

High-Output Ileostomy management - Hospital setting

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Statement: This guideline is applicable for adults with small bowel stomas- ileostomy

Definitions:

- Stoma ileostomy high output can vary in the research. A high output stoma is a stoma that causes suggests electrolyte disturbances and more than 1.5 L within 24 hours (Oke et al. 2018)
- Stoma output is a prolonged watery consistency which causes an increase in pouch emptying.

Structure:

- The symptoms of high output stoma (HOS) are recognised, and appropriate action is taken within 24 hours.
- Patients with a high intestinal fluid loss either following surgery or periodically in the long term are managed effectively to:
 - Reduce intestinal loss.
 - Manage any electrolyte imbalance and dehydration secondary to the high output.
 - Prevent poor skin integrity due to appliance leakage.
 - Re-establish effective stoma function and prevent further complication.
 - Ensure that advice and treatment offered is consistent and research based.
- Prioritise actions appropriately:
 - Immediate Actions
 - Actions within 12 hours
 - Actions within 24 hours
 - Actions after the first 24 hours.
- Avoid the risk of Acute Kidney Injury (AKI)

Process:

- Assess the patient for signs of dehydration- not all symptoms may be present.

Does the patient feel/have:	Does the patient have:
Thirsty	Postural systolic hypotension
Dry (mucous membranes, skin turgor)	Low volume of concentrated urine
Lethargic	A negative fluid balance
Faint	Dry mucous membranes Reduced skin turgor
Muscle weakness/cramps	Rapid reduction in body weight
Headache	Serum electrolytes of Low Sodium (Na), Low potassium (K), Low Magnesium (Mg)
Dizzy when going from sitting to standing	High creatinine/urea/Low eGFR

Immediate actions:

- Apply a high output stoma bag (available via stoma care department) for continuous drainage and check peristomal skin for signs of breakdown.
- Check blood biochemistry (FBC/CRP/Na/K/Mg/Creatinine/full U&Es, serum bicarbonate)
- Perform a Urine Sodium test
- Consider intravenous fluids as indicated by medical/surgical team

- Record accurate input/output on fluid balance chart.
- Assess for potential causes of high-output stoma such as paralytic ileus, intra-abdominal sepsis, obstruction (including partial or intermittent), inflammatory bowel disease flare, physical short small bowel length, malabsorption disorders, infective gastro-enteritis, non-compliance with diet/medications, side effects of chemo/immunotherapy/antibiotics (Abada et al 2017, Stankiewicz et al 2019, Villafranca et al 2015)
- Assess for medication related causes such as prokinetics (i.e. metoclopramide, laxatives, erythromycin), metformin, abrupt withdrawal of corticosteroids or opiates (Abada et al 2017, Stankiewicz et al 2019, Villafranca et al 2015)
- Start loperamide 2-4mg 4 x daily (Villafranca et al 2015) - 45 mins before meals and at night (Gabe and Slater 2013) only if stool sample is clear
- Omeprazole 40mg twice daily NOTE long-term use may not provide benefit and may deplete magnesium level (Appleton et al 2014) avoid in severe hyponatraemia

Actions within 12 hours:

Ensure the patient is wearing an appropriate appliance to reduce the risk of leakage

- Refer to dietician re oral fluid and dietary intake
- Fluid restriction of 1.5L oral fluids such as water, tea, coffee, sugar free cordials and dioralyte. (Adaba et al 2017, Nightingale and Woodward 2006, Stankiewicz et al 2019) including 1 litre St Mark's solution.
- Low fibre meals
- Avoid drinking at the same time as eating
- Check urine sodium for dehydration.
- Consider increasing salt intake while high-output continues - being cautious of people at risk of increased sodium intake such as people with cardiac history (Stankiewicz et al 2019, Villafranca et al 2015).

Actions within 24 hours:

- Daily reassessment of stoma output and fluid balance
- Recheck blood biochemistry daily. Include daily serum bicarbonate until within normal range.
- Review medication daily
- The dose of Loperamide can be increased on medical advice; until output is 1000mls/24hrs (Nightingale 2001) Loperamide in tablet form is preferable
- Consider use of codeine phosphate 30mg tds/120-480mg day (Forbes, 2007)
- Review stool specimen result
- Introduction of isotonic fluids such as electrolyte solution with dietetic guidance
- Electrolyte solution:
 - 20g (six level 5ml spoonful) of Glucose
 - 2.5g (one heaped 2.5ml spoonful) of Sodium Bicarbonate (baking soda)
 - 3.5g (one level 5 ml spoonful) of Sodium Chloride (salt) in 1 litre of tap water
 - OR Double Strength Dioralyte – 1 sachet in 100mls water, given 5 sachets in 500mls or 10 sachets in 1L.
 - (Caution is needed due to the potassium in the dioralyte. If the patient has a normal renal function bloods

should be tested after 2 weeks to check potassium and magnesium level. For people with a renal impairment need greater caution).

- Explain rationale of isotonic fluid to patient to encourage compliance as fluid can be unpalatable. To improve the taste, keep solution cold, sip through a straw and/or add a small amount of squash such as lime cordial.
- Check adhesion of stoma appliance
- Refer to gastroenterology team if cause of HOS is not apparent.

Actions after the first 24 hours:

- Weigh patient daily (weight reduction can indicate dehydration)
- Accurate fluid balance chart (monitoring all intake and outputs)
- Continue fluid restriction (review if output reduces and each week)
- Continue IV fluid until euvolaemic.
- Monitor nutritional intake
- Increase Loperamide if output remains above 1 litre as per hospital policy (consider cardiac monitoring such as an ECG, for long-term high dose to Loperamide usage).

Outcome:

AKI has been prevented.

The patient feels physically hydrated.

Patient is haemodynamically optimised.

The stoma output is contained effectively and skin integrity is maintained. The cause of the high output stoma is established.

References for high-output Stoma

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Suggested reading

- Villafranca, J.J.A., López-Rodríguez, C., Abilés, J., Rivera, R., Adán, N.G. and Navarro, P.U. (2015) Protocol for the detection and nutritional management of high-output stomas. *Nutrition Journal*. 14:45. Available at: <https://DOI10.1186/s12937-015-0034-z>.