Ileal Pouch Anal Anastomosis

A Patient's Guide

to the

Ileo-Anal Pullthrough

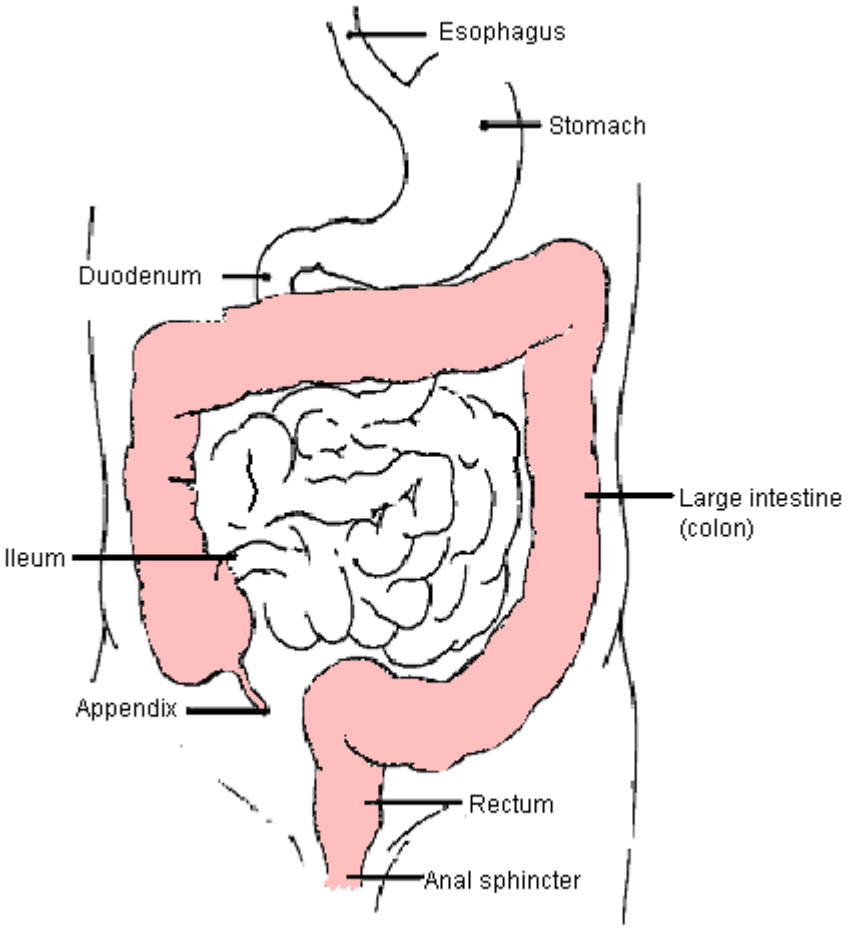
Operation

UNC SCHOOL OF MEDICINE
DEPARTMENT OF SURGERY

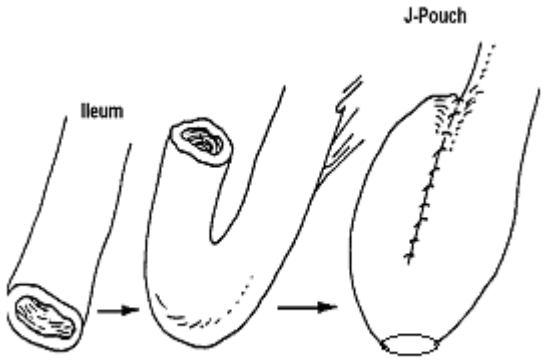
University of North Carolina
Chapel Hill, N.C.

Introduction

The ileo-anal pullthrough procedure, (also known as the **i**leal **p**ouch **a**nal **a**nastomosis procedure or IPAA) is an operation that has gained popularity over the past fifteen years, for the treatment of ulcerative colitis or familial polyposis. IPAA cures these diseases by removing the diseased large bowel.



