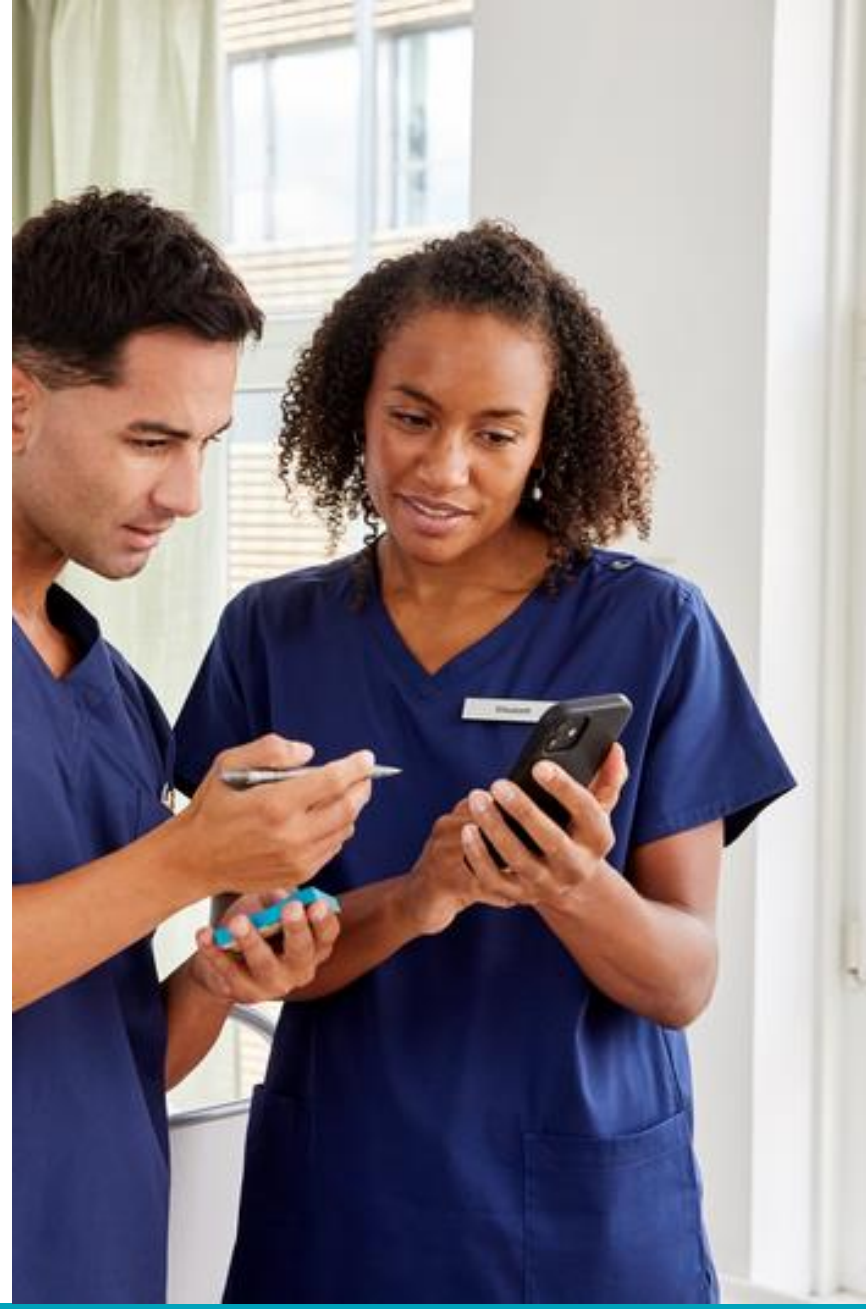
Managing high output

Connecting theory and practice to facilitate effective care

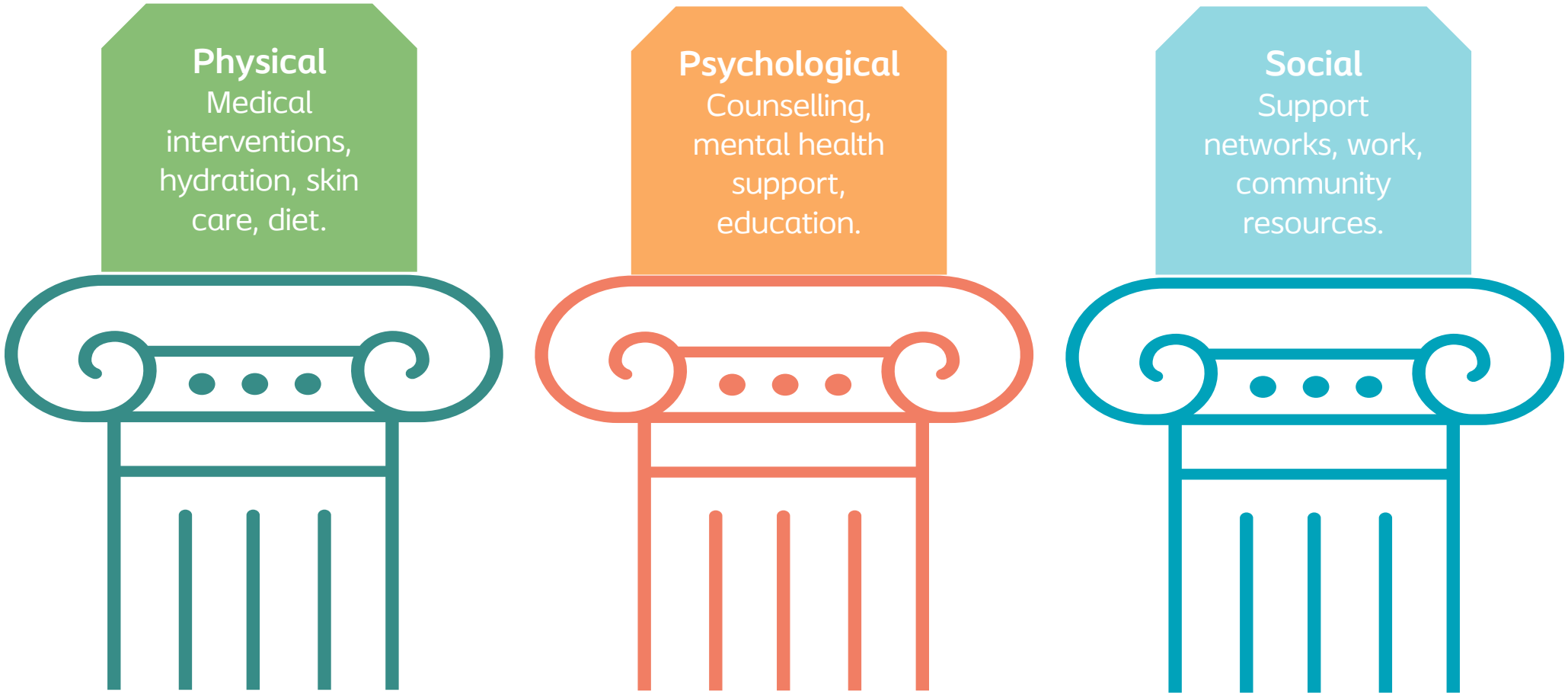


Why Holistic Management Matters in High Output Care

Integrating Physical, Psychological, and Social Care to Improve Patient Outcomes

Coloplast Professional

The Three Pillars of Holistic Care



Coloplast Professional

What is Holistic Management?

