Pre and post-operative assessment of patients with a stoma


Summary
This article aims to increase healthcare professionals’ understanding of the pre and post-operative care of patients undergoing stoma-forming surgery. Areas covered include pre-operative information given to patients, post-operative nursing care and psychological considerations that should be taken into account for any patient undergoing stoma-forming surgery.

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Aims and intended learning outcomes
The aim of this article is to explore the nursing care that patients undergoing stoma surgery require both pre-operatively and post-operatively, as well as considering the psychological support that patients may require.

After reading this article you should be able to:

- Explain the pre-operative assessment and education that stoma patients require.
- Identify routine post-operative stoma observations.
- Outline psychological considerations when nursing a patient with a stoma.

Introduction
For many patients the word stoma can raise anxieties and fears and cause psychological distress. Specific information is given to patients pre-operatively regarding the practical management of the stoma and to prepare them psychologically for the stoma. Post-operatively, patients will continue to require information and support from everyone involved in their care. This article examines the pre-operative information that patients are given, the post-operative care required and how nurses can offer psychological support to patients during this life-changing experience.

Time out 1
Consider the structure and function of the gastrointestinal tract. Draw a simple diagram labelling the different areas of the small and large bowel. Identify in which parts of the bowel a colostomy, ileostomy and urostomy are formed. You may wish to consult an appropriate textbook.

Time out 2
Explain what pre-operative information should be given to patients about to undergo stoma surgery.

Pre-operative assessment and patient education
Pre-operative assessment and education of a patient who is about to undergo stoma surgery
are essential. In the pre-operative phase, nursing care should focus on psychological preparation of the patient for stoma-forming surgery (Porrett 2005a). Some patients will experience significant psychological distress when told they require a stoma (White 1998). Many patients will have pre-conceived ideas and anxieties regarding what a stoma is and how it will affect their lives. These ideas may be based on lack of knowledge, word of mouth or information obtained from other sources such as friends, family or the internet. Pre-operative information enables patients to make informed decisions about their treatment and ensures informed consent (Davenport 2003a).

**Stoma care nurse** Patients should be referred to a stoma care nurse as soon as stoma surgery is discussed. Some patients will want to see a stoma care nurse as soon as the surgeon says they might need a stoma and it may be appropriate for them to be given as much information as possible on the same day. However, some may find the initial news of a stoma devastating. In this instance it may only be appropriate for the stoma care nurse to introduce him or herself, explain the role and arrange another time to discuss the surgery. How much information is given at this initial meeting will be based on how ready the patient is to discuss the surgery and the possibility of a stoma. While it is usually the stoma care nurse who will provide the pre-operative information, any nurse who works on a colorectal surgical ward and routinely cares for patients with a stoma should have a basic understanding of information that patients require pre-operatively.

**Knowledge** The first step should be to ascertain the patient’s level of knowledge regarding the illness and forthcoming surgery. A diagram can be used to explain the structure and function of the gastrointestinal tract. The patient should be shown what area of the bowel is going to be removed and from what part of the bowel the stoma will be formed. The type and function of the stoma should also be explained. This involves explaining the appearance of the stoma, the shape and colour of the stoma, how the stoma will function and what the stoma output will be like.

**Stoma appliances** The patient should be shown the appropriate stoma appliance if he or she wishes to see it. It should be explained that immediately post-operatively the stoma will be covered by a clear, drainable appliance. However, after a few days most patients then use an opaque appliance so they can no longer see the stoma or the output. All modern appliances now have integral flatus filters. These filters are made from charcoal, which absorbs odour while releasing flatus at the same time. While patients may always be conscious of smelling the output, it should be explained to them that no one else will be able to smell it, unless there has been a leak from the appliance.