The operation removes the large bowel and creates a “new rectum”. This is done by making a pouch out of the end of the small bowel (ileum), and attaching it to the anal sphincter muscle. This creates a reservoir for the storage of stool, allowing for predicable and controllable bowel movements.



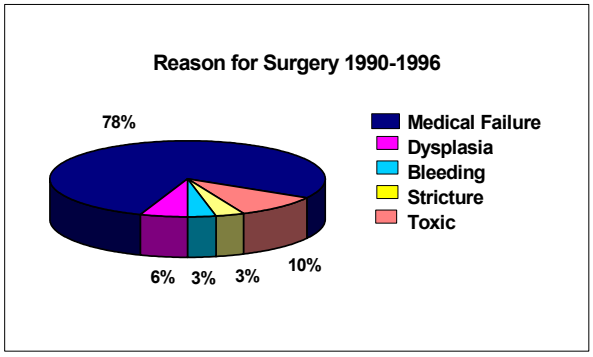
There are several types and names of pouches that can be created. The most common one is the "J pouch". The pouch is made by taking the end of the small intestine and sewing it into a "J" shape. The pouch is then pulled through the pelvis and sewn to the anal sphincter. That is why it is commonly referred to as the "pullthrough" procedure.

Creation of the "J Pouch"

The IPAA is a major operation. It may be performed in one, two, or three stages. When it is performed electively, not as an emergency, it is usually done in two stages. It is less commonly performed in one stage, only if the surgeon feels it is medically and technically safe. If a patient is very sick, on large doses of steroids or other immunosuppressive drugs, or if the operation is performed as an emergency, it may be safer to do IPAA in two or three stages.

Reasons for having the IPAA include:

- Increased risk of cancer
  - the presence of dysplasia on colonic biopsies
- Failure of medical management
  -colitis not responding to medical management
  -bleeding
  -complication from medication



Benefits of this operation include:

- The disease is cured because the large bowel is removed.
- Disease symptoms such as diarrhea and urgency are eliminated.
- You will not have to take medications for the disease.
- Screening colonoscopies/ flex sigmoidoscopies for cancer are no longer required.
- You will feel better and have more energy.

Operative Stages

One Stage

Operation #1

* Remove colon and rectum
* Make pouch and sew to anus

* No temporary ileostomy
* 4-5 hour operation
* 7-10 days in the hospital

Two Stages A

Operation #1

* Remove colon and rectum
* Make pouch and sew to anus
* Temporary diverting ileostomy
* 4-5 hour operation
* 5-7 days in the hospital

Operation #2

Takes place at least 6 weeks after #1

* Takedown of ileostomy

* 1-3 hour operation
* 3-6 days in the hospital (with an average stay of 4 days)

Two Stages B

Operation #1

* Remove colon

*Leave rectum and anus

*Ileostomy
*2-3 hour operation
*5-7 days in the hospital

Operation #2

Takes place at least 6 weeks after #1

*Remove rectum
*Make pouch and sew to anus

*4-5 hour operation
*No ileostomy
*5-7 days in the hospital

Three Stages

Operation #1

* Remove colon

* Leave rectum and anus

* Ileostomy
* 2-3 hour operation
* 5-7 days in the hospital

Operation #2

Takes place at least 6 weeks after #1

* Remove the rectum

* Make pouch and sew to anus

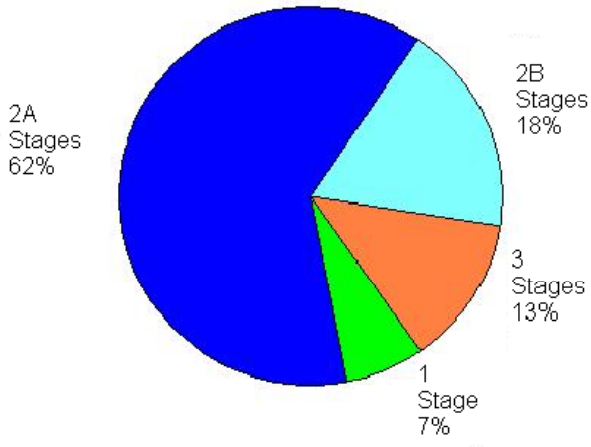
* Temporary diverting ileostomy ***
* 4-5 hour operation
* 5-7 days in the hospital