Holistic Care

- Holistic care is an approach that emphasises the integration of physical, psychological, and social dimensions of health to address the overall well-being of individuals.
- It aims to provide person-centered care that considers not only the physical symptoms but also the emotional and social contexts of a patient's condition[1].

Focus on High Output Conditions

- High output conditions, such as high-output stomas, present complex challenges requiring a multifaceted approach.
- These conditions involve excessive fluid and electrolyte loss, posing risks of dehydration, nutritional deficits, and reduced quality of life[2].
- Effective management necessitates a comprehensive strategy that integrates medical interventions, psychological support, and patient education to optimize outcomes.
- Holistic care ensures the patient's needs are met in a balanced and sustainable manner, aligning with their lifestyle and preferences.

1. McEvoy, P., & Duffy, A. (2008). Holistic practice – A concept analysis. Nurse Education in Practice, 8(6), 412–419.
2. Alkaade, S., & Vareedayah, A. A. (2014). Managing high-output stomas. Gastroenterology & Hepatology, 10(11), 756–763.

Psychological challenges of a high output

Anxiety
Fear of leakage or odour in social situations leads to anxiety and social withdrawal. Education and support can improve confidence and reduce anxiety[1].

Depression
Managing high-output conditions often causes isolation and a sense of loss. Patients with stomas are at higher risk of depression, especially during adjustment periods, emphasising the need for psychological support[2].

Fear
Worries about dehydration, skin damage or hospital readmissions can hinder daily life. Individualised care plans and education help reduce fear and improve mental health[3].

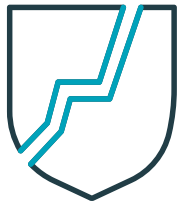
Patients with high-output conditions often face psychological challenges, including anxiety, depression, and fear, which can significantly affect their well-being.

1. Brown, H., & Randle, J. (2005). Living with a stoma: A review of the literature. Journal of Clinical Nursing, 14(1), 74–81.
2. Wade, B. E. (2016). Psychological impact of stoma surgery. Gastrointestinal Nursing, 14(6), 21–27.
3. Persson, E., Hellström, A. L., & Hallén, A. M. (2010). Experiences of living with a permanent stoma. Ostomy Wound Management, 56(6), 20–27.

Patients with high-output conditions face significant social challenges

Isolation: Concerns about leakage or odour often lead to social withdrawal. Peer support reduces stigma[1].

Workplace and Social Difficulties: Fatigue affects employment and social participation. Supportive workplaces mitigate this[2].



Barriers to Support: Limited access to stoma care supplies and resources worsens management in low-resource settings[3].

1. Brown, H., & Randle, J. (2005). Living with a stoma. Journal of Clinical Nursing, 14(1), 74–81.
2. Persson, E., Hellström, A. L., & Hallén, A. M. (2010). Ostomy Wound Management, 56(6), 20–27.
3. Smith, G., Finch, T., & Shannon, R. (2017). British Journal of Nursing, 26(22), S20–S25.

Improve Quality of Life and Patient Outcomes Through Holistic Management in High Output Patients

Holistic management aims to address the interconnected physical, psychological and social challenges faced by patients with high-output conditions, such as high-output stomas.

Improving Quality of Life
High-output conditions significantly affect patients' daily lives, including their ability to maintain hydration, nutrition and social engagement. A holistic approach, incorporating physical care alongside psychological and social support, has been shown to improve patients' overall well-being. Addressing not only the physiological complications but also the emotional and social impacts ensures a more patient-centered care model[1].

Optimising Patient Outcomes
The physiological challenges of high-output conditions, such as dehydration, electrolyte imbalances and malnutrition, require meticulous management. Research suggests that incorporating patient education and psychological support into clinical care improves adherence to treatment regimens and self-management skills, leading to better clinical outcomes[2].

Comprehensive, Multidisciplinary Approach
Evidence indicates that multidisciplinary care teams, including dietitians, nurses and psychologists, play a critical role in improving outcomes for patients with high-output conditions. This collaborative care model ensures that all aspects of the patient's health are addressed, reducing complications and improving quality of life[3].

1. McEvoy, P., & Duffy, A. (2008). Holistic practice – A concept analysis. Nurse Education in Practice, 8(6), 412–419.
2. Alkaade, S., & Vareedayah, A. A. (2014). Managing high-output stomas. Gastroenterology & Hepatology, 10(11), 756–763.
3. Black, P., & Cottrell, S. (2019). Stoma care: Multidisciplinary approaches to improving patient outcomes. *British Journal of Nursing*, 28(Sup14), S4–S12.

Holistic Care: A Necessity
Not just an approach, but essential for improving lives

Your Role:

- Advocate for integrated care across disciplines.
- Leverage available resources and training programs (such as Coloplast Professional).

Together, we can:

- Empower patients with better care.
- Build a collaborative, patient-focused future.

How do we make holistic care a reality?

Multidisciplinary Team

Collaboration among dietitians, SCNs, surgeons and medics ensures comprehensive care for complex conditions[1].

Individualised Plans

Tailored care addressing unique needs enhances outcomes and patient satisfaction[2].

Empowering Patients with Knowledge and Resources

Educating patients boosts self-management and confidence, helping prevent complications like dehydration or skin issues[3]. Support groups reduce isolation and build confidence, encouraging better treatment adherence and proactive engagement with healthcare providers.

1. Brown, H., et al. (2015). Multidisciplinary approaches to chronic care. Journal of Integrated Care, 23(2), 54–61.
2. Smith, G., et al. (2017). Empowering patients in stoma care. British Journal of Nursing, 26(22), S20–S25.
3. Johnson, P., & Hall, S. (2018). Personalized care planning in chronic illness. Nursing Times, 114(3), 26–29.

Coloplast

Pathophysiology of High Output Stomas and Enteral Losses

Understanding Clinical and Psychosocial Dimensions

Coloplast Professional

Defining High Output Stomas

Definition[1]

High Output Stoma (HOS): Stoma output exceeding 1.5–2 litres/day.

- Typically assessed over 24 hours.
- Normal stoma output: ~500–700 mL/day for ileostomies.

Commonly Involved Stoma Types[2]

Ileostomy.

- Created from the ileum (last part of the small intestine).
- Increased risks due to potential higher exposure to digestive juices.

Jejunostomy

- Created from the jejunum (middle section of the small intestine).
- Higher output due to limited surface area for absorption.

Key Clinical Features[3]

1. Dehydration

- Symptoms: Fatigue, dry mucous membranes, low urine output.
- Risk: Acute kidney injury.

