Your Practice Online

PRESENTS

BILIOPANCREATIC DIVERSION SURGERY

Multimedia Health Education

Disclaimer

This information is an educational resource only and should not be used to manage Obesity. All decisions about surgical management of Obesity must be made in conjunction with your physician or a licensed healthcare provider.

Australia

Dr. Prem Lobo
G.P.O Box No. 635
Sydney NSW-2001 Australia.

Phone: +61-2-8205 7549
Fax: +61-2-9475 1036
Email: info@yourpracticeonline.com.au

USA

Holly Edmonds RN, CLNC
1006 Triple Crown Drive
Indian Trail, NC 28079

Office: 1.877.388.8569 (Toll Free)
Fax: 1.704.628.0233
E-mail: info@yourpracticeonline.net

New Zealand

Greg Eden
P O Box 17 340 Greenlane
Auckland 1130

Phone: +64-9-636 3332
Fax: +64-9-634 6282
E-mail: info@yourpracticeonline.co.nz

MULTIMEDIA HEALTH EDUCATION MANUAL

TABLE OF CONTENTS

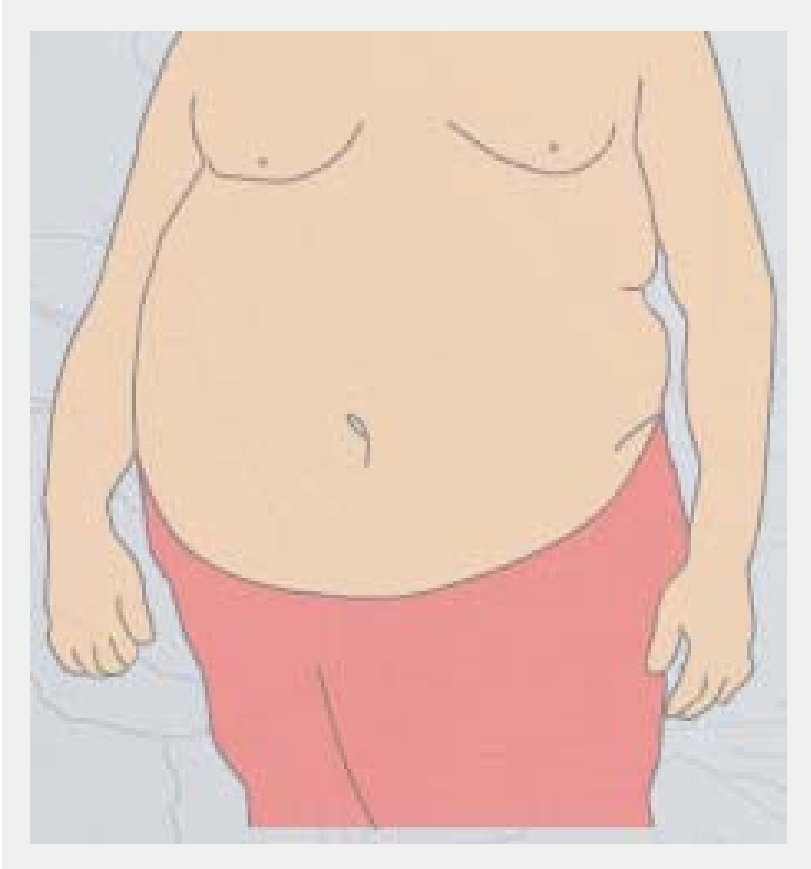
INTRODUCTION

Biliopancreatic Diversion, or BPD, is a surgical procedure used in the treatment of Obesity. To learn more about this surgery, let us first learn about obesity and the normal digestive process.

a. What is Obesity?

Obesity is a serious, chronic disease that is a growing worldwide concern affecting the health of millions of people. Obesity is defined as an excessively high amount of body fat in relation to lean body mass resulting from caloric intake that exceeds energy usage.

Obesity is the second leading cause of preventable death following smoking.



b. The Gastrointestinal System

The gastrointestinal system is essentially a long tube running through the body with specialized sections that are capable of digesting material put in the mouth and extracting any useful components from it, then expelling the waste products from the anus .

