Clinical Guideline

INTESTINAL STOMA CARE

SETTING	Primary and Secondary Healthcare Institutions in the Western Cape which refer to Red Cross War Memorial Children's Hospital (RCWMCH)
FOR STAFF	Primary and Secondary Doctors and Nurses who refer patients to RCWMCH
PATIENTS	Patients under the age of 13 years old with a stoma

Introduction

This guideline describes management of stomas in children, trouble shooting of minor issues and situations that require urgent referral to the paediatric surgery team.

Increased loose stoma losses, particularly from an ileostomy in infants, pose a risk for life-threatening dehydration in case of acute infection, as well as poor growth long-term if the electrolytes and fluids lost are not replaced. This is particularly risky for a patient who has shortened intestine because of previous surgical removal of intestine, which can lead to "short bowel syndrome" requiring specialist multidisciplinary management.

Background

A stoma is a surgically-created opening into the gastrointestinal tract or other hollow viscera. Intestinal stomas are created when there is a blockage or unhealthy (e.g. necrotic) intestine requiring temporary or permanent redirection of faeces from the gastrointestinal tract externally. Trauma, intussusception, anorectal malformations, Hirschsprung's disease and necrotising enterocolitis are the most common causes in children. Paediatric stomas are usually temporary, with a plan for reversal once the underlying condition has resolved, sometimes following reconstructive surgery. Occasionally a child will need a stoma long-term or for life.

The volume and consistency of stoma losses should be monitored. Stool from small intestine stomas (jejunostomies-in the jejunum, or ileostomies-in the ileum), is more liquid and contains more salts and enzymes than from colostomies (in the colon/ large bowel). This increases risk of stoma bag leaks and damage the skin around the stoma.

Rapid dehydration can result from increased losses, especially in small infants. Losses may increase temporarily during any acute infection but a paediatric surgical review is warranted to exclude an underlying surgical cause.

Important details on history

What is the reason that the patient has a stoma?
When was the stoma created?
Is the stoma in the colon or the small bowel, and at what level?
Has any bowel been resected? How much?
What is the usual output of the stoma?
Has the output increased or decreased recently?
Has there been a recent change in the stoma appearance?
Is the stoma bag leaking more than usual?
How often are the bags needing to be emptied and/or changed?
Are there other specific concerns with the stoma?

Western Cape Government
TOGETHER

Important details on examination

General assessment for evidence of sepsis or dehydration.

Abdominal examination: Distension or palpable loops of bowel?

Stoma appearance:

- Should be pink like the tongue; blue/ purple/ black colour indicates ischaemia
- Prolapse (the stoma becoming longer) may be problematic if oedema/ bowel ischaemia or bowel obstruction occur as a result of this
- Skin around the stoma should be intact; redness or escoriation may indicate high losses or incorrect cutting of too large a hole in adhesive disc that secures the stoma bag.
- Is the stoma appliance sticking securely or is it lifting off allowing stool to leak?
- Granulation tissue (pink raised nodular areas) on stoma indicates chronic minor trauma.
- Bag content: Is stool loose or formed? Does it smell particularly bad?

Standard care

Skin protection: The stoma appliance may be two-piece, consisting of a skin protection disc and separate bag, or a one-piece stoma bag integrated onto the disc. The hole in the disc needs to be cut to the correct measured size, just big enough to fit snugly around the stoma, to protect the skin surrounding the stoma from irritation from stool.

The bag needs to be emptied regularly (including the gas that may be in the bag). The bag needs to be changed whenever it is leaking or coming loose, usually every 1-3 days. The stoma and surrounding skin can be wiped or rinsed with regular soap and water when the bag is replaced. Skin protectant wipes and sprays are available from the stoma therapist supplying the stoma bags to help remove stoma disc adhesive, protect the skin, and improve adherence of the new disc. Additional permeable adhesive tape can be applied around the stoma adhesive disc to help keep it in place. Consult a stoma therapist during office hours for solutions if there are frequent leaks.

Activity limitation:

- There is no need for special clothing. One-piece tops with fasteners between the legs can be helpful if the child pulls at the stoma bag.
- All usual activities can still be enjoyed including sports and exercise. Empty the bag before exercise. It is helpful to support the bag with a waistband or strap, so that it doesn't flop around too much during running and bouncing. For older children, stoma appliances with a band are available from the stoma therapist nurse.
- Bathing can be done with the stoma bag on or off. Water will not harm the stoma. If bathing with the stoma bag off, avoid oily soaps and lotions which prevent the stoma disc sticking properly afterwards. If bathing with the bag on, check that it is still sticking well afterwards.
- It is fine to go swimming with a stoma. Keep the stoma bag on to prevent spillage into the pool water. Empty the bag before swimming to make it more discrete and less likely to pull loose. Waterproof tape around the disc edge can add some security during the swim.
- Sleeping on the stoma will not harm the stoma. It is best to empty the stoma bag before bedtime and naptime to ensure it doesn't get too full which the child is asleep.
- Learning to crawl and walk can cause some extra strain on the stoma pouch. The bag may need to be changed more often. Secure the stoma disc onto the skin with extra tape around the edges for these periods of increased activity.

