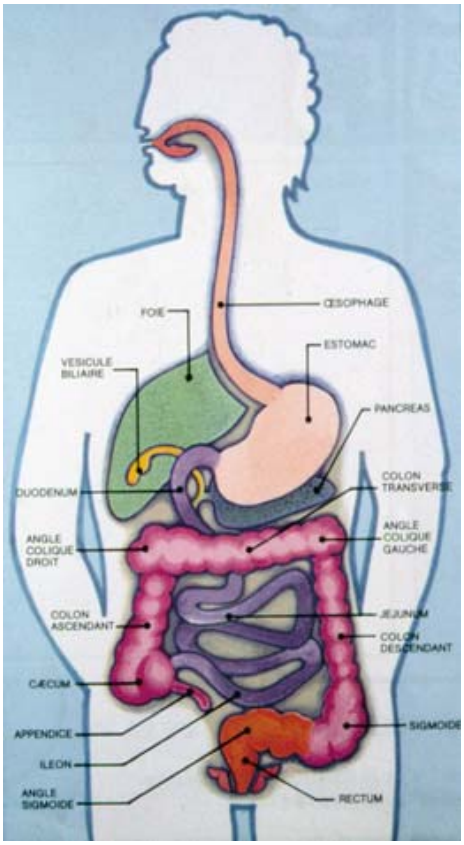
SOME DEFINITIONS

- **OSTOMY**: a surgical opening of an organ to the skin.
- **OSTOMATE:** The patient with an ostomy.
- **ENTEROSTOMA THERAPIST:** Specialised nurse in Enterostomal Therapy who takes care of ostomates.
- **OSTOMATE VISITOR:** A psychologically recovered ostomate who may help a future ostomate.

ANATOMIC AND PHYSIOLOGIC OVERVIEW OF THE GASTRO-INTESTINAL TRACT

The gastro-intestinal tract is a long pathway that extends from the mouth through the oesophagus, stomach, and intestines to the anus.



- **Oesophagus :** It measures 25 to 28 cm in length.
- **Stomach:** It is a distensible pouch with a capacity of approximately 1500 ml.
- **Small intestine:**
  Duodenum : Initial part of the small intestine.
  Jejunum-ileum : A mobile part. It measures 6 to 8m in length.

- **Colon :** Measures around 1.40 m. Has 5 parts ;
  * Caecum
  * Ascending colon
  * Transverse colon
  * Descending colon
  * Sigmoid

- **Rectum :** Measures around 12 cm. The rectum is continuous the anus. The anal outlet is related by a network of striated muscle that forms both the internal and the external anal sphincters.

FUNCTION OF THE DIGESTIVE SYSTEM

Small intestine function

Duodenum : Secretions in the duodenum come from the accessory digestive organ - the pancreas, liver, and gallbladder- and the glands in the wall of the intestine itself. These secretions contain digestive enzymes and bile which aid in digesting starch and fats and emulsifying ingested fats, making them easier to digest and absorb. The duodenum absorbs 90 à 95 % of sodium and potassium.

Jejunum : Absorption site of water and nutrients.
Ileum : Absorption site of vitamin B_{12} and bile.

Food, initially ingested in the form of fats, protein, and carbohydrates, is broken down into absorbable particles by the process of digestion.
Vitamins and minerals are not digested but rather absorbed essentially unchanged.
Absorption begins in the jejunum and is accomplished by both active transport and diffusion across the intestinal wall into the circulation. Intestinal peristalsis propels the contents of small intestine toward the colon.