Food after ingestion undergoes three types of processes in the body:

- Digestion
- Absorption
- Excretion

The entire GI system is under hormonal control with the presence of food in the mouth triggering a cascade of hormonal actions. When food reaches the stomach, different hormones activate acid secretion, increased gut motility, enzyme release etc.

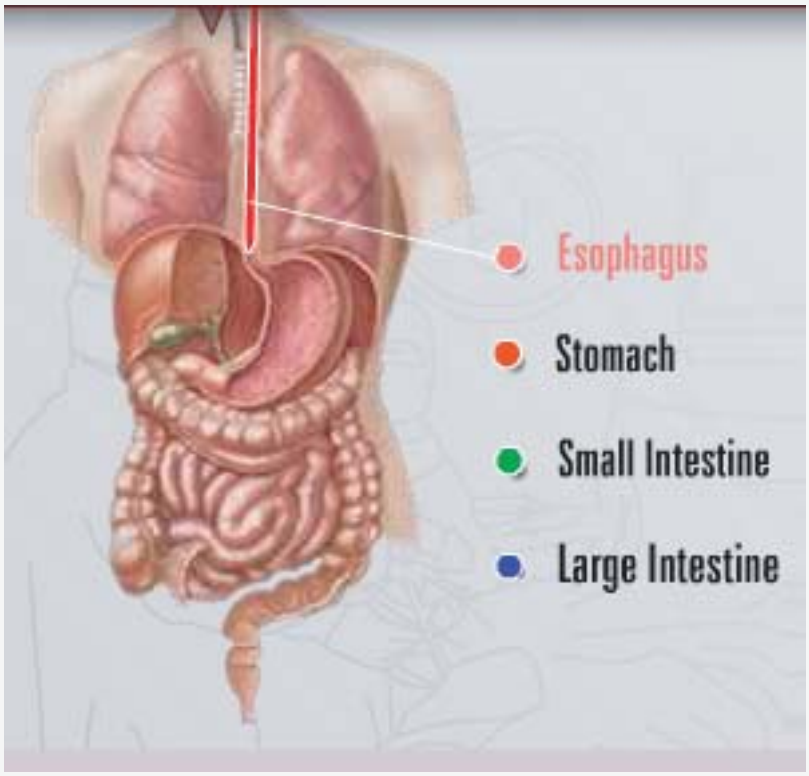
Nutrients from the GI tract are not processed on-site but instead will be absorbed and taken to the liver through the blood circulation to be broken down further, stored, or distributed.

