Preoperative care of patients undergoing stoma formation: what the nurse needs to know


Rationale and key points
This article addresses preoperative care of patients for whom surgery to form a stoma is planned. It discusses conditions that may result in the formation of a stoma, explores preoperative investigations that may be necessary before surgery, outlines various types of stoma and stoma appliances, and offers guidance on preparing patients to manage this lifestyle transition. The stoma specialist nurse has the principal role in providing patient education. However, nurses in all practice settings may encounter patients who are due to undergo surgery to form a stoma, and can provide preoperative support and education.

» Nurses require an understanding of the enhanced recovery pathway to support patients who are due to undergo surgery to form a stoma.

» Optimal siting of the stoma is essential to enable patient self-care.

» Effective preoperative care of patients undergoing planned surgery to form a stoma enables patients to gain independence quickly following stoma formation.

» Enabling patients to self-care for their stoma is associated with improved quality of life and enhanced body image.

Keywords
colostomy, enhanced recovery pathway, ileal conduit, ileostomy, preoperative care, stoma, stoma care, stoma formation, urostomy

Learning outcomes
After reading this article you should be able to:

» Describe the various types of stoma and the common conditions that may result in the formation of a stoma.

» Discuss the rationale for clinical investigations that should be undertaken in various patient groups, before proceeding with surgery to form a stoma.

» Explain the importance of providing appropriate advice to patients who are awaiting surgery to form a stoma, as part of the enhanced recovery pathway.

Types of stoma
There are three principal types of stoma: the colostomy, the ileostomy and the urostomy (Burch 2008). A stoma is part of the bowel that is brought through a small surgically formed aperture in the abdominal wall to pass faeces and flatus or urine. A stoma may be temporary or permanent, depending on the operation performed and the rationale for the surgery. A stoma is red or pink in appearance. It is moist and warm to touch, although healthcare professionals should always exercise universal precautions, by wearing gloves when changing or emptying a stoma appliance (NHS Professionals 2010). A stoma can be formed in individuals of all ages, for example in neonates born without an anus (with an imperforate anus), in young people with inflammatory bowel disease, in those with cancer, and in older people with perforated diverticular disease.
Colostomy
A colostomy is formed from the colon or large bowel, to enable an individual to pass formed faeces and flatus (Burch 2008). The faeces and flatus are collected and contained in a closed appliance, which needs to be replaced between every three days and three times daily (Burch 2016).

Ileostomy
An ileostomy is formed from the ileum, or small bowel, to enable an individual to pass loose faeces and flatus (Figure 1). The faeces and flatus are collected and contained in a drainable appliance. Ileostomy appliances may be sealed with a Velcro-type fastening; they are emptied approximately four to six times daily and need to be replaced every one to two days (Black 2014).

Urostomy
A urostomy, also called an ileal conduit, will pass urine and a small amount of mucus. The urine is collected and contained in a drainable bag fastened with a bung or tap; this is usually emptied between four and six times daily and it is replaced every one to two days (Burch 2016).

Indications for stoma formation
There are various reasons why it might be necessary to form a stoma. Bowel cancer is one of the most common conditions requiring stoma formation. Examples of other conditions that might require stoma formation are listed in Box 1.

Preoperative clinical investigations
There are various clinical investigations that might need to be undertaken before stoma formation. If bladder disease is present, this may be explored using endoscopy, in a procedure known as cystoscopy. If bowel disease is present, this is usually explored using endoscopy, for example colonoscopy. This enables the lining of the rectum and colon to be examined for conditions such as a bowel cancer or inflammatory bowel disease. Biopsies will often be taken at the time of the endoscopy and tested to confirm the disease (National Institute for Health and Care Excellence (NICE) 2014).

If there is a diagnosis of cancer, investigations might include a computed tomography scan or a magnetic resonance imaging scan; these are used to stage the cancer. Staging cancer enables the development of an individualised surgical plan for each patient (NICE 2014). For example, if the cancer has not spread outside the bowel or bladder wall, the patient may require resection of the affected bowel or bladder to remove the cancer. Preoperative treatment such as chemotherapy or radiotherapy may be necessary before surgery (NICE 2014). If the cancer has spread to the local lymph nodes, surgical treatment is followed by chemotherapy to reduce the risk of the cancer returning (NICE 2014).

Other preoperative investigations might be performed to ensure the patient is fit for surgery. These include blood tests, observations, and cardiac and/or respiratory tests (NICE 2016). Blood tests check for conditions such as anaemia; ideally this should be corrected before surgery. The patient might also require specialist investigations to assess the condition of their heart, such as an electrocardiogram or an echocardiogram.

Figure 1. Ileostomy

Box I. Conditions that may require stoma formation
- Bladder cancer
- Bowel cancer
- Diverticular disease
- Imperforate anus
- Inflammatory bowel disease (Crohn’s disease or ulcerative colitis)
- Interstitial cystitis
Marking of the stoma site is undertaken when the patient is awake and can be involved. Preoperative stoma siting has many benefits. The ideal stoma site takes into consideration various factors, such as avoiding abdominal creases, and using a position that the patient can see and reach. Siting the stoma preoperatively results in fewer post-operative stoma-related complications, such as citing the stoma in a skin crease, which might result in leakage from the stoma appliance (Baykara et al 2014).

