Protocol for replacing gastric/stoma losses and recycling stoma losses

This protocol includes the following:

1. Replacement of nasogastric/orogastric losses with intravenous fluids;
2. Replacement of stoma losses with intravenous fluids;

Rationale
Following surgery for conditions such as Necrotising Enterocolitis, Intestinal Atresia, Volvulus and Gastrochisis, a stoma may be formed. This is often an ileostomy. The distal end of the bowel is non-functioning, therefore not digesting or absorbing nutrition from feeds. To maintain the patency, function and encourage maturation of the distal bowel, refeeding of stoma losses may be requested. Any excessive fluid losses from the stomach or stoma may result in electrolyte disturbances, unless such losses are replaced with intravenous fluids.

Benefits
Stoma refeeding is a safe and effective alternative to long term Total Parenteral Nutrition (TPN) (Gardner et al 2003; Richardson et al 2006; Wong et al 2004) It has been shown to stimulate mucosal growth and intestinal adaptation, decrease the formation of strictures, improve peristalsis, prevent atrophy of the bowel and decrease hepatic disease from cholestatic jaundice (Gardner et al 2003). Refeeding should improve weight gain; reduce electrolyte imbalance and days requiring TPN (Gardner et al 2003; Schafer et al 2000; Schafer et al 1997).

Practice

1. Replacement of nasogastric/orogastric losses with intravenous fluids in surgical patients (with or without a stoma)
   • Once replacement of gastric losses has been requested, any discarded nasogastric/orogastric losses should be replaced ml for ml with intravenous fluids, until advised to stop by the surgeons or neonatologists
   • The replacement fluid will usually be a 500ml bag of 0.9% Sodium Chloride containing 10mmol 15% potassium chloride. Ready-made bags are available
   • Only replace aspirates that are discarded
   • Replace gastric losses over 1-6 hours, depending on the volume obtained

2. Replacement of stoma losses with intravenous fluids
   • Any stoma losses that are watery or not particulate should be replaced with intravenous fluids once they are >5ml/kg for a 6 hour period
   • Only replace losses in excess of 5ml/kg for each 6 hour period
   • Replace stoma losses over 1-6 hours, depending on the volume obtained
   • Do not include particulate stoma output in your calculation
   • If losses are particularly high in volume, consider emptying the stoma bag more frequently and replacing losses accordingly
   • If stoma losses exceed 50ml/kg/day, consider reducing enteral feed intake in agreement with the surgeons or neonatologists
3. Recycling stoma losses via distal stoma

- Recycle stoma losses once use of the distal stoma has been requested by the surgeons or neonatologists
- Recycling may begin with just 4ml 0.9% Sodium Chloride flushes, if requested. This can be given as a slow push once a day. The surgeons may do the first one to assess the ease of flushing
- Once use of distal stoma has been requested and the proximal stoma is functioning measure output every 6 hours
- Any stoma losses that are loose, watery or not particulate should be recycled once they are >5ml/kg for a 6 hour period

**Insertion of catheter to recycle stoma losses (see photographs below)**

- Use red Jacques catheter size 10fr (12fr available) for babies over 2kg and size 8fr catheter for babies under 2kg. Use the largest catheter possible to prevent leakage around the tube
- Change Jacques catheter every 5-7 days (Gardner et al 2003)
- Insert catheter, using lubricating gel, as far as it will go, to a minimum of 5cms. It may need to be passed further, if possible. Consult with Surgeons to see how far the catheter can be inserted
- Attach purple enteral connector to the end of the catheter. If using a pump, enteral extension sets should be labelled with the date/time and changed 12 hourly
- If possible, stoma pouches should only be placed over the proximal/functioning stoma

**Fixation of catheter to recycle stoma losses when distal stoma is positioned away from the proximal stoma**

- Apply half a Duoderm extra thin, with a hole cut to fit around the distal stoma, to provide a barrier to protect the skin
- Cut two strips of Duoderm extra thin to approx 4.5cm x 1.5cm. Cut a midline slit measuring approximately 3-3.5cm in each strip, to create a pair of “trousers”
- Stick the un-cut end of the Duoderm “trousers” to the first Duoderm barrier layer. Affix one of the “trouser legs” onto the barrier and wrap the other securely around the catheter. Repeat for the other “trouser leg” but apply from the opposite side of the catheter (Gardner et al 2003)
- Dress the distal stoma with some Jelonet to keep it moist and cover with gauze. Secure nappy. This dressing may need to be changed with each measurement of the stoma losses

**Fixation of catheter and stoma pouch to recycle stoma losses when distal and proximal stomas are close together**

- Cut the pouch holes to the correct size and prepare the skin as normal (see stoma care plan)
- Make a small hole in the pouch directly above/opposite the distal loop for the catheter
- Pass the catheter through the hole in the pouch and insert into the stoma as far as necessary
- Secure the pouch to the baby as usual with the opening at 5 or 7 o’clock
- Secure the catheter to the pouch with steristrips, tegaderm or sleek, as needed, to prevent the catheter falling out. Mark the length on the catheter
- Secure the nappy (Wong et al 2004)
Alternatively, you can use a pouch with a separate base plate (Hollister pouch):

- Cut the stoma holes to the correct size on the base plate
- Using a piece of Duoderm, secure the inserted catheter to the base plate. The catheter should be secured at the top of the pouch (e.g. 11 o’clock, 12 o’clock or 1 o’clock) to reduce the risk of leakage
- Attach the pouch to the base plate with the opening at 5 or 7o’clock and ensure that you secure the pouch well around the catheter

Photographs of equipment and technique for recycling stoma losses

References