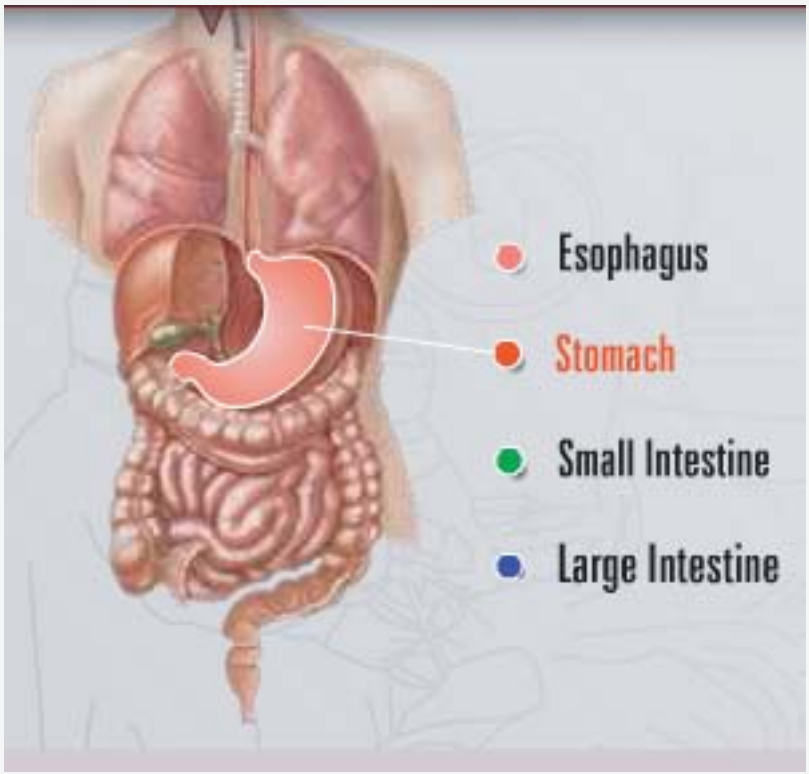
Esophagus

Once food is chewed and mixed with saliva in the mouth, it is swallowed and passes down the esophagus. The esophagus has a stratified squamous epithelial lining (SE) which protects the esophagus from trauma. The submucosa lining (SM) secretes mucus from mucous glands (MG) which aid the passage of food down the esophagus. The esophageal wall muscle layer helps to push the food into the stomach by waves of motion called peristalsis.

Stomach

The stomach is a 'j'-shaped organ with two openings- the esophageal and the duodenal- and four regions- the cardia, fundus, body and pylorus. Each region performs different functions including mixing of the food with digestive enzymes and strong acid. The layer of mucus produced prevents the stomach from digesting itself.





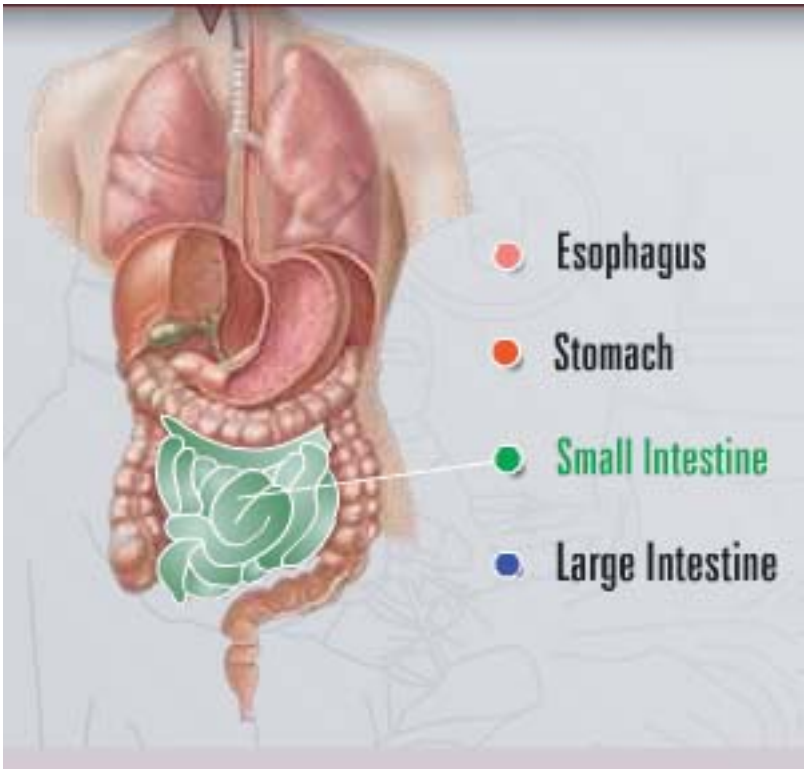
The stomach's major functions are:

- Temporary food storage
- Control the rate at which food enters the small intestine
- Acid secretion and antibacterial action
- Fluidization of stomach contents
- Preliminary digestion with pepsin, lipases etc.

Small intestine

The small intestine is the site where most of the chemical and mechanical digestion is carried out, and where virtually all of the absorption of useful materials occurs. The whole of the small intestine is lined with an absorptive mucosal layer, with certain modifications for each section. The intestine also has a smooth muscle wall with two layers of muscle; rhythmical contractions force products of digestion through the intestine (peristalsis). There are three main sections to the small intestine:

The duodenum forms a 'C' shape around the head of the pancreas. Its main function is to neutralize the acidic gastric contents (called 'chyme') and to initiate further digestion; Brunner's glands in the submucosa secrete alkaline mucus which neutralizes the acidic chyme of the stomach and protects the surface of the duodenum.



