High-output Stoma management - Hospital setting

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Statement:

Patient has a stoma output of >1500mls/24hours (Oke et al 2018).
Patient is experiencing increased frequency in emptying appliance.
Stoma output is a watery consistency.

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
  - To re-establish effective bowel 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.

Process:

- Assess the patient for signs of dehydration

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

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 (Na/K/Mg/Creatinine)
- Perform a Urine Sodium test
- Administer intravenous fluids
- 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 (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)

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- Advise to send stool specimen for M, C & S. (Only test for C Difficile toxin if increased output cannot be attributed to any other cause, or is suspected):
  - Review drug chart with medical team
  - Consider stopping NSAIDs
  - Stop laxatives
  - Start loperamide 2-4mg 4 x daily (Villafranca et al 2015) - 45 mins before meals and at night (Gabe and Slater 2013)
  - Omeprazole 40mg twice daily NOTE long-term use may not provide benefit and may deplete magnesium level (Appleton et al 2014)
  - Review for IVI, until stomal output stabilised and patient hydrated.

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
- Hypotonic oral fluid restriction such as water, tea, coffee, juice, carbonated drinks (500-1000mls/24hrs), (Adaba et al 2017, Nightingale and Woodward 2006, Stankiewicz et al 2019)
- Low fibre meals
- Avoid drinking at the same time as eating
- Consider increasing salt intake while high-output continues (Stankiewicz et al 2019, Villafranca et al 2015)

Actions within 24 hours:

- Daily reassessment of stoma output and fluid balance
- Recheck blood biochemistry daily
- Review medication daily
- The dose of Loperamide can be increased on medical advice; until output is 1200mls/24hrs (Nightingale 2001) Loperamide in tablet form is preferable
- Consider use of codeine phosphate 30mg tds/120-480mg day (Forbes, 2007)
- Consider review by medical staff for octreotide
- Review stool specimen result
- Introduction of isotonic fluids such as electrolyte solution with dietetic guidance

  Electrolyte solution:
  20g (six level 5ml spoonsful) 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 1litre of tap water
  OR Double Strength Dioralyte – 2 sachets in 200-300mls water. (Caution is needed due to the potassium in the dioralyte. For people with an ileostomy and a normal renal function bloods should be tested after 2 weeks to check potassium and magnesium level. For people with a high output colostomy or renal impairments greater caution is necessary)

- 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)
- Monitor nutritional intake
- Increase Loperamide if output remains above 1 litre as per hospital policy (consider cardiac monitoring for long-term high dose to Lopermide usage).

Outcome:

The patient states they feel comfortable and well hydrated.

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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Villafranca, J.J.A., López-Rodríguez, C., Abilés, J., Rivera, R., Adán, NG. 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.

Suggested reading

Villafranca, J.J.A., López-Rodríguez, C., Abilés, J., Rivera, R., Adán, NG. 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.