Colonic function

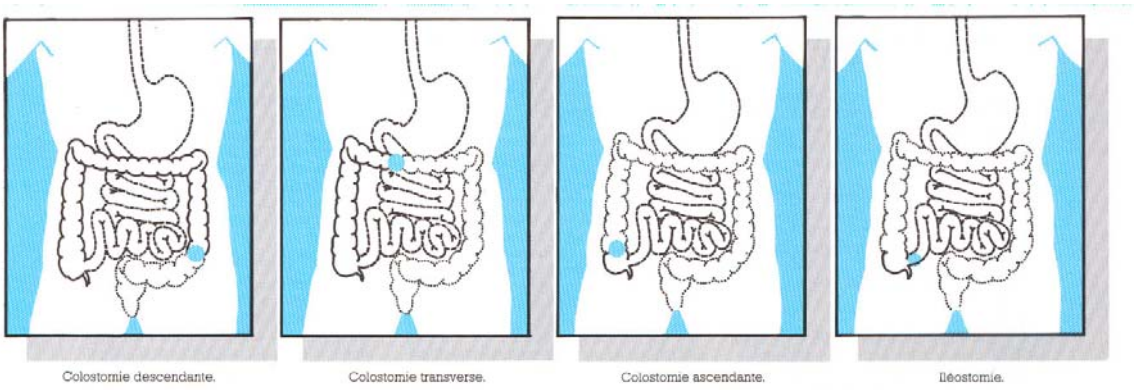
Within 4 hours after eating, residual waste material passes into the proximal portion of the colon through the ileocecal valve.
Slow, weak peristaltic activity moves the colonic contents slowly along the tract. This slow transport allows efficient re-absorption of water and electrolytes.

Waste products of digestion

Feces consist of undigested foodstuffs, inorganic materials, water and bacteria. Fecal matter is about 75% fluid and 25% solid material. Elimination of stools begins with distension of the rectum, with reflexively initiate contractions of the rectal musculature and relaxes the normally closed internal anal sphincter.

TYPES OF FECAL DIVERSIONS

- **COLOSTOMY:** A colostomy is the surgical creation of an opening (stoma) into the colon. It can be created as a temporary or permanent diversion. It allows the drainage or evacuation of colon contents to the outside of the body. The consistency of the drainage is related to the placement of the colostomy.
- **ILEOSTOMY:** An ileostomy is a surgical creation of an opening into the ileum or small intestine, usually by means of an ileal stoma on the abdominal wall. It allows for drainage or fecal matter (effluent) from the ileum to the outside of the body. The drainage is very mushy and occurs as frequent intervals. The ileostomy may be temporary or permanent. A permanent ileostomy is created after a total colectomy.



Colostomy Ileostomy

CAUSES OF COLOSTOMY AND ILEOSTOMY

Tumor :
* Cancer of the colon
* Cancer of the small intestine
* Cancer of the rectum
* Colo-rectal cancer
* Polyps

Diseases :
* Ulcerative colitis
* Crohn's disease
* Diverticulitis
* Fistulas

Congénital:
* Absence of the rectum
* Hirshprung disease

Trauma:
* Abdominal trauma

URINARY SYSTEM

The urinary system is composed from:
- Two kidneys
- Two ureters
- One bladder
- One urethra.

URINARY DIVERSIONS

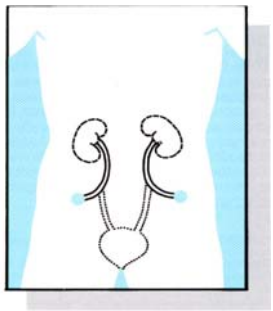
Urinary diversion procedures are performed to divert urine from the bladder to a new exit site, usually through a stoma.

Causes:

- Cancer of the bladder, of the prostate.
- Birth defects
- Trauma to ureters and urethra
- Trauma to the bladder
- Urogenital fistula.
- Chronic infection causing severe ureteral and renal damage
- Neurogenic bladder.

Ileal conduit : the urine is diverted by implanting the ureter into a 12-cm loop of ileum that is led out through the abdominal wall. This loop of ileum is a simple conduit for urine from the ureters to the surface.

Cutaneous ureterostomy: the detached ureter is brought through the abdominal wall and attached to an opening in the skin.



Urétérostomie cutanée directe.

PSYCHOLOGICAL REACTION OF THE FUTURE OSTOMATE

Each person with a difficult or chronic disease (ostomate or other) may pass through the grief stages as follow:

Stage 1: shock, denial
"It cannot be", "That's impossible. It's not happening to me"

Stage 2: Rejection
The anger: "Why this to me only? "What have I done to God? "
The resentment:" If I have noticed earlier "
The bargaining "If I try some other therapeutics"

Stage 3: Anger sometimes depression
The anger is expressed by oral expressions or cry.