The jejunum and the ileum are the greatly coiled parts of the small intestine, and together are about 4-6 meters long or 13-20 feet; the junction between the two sections is not well-defined. The mucosa of these sections is highly folded (the folds are called plica), increasing the surface area available for absorption dramatically.

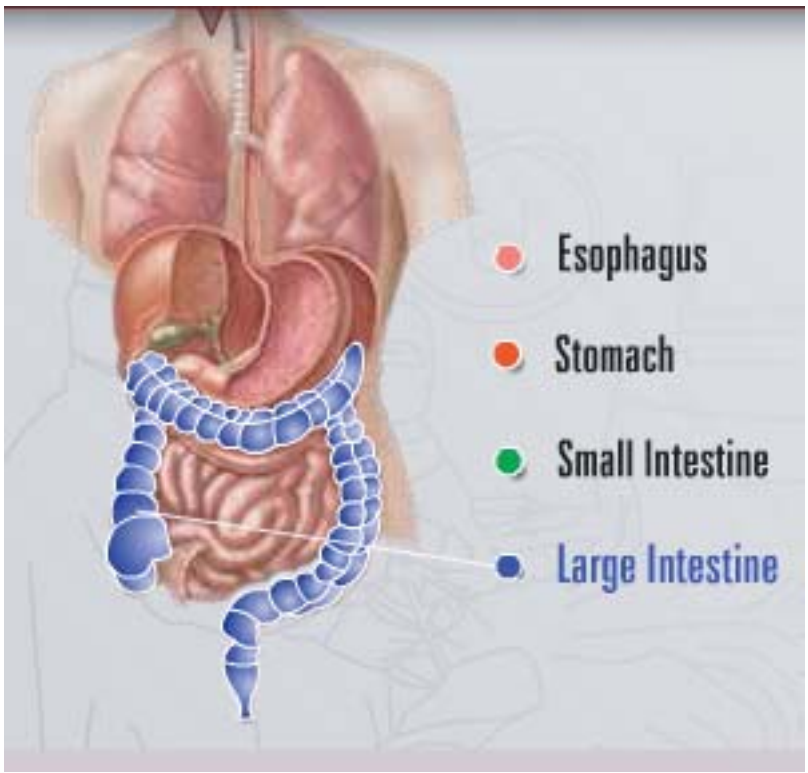
Large intestine

The large intestine is the last part of the digestive tube and the location of the terminal phases of digestion. It is the part of the digestive tube between the terminal small intestine and anus. Within the large intestine, three major segments are recognized:

The cecum is a blind-ended pouch that in humans carries a worm-like extension called the vermiform appendix.

The colon constitutes the majority of the length of the large intestine and is sub-classified into ascending, transverse, and descending segments.

The rectum is the short, terminal segment of the digestive tube, continuous with the anal canal.



Functions of the Large Intestine

Recovery of water and electrolytes from digested food:

A considerable amount of water and electrolytes like sodium and chloride remain and must be recovered by absorption in the large intestine. This is what goes wrong when you have diarrhea and constipation.

Formation and storage of feces:

As digested food passes through the large intestine, it is dehydrated, mixed with bacteria and mucus, and formed into feces.

Microbial fermentation:

Fermentation is the enzymatic decomposition and utilization of foodstuffs, particularly carbohydrates, by microbes. The large intestine does not produce its own digestive enzymes, but contains huge numbers of bacteria which have the enzymes to digest and utilize many substrates.

a. Body Mass Indicator

Body Mass Index (BMI) is the measure of body fat based on height and weight that applies to both adult men and women. BMI does not differentiate between body fat and muscle mass. Therefore, body builders and people who have a lot of muscle bulk will have a high BMI but are not overweight or obese.

Overweight is defined as a Body Mass Index (BMI) of 25 to 29.9. Overweight refers to increased body weight in relation to height.

Obesity is defined as a Body Mass Index (BMI) of 30 or higher and extreme obesity is a BMI of 40 or more. Extreme obesity is often referred to as Morbid Obesity due to the associated health risks.

