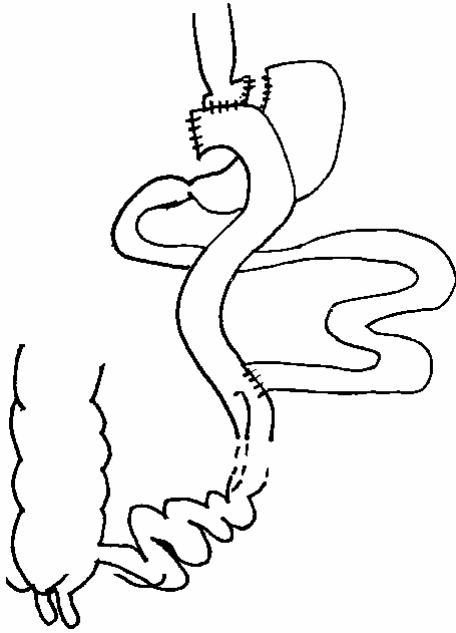
## GASTRIC BYPASS OR BILIOPANCREATIC DIVERSION SURGERY

The following surgeries are performed using a laproscope, which is inserted through a small incision on your abdomen. You will usually have 6 incisions on your abdomen.

A **GASTRIC BYPASS** is a **restrictive** surgery where a small pouch is made at the upper portion of the stomach, which can hold only 1-2 tablespoons in volume. This means you will feel full with only a small amount of food and your intake is **restricted**. This pouch is connected to a piece of small bowel through a Y-shaped connection, giving it the name Roux-en Y gastric bypass.

A **BILIOPANCREATIC DIVERSION with Duodenal Switch** is a malabsorptive surgery that causes food to be poorly digested and absorbed. A larger stomach pouch is made that can hold 2-3 cups of volume. The duodenum, which stays connected to the new stomach pouch is cut in half and re-connected to the ileum. Almost 9 feet of small intestine is bypassed. All the enzymes and bile from the liver and pancreas meet ingested food further down in the ileum, at about 100 cm (3 feet) from the large intestine (colon). This means food is digested and absorbed in only 3 feet of intestine before it enters the large intestine.

## Gastric Bypass



## Biliopancreatic Diversion with Duodenal Switch