**Employment** The patient’s employment should be discussed. Patients are advised not to lift heavy objects for at least eight weeks after surgery. This is to allow the abdominal muscles to heal and prevent incisional and para-stomal hernias from developing. They may be advised to return to work doing different duties or, in cases where they will have to lift, be measured for support garments before returning to work. Support garments are measured to fit the individual patient so they provide support to the muscles of the abdominal wall surrounding the stoma. They are available in a variety of different shapes and sizes, including belts and underwear. The patient should be shown different samples and with the support of a stoma care nurse select the most appropriate garment.

**Exercise** Sporting activities should be discussed. Patients can usually return to their normal sporting activities after surgery. It is usually advisable to wait until they have had their follow-up appointment with the surgeon, between four to eight weeks after discharge, and have been given the all clear before starting exercise again. If they are regular gym users they should be advised to seek information from a trainer at the gym regarding the use of weights. It is possible for patients to return to contact sports, however, direct trauma to the stoma should be avoided (Porrett 2005b).

Stoma shields can be used to protect the stoma. These are small, hard, plastic concave covers that are placed directly over the stoma and held in place with an elastic belt. The shield aims to prevent damage to the stoma from direct physical contact by providing a hard protective covering. However, the risk of potential damage to the stoma or fear of the appliance bursting may outweigh the desire to return to contact sports. Smaller appliances can be used when playing sports. Appliances are designed to withstand water and patients can choose from a range of swimwear that has internal pockets to support and disguise the appliance when swimming.

**Cultural and religious factors** These issues should be discussed with patients. In Muslim cultures the left hand is used for cleaning and hygiene and the right hand for eating and touching clean items (Black 2004). This may cause difficulties in managing the stoma and the stoma care nurse will need to work with the patient to find an appropriate appliance that the patient can use with his or her left hand only.

**Time out 3**

**Identify the dietary information that is given to an ileostomy, colostomy and urostomy patient.**

**Diet** Information should be provided on diet. There are no definite restrictions as everyone will...
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Tolerate various foods differently. Generally, patients with a colostomy or urostomy can return to their usual diet. Patients with an ileostomy will be given specific information about the importance of salt in their diet and a good fluid intake as they can become dehydrated as a result of the losses from their stoma. The amount of salt required daily equates to half to one teaspoon (Burch 2006). Eight to ten cups of fluid per day are required to make up for the fluid lost through the ileostomy (Porrett 2005b).

Foods and liquids such as cabbage, eggs, legumes, onions, spicy foods, cucumber and carbonated drinks can cause the patient to experience excessive wind (Bridgwater 1999). To help with this patients should pour carbonated drinks and let them stand for five minutes, not use straws, eat slowly and chew food well (Porrett 2005b). Patients should not miss meals and if they have dentures make sure they fit well. Some patients may find that eating natural yoghurt (Bridgwater 1999) or drinking peppermint tea who can help to decrease wind (Collett 2002).

Fibrous foods such as corn, celery, nuts, mushrooms and skins on fruits and vegetables are difficult to digest and can cause blockages. It may be advisable to avoid such foods in the first six weeks after surgery to prevent a blockage from occurring. Foods to thicken an ileostomy output include rice, pasta, mashed potatoes and bananas.

Physical attributes The patient’s eyesight, manual dexterity and any disabilities should be assessed as these may affect management of the stoma. Patients who have arthritis may have difficulty in opening and closing an appliance. If the patient has poor eyesight he or she may have difficulty in placing the appliance correctly over the stoma. If any difficulties are identified the stoma care nurse will need to work closely with the patient post-operatively to select an appliance and teaching plan that the patient will be able to successfully manage.

Patient support Support at home should be assessed. This is often done pre-operatively when assessing the patient. Patients should be asked if they would like a family member or support person to be involved in learning stoma care. It should be explained to the patient and support person that most patients with a stoma will be independent in managing their stoma. However, some patients will require short or long-term support to gain independence. The patient or family may have different expectations of what is expected of them in relation to learning stoma care and the support available at home and these should be explained clearly at the earliest opportunity and reinforced throughout the patient’s inpatient stay. Patients will also be told that they can obtain their supplies in the community via their local chemist or a home delivery company. If the patient chooses home delivery then the stoma care nurse will arrange this (Mead 1994). Generally, two weeks of supplies will be given to the patient on discharge so that the patient has enough to go home with.