BMI	Status
Less than 19	Underweight
19 to 24.9	Normal
25 to 29.9	Overweight
30 to 39.9	Obese
40 and above	Morbid Obesity

b. Causes of Obesity

- **Obesity could be a combination of the following:**

  - **The genes you inherited from your parents**
  - **How well your body turns food into energy**
  - **Your eating and exercising habits**
  - **Your surroundings**
  - **Psychological factors**

c. Complications of Obesity

- If you are obese, severely obese, or morbidly obese, you may have:

Major health risks

Shorter Life Expectancy:

Compared to people of normal weight, obese people have a 50% to 100% increased risk of dying prematurely.

Obese people have more risk for:

- Diabetes (type 2)
- Joint problems (e.g., arthritis)
- High blood pressure
- Heart disease
- Gallbladder problems
- Certain types of cancer (breast, uterine, colon)
- Digestive disorders (e.g., gastroesophageal reflux disease, or GERD)
- Breathing difficulties (e.g., sleep apnea, asthma)
- Psychological problems such as depression
- Problems with fertility and pregnancy
- Incontinence

Risks to psychological and social well-being:

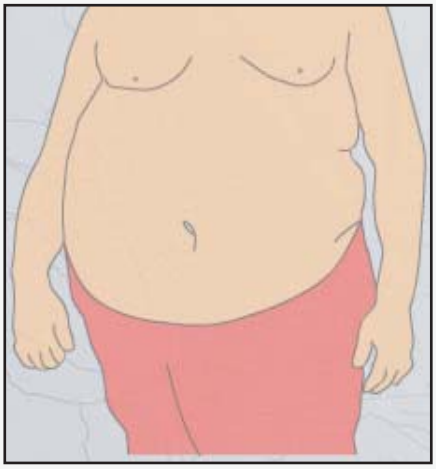
- Negative self-image
- Social isolation
- Discrimination

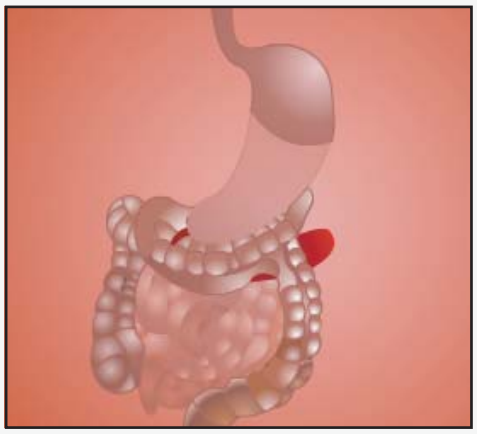
Difficulties with day-to-day living:

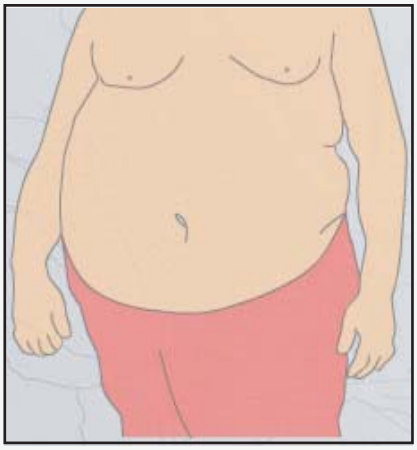
- Normal tasks become harder when you are obese, as movement is more difficult
- You tend to tire more quickly and you find yourself short of breath
- Public transportation seats and car seats may be too small for you
- You may find it difficult to maintain personal hygiene

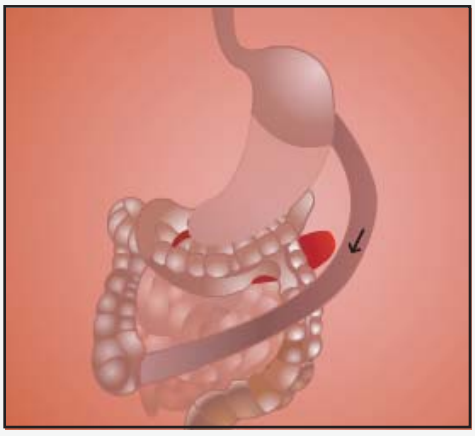
a. Surgical Procedure

Biliopancreatic Diversion is a restrictive/malabsorptive surgical procedure. It is restrictive in the sense that it "restricts" how much food the stomach can hold and is "malabsorptive" in that in affects how food and calories are absorbed into the bloodstream. This combination surgery has the highest success rate for amount of weight lost.