2. Electrolyte Imbalances

- Common deficits: Sodium, potassium, magnesium.
- Risk: Cardiac arrhythmias and neuromuscular dysfunction.

3. Malnutrition

- Reduced absorption of nutrients.
- Complications: Weight loss, muscle wasting, vitamin deficiencies.

1. Nightingale JM, Lennard-Jones JE. "Nutritional assessment and intestinal failure." Nutrition. 1999.
2. Gabe SM, Carlson GL. "Approach to intestinal failure." Best Practice & Research Clinical Gastroenterology. 2003.
3. Baker ML, Williams RN, Nightingale JM. "Causes and management of a high-output stoma." Colorectal Disease. 2011.

Mechanisms Behind High Output Stomas

Disruption of Intestinal Absorption[1]

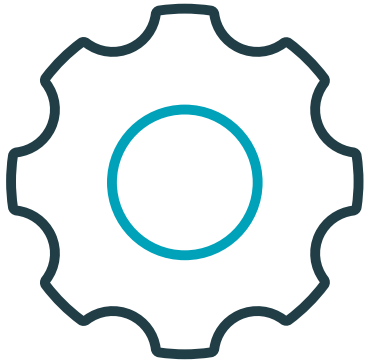
- Reduced Surface Area for Absorption
  - Occurs due to surgical resection, especially in short bowel syndrome (SBS).
  - Ileum's loss is particularly significant as it absorbs bile salts and vitamin B12.
- Accelerated Transit Time
  - Faster passage of chyme through the small intestine leads to reduced contact time for nutrient and fluid absorption.

Increased Secretion of Fluids and Electrolytes[2]

- Hypersecretion in Small Bowel
  - Intestinal adaptation post-surgery may lead to compensatory hypersecretion of digestive fluids.
  - Elevated levels of secretagogues, such as gastrin, exacerbate fluid loss.
- Electrolyte Imbalances
  - Increased sodium and chloride losses directly affect osmotic balance, increasing stoma output volume.

Impact of Underlying Conditions

- Crohn's Disease
  - Chronic inflammation disrupts mucosal integrity and absorption capacity.
  - Risk of fistula formation further contributes to high output.
- Short Bowel Syndrome (SBS)
  - Loss of absorptive capacity due to extensive surgical resection.
  - Jejunum alone is inefficient in compensating for ileal loss, leading to malabsorption.
- Infections or Radiation Enteritis
  - Mucosal damage exacerbates fluid and electrolyte losses.



1. Nightingale JM, Lennon ES. "Nutritional and fluid management of high-output stomas." International Journal of Surgery. 2004.
2. .Holman N, Flook R. "Guidelines for the management of high-output stomas." British Journal of Nursing. 2020.
3. Pironi L, Arends J, Bozzetti F, et al. "ESPEN guidelines on chronic intestinal failure." Clinical Nutrition. 2016

Diagnostic and Monitoring Tools

Stoma Output Chart

Records volume, frequency, and consistency to establish trends.

Point-of-Care Electrolyte Analysers

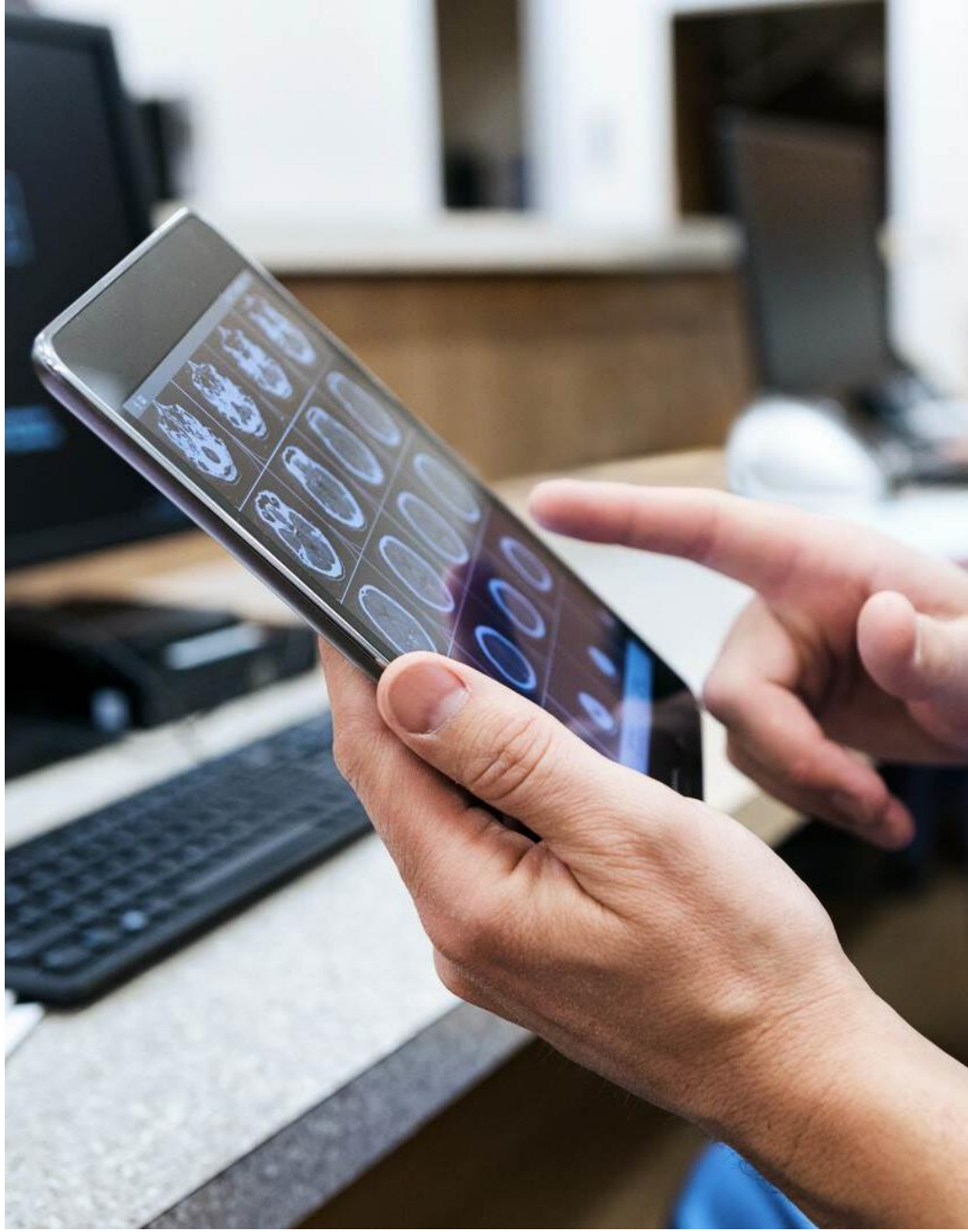
Rapid bedside assessments for critical electrolytes.

Imaging Modalities

CT/MRI for advanced diagnostic clarity in persistent or unexplained high output.

Weight Monitoring

Regular weight checks to identify unintentional weight loss from dehydration or malnutrition.



