NUTRITION FOR PEOPLE WITH STOMAS 1: OVERVIEW OF ISSUES

AUTHOR Jennie Burch, BSc Nursing, Dip Adult Nursing, ENB 998, 980, 216, is enhanced recovery facilitator, St Mark’s Hospital, Harrow, Middlesex.


STOMAS
Stomas, which are named from a Greek word for mouth or opening (McCaon, 1999), are formed surgically to divert the bowel to the surface of the abdomen. There are three main types of stoma: colostomy, ileostomy and urostomy.

Colostomies might be formed when there is a low rectal cancer or Crohn’s disease (Cronin, 2008). Ileostomies may be necessary to allow anastomosis (joining) of colon sections in an anterior resection to heal, while urostomies are generally formed when the bladder is removed as a result of cancer. Table 1 shows the reasons for the different types of stoma.

Surgery has evolved and often stomas can now be avoided. Also, more temporary stomas, such as those made when an ileo-anal pouch is formed for ulcerative colitis, are now formed (Williams, 2008a).

A colostomy is formed from the colon (large bowel) being diverted to the abdominal wall, where an opening is made in the skin for the bowel to pass through. The bowel is stitched to the abdominal wall to secure it and prevent leakage of bowel contents into the abdominal cavity, as this can be life threatening. The section of bowel visible on the abdominal surface is termed a stoma (Burch, 2008a). An ileostomy is the ileum (small bowel) diverted to the abdominal wall.

Finally, a urostomy is used to pass urine from the body. Historically, the ureters were stitched directly to the abdominal wall but, because they are such small vessels, there were often problems. Currently, ureters are attached to a short segment of bowel, usually the small bowel. The end of the bowel is detached from the gastrointestinal tract and over-sewn to prevent leakage of urine into the abdominal cavity. The other end is brought through an opening on the abdomen to form the stoma.

A stoma is generally red in colour and is warm and moist to touch. Nurses should not touch them without gloves. In general, colostomies are on the left of the abdomen and ileostomies and urostomies in the right iliac fossa (Porrett and McGrath, 2005). Stomas can be temporary (these are often loop stomas) or permanent (normally end stomas), depending on the type of procedures and the indication for surgery. Generally, if surgery will lead to faecal incontinence, a permanent stoma is formed, for example in resection after anal cancer surgery. There is no control over stoma output, which is collected in an appliance.

Colostomy
In 2006 more than 11,000 colostomies were formed, of which just over half were permanent (IMS, 2007).

A colostomy may be formed for a number of reasons, most often because of colonic cancer, and also for diverticular disease (Black, 2000). A permanent colostomy may be formed after an operation such as an abdominoperineal resection of the rectum for a low rectal cancer. A temporary colostomy may be formed to protect the repair of an anal sphincter.

A colostomy is formed from the colon, most commonly the sigmoid or descending colon. The appearance of the stoma is generally level with the skin to about 0.5cm in height. Immediately after surgery there is no output or minimal haemoserous fluid, followed by flatus and faeces. In the long term, the output is soft to firm faeces and flatus (Williams, 2008b).

Faeces are generally collected in a closed appliance, which may consist of one or two pieces (Cronin, 2008). In general, it is replaced between three times daily and three times weekly, when there are faeces in it, depending on diet and the section of colon used to form the stoma (Burch, 2008a). Flatus is passed from the appliance via a filter to prevent odour.

Ileostomy
In 2006 more than 8,000 ileostomies were formed, almost two-thirds of which were temporary (IMS, 2007).

An ileostomy can be formed for ulcerative colitis and may be permanent or temporary. A temporary ileostomy may be used to protect the anastomosis in a newly formed ileo-anal pouch. An ileostomy should ideally

<table>
<thead>
<tr>
<th>TABLE 1. REASONS FOR STOMA FORMATION</th>
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<tbody>
<tr>
<td>Colostomy</td>
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<tr>
<td>Rectal cancer</td>
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<td>Faecal incontinence</td>
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<td>Anal cancer</td>
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be 2–3cm in height to prevent faeces from touching the skin as this can cause the skin to become sore.

An ileostomy is formed from the small bowel (ileum). Output generally occurs within a day or two of surgery and may be liquid faeces and flatus. The faecal output of the ileum is usually 300–800ml daily, and flatus is also passed. In the long term, output from an ileostomy is usually the consistency of porridge, as it contains more water than colostomy output.

There may also be some loss of sodium, as this is absorbed by the colon, which is removed or not used when an ileostomy is formed. This needs to be considered when advising patients about nutrition, although diets often contain adequate amounts of salt.

The appliance is generally a one or two-piece drainable bag, which is often emptied 4–6 times daily.

**Urostomy/ileal conduit**

In 2006 almost 1,500 urostomies were formed (IMS, 2007). Bladder cancer is a common reason. The urine is diverted to the surface of the abdomen using a short segment of bowel, usually from the ileum. A piece drainable bag, which is often emptied 4–6 times daily, is attached to increase storage capacity.

**Diet**

All people require a balanced diet to maintain good health. This is a combination of:

- **Protein**;
- **Carbohydrates**;
- **Minerals**;
- **Vitamins**;
- **Fats**;
- **Fluids** (Pearson, 2008).

There is limited research on nutrition and stomas, although the diet following bowel surgery has changed. Historically, food was withheld until bowel sounds returned, due to a perceived risk of vomiting or leakage of bowel anastomosis. However, these are rarely the case and withholding nutrition can impede recovery (Kehlet and Dahl, 2003).

**Proteins**: These are necessary for growth and repair of tissues. Foods that contain proteins include meat, fish and beans.

**Carbohydrates**: These are the main source of energy. A subgroup is starch and includes potatoes and rice. Another is fibre/roughage. Fibre helps to bulk the body’s waste (Borwell, 2005). Sugar is a carbohydrate and provides energy but not nutrition.

**Minerals**: Most foods contain minerals. For example, iron is found in liver and dark green vegetables. Calcium is required to build bones and teeth and is found in milk and hard cheese. Other minerals include sodium, potassium and magnesium.

**Vitamins**: There are many vitamins, which are either fat or water-soluble. Vitamins A, D, E and K are fat-soluble and often found in fatty foods; excess may be stored in the liver. Vitamin A is used for bones, sight and skin and is found in dark green vegetables. Vitamin D is necessary for bones and teeth and can be produced by the body from direct sunlight on the skin. Vitamin E is found in various foods including soya, olive oil, nuts and seeds. Vitamin K is made by gut bacteria and is also available from foods including spinach.

Water-soluble vitamins include the B vitamins and vitamin C. B vitamins are used to maintain skin and the nervous system. Vitamin C is required for healthy gums and is found in fruit and vegetables.

**Fats**: Fats and oils are concentrated energy sources and some dietary fat is essential. Fats can be saturated or unsaturated. Saturated fats should be consumed with caution.

**Fluids**: Adequate fluids are needed to maintain health (about 2L daily). Alcohol can be consumed in moderation.

**Gastrointestinal absorption**

Nutrients must be absorbed in order to be effective. Some are absorbed in specific areas, such as vitamin B12 in the terminal ileum, but most are absorbed in the jejunum. A person with an ileostomy can live a healthy life without a colon, which absorbs fluid and sodium (Fulham, 2008). The gastrointestinal tract is very efficient at absorption and able to cope with 2L of oral fluids and 7–9L of secretions from the stomach and gall bladder.

- **Part 2, to be published in next week’s issue, discusses the different nutritional requirements of people with stomas.**

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**KEY REFERENCES**


The full reference list for this unit is available in Portfolio Pages at nursingtimes.net