In BPD surgery, the lower two-thirds portion of the stomach is removed. The remaining stomach is attached to the distal segment of the small intestine, the ilium. By bypassing the first two segments of the small intestine, the duodenum and jejunum, the small intestine is shortened therefore nutrient absorption is significantly reduced leading to weight loss.

b. Advantages of Biliopancreatic Diversion Surgery includes:

- Best weight loss results of all surgeries
- Eating capacity is greater than other surgeries
- Continued weight loss for 18-24 months post surgery
- Many patients maintain a weight loss of 75-80% of excess weight 10 years post-op
- Adjustable and partially reversible but only with additional surgery
- Good option for revision if other techniques have failed
- Improved health problems associated with severe obesity (ie. Diabetes, high blood pressure, sleep apnea, etc.)
- Improved mobility and quality of life

c. Disadvantages of Biliopancreatic Diversion Surgery include

- Most complicated of currently available obesity surgeries
- Usually performed as open operation instead of Laparoscopically, with associated risks
- Risk of death 1:200 surgeries
- Longer recovery time, usually 6-8 weeks
- Malabsorptions require life long supplementation of fat soluble vitamins (A, D, E, and K), B12, calcium and iron.
- Requires permanent lifelong changes to patient's diet andlifestyle.
- Risk of iron deficiency anemia and osteoporosis if supplements not taken
- Requires gallbladder removal during surgery due to high risk of gallstones
- Dumping syndrome: nausea, reflux, diarrhea can occur after ingesting high sugar foods
- Increased stool frequency to 2-4/day
- Foul flatulence and diarrhea if fatty foods eaten.

d. Risks & Complications

- As with any surgery there are potential risks involved. The decision to proceed with the surgery is made because the advantages of surgery outweigh the potential disadvantages.
- It is important that you are informed of these risks before the surgery takes place.

Most patients do not have complications after Biliopancreatic Diversion surgery; however complications can occur and depend on the patient's health status.

Complications can be medical (general) or specific to BPD

Medical complications include those of the anesthesia and your general well being. Almost any medical condition can occur so this list is not complete. Complications include:

- Allergic reaction to medications
- Blood loss requiring transfusion with its low risk of disease transmission
- Heart attack, strokes, kidney failure, pneumonia, bladder infections
- Complications from anesthesia
- Serious medical problems can lead to ongoing health concerns, prolonged

Specific complications for BPD include:

- DVT (blood clot in the deep leg veins)
- Damage to adjacent organs
- Leakage of digestive contents can lead to serious infection
- Stricture (narrowing) of the opening between the stomach and small intestine
- Dumping Syndrome: Vomiting, reflux, and diarrhea caused by stomach contents moving too rapidly through the small intestine
- Abdominal hernias
- Bleeding ulcers
- Kidney Stones

Conclusion

Although every effort is made to educate you on Biliopancreatic Diversion surgery and take control, there will be specific information that will not be discussed. Talk to your doctor or health care provider about any concerns you have about this surgery.

Your BARIATRIC SURGICAL Team

Your Practice Online

BILIOPANCREATIC DIVERSION SURGERY

Multimedia Health Education

[ ] [ ] [2006] YOUR SURGERY DATE

- [ ] READ YOUR BOOK AND MATERIAL
- [ ] VIEW YOUR VIDEO/ CD/ DVD/ WEBSITE
- [ ] PRE-HABILITATION
- [ ] ARRANGE FOR BLOOD
- [ ] MEDICAL CHECK UP
- [ ] DENTAL CHECK UP
- [ ] ADVANCE MEDICAL DIRECTIVE
- [ ] PRE-ADMISSION TESTING
- [ ] FAMILY SUPPORT REVIEW

Physician's Name: _____ **Patient's Name:** _____

Physician's Signature: _____ **Patient's Signature:** _____

Date: _____ **Date:** _____