Assessing High Output Stomas

Importance of Measuring[1]

Output Volume and Consistency:
- Daily Measurement of Output
- Quantify stoma output over 24 hours to confirm high output (>1.5–2 L/day).
- Note consistency (watery vs. thicker) to assess severity and underlying causes.

Patient Diaries
- Encourage patients to record stoma output and associated symptoms.
- Supports early detection and effective clinical management.

Blood Tests[2]

Electrolytes
- Sodium, potassium, chloride and magnesium levels to detect imbalances.
- Sodium <135 mmol/L or potassium <3.5 mmol/L suggests significant losses.

Kidney Function Tests
- Elevated creatinine and urea levels indicate dehydration.

Nutritional Markers
- Assess albumin, prealbumin and vitamin/mineral levels to monitor malnutrition risks.

Imaging and Stool Studies[3]

Imaging (CT or MRI)
- Identify structural complications (e.g. obstructions, fistulas).
- Evaluate underlying causes such as Crohn's disease or surgical adhesions.

Stool Studies
- Faecal electrolyte analysis: Helps differentiate osmotic vs. secretory diarrhoea.
- Pathogen screening: Rule out infectious causes of increased output.

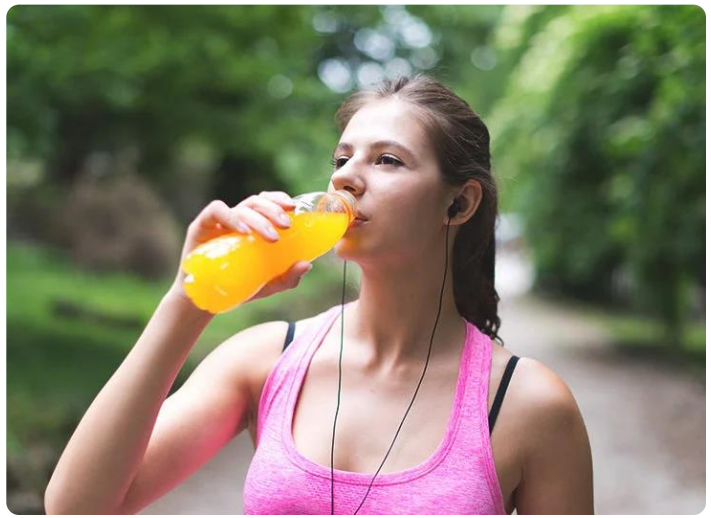
1. Baker ML, Nightingale JM. "Causes and management of a high-output stoma." Colorectal Disease. 2011.
2. Nightingale JM. "Management of patients with a short bowel." Postgraduate Medical Journal. 2003.
3. Pironi L, et al. "ESPEN guidelines on chronic intestinal failure." Clinical Nutrition. 2016.

Practical Interventions for Managing High Outputs

Optimising Fluid Balance, Nutrition and Medication Management

Coloplast Professional

Challenges of a High-Output Stoma



Dehydration and electrolyte imbalance

Excessive fluid loss increases risks of dehydration and electrolyte disturbances like hyponatremia. Effective fluid and electrolyte replacement plans are essential to prevent complications[1].

Skin complications around stoma site

Frequent effluent can irritate and damage peristomal skin. Proper stoma care, including skin barriers and well-fitted appliances reduces these risks[2].

Difficulty maintaining nutritional balance

High-output stomas impair nutrient absorption, causing malnutrition and deficiencies. Tailored diets and supplements, guided by dietitians, are critical for managing this issue[3].

1. Alkaade, S., & Vareedayah, A. A. (2014). Managing high-output stomas. Gastroenterology & Hepatology, 10(11), 756–763
2. Davenport, R., Mackenzie, K., & Stewart, J. (2013). Management of peristomal skin complications in high-output stoma patients. Journal of Wound Care, 22(12), 692–700.
3. Pironi, L., Arends, J., Baxter, J., et al. (2020). Management of high-output enterostomies. Clinical Nutrition, 39(4), 1181–1193..

Management Strategies: Optimising Physical Health

Hydration

Oral vs. intravenous rehydration therapy.

Electrolyte Replacement

Oral rehydration salts, supplements.

Dietary Adjustments

Low-residue diets, enteral nutrition when necessary.

Pharmacological Support

Anti-secretory medications, motility agents.

Understanding fluid losses: Why fluid balance is critical, the impact of fluid loss

High Output = Risk: Excessive output causes dehydration and electrolyte imbalances.

Key Electrolytes: Sodium and potassium are most affected.

Clinical Consequences:

- Dehydration: Thirst, fatigue, reduced urine output.
- Low Sodium (Hyponatremia): Muscle cramps, confusion, dizziness.

Sodium stripping refers to the excessive loss of sodium through high-output stoma or stool, often seen in conditions like short bowel syndrome, ileostomies, or chronic diarrhoea.

Mechanism:

- High-Output Losses: Large volumes of output rapidly deplete sodium stores in the body.
- Compensatory Dilution: As sodium levels drop, the body attempts to retain water, which further dilutes sodium concentration in the blood (hyponatremia).
- Feedback Loop: Persistent sodium loss exacerbates dehydration, creating a vicious cycle.

Why It Matters, the role of Sodium in the Body:

- Maintains fluid balance within and between cells.
- Supports nerve impulse transmission for proper muscle and brain function.
- Regulates blood pressure and circulation.

Clinical Impacts of Imbalance:

- Neurological symptoms: Confusion, seizures in severe cases.
- Cardiovascular strain: Hypotension and dizziness.
- Muscle dysfunction: Weakness and cramping.

1. NICE Guidelines on Stoma Care (2021): Importance of fluid monitoring in high-output patients.
2. Powell-Tuck, J., et al. (2008). "Fluid and electrolyte balance in clinical practice."

Restoring fluid balance: A patient-centred approach

Oral Rehydration Solutions (ORS)[1,2]

What:
- Glucose-electrolyte solutions designed to replace lost fluids and sodium efficiently.

Why:
- Glucose aids sodium absorption in the small intestine, enhancing water uptake.
- ORS is a cost-effective and simple first-line approach for mild to moderate dehydration.

How:
- Administer as per medical advice, particularly after high-output episodes.
- Encourage sipping throughout the day to maintain hydration.

IV Rehydration[3]

What:
- Intravenous administration of fluids, electrolytes and sometimes glucose.

Why:
- Necessary when oral hydration cannot meet fluid needs, such as in severe dehydration or persistent high-output scenarios.

How:
- Administer under healthcare supervision in acute care settings.
- Tailor fluid composition to the patient's needs (e.g. sodium, potassium or glucose).

Patient Education[4]

What:
- Teaching patients to monitor their output and recognise dehydration signs.

Why:
- Empowers self-management and prevents complications.
- Early intervention reduces hospital admissions.

How:
- Provide tools for tracking output (e.g., volume and consistency logs).
- Educate on hydration goals: Adequate water, ORS and when to seek help.