Siting the stoma

The position of the stoma is of critical importance if the patient is to return to a full and active life (Davenport 2003b). A poorly sited stoma can lead to post-operative complications, which include appliance leakage and excoriated peristomal skin. This can result in social isolation and psychological problems (Taylor 1999). Siting should only be undertaken by a trained professional. The stoma care nurse will usually site the stoma. In some cases an experienced nurse who has had training in siting stomas, or an experienced doctor, may site the stoma (Bass et al 1997).

When siting the stoma, the stoma care nurse will view the patient’s abdomen in various positions. This is so that the stoma is sited in the most appropriate position for the patient and areas that are likely to cause post-operative problems are avoided. Areas to avoid include the incision site, previous scars, areas the patient cannot see, wounds, bony prominences, the patient’s waistline and skin folds or creases. Ideally the site should be placed within the rectus muscle to reduce the risk of parastomal hernia (Sjodahl et al 1988).

The post-operative plan of care should be discussed. This prepares the patient for what will happen post-operatively. It should be explained when the appliance will be changed and what steps the patient has to achieve to reach independence. Typically the first appliance change is usually two to three days after surgery (Burch 2005), with the aim to become independent before discharge from hospital. Appliance changes will often be undertaken daily so that the patient has several appliance change practices while an inpatient, gaining the necessary skills and confidence to manage the stoma at home.

Any verbal pre-operative information given to the patient should be supported with written information for the patient to take away and read. It is advisable to give patients a contact number so that they can ring the stoma care nurse later if they have any further questions.
Post-operative care

The stoma should be checked regularly in the immediate post-operative period. Routine post-operative patient observations include blood pressure, respiratory rate, pulse rate, temperature, oxygen saturation and wound checks for signs of haemorrhage. The stoma should also be viewed at the same time as these observations are done, when the patient is in recovery or on the ward.

All post-operative patients with a stoma will have a clear drainable bag placed over the stoma in theatre. This allows for easy access to view the stoma. The nurse can also feel the warmth of the stoma through the appliance. The appliance should not have a filter to allow flatus to escape or if it does the filter should be covered so it is obvious when flatus has been passed, indicating that bowel function is returning to normal.

When observing the stoma the nurse should identify several features (Box 1).

**Colour of the stoma** The appearance of a healthy stoma is pink to bright red (Davenport 2003b) (Figure 1). A pale pink stoma may indicate that the patient has low haemoglobin but as this is rectified the stoma will become pinker or redder. A dusky stoma, which can be described as purple or a very dark red colour, may indicate a lack of blood supply to the stoma. A black necrotic stoma indicates lack of blood supply to the stoma. The stoma may also be cool or cold to touch. The surgical team should be advised if there are any concerns regarding the appearance of the stoma.

**Output** There may be no faecal output from an ileostomy or colostomy for several days. Flatus is the first sign that the bowel is starting to function again. When the stoma does start to function the output will be liquid and may be green, indicating the presence of bile. As the patient eats the output will thicken. The usual effluent from an ileostomy is porridge-like in consistency and will be about 600-800ml in 24 hours (Burch 2006). The output from a colostomy can resemble a formed motion. A urostomy will start functioning immediately but output may be blood tinged.

**Rod in place** If the stoma is a loop colostomy or ileostomy there may be a rod or bridge holding the stoma in place until the surrounding tissues grow round the stoma and secure it. A rod is usually a short, hard plastic tube that is placed under the loop of the stoma. In some cases the surgeon may use a flexible plastic catheter. The rod should slide easily back and forth under the stoma. The stoma should be over the middle of the rod and not pushed to one end of the rod. If the stoma rubs up against the end of the rod the stoma can sustain damage in the form of ischaemia causing the tissue to die and slough off. The rod can remain in place from between three to seven days and is usually removed on the surgeon’s instructions. This is easily done on the ward by the stoma care nurse or ward nurse and causes no pain or harm to the stoma or patient. The method of rod removal will depend on the type used. If the nursing staff are unsure of how to remove the rod the stoma care nurse should be contacted to demonstrate how to remove the rod.