Stage 4: Restitution

Help provided by the attending physician, the enterostomal therapist, the visitor ostomate, and the family members will accelerate the passage to the final grief stage which is the restituation.
This help is provided through the explanations, information, and the direct relationship with the ostomate visitor who will be the live example of carrying on a normal life.

AFTER THE SURGERY

During the first days, the ostomate may not accept to have an ostomy, refuses to look at it, to learn how to empty the pouch or how to take care of his ostomy.
The presence of a family member is very important during stoma care, to be able to assist later the ostomate in his stoma care at home.
A visit from another ostomate who is functioning fully in society and family life may assist the patient and family in recognizing that full recovery is possible.

STOMA CARE

The patient with an ostomy cannot establish regular bowel habits because the contents are discharged continuously.
The patient must wear a pouch at all times.
Stomal size and pouch size should be rechecked 3 weeks after surgery, when the edema has subsided. The final size and type of appliance is selected in 3 months, after the patient's weight has stabilized and the stoma shrinks to a stable shape.
Usually, the normal wearing time is 5 to 7 days.

APPLIANCES AND NECESSARY SUPPLIES

1 – The adequate pouch

Colostomy pouch

It can be composed of two pieces (wafer and bag) or one piece (one piece nondrainable pouch). The effluent discharge should be soft, fairly solid.
The non drainable pouch has is equipped with a filter odor-proof for gas.
This filter is efficient for a period of 24h and doesn't work if it is wet by the effluents or water.

Irrigating a Colostomy

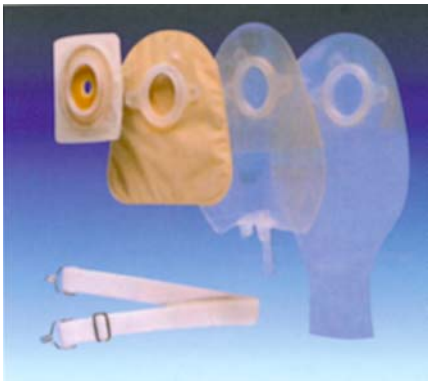
The purpose is to empty the colon every 2-3 days so that normal life activities may be pursued. A colostomy is irrigated to empty the colon of feces, gas or mucus, cleanse the lower intestinal tract and establish a regular pattern of evacuation.
Irrigation should be performed at the same time with 750-800 mulkewarm tap water and a mini pouch is applied after irrigation.

After inserting the irrigating cone into the stoma, the water run, should not exceed 5-10 min. Allow 10-15 min for most of the return in a sleeve or sheath that the end is placed in the commode.
The sleeve in place about 30-45 min while the patient gets up for a total intestinal cleaning.
The Enterostomal Therapist can teach this technique to the ostomate in one or two sessions.

Problems during the irrigation

Abdominal pain which can be relieved par an abdominal massage or by slowing down the rate of the flow or some difficulties in inserting the cone into the stoma due to the hard stools.

In case of diarrhea; irrigation should be stopped and the causes should be detected. The ostomate should be placed on an anti-diarrheic diet.

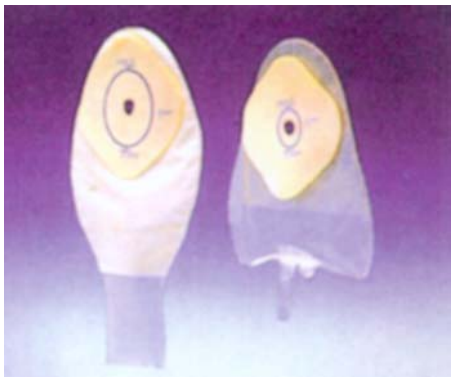


Ileostomy pouch

It can be composed of two pieces (wafer and bag) or one piece (one-piece drainable pouch). The effluent discharge should be liquid.
An emptying spout at the bottom of the appliance is closed with a special clip or clamp made for this purpose. It can be equipped by a filter odor-proof.

Urostomy pouch

Composed of two pieces (wafer and bag), drainable pouch with a closed drainage tap or spout at bottom of the pouch.



