TYPES OF STOMA

Fig. 1: Split stoma and mucus fistula

Split stoma and mucus fistula

- Bowel is divided and both ends brought out through abdominal wall separately
- Proximal end is the functioning stoma and distal end is the mucus fistula
- Operation note should make it clear where the stoma and mucus fistula are situated on the abdomen
- Stoma and mucus fistula may sometimes be fashioned side-by-side without a skin bridge. The wound is closed with dissolvable sutures

Fig. 2: End stoma without mucus fistula

End stoma without mucus fistula

- Proximal bowel end is brought out through abdominal wall as stoma and distal end is closed and left within the abdominal cavity

Fig 3: Loop stoma (slightly prolapsed)

Loop stoma

- Formed by suturing a loop of bowel to the abdominal wall and making an opening into bowel, which remains in continuity

MANAGEMENT

Application of stoma bag

- Before stoma starts working, fit an appropriately sized stoma bag and empty 4–6 hrly
- In a split stoma and mucus fistula, fit the stoma bag on the proximal stoma only, where possible, and leave mucus fistula exposed and dressed with a paraffin gauze dressing (e.g. Jelonet) or Vaseline® and non-sterile gauze dressing
- Change bag every 1–3 days (maximum) or if it leaks
- Remove using a stoma adhesive remover wipe
- Clean skin around stoma with warm tap water and dry with non-sterile gauze

Monitoring

- Examine baby's abdomen and stoma daily
- Look for:
- dehydration
- abdominal distension
- wound infection or breakdown
- peri-stomal skin excoriation
- granulation tissue formation
- stomal bleeding
- discolouration of stoma or mucus fistula
- stomal prolapse or retraction
- stoma bag leakage
- rectal discharge

- If stoma becomes dusky or black, call the surgical team
- If skin surrounding the stoma is excoriated, identify cause and treat

Weight

- Babies with small bowel stoma: measure and record weight daily. Inadequate weight gain or weight loss may be secondary to:
- insufficient calorie intake
- malabsorption
- dehydration (high stoma output)
- electrolyte abnormalities (high stoma output)

Stoma effluent

- Maintain a regularly updated fluid balance chart and record:
- fluid intake and stoma losses
- colour and consistency of stoma effluent

Serum electrolytes

- Measure at least every 2 days in the first 7 post-operative days

Urinary electrolytes (sodium and potassium)

- Monitoring is extremely important for nutrition and growth
- Measure weekly
- Babies with stomata (especially small bowel stomata) are at risk of losing a significant amount of sodium into the effluent. They will often fail to gain weight if total body sodium is depleted. Serum sodium is an unreliable indicator of total body sodium
- Urinary sodium and Na^+:K^+ ratio are better indicators
- Sodium supplements usually required in babies with a small bowel stoma until the stoma closed
- If urinary sodium is <20 mmol/L or ratio of concentration of urinary sodium to potassium is <3:1, increase sodium intake

NUTRITION

Total parenteral nutrition and no enteral feeds

- Check surgical discharge letter and operation notes for instructions on starting enteral feeds
- Introduce enteral feeds slowly and increase gradually (see **Nutrition and enteral feeding** guideline)
- Useful indicators of potential feed intolerance are:
- vomiting and abdominal distension
- bile in nasogastric aspirates
- large nasogastric losses
- low stoma losses – indicating dysmotility/obstruction
- high stoma losses – indicating malabsorption
- reducing substances or fat globules in the stool/stoma effluent

Combination of parenteral nutrition and enteral feeds

- Increase enteral feeds gradually (see **Nutrition and enteral feeding** guideline)
- It is not possible to predict how much enteral feed baby will be able to tolerate. As a general rule, the more distal the stoma, the better the absorption of feeds
- The amount of stoma effluent and presence/absence of reducing substances or fat in the stoma effluent should guide the advancement of enteral feeds
- Do not **automatically** increase enteral feed in response to weight gain, but rather in response to stoma output volume

Full enteral feeds

- Tolerance of enteral feeds can fluctuate with time and babies with stomata are at high risk of life-threatening dehydration and electrolyte abnormalities as a result of gastroenteritis. There should be a low threshold for readmission to hospital and appropriate resuscitation

COMPLICATIONS

High stoma output

- Daily output >20 mL/kg/day in premature or low-birth-weight babies and 30 mL/kg/day in term babies
- Measure serum and urinary electrolytes

- Replace stoma losses (when >20 mL/kg/day) mL-for-mL using sodium chloride 0.9% with potassium chloride 10 mmol in 500 mL IV
- Consider either reducing or stopping enteral feeds until losses decrease, liaison with surgical team is encouraged
- Test stoma effluent for reducing substances and fat globules
- If reducing substances are positive or fat globules present, discuss reduction of enteral feed or changing type of enteral feed with a surgeon, specialist surgical outreach nurse or dietitian
- Perform blood gas; (stoma effluent may be rich in bicarbonate and metabolic acidosis may be present; consider sodium bicarbonate supplementation)

Mucus fistula

- If present, consider recycling of stoma effluent (see **Recycling stoma losses via a mucus fistula** guideline). Before recycling, consult surgical team to decide whether a contrast study through the mucus fistula is required
- If contrast study advised, make arrangements with surgical unit and inform surgical team when the study will take place
- Surgical team will review and advise if recycling may start
- If baby not thriving, consider parenteral nutrition (see **Parenteral nutrition** guideline)

Increasing enteral feeds in a baby with poor weight gain and a high output stoma will worsen the situation

- If none of the above measures are effective, stop enteral feeds, start parenteral nutrition and consult surgical team to discuss surgical options

Stomal stenosis

- May be present if:
- stomal output reduces or stoma stops functioning
- stoma effluent becomes watery
- Call surgical team for advice

Prolapse

- Call surgical team for advice. If stoma is discoloured, emergency action required

STOMA CLOSURE

- Often aimed to be performed when baby is well and thriving, which may be after discharge from hospital
- Indications for early closure are:
- failure to achieve full enteral feeds
- recurrent stomal prolapse with/without stomal discolouration
- stomal stenosis
- high stoma output not responding to measures outlined above

DISCHARGE PLANNING AND PARENTAL TEACHING

- Discharge when baby well, tolerating feeds and thriving
- It is the responsibility of the ward/unit nurse to teach parents stoma care
- When discharge planned, inform:
- secretary of surgical consultant who fashioned the stoma to arrange outpatient follow-up
- local stoma care specialist to order stoma supplies for home and support family
- neonatal surgical outreach service (if involved in care)

Who to call when you need help?

Surgical team

- Call team of consultant surgeon who performed the surgery
- In an emergency out-of-hours, contact on-call surgical registrar
- Stoma care specialist [e.g. Gail Fitzpatrick at BCH (mobile 07557 001653)] for management of stoma-related complications, and parent and staff training
- Neonatal surgical outreach service [e.g. Louise Lawrence (mobile 07769 367483)] for advice, support and training on surgical management

USEFUL INFORMATION

- https://bwc.nhs.uk/neonatal-surgical-outreach-service

- http://www.e-lfh.org.uk/programmes/paediatric-surgery/