Operation #3

Takes place at least 6 weeks after #2

* Takedown of ileostomy
* 1-2 hour operation
* 3-5 days in the hospital

Ileal Pouch Anal Anastomosis Procedures at UNC
January 2000 - December 2002



For purposes of this pamphlet, IPAA will be explained as an elective operation, involving two stages. Your surgeon will discuss with you whether you will be a candidate for a one, two, or three stage operation.

Before the First Operation:

The first operation involves removing your large intestine and creating the pouch. Prior to having this first operation several tests will be done.

Tests that ***may*** be necessary include:

- Blood work
- EKG
- Chest x-ray
- Rectal manometry
- Upper GI X-rays
- Colonoscopy

Most patients need to have a colonoscopy performed at UNC Hospitals prior to surgery. This is an exam of the colon where a lighted flexible tube is inserted into the rectum so the inside of the entire large bowel can be visualized. It shows the surgeon the amount of disease in your intestine. You will be given instructions for bowel prep when the appointment is made for your colonoscopy. During the exam you will be given medicines to sedate and relax you. In addition to the GI endoscopist, the surgeon or an assistant may be in the room during this exam. The surgeon will be given a full report and pictures by the doctor performing the test. This examination is often performed the day before your surgery so that you will only need to do one bowel preparation for both the colonoscopy and the surgery.

Prior to the operation, you will need to have a pre-operative “work-up.” This means that you need to spend time getting the necessary blood work done, tests performed, having a complete physical examination by a resident physician, and being interviewed by the “pre-care” staff. This will be performed at a clinic visit prior to you surgery. If you have further questions about your surgery or financial considerations, the preoperative evaluation is a good time to ask your surgeon or the GI surgery nurse. The GI Surgery nurse can also assist you in housing options if you need to spend the night in the Chapel Hill area.

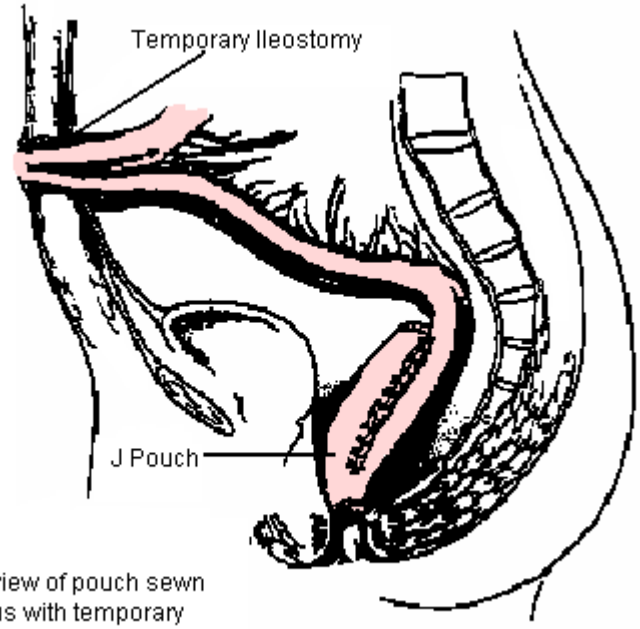
Since the first operation usually includes a temporary ileostomy, you will also be seen by a wound ostomy and continence nurse (WOCN) before surgery. This is a nurse who specializes in ostomy or “bag” care. She is an important part of the team. The WOCN will work with you while you

are in the hospital so that you will become comfortable caring for the ileostomy before you leave. She will "mark" the best spot on your skin where you will have your temporary ileostomy prior to having the operation. She is also available to show you pictures and answer your questions about the ileostomy.

