Every year thousands of people in Australia have surgical procedures that result in stoma formation. For many patients it is a life-saving and life-giving procedure and for others it is a temporary measure for diverting faeces away from the re-joined bowel to assist the healing process. Unfortunately for a small number of people, it is the most discouraging situation that they could imagine.

There are many reasons why a person may need a stoma. Common indications include protecting an anastomosis following a bowel resection, trauma to the rectum, or injuries following a motor vehicle accident.

People who have cancer of the lower third of the rectum or anus may need a permanent end colostomy, while those patients with cancer of the bladder may need removal of the bladder and permanent urinary diversion which is called an ileal conduit. Patients who have experienced chronic inflammatory bowel disease may require a temporary stoma for six months simply to rest the bowel, while a small number of this group may need a permanent ileostomy, following removal of their colon.

People who need stoma formation can be of any age, from tiny babies to those in their nineties. Those who have a colostomy are often over the age of fifty years and many of them claim that they have experienced very little previous illness. Patients, who require an ileostomy, may represent a variety of ages, while those with permanent urinary diversions are usually men over the age of fifty years.

Although stoma formation may be truly lifesaving, the majority of people do not want to experience surgery that results in hospitalisation, change of body image, or the need to constantly wear an appliance. No one wants to be forced to adjust to a different lifestyle or feel overwhelmed and out of control.

For many patients, surgery may represent a threat to their livelihood due to a potential loss of employment. For those who are self-employed, any loss of income may mean loss of their business. Problems accessing sick leave benefits often cause undue stress if their sick leave is becoming depleted and there is a family to maintain. Many feel that they are in a no win situation that has left them feeling quite overcome, financially insecure, disappointed and personally embarrassed.

To help resolve some these concerns, many patients require a number of stomal therapy services, including pre-operative counselling and siting.

Pre-operative counselling is a very important area of care as it has a positive effect on the patient's post-operative course.

It provides time to establish rapport with the patient and their family to help overcome anxiety and fears and it offers useful information to relieve their concerns. It is the opportunity to fully explain what a stoma is ... what a stoma looks like ... where it is placed ... and who covers the cost for the ostomy equipment.

When explaining the operation, it is useful to use teaching aids that may include diagrams, models, photos and appropriate literature. The value of open discussion can never be overstated.

In the pre-operative period, the stomal therapy nurse will hopefully relieve the patient of their major concerns and provide a reasonable level of reassurance. Many will discuss the Australian Stoma Appliance Scheme and the distribution of equipment to relieve anxiety about potential costs.
They will explain the normal length of hospital stay and identify the benefits of on-going follow-up with advice about other support services following discharge from hospital.

Managing the stoma will often depend on the patient's age, general health, available resources, eyesight, arthritic fingers and general outlook on life. The education that they receive during their hospital stay, along with the appliances that are chosen for them to use, will undoubtedly have a significant impact on achieving independence.

Pre-operative preparation not only provides counselling and siting for the surgery, it also provides information about drain tubes, suture lines and urinary catheter management.

Pain control as part of the Acute Pain Service will be thoroughly discussed because this service is responsible for all surgical patients in the hospital. It is well recognised that untreated pain causes severe distress and slows recovery.

All patients will require some help managing their stoma at some time. They will certainly require support adjusting to changes in their level of privacy, the need to constantly wear an appliance, as well as dealing with public toilets, controlling odour and especially unwanted noise from the stoma. They will certainly need to get into a routine for ordering their stoma supplies and adhere to rules of their preferred Ostomy Association.

Post-surgery, all patients must receive appropriate education from an experienced nurse before discharge from hospital. Education for appliance management is essential for patient confidence and to ensure safe discharge from hospital. Patient education for appliance management often recommends preparation of the equipment and using the personalised instruction sheet to avoid poor application of the appliance.

Patients are advised to wash hands, collect equipment, prepare equipment, remove the old pouch and wash the skin and peri-stomal skin as directed. Finally the new appliance is applied to the skin surface as suggested on the instruction sheet. Washing hands at the end of the procedure is also highly recommended.

Effective education is the key in helping patients achieve independence. Comprehensive lessons will increase confidence and speed up the recovery period. Education is not only about stoma care and appliance management, it includes information about a host of other considerations related to everyday living. These considerations include recommendations for general hygiene, diet and skin care, plus information about identifying post-operative complications. Information related to odour control and gas, and reviewing other methods of stoma management is also part of patient education.

Guidelines for skin care must be provided for every person with a stoma, because their peri-stomal skin needs be kept in good condition. To maintain skin integrity, the peri-stomal skin should be cleaned with warm water or warm soapy water and left without any traces of soap.

Patients are encouraged to use soft material to cleanse the skin and stoma and avoid using towelling or rough materials as they can make the stoma bleed unnecessarily. Many patients prefer to use Combine Dressing rolls that are available in 9cm x 10metre rolls and can be cut into short lengths. I believe the commercial wipes should be used sparingly, even though they are very convenient for use when away from home.

To avoid rashes and other skin disorders, it is recommended that harsh chemicals are never used for stoma care eg Methylated Spirits or alcoholic solutions. There should be a limit to the use of tapes around the appliance as they are probably unnecessary with modern appliances. If tape is genuinely required to support a stoma pouch "Transpore" is a good choice.
Overall, appliances must be leak proof, odour proof and changed every third day if patients have an ileostomy or ileal conduit and are using a one piece system. One piece closed appliances used for colostomies may need to be changed between one and three times per day.