1. National Institute for Health and Care Excellence (2021). Intravenous fluid therapy in adults in hospital. [online] Available at: https://www.nice.org.uk/guidance/cg174 [Accessed 10 Jan. 2025]
2. World Health Organization (2017). Oral Rehydration Salts: Production of the New ORS. Geneva: WHO. Available at: https://www.who.int/publications/i/item/WHO-FCH-CAH-06.1 [Accessed 10 Jan. 2025].
3. Powell-Tuck, J., Hennessy, E.M. and Stanga, Z. (2008). Fluid and Electrolyte Balance in Clinical Practice: A Guide for Nurses and Healthcare Practitioners. London: Hodder Arnold.
4. BMJ (2020). Management of Dehydration in Adults. [online] Available at: https://www.bmj.com/content/370/bmj.m2780 [Accessed 10 Jan. 2025

Why you should **NOT** “chase” urine output in high-output stoma care

Balancing Care Without Compromising Hydration

Coloplast Professional

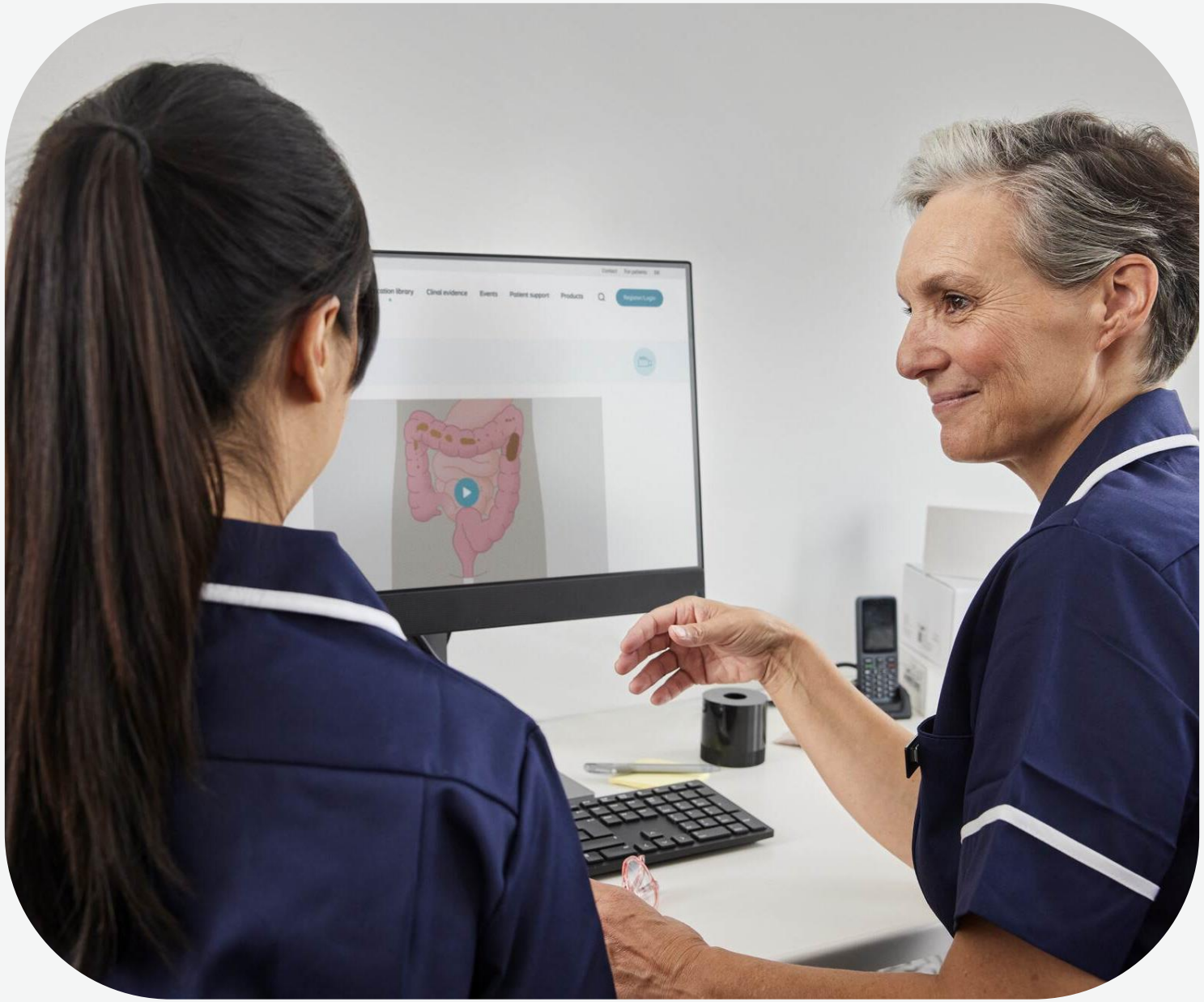
What does “chasing” urine output mean?

Definition:

Overcompensating for low urine output by increasing fluid intake excessively without addressing the root cause of fluid loss.

Common Scenario:

Patients with high-output stomas presenting with low urine output are often prompted to increase oral fluid intake, which can worsen the problem.



Why it’s a concern

Dilution of Electrolytes:

- Excessive free water intake dilutes blood sodium levels, risking hyponatremia (low sodium).
- Results in symptoms like confusion, seizures, and fatigue.
- ”Hyponatremia is a significant risk in patients overcompensating for fluid losses with free water.“[1].

Inefficient Rehydration:

- High-output stomas primarily cause sodium-rich fluid losses.
- Water alone does not restore lost electrolytes, leading to ongoing dehydration at the cellular level.
- ”ORS is critical in high-output cases to replenish electrolytes efficiently.“[2].

Misinterpretation of Low Urine Output:

- Urine output may not always correlate directly with hydration status in high-output patients.
- Excessive fluids can overload the system without addressing underlying losses.

1. Mount, D. (2015). Hyponatremia: Evaluation and Management. The New England Journal of Medicine, 372(1), pp.55–65.
2. World Health Organization (2017). Oral Rehydration Salts: Production of the New ORS. Geneva: WHO.

What you should do instead

Focus on Balanced Replacement[1]:

- Replace lost fluids with oral rehydration solutions (ORS) or tailored IV fluids. Fluid restriction may be required.
- Sodium and potassium are key electrolytes to prioritise.

Monitor Electrolytes Regularly:

- Use lab tests to guide rehydration, targeting sodium and potassium levels.

Educate the Patient:

- Explain the risks of drinking plain water excessively.
- Encourage small, frequent sips of ORS instead of large volumes of plain fluids.

1. Cameron, I., et al. (2010). High-output Stomas: Guidelines for Management. British Journal of Nursing, 19(17), pp.1062–1069.

Nutritional Strategies for High-Output Stomas

01 Low-Fibre Diet

Purpose:

Helps reduce stool volume and manage excessive fluid loss[1].

Recommended Foods:

White bread, refined cereals (e.g., cornflakes), white rice, skinless potatoes, and smooth nut butter.