**Skin condition** The condition of the skin can only be assessed when the appliance is changed. Skin complications can develop immediately after surgery and can cause the patient extreme distress if leakages occur in the first few days. A leaking appliance causes embarrassment, low self-esteem, loss of confidence and poor adaptation to life with a stoma (Myers 1996).

The signs and symptoms of a skin complication are outlined in Box 2. Excoriation as a result of stoma output leaking onto the skin is the most common skin complication (Cola et al 2001).
increase the risk of stoma complications (Cottam and Richards 2006). The audit also recommended that to avoid complications with an ileostomy, whether it be an end or loop ileostomy, the spout should be no less than 20mm in height (Cottam and Richards 2006).

The stoma will be oedematous after surgery. It reduces over the following six to eight weeks (Collett 2002). When the patient sees the stoma for the first time nursing staff should explain that it is likely to be swollen but will usually decrease in size. The stoma should be measured with a measuring guide to ensure that the aperture of the appliance is cut to the correct size.

Sutures surrounding the stoma

There may be sutures around the mucocutaneous edges of the stoma. These dissolvable sutures do not need to be removed. They can take several weeks to dissolve and patients should be advised that they may notice the sutures loosening and then falling out when cleaning or drying the stoma (Porrett 2005a).

Warmth of the stoma

The stoma should feel warm to touch indicating a good blood supply. A cold stoma indicates a lack of blood supply.

Appliances

There are many appliances for the patient to choose from. These are divided into one and two-piece products, which can either be closed or drainable. In almost all cases a patient with an ileostomy will use an appliance with a drain in the bottom of the appliance to allow the patient to empty it between four to six times a day. Patients with a urostomy will use an appliance with a tap at the bottom. They will empty this every three to four hours during the day. Overnight a longer extension bag will be attached that can hold up to two litres so that the patient does not have to get up during the night to empty the appliance.

These appliances can be changed daily, every two to three days (Collett 2002), or every two to four days (Allen 1998) depending on the patient’s lifestyle, skin condition, the condition and wear time of the appliance and any management difficulties. Once the output from a colostomy has thickened it will no longer be appropriate to use a drainable appliance. A closed appliance will be most appropriate. The patient will have to change the appliance either once or twice a day depending on how often the stoma functions. Generally patients with

| BOX 2 |
| Signs and symptoms of a skin complication |
| - Areas of denuded skin. |
| - Bleeding. |
| - Blisters. |
| - Burning sensation. |
| - Itch. |
| - Oedema. |
| - Pain. |
| - Well-defined erythema. |
| - Wet, weeping skin. |

Patients with an ileostomy or a urostomy are more likely to experience excoriation due to the corrosive nature of the output from these stomas.

The effluent from an ileostomy contains unabsorbed waste products. The digestive enzymes in the alkaline effluent of an ileostomy can dissolve keratin, which is a protein found in the skin (Vujnovich 2004). The skin is resistant to acidic fluid but vulnerable to alkaline substances (Stevens and James 2003). Urine from a urostomy should ideally have a pH of 6.0-7.5. A higher alkalinity, between 7.0-8.0 pH, is a perfect medium for the growth of bacterial and fungal organisms (Fillingham and Douglas 1997).

The area of excoriation will be limited to the area of contact of the faeces or urine with the skin. Any skin creases should be pulled apart to check if the excoriation is in the skin crease. This would indicate that the excoriation is due to faeces or urine leaking along the skin crease.

Allergy to a stoma appliance or an accessory is another skin complication, although it is rare. Smith et al (2002) indicated that 89% of patients with skin excoriation believed the cause was an allergy to the stoma product. However, allergy accounts for only 0.6% of stoma-related skin complications (Lyon and Beck 2001). If a patient has skin excoriation post-operatively he or she should be reassured that it is unlikely to be an allergy to the stoma appliance.