The First Operation

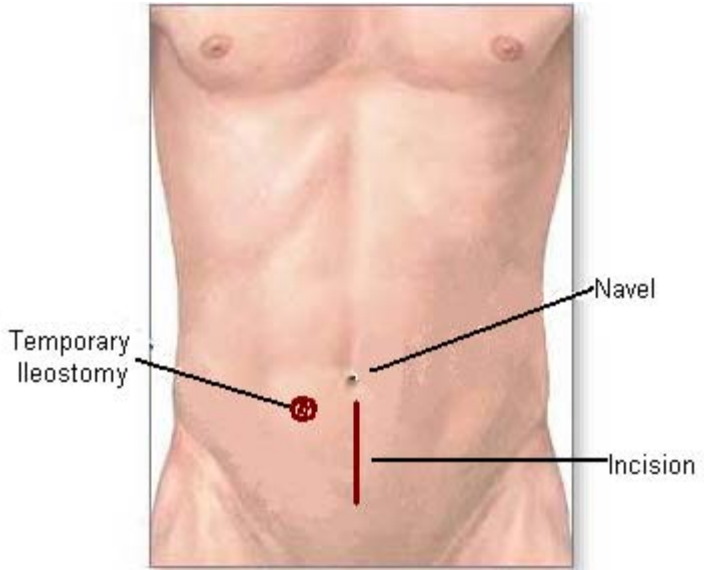
The first stage of IPAA consists removing the entire colon and the rectum, leaving the anal sphincter intact. The anal sphincter is the muscle which controls your bowel movements. The pouch is constructed out of the end of the small intestine (ileum) and attached to the anal sphincter. At this point you will be cured of your disease.

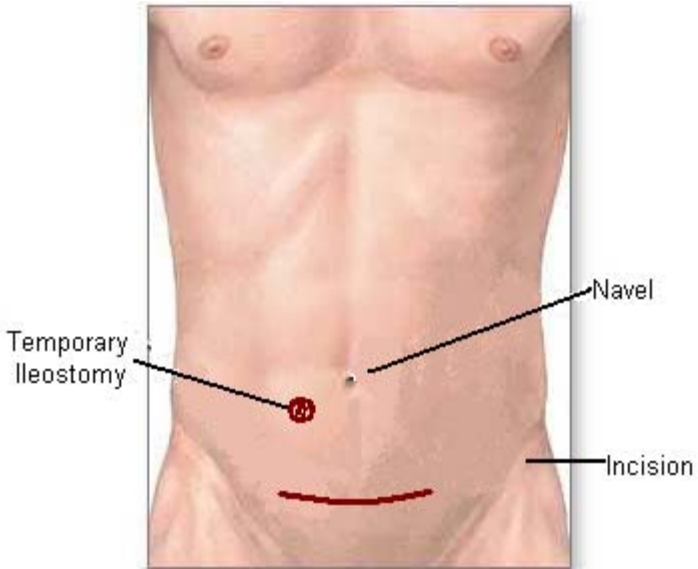
A temporary diverting ileostomy is brought out through the skin on the right side of your abdomen. You will wear an ostomy appliance or "bag" over the intestine to collect stool. The ileostomy gives the sutures in the newly created pouch time to heal without stool passing over it which reduces the risk of infections or a leak. You will have the ileostomy for at least six weeks. (Note: in a single stage IPAA, the ileostomy is not performed.)



Side view of pouch sewn to anus with temporary ileostomy

General anesthesia is required for this operation. The anesthesiologist will discuss this with you.





Your incision will be from above your umbilicus (navel) to your pubic bone, or you may have a side to side incision. The surgeon will discuss these options with you at the time of consultation. The incision may be closed during the operation or the last layer may be left open to heal from the inside out. You will be taught to care for the incision. If needed, home health nursing assistance can be arranged, prior to being discharged from the hospital.