2- Scissors

3- Waste bag

4- Tissu paper or soft cloth

5- Tepid water

6- Peristomal skin barrier: Powder – Paste - wafer

Photo given by: Suzanne Montandon -Michelle Guyot- France

The appliance can be removed by gently pushing the skin away from the adhesive. The patient is advised to the peristomal skin by then washing the area gently with a moist, soft cloth and a mild soap. It is not recommended to use solutions like alcohol, ether, eosine…. It irritates the skin. Any excess skin barrier is removed.
While the skin is being cleansed, a gauze dressing can cover the stoma to absorb excess drainage.
The stoma is measured to determine the correct size for the pouch; the pouch opening should be about 0.3cm larger than the stoma.
After the skin is cleansed, and well dry, the peristomal skin barrier is applied or the pouch.
The baking from the adherent surface of the pouch is removed and the bag is pressed down over the stoma for 30 seconds.

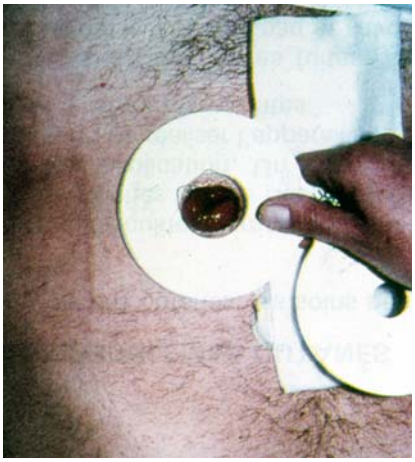
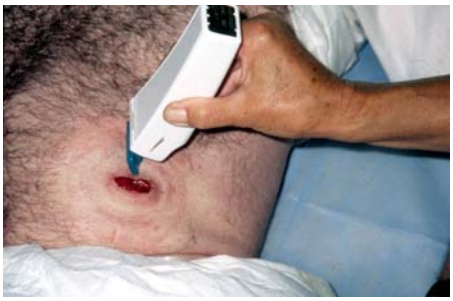


Photo given by: Suzanne Montandon -Michelle Guyot- France

COMPLICATIONS RELATED TO AN OSTOMY

SKIN COMPLICATIONS

Folliculitis : An abscess due to the hair shaving
What to do: Use electrical shaver or cut hair with scissors.
Apply an antibiotic ointment.



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Allergy to wafer, pouch or both.
What to do: Change the laboratory of the product, cover the pouch with a cotton pouch and apply eosine.

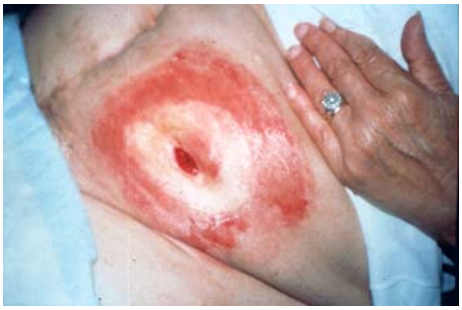
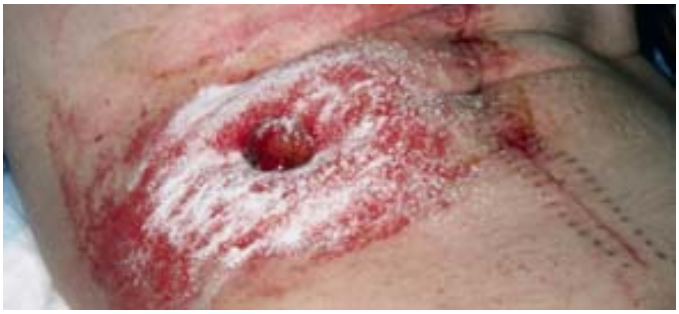


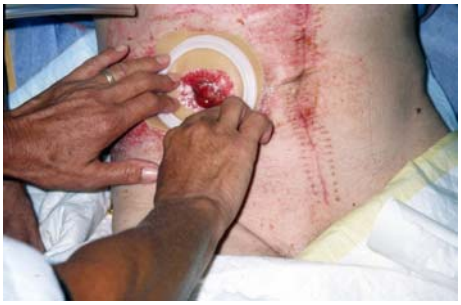
Photo given by: Suzanne Montandon -Michelle Guyot- France

Skin irritation related to inadequate cleansing
What to do: Clean with water only, then apply eosine.