Stoma spout and size

In 1952 the ideal length of a stoma was considered to be 3-5cm (Brooke 1952). The spout should be long enough to avoid skin excoriation and point forwards and slightly downwards (Hall et al 1995). One of the aims of a national stoma audit undertaken in 2005 was to establish the minimum height at which a stoma should be constructed to avoid complications. The audit suggested that a colostomy height of less than 5mm would
Accurate information can be given to the patient. Misconceptions can be worked through and discussed (Davenport 2003a). Any issues, fears and anxieties they may have regarding a stoma can be explored and expressed any anxieties, concerns or worries they may have only become a reality with a new diagnosis of rectal or colonic cancer. However, for others the possibility of a stoma is not inevitable. For them a stoma may be a welcome prospect to give them some control in their life. Some patients with long-term illnesses such as Crohn’s disease or faecal incontinence have lived with the possibility of a stoma for several years. For them a stoma may be a welcome prospect to give them some control in their life. However, for others the possibility of a stoma may have only become a reality with a new diagnosis of rectal or colonic cancer.

Pre-operative counselling can allow the patient to explore and express any anxieties, concerns or fears they may have regarding a stoma (Davenport 2003a). Any issues, fears and misconceptions can be worked through and accurate information can be given to the patient. Some issues may be relatively easy to address, for example, providing information on how further supplies are obtained in the community. If significant anxiety or depressive symptoms are observed then a referral to a mental health professional should be considered (Black 2004).

Many patients will be focused on recovery after major abdominal surgery, learning the practical management skills of the stoma and getting home as soon as possible. An important determinant in the patient’s psychological recovery is his or her ability to become self-caring. Bekkers et al (1996) found that patients had fewer psychosocial problems in the first year post-operatively if they expected to gain competence in managing their stoma soon after surgery. It is therefore important that nursing staff encourage and support patients to gain independence quickly after surgery.

Verbal and non-verbal communication are equally important (Williams 2005b). Patients are aware of the facial expressions, tone of voice, body language and touch of healthcare professionals (Williams 2005b). The healthcare professional should develop a relationship with the patient based on trust, empathy and open two-way communication. If possible conversations should take place in a private area rather than a six-bedded room on a busy surgical ward.

The patient may only raise more complex issues such as body image and sexual function at a later date after discharge. However, the nurse should be aware that if the patient has not raised the issue this does not mean it is not on his or her mind. Nurses should use their communication, listening, assessment and questioning skills when exploring stoma-related issues with the patient.

In emergency situations patients are frequently taken to theatre without any pre-operative education. These patients will wake up after surgery with a stoma. They may experience increased psychological distress as a result of lack of pre-operative information. They still require the same pre-operative information, however, it will need to be given post-operatively and it may take them longer to adjust to this emergency stoma.

Some patients may find it beneficial to talk to another patient who has a stoma. This opportunity can be offered pre-operatively or after the patient has the stoma. Care should be taken to match patients for sex, age, stoma, reason for stoma and lifestyle. It would be inappropriate for a 60-year-old man with a permanent stoma for cancer to talk to a 25-year-old woman who is having a temporary stoma for ulcerative colitis. There are several local and national support groups available to patients. They provide written information and have patients who can offer non-medical telephone advice on what it is like to live with a stoma (Box 3).
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Conclusion

Stoma-forming surgery is a life-changing event that can be highly distressing physically and psychologically for some patients. Patients require information pre-operatively to help them prepare for surgery. While the stoma care nurse will supply most of this information any nurse involved in caring for patients with a stoma should have a basic understanding of pre-operative stoma information. Post-operatively the focus will be on learning practical stoma management skills and patients will continue to require information and support from all involved in their care NS

Time out 7

Now that you have completed the article you might like to write a practice profile. Guidelines to help you are on page 60.

References

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