After surgery you ***will*** *have*:

- IV lines--to receive fluids and medicines until you start eating (usually 3-5 days)
- Foley catheter--a urine tube to collect urine into a bag, so that an accurate account of your urine can be monitored (3-4 days)
- Jackson-Pratt or JP drain--small drain left in your abdomen to drain residual blood and fluids (1-2 days)

In addition, you ***may*** *have*:

- Nasogastric (NG) tube--a tube that goes through the nose into your stomach, to reduce nausea until bowel function returns (usually 2-3 days)
- Rectal tube--tube left in your rectal pouch to drain stool while stitches heal (usually 3-4 days)
- An On-Q ® Post-Op Pain Relief System for incisional pain relief.

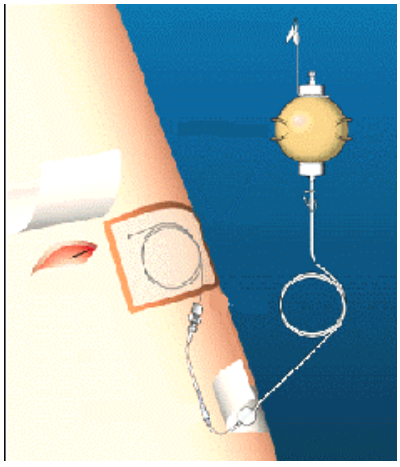
The length of the operation can vary between 4 to 6 hours. The time depends on your body size and shape, previous surgery and the severity of your disease. You will be asked to report to the "Pre-Care" area approximately 2 hours before your surgery is scheduled to begin, so that you will be prepared for surgery. Immediately after surgery, you will be taken to the post anesthesia care unit (PACU), or recovery room for approximately 1 to 2 hours. Because of the length of the surgery and the pre- and post-care involved, you will be away from your family for 5 to 8 hours. Your family will be notified of your condition by the surgeon once the operation is complete. Your family will be given a pager by the holding area staff and will be paged when the surgeon is available to talk with them.

The hospital stay after this operation is usually 5 to 10 days with an average of 6 days. During this time you are monitored closely by the nursing staff. They are specially trained to take care of surgery patients and will assist in your initial recovery. These nurses are experts at pain management and can help you manage your pain. Many health care providers on the team will see you including your

surgeon, resident physicians, medical students, the GI surgery service nurse, WOCN nurses and hospital support staff.

Pain management will achieved by Patient Controlled Analgesia or “PCA” following surgery. This means that a computerized pump will be attached to your IV line, and you will be in control of your pain medicine by pushing a button to give yourself pain medicine as needed. There will be limits to the amount you can get, but it will be enough to keep you comfortable.

PCA Unit



You may also have an On-Q® Pain Relief System that is inserted at the incision. This device works much like a soaker hose and bathes the underneath side of the incision with numbing medicine. This allows the incision to remain numb for the first 5 days after surgery. As with any type of surgery, it is reasonable to expect some amount of pain. This varies with individual patients and depends on your body’s response to pain medication.

Following the operation, you will not be allowed to eat solid food for several days. At first you will be permitted to have a few chips of ice to keep your mouth moist. As bowel function returns, a liquid diet will be started and advanced to regular food.

The first day after the operation you will be able to sit in a chair. It is important for you to be out of bed as much as possible after your operation. By the second day you should be walking in the hallways. You will become more active each day.

Rectal drainage following this operation is common. There is usually residual blood and the small intestine continues to secrete water and mucus. You will probably feel the urge to have a bowel movement 5 to 7 days after your operation. This is normal. When you have the urge you should “move your bowels” on the commode.

Although your lifestyle may be altered temporarily by the ileostomy, it should not keep you from doing activities that you enjoy. Everything you did before your operation is possible after the operation. You will be limited as to the amount of lifting and strenuous exercise for a period of time after each operation.

Most people want to return to normal activities (work or school) as soon as possible. Depending on the type of work you do, you may plan to go back to work 3 to 4 weeks after the operation. Most patients go back to work with restrictions on lifting after 4 or 5 weeks. Talk about this with your surgeon.

