RECYCLING STOMA LOSSES IN NEONATES - GCNC - CHW

PRACTICE GUIDELINE ©

DOCUMENT SUMMARY/KEY POINTS

- Stoma losses and re-feeding through a mucous fistula may be requested by the Surgeon and Neonatologist.
- Written consent needs to be obtained prior to commencement of this procedure.
- Re-feeding is a specific technique performed following instruction and supervision of an experienced nurse or the CNC Stoma Therapy.
- Effectiveness of re-feeding is assessed through growth, electrolyte and liver function tests.

CHANGE SUMMARY

- Policy updated based on recent literature time for stoma loss collection and re-feeding reduced to reduce risks associated with increased bacterial growth
- Distal patency should be confirmed by contrast study unless specified by surgeon prior to commencing distal feeding.
- Photographs have been included to demonstrate the filtering of stoma losses if requested by the surgeon.
- References updated

Approved by:	SCHN Policy, Procedure & Guideline Committee	
Date Effective:	1st April 2023	**Review Period**: 3 years
Team Leader:	Clinical Nurse Consultant	**Area/Dept**: GCNC - CHW

READ ACKNOWLEDGEMENT

- This document is to be read by all medical and nursing clinical staff in Grace Centre for Newborn Care. All staff are to sign off having read the guideline.
- Training/Assessment Required – staff are instructed in the technique by experienced nurses, surgeons or CNC stoma therapy.

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Rationale

A stoma may be formed following surgery for conditions such as Necrotising Enterocolitis (NEC), intestinal atresia, meconium ileus and gastroschisis. This is often a jejunostomy or ileostomy, which is often a high-output stoma that needs to be re-fed to maintain electrolyte balance. This is because the distal end of the bowel is non-functioning (the distal bowel has been "de-functioned" by the stoma) therefore not digesting or absorbing nutrition from feeds. To maintain the patency, function and encourage maturation of the distal bowel, re-feeding of stoma losses may be an option.

Benefits

Re-feeding stoma losses may be a safe and effective alternative to long-term Total Parenteral Nutrition (TPN) [1,2,3]. 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[1].

Recent evidence suggests that re-feeding improves weight gain, reduces electrolyte imbalance and total days on TPN[1,4,5,7,9].

Three groups of infants may benefit from refeeding[1]:

- Those with high proximal stomas
- Where there are significant ostomy losses and resultant electrolyte problems
- Infants with enterostomies and poor weight gain

Informed Consent

Written consent is obtained prior to the procedure from parents by the surgical team[8].

Consent includes:
The procedure and the possible outcomes/risks should be explained to the parents in a language they understand, and have an interpreter available if required[8].

Possible Complications

There are some complications associated with stoma re-feeding and these are well represented in the literature. These should be discussed with the family as part of the consenting process.

Some complications include:

- Wound infection around the mucous fistula
- Rash/ redness around the mucous fistula
- Prolapse of the mucous fistula -rare
- Enterocutaneous fistula - rare

Hand hygiene

As stoma losses are body secretions, diligent attention to hand washing before and after the procedure is required. Please review the hospital policy for personal protective equipment here.

Initiation of Procedure

1. The use of the distal stoma (mucous fistula) is requested by the surgeon and written consent is obtained from the parent(s)/carer.
2. If the surgeons have examined and established the patency of the distal part during the laparotomy. If for any reason the patency is questioned, then distal patency should be confirmed by contrast study prior to commencing distal feeding[10].
3. Recycling may begin with 0.9% Sodium Chloride flushes of approximately 3-4mls, if requested by the surgeon. This can be given as a slow flush once per day.
4. The surgeon may request to perform the first flush to assess the ease of flushing.
5. Re-feeding should occur once stoma output is >5ml/kg in 4hours. However this may be independently determined by the patient's surgeon

Water should NOT be used for flushing tubing as it may cause mucosal sloughing due to its hypotonicity.

Protecting the skin around the mucous fistula

- Use a piece of Hydrocolloid (e.g. Comfeel) skin barrier to apply around the fistula.
- The use of Cavilon swab sticks applied to the skin surrounding the fistula can help prevent skin breakdown.
- Prior to insertion of the re-feeding tube, a stoma wafer (donut shaped hydrocolloid disc) can be applied.