**Preoperative role of the stoma specialist nurse**

The stoma specialist nurse is involved in providing the patient with information about their stoma before surgery. Ideally, the patient will have the opportunity to meet the stoma specialist nurse in their own home or in the stoma clinic before surgery. The stoma specialist nurse will discuss why the operation is necessary, what the stoma looks like and how to care for the stoma, as well as providing advice on lifestyle, clothing, exercise and optimal placement of the stoma. The patient will be shown various stoma appliances and the stoma specialist nurse will mark the abdomen where the stoma is to be formed. This is done in consultation with the patient, thus enhancing their sense of control over their changed body image. The stoma specialist nurse will provide instruction about stoma care and other factors to consider, such as an appropriate diet, in the immediate post-operative period.

**Siting**

The nurse will mark the site on the patient’s abdomen for the surgeon to form the stoma before surgery. Marking of the stoma site is undertaken when the patient is awake and can be involved. Preoperative stoma siting has many benefits. The ideal stoma site takes into consideration various factors, such as avoiding abdominal creases, and using a position that the patient can see and reach. Siting the stoma preoperatively results in fewer post-operative stoma-related complications, such as citing the stoma in a skin crease, which might result in leakage from the stoma appliance (Baykara et al 2014).

**Preoperative information**

There is no national standardised protocol providing guidance for the care of the patient who is due to undergo surgery to form a stoma. The Association of Stoma Care Nurses UK (2016) have set standards of care for stoma nurses, but do not include aspects of generic care, nor methods to ensure these standards are met. There is some guidance from the Royal College of Nursing (2009), but this focuses on the role of the stoma specialist nurse, rather than on general care of the patient with a stoma. However, guidance does discuss preoperative care.

Preoperative care of the patient undergoing stoma formation should include the provision of information on how to care for and manage the stoma (NICE 2014). There is considerable variation in the preoperative needs of patients, for example some patients will research detailed information about stomas online, and others will want to know their lifestyle following stoma formation should include the provision of information on how to care for and manage the stoma (NICE 2014). There is considerable variation in the preoperative needs of patients, for example some patients will research detailed information about stomas online, and others will want to know about their stoma before surgery. Ideally, the patient will have the opportunity to meet the stoma specialist nurse in their own home or in the stoma clinic before surgery. The stoma specialist nurse will discuss why the operation is necessary, what the stoma looks like and how to care for the stoma, as well as providing advice on lifestyle, clothing, exercise and optimal placement of the stoma. The patient will be shown various stoma appliances and the stoma specialist nurse will mark the abdomen where the stoma is to be formed. This is done in consultation with the patient, thus enhancing their sense of control over their changed body image. The stoma specialist nurse will provide instruction about stoma care and other factors to consider, such as an appropriate diet, in the immediate post-operative period.

**Meeting another person with a stoma**

Meeting another person with a stoma can be useful for the patient, because it allows them to realise that people can function in all aspects of their life with a stoma, wear ‘usual’ clothes and maintain relationships. People with stomas have, for example, undertaken parachute jumps and had children, and perform a variety of occupations. However, people do need to make some changes to their lifestyle following stoma formation. These include: incorporating an appliance change into their daily routine, and ensuring they do not run out of stoma supplies. It is...
important for the stoma specialist nurse to be positive when explaining stoma formation, because the patient may imagine that their life will change immeasurably following stoma formation. Seeing a photograph of a stoma can also be useful, because stomas can be difficult to visualise.

Enhanced recovery pathway
The research-based enhanced recovery pathway aims to aid recovery and reduce complication rates following colorectal surgery (Varadhan et al 2010), and has the backing of the Department of Health (DH) (2011). In the preoperative phase, this involves providing information on the surgical process to the patient. This reduces anxiety and increases compliance with recovery goals following surgery. More specifically, the pathway encourages preoperative training on stoma care.

Preoperative training
One of the benefits of the enhanced recovery pathway is a reduced length of stay in hospital. However, this has the disadvantage that there is less time for the patient to learn how to care for their stoma. There is evidence that training the patient to care for a stoma before the stoma is formed enables them to gain independence quickly following surgery (Chaudhri et al 2005). Such training has been found to enable the safe discharge home of 60% of patients within five days of surgery (Bryan and Dukes 2010). Enabling the patient to self-care for their stoma enhances quality of life (Danielsen et al 2013) and contributes to a healthy body image (Piwonka and Merino 1999).

Emergency surgery
Patients who undergo emergency surgery to form a stoma are often at a disadvantage in the post-operative period, because they have missed the opportunity to receive effective preoperative counselling about their stoma. They are likely to have been more seriously unwell in the preoperative period than patients undergoing planned surgery to form a stoma; they may have had a perforated bowel and subsequent peritonitis. It is also unlikely that a site for the stoma will have been selected before surgery; therefore, their stoma might be in a suboptimal position.

Conclusion
Nurses in all practice settings have a role in the preoperative support of patients who are due to undergo surgery to form a stoma. It is essential for all nurses to understand the processes that patients undergo to assist them in the preoperative phase and in the enhanced recovery pathway (Varadhan et al 2010, DH 2011). Patients who are adequately prepared for surgery are likely to gain independence quickly following stoma formation, have an improved quality of life and enhanced body image (Piwonka and Merino 1999, Chaudhri et al 2005, Danielsen et al 2013).

References

Association of Stoma Care Nurses UK (2016) Stoma Care National Clinical Guidelines. ASCN, London.