The Clinic Visit following the Operation

You will be scheduled to come back to clinic 2-3 weeks following discharge after the first operation. At this time you will be given a physical exam by your surgeon and be asked questions about how you have done following the operation. The second stage of IPAA can be discussed and a date decided upon for the ileostomy takedown. You can also see the WOCN nurse at this time as well as other members of the team. The second stage of IPAA will take place sometime after 6 weeks, but usually not before.

The Second Operation

The second operation involves closing the temporary ileostomy. This is called an ileostomy takedown. Before this operation, you will need to have an x-ray of the new pouch, this is called a pouchogram. This involves putting dye into your pouch with a small tube and taking x-rays. This x-ray shows your surgeon how well your pouch has healed. If this test is okay, then the ileostomy takedown can be done. Again, this is a good time to ask questions of the team members.

The second operation is usually less involved and takes less time to perform (1 to 3 hours). The goal of the surgery is to sew the two ends of the small intestine together, closing the ileostomy. In most cases an incision is made around the ileostomy and the operation is done through the ileostomy site. Occasionally the surgeon must go back through the main incision. As with the first surgery, you will be asked to report to the "Pre-Care" area approximately 2 hours before your surgery is scheduled to begin, so that you will be prepared for surgery. Immediately after surgery, you will be taken to the post anesthesia care unit (PACU), or recovery room for approximately 1 to 2 hours, you will be away from your family for 5 to 6 hours. Your family will be notified of your condition by the surgeon once the operation is complete. Again, your family will be given a pager by the holding area staff and will be paged when the surgeon is available to talk. When you wake up, the ileostomy will be gone.

Again, there are several tubes that ***will*** be in place following this operation:

- IV lines--to receive fluids and medicines until you start eating (usually 3-5 days)
- Foley catheter--a urine tube to collect urine into a bag, so that an accurate account of your urine can be monitored (3 or 4 days)

In addition, you ***may*** *have*:

- Nasogastric (NG) tube--a tube that goes through the nose into your stomach, to prevent nausea until bowel functions begin to return (usually 2-3 days)
- An On-Q ® Post-Op Pain Relief System for incisional pain relief.

You will be given pain medicines as needed. Most patients have the Patient Controlled Analgesia (PCA) pump to control their own pain medication. The recovery period is usually shorter for this operation. A patient stays in the hospital for 3 to 5 days with the average of 4 days.

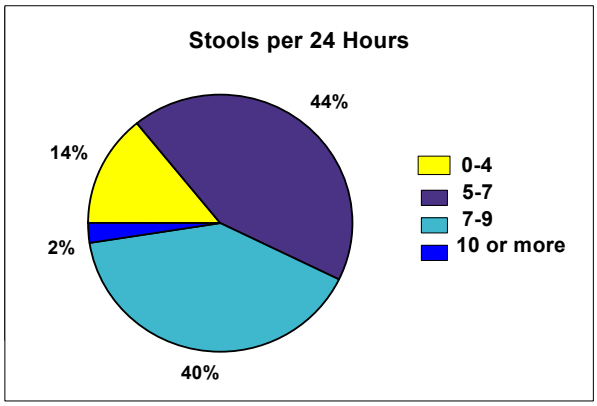
You will begin to have bowel movements 2 to 5 days after this operation. Initially the movements are liquid and may occur 10 or more times a day. As you eat solid food, the bowel movements become more firm and the frequency decreases. Oftentimes you may need medication to slow down or thicken the bowel movements. You will be given a clinic appointment to see your surgeon in 2 to 3 weeks after this operation.

In summary, most patients have IPAA performed in two stages. The first stage is removal of the colon and formation of the ileal pouch with temporary ileostomy. The second stage consists of taking down the ileostomy and restoring continence. IPAA may be performed in one stage if the surgeon feels it is technically safe. When IPAA is performed in three stages, it is usually done because of the severity of your disease. Your actual case can be discussed with your surgeon.