Dehydration

Life-threatening dehydration from increased stoma losses is the most serious complication associated with a stoma. If a child with a stoma gets sepsis or acute gastroenteritis, dehydration can develop very quickly. With a stoma, there is less intestine in use to absorb fluid. Assess for signs of dehydration such as sunken eyes, sunken fontanelles, dry mucous membranes, decreased urine output, etc. Fluid bolus may be required.

Always monitor the consistency of the stool coming from the stoma. It should be like a paste. If the stool becomes watery, measure stoma output. Start additional oral or intravenous rehydration early. If the losses are greater than 15 ml/kg/day for a colostomy or greater than 20 ml/kg/day for an ileostomy then rehydration needs to be initiated immediately. Intravenous replacement of ongoing losses is preferred as the dextrose in oral rehydration solution can cause osmotic diarrhoea, aggravating losses, especially in patients with small bowel stomas.

Discuss all patients with high stoma output with the paediatric surgeon on call. This is because an underlying cause such as partial bowel obstruction (e.g. due to stoma stenosis) and/or intestinal bacterial overgrowth should be considered. Baseline investigations for a child with high output stoma include FBC, U&E, CRP and blood cultures. (Urine sodium and stool reducing substances may be requested in certain cases but will usually be done at hospital).

Calculating stoma output

As a rule stoma output should be below these levels:

- Colostomy 15 ml/kg/day
- Ileostomy 20 ml/kg/day

To calculate stoma output do the following: $Output\ volume\ (ml\ in\ 24\ hrs) \div weight(kg)$

Although it is common to report the stoma output per kg over a 24 hr period, replacement should be started as soon as high losses are identified, e.g. if ileostomy losses are very watery and/or greater than 5ml/kg over 6 hours, and not only after a whole day of high losses.

Trouble shooting

Skin irritation: the skin around the stoma can become irritated and red due to.

- leakage of stoma bag contents. Salts and enzymes in stool can burn the skin.
- an allergic reaction to the adhesive/plastic of the bag
- an allergic reaction to creams or lotions
- harsh soap
- rubbing the skin too hard during cleaning. Changing the bag too often (more than 2 times a day) can also make the skin red.

Sore or broken skin: can be because leaking stool or the above. Clean the damaged skin gently by flushing off stool with saline or soapy water and patting not rubbing dry. Put gauze over the stoma to catch stool while changing the stoma appliance. Ensure the stoma appliance adhesive disc hole is measured and cut just big enough to fit snugly around the stoma. There should be no visible skin around the stoma between the stoma mucosa and the adhesive disc. Increase adherence of the bag by applying stoma powder around the stoma and blowing or dusting it off to absorb moisture that will reduce adherence. Before sticking on the stoma adhesive disc, protect the skin around the stoma with barrier spray. An extra hydrocolloid adhesive disc ("dounut") can be applied around the stoma, which can be stretched and moulded to fit snugly, before applying the stoma bag adhesive disc. Consult a stoma therapist nurse for these supplies as needed.

Prolapsed stoma: on occasion a stoma may prolapse which will cause it to become longer than before. If there is concern that the stoma is obstructed or has turned purple or blue, an urgent referral to the surgeon on call is needed. If the stoma is still working and remains pink and well perfused this is not emergency and can be discussed with stoma team during office hours.

Retracted stoma: this may happen if the stoma "sinks" into the abdominal wall. This can happen as the patient gains weight or if the stoma was secured too tightly at surgery. So long as the stoma continues to function it is not a concern. It can make bagging the stoma more difficult.

Bleeding from the surface of the stoma can occur when the surface of the stoma is rubbed during cleaning or bumped during activities. This is usually minor and will stop with gentle pressure with a cloth for a few minutes. If the bleeding appears to be a large volume or coming from within the lumen of the stoma, this is concerning and requires surgical assessment.

Granulation tissue can cause irregular wart-like mucosal growths on the stoma. These are from repeated minor trauma and not a cause of concern. See 'activity limitations' above.

Uneven skin contour around the stoma can increase leakage. These edges are often due to scars around the stoma and can usually be filled in with stoma paste or putty to help stick the bag more effectively and prevent ongoing leaks. Discuss these needs with a stoma therapist nurse.

Dietary advice

There is no specific diet that a patient with a stoma should follow. Ensure a varied balanced diet.

Reducing gas: Some foods increase gas and can lead to ballooning of the bag or offensive odour.

Avoid: fizzy drinks, chewing gum, "sugar-free" sweets with maltitol/sorbitol

Reduce: Trial periods of reducing some of the following can help.

- *Foods that increase gas*: beans, broccoli, brussel sprouts, cabbage, cauliflower, mielies, cucumber, peas, spinach
- *Foods that increase odour:* asparagus, broccoli, brussel sprouts, cabbage, cauliflower, egg, fish, garlic, onion and some spices.

Don't exclude all these foods at once as many of them are great sources of nutrition and fibre; try reducing one at a time to see which make the most difference.

Some patients have an underlying condition that requires a special diet, but this is not specific to the stoma itself. Children with shortened intestine and short bowel syndrome may have special hydrolysed (pre-digested) milk formula, and dietary restrictions as per a dietician plan.

Western Cape Government
TOGETHER