Burns resulting from the leakage of effluent.

What to do: Detect the presence of folds.
Put powder on the peristomal area, followed by the paste. Repeat it 2-3 times/day for the first 24 hrs. Healing will appear in 48-72 hrs.
Application of skin barriers, languettes if presence of folds.





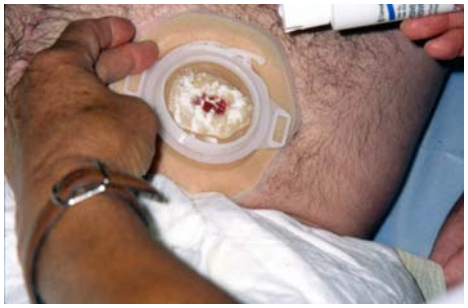
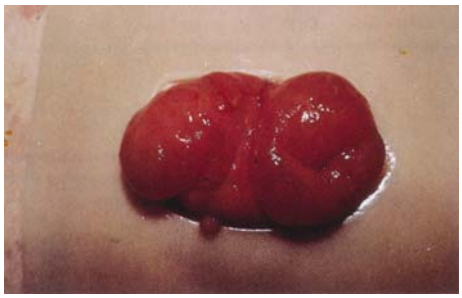


Photo given by: Suzanne Montandon -Michelle Guyot- France

SURGICAL COMPLICATIONS

Some surgical complications could happen and it is recommended to consult the attending physician.
Some surgical complications such the prolapsus which is not a surgical emergency. To avoid belt and tightening.



HOW TO LIVE WITH AN OSTOMY?

A supportive environment and a supportive attitude are crucial in promoting the ostomate's adaptation to the changes brought about by the surgery.
This support is provided by family, nurses and the ostomate visitor.

DIETARY AND FLUID NEEDS

Foods are reintroduced one at a time. Ostomates should assess their tolerance to the foods. There are few dietary restrictions, except for avoiding foods high in fiber. Foods that can cause odors include cabbage, onions, eggs and fish.

Some advices:

- Eat in the calm and slowly
- Drink water: 2 liters/day
- Avoid foods high in fiber or hard to digest; poppy seeds, celery, corn.
- In case of constipation: drink well water, eat vegetables and fruits.
- In case of diarrhea: drink well water, eat carrots, pasta, potatoes. Avoid vegetables and fruits.
- Do not take onion, garlic or soft drinks to avoid gas.

FOOD	TO TAKE	TO AVOID
MEAT	Meat. Poultry without fat. Ham.	Meat with fat. Pork butcher's shop.
FISH	All kind of fish and shellfish.	Fish preserved in oil.
EGGS		
MILK DAIRY PRODUCT	To take it progressively if you are usually taking milk. All kind of cheese	Ice cream.
GREEN VEGETABLES	Cooked green vegetables low fibers. (beans, carrots, peeled tomatoes)	Hard vegetables; asparagus, artichoke turnip, cabbage, leek.
FRUITS	Peeled fruits, juice of fruits preferable non acids.	Dried fruits with a laxative effect, plum, grapes, water melon.
FAT	Raw food.	
CEREALS	Well cooked potatoes. Rice, pasta, bread, biscuits.	Frying, cooked fat.
SUGAR	All kind of sugar.	Dried vegetables: lentils, beans, peas.
FLUIDS	Non gaseous water, coffee, tea. Wine in small quantity during meals (1cup).	Water ice. Soft drink. Alcohol.

SEXUAL LIFE

Some ostomates may view the surgery as mutilating and a threat to their sexuality; some fear impotence. Others may express worry about odor or leakage from the pouch during sexual activity.
The pouch presents no deterrent to sexual activity. Alternative sexual positions are recommended as well as alternative methods of stimulation to satisfy sexual drives.
A psychological counseling could be helpful.
A female ostomate can become pregnant.

WORK AND FAMILY LIFE

Going back to work is very important. The ostomate may not reveal to his colleagues about his ostomy.

SPORTS

All kind of sports may be practiced. To avoid the harm one like boxing.

Work and family life

GOING OUT AND TRAVEL

It’s necessary to have all the products and to drink well.

CLOTHING

No clothing problems with men.
Women wear large and comfortable cloths.