Returning to Normal

Returning to normal may take a few weeks or months, depending on your body's healing power. Most patients feel much better after their diseased bowel is removed. They begin to gain back lost weight, eat better and have more energy.

Bowel Habits



Every person develops their own bowel habits. Just as everyone with a normal colon has their own bowel habits, you will develop yours over the first year after your operation. Just after your operation you may be having 6 to 10 bowel movements a day. As the pouch matures most patients have an average of 4 to 7 bowel movements per day. You will be asked to try and hold the urge to have a bowel movement so that the pouch can stretch over time. Bowel movements become predictable and controllable. They will have the consistency of a thick paste, like peanut butter. You will be given a medication, an antidiarrheal, to help slow the bowel motility such as Imodium or Lomotil. Over time you will be able to reduce the need for these medicines. Often patients find that they take antidiarrheals before going on a trip or before an important meeting, so that their bowel function can be delayed for a period of time.

Diet

Most patients are concerned about what they can eat after IPAA. There is no special diet for a patient that has undergone the pullthrough operation. There are some foods which may cause difficulty, such as an increase in the number of bowel movements, anal irritation and/or increased gas. A diet guide can be found on the last page of the pamphlet. Most patients can tolerate a variety of foods without difficulty. It is best to add foods to your diet gradually. You will then be able to know how specific foods affect your bowel movements. Also remember to drink plenty of fluids everyday.

Driving a Car

As you begin to feel stronger and are no longer taking pain medication, you will be permitted to drive. Do not drive if you are taking any kind of pain medicine or medicine that impairs your judgment. You should not drive until you discuss this with your surgeon, at your first follow-up visit.

Work

Most patients feel strong enough to return to work in 3 to 6 weeks following the initial operation. If you do work that requires you to lift or bend then you should be placed on restricted work duty until advised differently by your surgeon. After the final operation, it may be 2 to 6 weeks until you feel strong enough to work, and you will be limited as to the amount of lifting you may do. If you need a letter or work excuse to be sent to your employer, please let your surgeon or the GI Surgery nurse know.

Sexual Relations

To allow healing to occur, physicians advise no intercourse for 4 to 6 weeks after IPAA. Surgery that involves removal of the rectum can change sexual function. Potential problems with sexual function such as the inability to have an erection or ejaculate rarely occur. The utmost care is taken during the operation to ensure that complications do not arise. These issues should be discussed with your surgeon. Women can and have had children after undergoing IPAA.

Activity and Exercise

Patients begin to feel like doing some activities within 1 or 2 weeks following IPAA. It is a good idea to do light exercise such as walking, but do not do any strenuous activity or exercise for 6 or 8 weeks following your operation. You should not lift anything heavier than 8 pounds (a gallon of milk) for 6 weeks. You should avoid putting pressure on your abdominal muscles. After the final operation and you have been released from the surgeons care, you will be permitted unrestricted activity.

Potential Problems

As with any major operation, there is the possibility of complications. Some potential short-term complications which ***may*** arise shortly after the operation are:

- **Infection--**infections can occur with any operation. Every step is taken to ensure that this does not take place. The colon is full of bacteria. You are given a bowel preparation prior to the

operation in order to clean the bacteria out as much as possible. It is very important for you to follow the bowel preparation closely so that the chance of infection can be reduced.

- **Wound infection**-- These infections are usually superficial or on the surface, and can be treated by draining or opening the wound, and with antibiotics.

- **Blood loss**--a modest amount of blood can be lost during this operation, there is a slight risk that you may need to have a blood transfusion. Your surgeon will discuss this with you.

- **Leaks**--Leaks are usually found along suture lines. The most common sites to leak are in the newly formed pouch and at the attachment of the pouch to the anus. A temporary ileostomy is often used to reduce the risk of abscess in the event of a small leak.