Catheter selection and insertion

- The patient's surgeon will attend to the first pass of the catheter. Subsequent catheter insertion may be attended to by an experienced nurse or as per the surgical team.
- The distance the catheter is passed should be documented in the patient's electronic medical record by the surgeon.
- Use a soft pliable catheter (Foley's silastic urinary catheter) size 10Fr (12Fr available) for babies over 2kg and size 8Fr or 10Fr catheter for babies under 2kg.
- Use the largest catheter possible to prevent leakage around the tube and reduce the risk of perforation.
- Do not inflate the balloon. If leaking occurs during re-feeding inform the surgeon, who may give permission for intermittent inflation. However, this carries of risk of necrosis of the bowel due to pressure on the mucosal wall. Note: there are some circumstances where the balloon may be inflated at the surgeon's discretion.

- Change the catheter every 7 days[1]
- If the catheter is cannot be passed successfully or there is resistance, stop the procedure immediately and inform the surgical team. In some instances, the patient may require the catheter to be placed under fluoroscopic guidance in the medical imaging department.
- As shown in Figure-1, a green universal connector should be placed into the end of the Foley's catheter to support intermittent re-feeding. This should also remind staff to re-feed via the correct connection, as the balloon connector is near the re-feeding connector.
- If possible, place the stoma bag only on the proximal/working stoma.

Figure 1

Securing to a single distal stoma (separate position to proximal stoma)

- Apply half a Hydrocolloid (e.g. Comfeel) extra thin with hole cut to fit around stoma, to protect the skin.
- Cut two strips of Hypafix to approximately 4.5cm x 1.5cm.
- Cut a midline slit in both strips of approximately 3-3.5cm wide to create a pair of "trousers".
- Place the top of the trousers to the Comfeel and wrap the trouser leg up the catheter. Repeat on the opposite side.

Securing with pouch when both stomas are together

Equipment required:

- Appropriate sized stoma bag with baseplate
- Cotton balls
- 0.9% NaCl
- Cavilon sticks x 2
- Stomahesive protective powder
- Sucrose or breast milk for procedural support from 2nd assistant or parent
- Goggles
- Clean gloves

Procedure:

- Cut the pouch holes to the correct size and clean the skin to ensure no stoma losses are on the skin.

Figure 2

- Prepare the skin with a Cavilon swab stick and allow to dry as shown in figure 2. If the skin is particularly wet from constant losses, also apply a light dusting of Stomahesive protective powder, and then dab with Cavilon to create a grit-like surface for the bag application.
- Secure the pouch to the baby angling the opening downwards towards the patient's feet making sure to avoid the opening being near any distal central lines as shown in figure 3 and 4.
- Secure the catheter to the patient with Comfeel and Hypafix to prevent the catheter falling out.

Figure 3

Figure 4

Technique for re-cycling stoma losses

- Stoma output is collected every 4 to 6 hours and usually coordinated with feeding and handling times.
- Stoma output that are extremely watery and lacks consistency are the best, as the particle matter will cause occlusion of the tube. Therefore, it may be requested by the surgeon to filter the stoma output fluid.
- If output is over 5mL/kg every 4 hours and is loose, this should be recycled, by pump over the following 2 hours. Output less than 5mL/kg can be given as a slow push.

Equipment required:

- 10 or 20ml IV syringe
- Mixing cannula x 1
- Enteral feeding syringe with cap in size larger than IV syringe used for aspirating. E.g. aspirate fluid out of bag with a 10ml syringe, and decant into a 20ml feed syringe.
- Dry Rediwipe
- Goggles
- Clean gloves
- Feed extension giving set (only required if the volume is >5ml/kg)

Procedure

- Attend hand hygiene
- Apply goggles
- Attend hand hygiene again and apply clean gloves
- Assemble equipment (figure 5) by connecting mixing cannula to IV syringe, removing plunger from enteral feed syringe and applying cap
- Access stoma bag and draw up the stoma fluid using the IV syringe with mixing cannula being careful to avoid placing the cannula anywhere near the stoma as this may result in injury to the stoma tissue.
- Remove this syringe and mixing cannula. It is common for air to be drawn up as well. Do not expel the air from the syringe as this may spray the stoma fluid into the air.
- Disconnect the mixing cannula.