Avoid:

High-fibre foods like whole grains, raw vegetables, nuts and seeds that may exacerbate output or lead to blockages[2].

02 High-Protein Foods

Role:

Essential for wound healing, maintaining muscle mass, and compensating for protein losses in output[3].

Sources:

Eggs, poultry, fish, Greek yogurt and protein-enriched supplements.

Tip:

Include high-protein snacks between meals to ensure adequate intake[4].

03 Avoid Trigger Foods

Impact:

Certain foods and drinks can increase stoma output or cause irritation.

Common Triggers:

- Sugary beverages (can increase output due to osmotic effects).
- Caffeine and alcohol (stimulate intestinal motility).
- Spicy and fatty foods (may worsen diarrhoea or output consistency)[4].

Recommendation:

Keep a food diary to identify personal triggers[3].

1. Nightingale, J. M., & Woodward, J. M. (2006). Guidelines for management of patients with a high-output stoma. Gut, 55(Suppl 4), iv1-iv12.
2. Gabe, S. M., et al. (2005). Managing high-output stomas and enterocutaneous fistulas. Frontline Gastroenterology, 6(3), 118–124.
3. NICE Guidelines (2021). Stoma care: Management and dietetic considerations.
4. British Dietetic Association (BDA) (2022). Nutritional management of high-output stomas: Best practice guidelines.

Nutritional Strategies for High-Output Stomas
Cont...

Oral Nutritional Supplements

When to Use: For patients unable to meet energy and nutrient requirements through food alone[1].

Examples: High-calorie, low-fibre options like Ensure Plus, Fortisip Compact or specialised electrolyte drinks (e.g. St. Mark's Solution).

Key Consideration: Choose isotonic drinks to avoid exacerbating dehydration[2].

Electrolyte Balance

Challenge: High-output stomas can lead to significant sodium and fluid loss, increasing the risk of dehydration[3].

Solution:

- Increase salty foods like soups, crackers and salted meats.
- Use oral rehydration solutions (e.g., Dioralyte, St. Mark's Solution).
- Limit plain water and hypotonic drinks, which can worsen electrolyte imbalance[4].

1. Nightingale, J. M., & Woodward, J. M. (2006). Guidelines for management of patients with a high-output stoma. Gut, 55(Suppl 4), iv1-iv12.
2. Gabe, S. M., et al. (2005). Managing high-output stomas and enterocutaneous fistulas. Frontline Gastroenterology, 6(3), 118–124.
3. NICE Guidelines (2021). Stoma care: Management and dietetic considerations.
4. British Dietetic Association (BDA) (2022). Nutritional management of high-output stomas: Best practice guidelines.

When Standard Diets Aren’t Enough

Enteral Nutrition

Definition: Providing nutrients directly into the gastrointestinal tract via a feeding tube.

When to Use: Oral intake is inadequate, but the GI tract is functional[1]. To supplement or replace standard diets when nutrient needs are unmet.

Benefits: Maintains gut integrity, supports nutrient absorption and reduces infection risks compared to parenteral nutrition[2].

Parenteral Nutrition

Definition: Administering nutrients intravenously, bypassing the GI tract.

When to Use: Severe malabsorption, short bowel syndrome or prolonged bowel rest[3]. When enteral nutrition is not feasible or adequate.

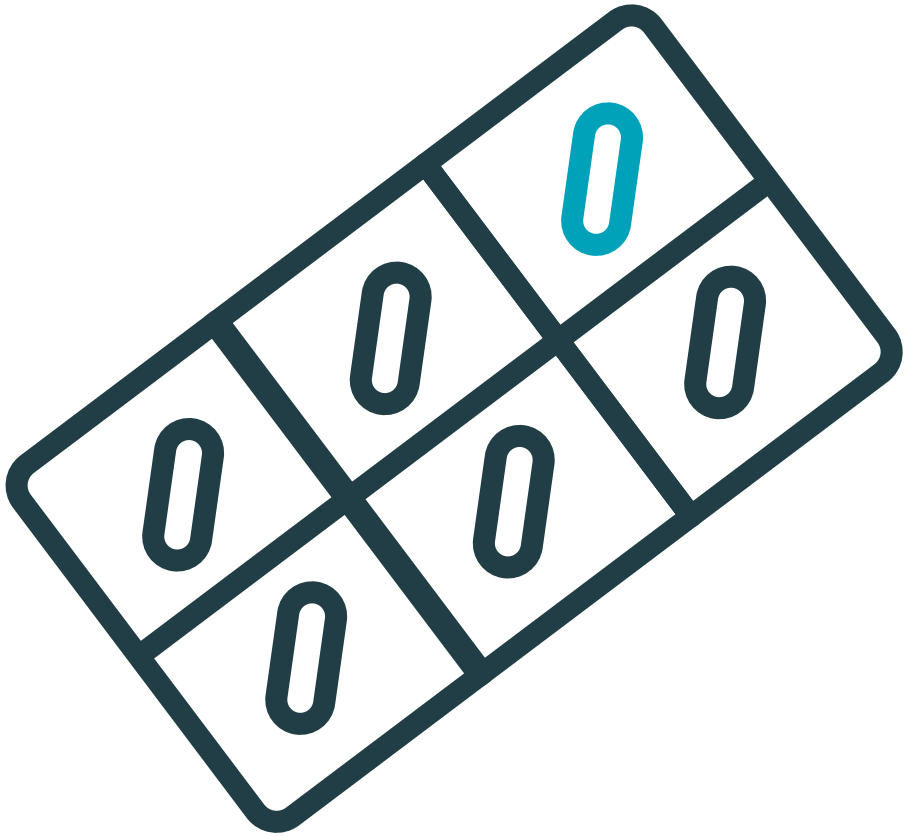
Considerations: Requires sterile techniques and close monitoring to avoid complications (e.g. infections, electrolyte imbalances).

1. NICE Guidelines (2021). Enteral and parenteral nutrition in clinical practice.
2. Nightingale, J. M., & Woodward, J. M. (2006). Management of patients requiring parenteral nutrition. Gut, 55(Suppl 4), iv1-iv12.
3. ESPEN Guidelines (2018). Clinical nutrition and enteral feeding best practices.

Medications for High Output Management

Coloplast Professional

Pharmacological Support:
Medication Goals



Reduce fluid output

Optimise absorption of fluids and nutrients

Address specific complications (e.g. gastric hypersecretion)

Anti-Secretory Agents

Proton Pump Inhibitors (PPIs):

Examples and Doses:

- Omeprazole (20-40 mg once daily)
- Esomeprazole (20-40 mg once daily)

Mechanism:

- Reduces gastric acid secretion, minimising intestinal fluid loss.

Best Practice:

- Used in patients with high-output stomas to manage gastric hypersecretion[1].

Contraindications:

- Hypersensitivity to PPIs; caution in patients with severe hepatic impairment.

Warnings:

- Long-term use may increase the risk of hypomagnesemia, fractures and Clostridioides difficile infections.