Long term complications that ***may*** arise months or years after your operation include:

- **Intestinal Obstruction**--Blockage of the intestines by scar tissue, called adhesions, may occur following any abdominal operation. There is a 10-15% chance that this will occur over a lifetime. If an obstruction occurs then about half the time it will resolve on its own and half the time an operation will be necessary to relieve the blockage.
- **Hernia**-- A hernia is a protrusion of tissue through a weak spot in your incision. They may occur after any type of operation. Patients who are overweight, who have been on high dose steroids or other immunosuppressive medications and have a wound infection following the operation have a higher risk of developing a hernia. An operation is necessary to repair the hernia.

- **Pouchitis**--Inflammation of the pouch. It occurs more commonly in patients with ulcerative colitis and rarely in familial polyposis. Symptoms of pouchitis include: an increase in stool frequency, watery diarrhea, blood in your stools, low grade fever, and urgency. You may feel as though you have the flu or that the ulcerative colitis has reoccurred. This occurs in about 30% of all ulcerative colitis patients. It is most controlled with antibiotics and can occur once or many times. About 10% of patients have chronic pouchitis and require a low dose of antibiotics regularly. Rarely, patients have pouchitis that can not be controlled, and in these cases the pouch may need to be removed. This occurs in only 1-2% of patients and means a permanent ileostomy will be needed. No one knows why pouchitis occurs.

Conclusion

Most patients feel much better following this operation. They have more energy and are free from the worry of having to know where the restroom is everywhere they go. The procedure makes bowel movements predictable. You are able to enjoy a more active lifestyle. Patients can participate in any activity--sports, camping, hiking, travel, swimming, etc.

The surgeons here at UNC Hospitals have been performing this procedure for many years. They have much experience in all aspects of the care regarding patients with ulcerative colitis and familial polyposis.

There are many support groups in which patients can become involved. There are chapters of the Crohn's and Colitis Foundation (www.ccfa.org) as well as information and support groups on the internet. You will always be supported by the GI Surgery team at UNC. You can call them with any concerns or questions at (919) 966-8436.

This pamphlet has been written to help patients understand ileal pouch anal anastomosis. You should talk with your physician about any medical advice dealing with your medical diagnosis. The percentages presented in this booklet are representative of national research experience.

Quotes and tips from former patients:

- "Get up and walk as soon as possible after each surgery, even if you don't feel well…"
- "The ostomy bag wasn't as big a deal as I thought it was going to be…it isn't fun but in the scheme of things it is certainly manageable"
- "Make sure to bring soft toilet paper with you especially for after the second surgery"
- "Diaper rash cream or some protective cream is a good thing to have before you start having bowel movements after the second surgery"

- "If you have a question, ask for an explanation if you don't understand"
- "The pouchogram is not painful, it involves another test, but it doesn't hurt"
- Always carry extra ostomy supplies with you wherever you go

Written by Division of GI Surgery, Department of Surgery

University of North Carolina at Chapel Hill:

Office telephone number: 919-966-8436

Amanda P. Kircher, R.N., B.S.N.
GI Surgery Service Nurse Coordinator

Mark J. Koruda, M.D.
Professor and Chief

Kevin E. Behrns, M.D.
Assistant Professor

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Diet Guide

Gas Producing Foods:

Milk
Dried beans and peas
Strong cheese (Roquefort, Blue)
Melons
Asparagus
Onions
Nuts
Beer
Carbonated drinks
Broccoli
Cabbage
Cauliflower

Foods That May Increase Output or Cause Diarrhea:

Green leafy vegetables
Caffeinated drinks
Spicy foods
Raw fruit
Broccoli
Beans
Chocolate
Beer

Foods That May Cause Irritation:

Popcorn
Spicy foods
Nuts
Coconut
Raw vegetables
Foods with seeds
Oriental vegetables

Foods That May Decrease Output or Control Diarrhea:

Bananas
American or Swiss cheese
Low fat Cottage cheese
White rice
Tapioca
Creamy peanut butter