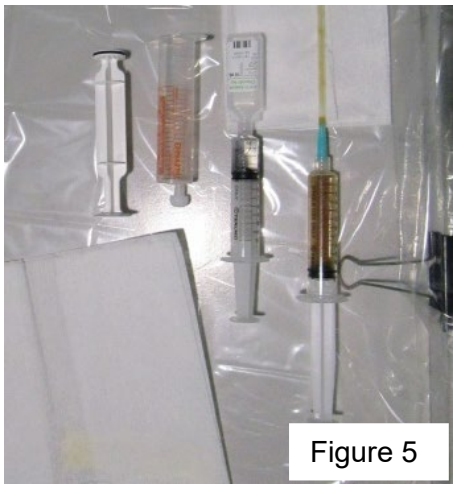


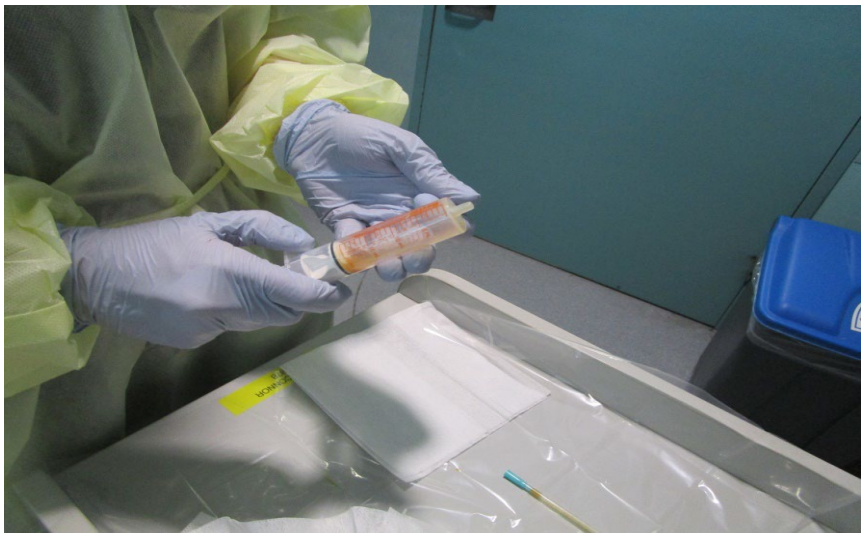
Figure 5

- Observe how much fluid has been aspirated for the fluid balance chart.
- Firmly place one layer of the Rediwipe over the syringe tip and invert into the enteral feeding syringe. Slowly administer the stoma fluid into the enteral syringe and the Rediwipe will filter the fluid removing any sediment as shown in figure 6.

Figure 6

- Place the enteral feeding syringe plunger into the enteral feeding syringe, invert, carefully remove the cap and remove any excess air by expelling into a clean rediwipe, directing away from yourself. Note the amount of fluid to be re-fed to the patient as shown in figure 7.

Figure 7:



- **<u>If the volume is <5ml/kg</u>** administer directly to the patient via the administration port of the catheter at a slow rate, followed by a flush of 2mls 0.9% NaCl to ensure catheter patency as shown in figure 8 and 9.

Figure 8

Figure 9

- **<u>If the volume is >5ml/kg</u>** connect the enteral feeding extension giving set and prime the giving set prior to connecting to the administration port. Set the volume to be infused to give the volume over 2 hours in a dedicated stoma re-feeding pump.
- Once complete, attach a saline flush in a new enteral feeding syringe to ensure that the total volume of stoma losses left in the giving set has been administered to the patient. Disconnect the giving set between re-feeding times.
- Discard all waste into the bin and wipe down the surface used for preparation.
- Remove gloves and attend hand hygiene
- Remove goggles and attend hand hygiene again
- Document the procedure in the patient's electronic medical record including the stoma aspirate volume and the volume administered to the patient via re-feeding.
- Update fluid balance chart

Monitoring

- Monitor the stoma site & stoma colour for signs of irritation, prolapse or necrosis.
- Meticulously assess and care for the skin around the stoma and the mucous fistula to avoid irritation or skin breakdown.
- Carefully measure the effluent and monitor for milky or undigested appearance.
- Weigh daily and plot growth trend on the appropriate growth chart in electronic medical record.

- Measure head circumference weekly and plot on the appropriate growth chart in electronic medical record.
- Ostomy losses, serum electrolytes, acid base balance and liver function tests are helpful in determining the effectiveness of fistula refeeding[1].
- If high losses or no out output from stoma to notify the team leader and medical officer.

If unsure of procedure or dressing contact CNC – Stoma therapy or surgeon

References

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