H2 Blockers:

Examples and Doses:

- Ranitidine (150 mg twice daily or 300 mg at bedtime) – if available.
- Famotidine (20 mg twice daily).

Mechanism:

- Inhibits histamine action on gastric parietal cells, reducing acid output.

Monitoring:

- Ensure no interaction with other medications metabolised by cytochrome P450.

Warnings:

- Adjust dose in renal impairment to prevent accumulation.

1. ESPEN Guidelines (2018). Clinical nutrition and enteral feeding best practices.

Anti-Motility Drugs

Loperamide:

Doses:

- Minimum starting dose 4 mg QDS, 30 minutes before meals[1].

Mechanism:

- Inhibits intestinal peristalsis, increasing transit time and reducing fluid loss.

Contraindications:

- Severe hepatic impairment.
- Acute dysentery or infectious diarrhoea.

Warnings:

- Risk of paralytic ileus if overdosed; avoid in cases of suspected bowel obstruction.

Codeine Phosphate:

Doses:

- 30-60 mg every 4-6 hours as needed, not exceeding 240 mg daily.

Mechanism:

- Binds to opioid receptors, reducing gut motility and secretion.

Contraindications:

- Respiratory depression or severe asthma.
- Patients at risk of opioid addiction.

Warnings:

- May cause sedation and constipation; avoid use with alcohol or other CNS depressants.

1. Nightingale, J. M., & Woodward, J. M. (2006). Management of patients requiring parenteral nutrition. Gut, 55(Suppl 4), iv1-iv12.

Combining all we have learnt

Key actions when a high output is suspected/indentified

When a high output has been identified

Immediate

- Record accurate input and output
- Check bloods - sodium, potassium, magnesium and creatinine
- Low sodium, high potassium, low magnesium, high creatinine = dehydration
- Commence IV fluids
- Review medications - stop laxatives, stop NSAIDS
- Monitor stoma appliance for leakages
- Record entries in the stoma care plan

12-24 hours

- Monitor accurate input and output
- Commence Loperamide 4mg 4xdaily (tablets)
- Commence Omeprazole 40mg 2xdaily
- Monitor stoma appliance for leakages and condition of peristomal skin
- Refer to Dietitian for dietary and fluid advice
- Refer to Stoma Care CNS for teaching practice and suitable appliances
- Record entries in the stoma care plan
- High output stomas = >1500mls/24hrs

24-36 hours

- Recheck bloods daily, sodium, potassium, magnesium, and creatinine
- Refer to Nutrition Team for advice on types and amounts of oral fluids, TPN feeding/teaching, ?restriction of fluids to 1500mls/24hrs
- Daily assessment of output
- Review medications with the pharmacist and medical staff, ie; Loperamide dosage
- Increase Loperamide up to 10mg 4x daily - ideally output of <1200mls per day
- ?Commence Codeine Phosphate 30-60mg 4xdaily
- Absolutely **NO** fizzy drinks

Severe high output – unable to maintain hydration and U&E's

A reduction in volumes of fluid will reduce gut irritability which reduces gut transit time

Starchy foods help thicken output, high fibre foods increase faecal output, avoiding diary products reduces bloating and flatus

Fluids

- Intravenous infusion to maintain serum sodium above 140mmols
- Restrict oral intake to 500mls in 24 hrs
- Isotonic fluids enhance the re-absorption of water and salt

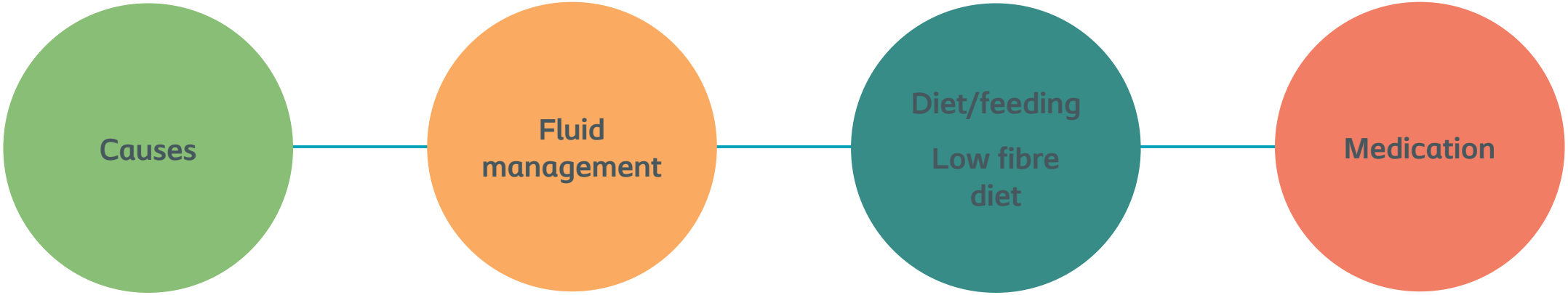
Monitoring

- Urinary sodium
- Daily weights – same time of day, same clothes
- Strict fluid balance chart
- Daily blood work

Medication

- Loperamide 4-12mg QDS
- Max of 48mg /24 hrs
- High does PPI Omeprazole 40mg BD

Oral management



- Post surgery
- Short gut
- Dietary
- Infection
- Medication

- Isotonic Fluids – as a substitute for water & low sodium drinks
- Avoid drinks ½ hr before, during and immediately after eating
- Take meds ½ hr pre eating

- Avoid pulses, greens, leafy veg, fruit with skins
- Eat little and often – carbs & proteins
- Snacks
- White food - bread, rice, bananas
- Add salt to food (not in renal/cardiac conditions)

- Loperamide (syrup or sublingual) 4mg
- Add Codeine 30mg TDS
- Omeprazole 40mg

Top Tips for managing a high output

Nursing team

- Strict fluid balance and documentation
- Use drainable/high output pouch (Burch 2011)
- Correct size template
- Encourage starchy food
- Give Loperamide 30 minutes before food
- Maintain skin integrity
- Stool sample
- MUST
- Offer Isotonic drinks

Medical team

- Restrict oral, hypotonic fluid to 500-1000ml in 24 hours
- Prescribe anti-motility drugs
  - Loperamide 4mg QDS (Sica & Burch 2007)
  - Codeine Phosphate 60mg QDS
- Consider IV Hartmanns, 5% Dextrose
- Check U&E's and FBC daily
- Urinary sodium

If symptoms persist

- Continue fluid restriction
- Continue IV fluids
- Check U&E's and FBC daily
- If deranged consider:
  - St Marks Solution
  - Sando-K/Calcium Resonium
  - Magnesium Oxide
- Increased Loperamide 8mg-16mg QDS
- Prescribe Omeprazole 20-40mg BD