To prevent skin disorders, all stomas should be sited by an experienced stomal therapy nurse prior to surgery. Patients must make sure that their stoma is resized when they are reviewed at their follow up appointments. This is essential for modern stoma care, to ensure the use of well-fitting pouches which will in turn prevent faecal output from coming in contact with the skin.

Ostomates should not use oily products such as creams and gels under the adhesive barrier of the pouch, as the appliance will not adhere to the skin and there will certainly be leakage.

The use of Cavilon cream, which is a durable barrier cream, will often assist patients who suffer with itchy skin under their appliance. It is important to use only a tiny amount of this cream to ensure good adhesion of the appliance to the skin.

Hairy skin around the stoma may have to be shaved, not only for comfort but also to enhance the adhesive barrier on the pouch. It is unnecessary to use disinfectants around any type of stoma and I would limit the use of alcoholic skin cleansers or gels as they may cause skin irritations.

The stomal therapy nurse should be contacted if there is a suspicion that a person has a skin disorder because skin disorders can be easily fixed.

**Common Complications**

Diarrhoea can be caused by infection, medications, some antibiotics, chemo-radiation therapy or diet. Diarrhoea untreated, can cause dehydration, so patients should visit their General Practitioner if they think that their diarrhoea is excessive as they may require a prescription for a specific drug.

Anti-diarrhoeal drugs that slow down peristaltic action in the intestine commonly include Codeine Phosphate, Loperamide and Lomotil.

Dehydration is usually due to vomiting and diarrhoea or poor fluid intake. Everyone needs to drink at least 2 litres per day and more in hot weather unless this is contrary to their doctor's recommendations.

If patients feel unwell they should not ignore their symptoms, but contact their stomal therapy nurse, general practitioner or surgeon, or go to an Emergency Department at a major teaching hospital.

Para stoma hernias are sometimes caused by obesity or the age of the stoma. Treatment may include firm underwear, support garments or surgical repair. Large hernias cause concern as they can be very uncomfortable and cause embarrassing bulges under clothing.

Granulomas are lesions that are due to inflammation of the skin or on the stomal mucosa. They are often caused by the stoma rubbing on a hard surface of the appliance or even through tight clothing. The size of the granulomas may become bigger and bigger when poorly fitting appliances are used, therefore it is important to have the lesions reviewed by a medical officer.

The majority of lesions are treated with three to four applications of silver nitrate; however large lesions may require surgical intervention.
Urinary Tract Infections usually present with signs and symptoms that include dark coloured cloudy urine, smelly urine or back pain or loin pain.

Nausea and vomiting and an elevated temperature may also be present and need a medical consultation. People with these symptoms need to increase their fluids and visit their GP. A specimen of urine will be collected for micro and culture.

Those who suffer with constipation and have a colostomy will often find that it is due to a poor diet with insufficient fibre, inadequate fluid intake, inactivity, some medications and dehydration. Benefibre, Metamucil and Movicol are suitable preparations for those who are unable to include fibre in their diet, as they all treat constipation and relieve faecal impaction quite effectively.

Gas or flatulence can be a nuisance and very embarrassing as it causes unwanted noise and ballooning of the pouch. It is usually caused by swallowed air, gulping foods, missing meals or eating and drinking at the same time. Drinking carbonated drinks or beer may also result in excessive gas, while eating onions, cabbage, broccoli, or Brussels sprouts can certainly increase flatulence. Pizzas, baked beans and spicy food are often the main offenders. People who have a stoma need to be aware of the foods that cause gas and perhaps modify their intake of particular foods if they are a consistent problem.

Odour is always a major concern for all ostomates, especially for those with a colostomy. Odour is usually caused by the foods we eat and some medications.

Although the appliances are manufactured from odour barrier films and used in conjunction with stomal deodorants, there is always the unwanted fear that there will be a lingering faecal odour.

Research into gas and odour is on-going. Investigating efficacy of the filters in the appliances is a primary consideration as many are not always reliable. Odour may be obvious but only when changing the appliance and should never be noticed when the appliance is in situ.

If odour is obvious, check to see if the pouch is applied correctly or if there is a hole in the plastic barrier film. Also remember that odour may well be due to diet, as fish and asparagus have been known to cause a strong odour in urine.

Dietary recommendations should be provided for patient consideration.

Many people, who have a stoma and have experienced illness, may notice some changes in their dietary habits. Some patients may eat less amounts of food due to loss of appetite, pain, depression, nausea, vomiting and diarrhoea.

However, in general terms, ostomates can eat a normal diet unless they require special foods. There is no such thing as a colostomy diet and patients are encouraged to eat all foods that support good health and are reminded that the Australian diet can be high in fat and low in dietary fibre.

Education regarding diet should include information on foods that thicken output, prevent constipation and cause excessive flatulence.

People with high output ileostomies may wish to reduce their intake of fibre and eat more white bread, grated apple, ripe bananas and stewed fruit. They may also benefit from avoiding prunes, seeds, skins, corn and pineapple.

Limiting the intake of cafffeinated drinks, diluting sugary fluids, avoiding fatty foods and eating foods that will thicken output can be successful.
In conclusion, many people require stoma formation following the removal of a diseased or injured part of their bowel. Some may need protection of their anastomosis after a bowel resection. The stoma may be permanent or temporary and will require specialised care and modern appliance management by a multi-disciplinary team.

It is important to remember that having a stoma does not prevent good health, sexual activity, full term pregnancy, raising a family or travelling the world. However, the way people will react to having a stoma will depend on their age and personality, their personal background, outlook on life, reason for surgery and the facilities available for rehabilitation.

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