Wrapping it all up

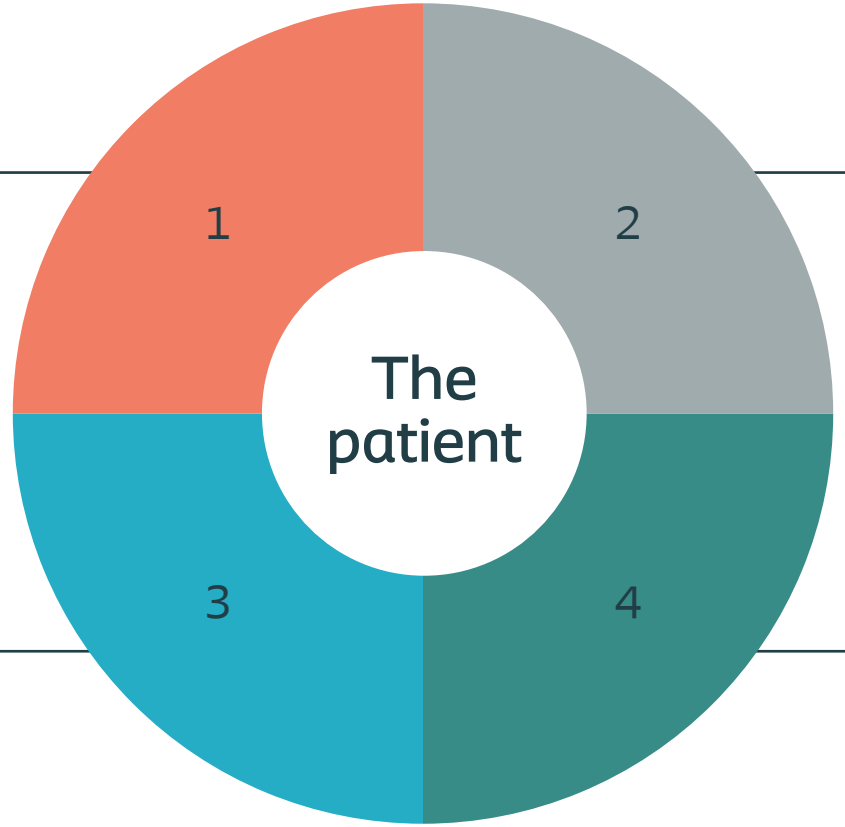
Integrating Knowledge to Transform Patient Care

Coloplast
Professional

Holistic Care Framework

Clinical:
Address dehydration, nutrition, and medical management.

Psychological:
Support mental health and reduce patient anxiety.



Social:
Empower self-care and provide caregiver support.

Collaborative:
Work as an interdisciplinary team to deliver integrated care.

Key Takeaways

1. **For Patients**: Empower them with education, tailored care plans and psychological support.

2. **For Caregivers**: Engage them as partners in care and provide resources to reduce their burden.

3. **For Teams**: Emphasise interdisciplinary collaboration for seamless care delivery.

Your Role in Transforming Care

1. **Advocate for Holistic Management**: Make holistic care a priority in your practice.

2. **Apply the Learning**: Use the tools and strategies discussed to improve patient outcomes.

3. **Collaborate and Educate**: Share knowledge with colleagues and empower patients and caregivers.

4. **Engage in Continued Learning**: Seek out additional resources, training, and mentorship opportunities.

References

- Alkaade, S., & Vareedayah, A. A. (2014). Managing high-output stomas. Gastroenterology & Hepatology, 10(11), pp. 756–763.
- Baker, M. L., Williams, R. N., & Nightingale, J. M. (2011). Causes and management of a high-output stoma. Colorectal Disease, 13(2), pp. 191–197.
- Black, P., & Cottrell, S. (2019). Stoma care: Multidisciplinary approaches to improving patient outcomes. British Journal of Nursing, 28(Sup14), pp. S4–S12.
- BMJ (2020). Management of dehydration in adults. BMJ, 370, m2780. [online] Available at: https://www.bmj.com/content/370/bmj.m2780 [Accessed 10 Jan. 2025].
- British Dietetic Association (BDA) (2022). Nutritional management of high-output stomas: Best practice guidelines.
- Brown, H., & Randle, J. (2005). Living with a stoma: A review of the literature. Journal of Clinical Nursing, 14(1), pp. 74–81.
- Cameron, I., et al. (2010). High-output stomas: Guidelines for management. British Journal of Nursing, 19(17), pp. 1062–1069.
- Davenport, R., Mackenzie, K., & Stewart, J. (2013). Management of peristomal skin complications in high-output stoma patients. Journal of Wound Care, 22(12), pp. 692–700.ESPEN Guidelines (2018). Clinical nutrition and enteral feeding best practices.
- Gabe, S. M., et al. (2005). Managing high-output stomas and enterocutaneous fistulas. Frontline Gastroenterology, 6(3), pp. 118–124.
- Holman, N., & Flook, R. (2020). Guidelines for the management of high-output stomas. British Journal of Nursing, 29(20), pp. S14–S20.
- Johnson, P., & Hall, S. (2018). Personalized care planning in chronic illness. Nursing Times, 114(3), pp. 26–29.
- McEvoy, P., & Duffy, A. (2008). Holistic practice – A concept analysis. Nurse Education in Practice, 8(6), pp. 412–419.
- Mount, D. (2015). Hyponatremia: Evaluation and management. The New England Journal of Medicine, 372(1), pp. 55–65.
- NICE Guidelines (2021). Enteral and parenteral nutrition in clinical practice.
- NICE Guidelines (2021). Stoma care: Management and dietetic considerations.
- Nightingale, J. M., & Lennard-Jones, J. E. (1999). Nutritional assessment and intestinal failure. Nutrition, 15(4), pp. 302–307.
- Nightingale, J. M., & Woodward, J. M. (2006). Guidelines for management of patients with a high-output stoma. Gut, 55(Suppl 4), pp. iv1–iv12.
- Nightingale, J. M., & Woodward, J. M. (2006). Management of patients requiring parenteral nutrition. Gut, 55(Suppl 4), pp. iv1–iv12.
- Nightingale, J. M. (2003). Management of patients with a short bowel. Postgraduate Medical Journal, 79(937), pp. 178–183.
- Persson, E., Hellström, A. L., & Hallén, A. M. (2010). Experiences of living with a permanent stoma. Ostomy Wound Management, 56(6), pp. 20–27.
- Pironi, L., et al. (2016). ESPEN guidelines on chronic intestinal failure. Clinical Nutrition, 35(2), pp. 247–307.
- Pironi, L., Arends, J., Baxter, J., et al. (2020). Management of high-output enterostomies. Clinical Nutrition, 39(4), pp. 1181–1193.
- Powell-Tuck, J., et al. (2008). Fluid and electrolyte balance in clinical practice. Hodder Arnold.
- Smith, G., Finch, T., & Shannon, R. (2017). Empowering patients in stoma care. British Journal of Nursing, 26(22), pp. S20–S25.
- Wade, B. E. (2016). Psychological impact of stoma surgery. Gastrointestinal Nursing, 14(6), pp. 21–27.
- World Health Organization (2017). Oral rehydration salts: Production of the new ORS. Geneva: WHO. Available at: https://www.who.int/publications/i/item/WHO-FCH-CAH-06.1 [Accessed 10 Jan. 2025].


Coloplast