Introduction
Stoma infection is a common complication of enteral feeding tube (G tube, GJ or combination G/GJ and J tube) placement. Wound infections occur on a continuum, from mild to severe, with accurate assessment, diagnosis and treatment leading to optimal outcomes. The impacts of misdiagnosis of stoma infection include:

- Unnecessary antibiotic use which increases risk of medication adverse effects and development of antibiotic resistant organisms.
- Unnecessary health care use (e.g., clinic and emergency department visits) and admissions to hospital.
- Patient pain, trauma, and risk of exposure to nosocomial infection during hospital visits.
- Unnecessary cost to families for visit, including transportation, medications, dressings, and missed work.
- Over testing (swabs).

This Clinical Practice Guideline (CPG) supports the practice of health care providers while managing stoma issues in patients with a G, GJ, combination G/GJ and/or J tube. The purpose of this CPG is to:

- Provide a standardized approach to the assessment and management of common stoma issues, including comparisons between different skin issues such as infection, hypergranulation tissue and contact dermatitis.
- Offer an interactive, visually focused tool that promotes streamlined care and ongoing clinical thinking related to appropriate wound swabbing, the use of antibiotic therapies and documentation and follow-up practices.
- Optimize the patient experience by being able to quickly identify stoma issues.

Definitions (additional relevant definitions may be found here)
- **Stoma**: As it relates to enteral feeding tubes, a stoma is an incision or hole created by a General Surgeon, Interventional Radiologist or Gastroenterologist that leads to the stomach or jejunum.
- **Hypergranulation tissue**: Hypergranulation is an increase in the proliferation of granulation tissue such that the tissue progresses above or over the wound edge and inhibits epithelialization (the process of covering raw tissue with new skin). It presents as raised, soft/spongy, shiny, friable, red tissue.
- **Infection**: When the quantity of microorganisms in a wound become imbalanced such that the host response is overwhelmed, and wound healing becomes impaired. Transition from non-infected to infected is a gradual process determined by the quantity and virulence of microbial burden and the individual’s immune response. Transient redness an irritation may be commonplace and not always a sign of infection.
• **Failed first line of treatment**: Stoma infection that persists despite completing first line treatment.
• **Recurrent infection**: Multiple new stoma infections within a short period of time. At SickKids, more than 3 new infections within 1 year is considered recurrent.

**Clinical Practice Recommendations**
The Enterostomy Tube Stoma Assessment Pathway supports health care providers in recognizing the signs and symptoms of stoma issues and provides a tool for management.

[Click here for the Enterostomy Tube Stoma Assessment Pathway](#)

**If you require assistance with stoma assessment for SickKids patients:**

*Providers outside of SickKids*
Contact the G Tube Resource Nurse Monday – Friday 8:30 am – 4:00 pm by phone (416-813-7177) or email (g.tubenurse@sickkids.ca). After hours, email a photo and the G Tube Resource Nurse will follow-up within 1-2 business days.

*Providers at SickKids*
Contact the G Tube Resource Nurse Monday – Friday 8:30 am – 4:00 pm by Vocera, phone (207177), or email (g.tubenurse@sickkids.ca). Please upload a photo of the stoma to Epic. After hours, email the G Tube Resource Nurse and they will follow-up within 1-2 business days.

*For non-SickKids patients, contact your local G Tube Specialist*

**Other Clinical Considerations**
- **Antimicrobials**
- **Infection prevention**
- **Managing the wound biofilm – chronic wounds affecting enteral feeding tubes**
- **Wound cultures and treatment**

**Statement of Evidence**
The authors performed an extensive literature review and benchmarked practice to other pediatric tertiary care centers. The recommendations found within this CPG and the Enteral Tube Stoma Assessment Pathway were adapted from guidelines established in the Wound Infection in Clinical Practice: Principles of Best Practice (International Wound Infection Institute, 2022) and the Best Practice Recommendations for the Prevention and Management of Wounds (Wounds Canada, 2017). Medication recommendations are based on the Anti-Infective Guidelines for Community-Acquired Infections (2019). There was no conflict of interest amongst the guideline group and reviewers.
**Guideline Group and Reviewers**

**G Tube Feeding Program Nursing Team**
Alicia Hayes, Registered Nurse  
Danielle Loveland, Registered Nurse  
Holly Norgrove, Registered Nurse  
Samantha Cicciarella, Nurse Practitioner  
Silvana Oppedisano, Nurse Practitioner

**Physician Leads**
Dr. Sanjay Mahant, Staff Physician, Paediatric Medicine, SickKids  
Dr. Tanvi Agarwal, Staff Physician, Paediatric Medicine, SickKids

**Internal Reviewers (SickKids)**
Dr. Anne Dipchand, Staff Physician, Cardiology  
Antimicrobial Advisory Council  
Dr. Anupma Wadhwa, Staff Physician, Infectious Diseases  
Cathy Daniels, Nurse Practitioner, Complex Care Program  
Christina Yadav, Registered Nurse, Wound Care Team  
Cindy Truong, Registered Nurse, Wound Care Team  
G Tube Feeding Program Management Guidance Committee  
Interprofessional Practice Committee  
Dr. Irene Lara-Corrales, Staff Physician, Dermatology  
Joanna Soscia, Nurse Practitioner, Complex Care Program  
Kathryn Timberlake, Clinical Pharmacist  
Michelle Lee, RN, Dermatology  
Monping Chiang, Nurse Practitioner, General Surgery  
Dr. Olivia Ostrow, Staff Physician, Emergency Medicine  
Sylvia Wong-Sterling, Nurse Practitioner, GIFT Program

**External Reviewers**
Dr. Alisha Ladha, Staff Physician, Holland Bloorview Kids Rehabilitation Hospital  
Carol Bonfield, G Tube Feeding Program Family Advisor  
Cindy Holland, Nurse Practitioner, Pediatric General Surgery, HSC Winnipeg Children’s Hospital  
Dr. Ronik Kanani, Chief of Pediatrics, North York General Hospital

**Simulation**
Simulation was used as a quality improvement tool to test and validate the usability and functionality of the CPG.

**SickKids Simulation Educators**
Alison Dodds
Jennifer Allegro

Tabletop Simulation Participants
Anna Polanski, Nurse Practitioner, SickKids General Surgery
Dr. Deena Savlov, Pediatrician, Kindercare Paediatrics
Frances Mahon, Nurse Practitioner, McMaster Health Sciences
Dr. Julia Orkin, Medical Director, SickKids Complex Care Program
Julia Yole, Nurse Practitioner, McMaster Health Sciences General Surgery
Dr. Julie Johnstone, SickKids Staff Physician
Kathleen Andres, Nurse Practitioner, SickKids, General Paediatrics Inpatient
Lianne Dulsrud, Nurse Practitioner, SickKids Complex Care Program
Dr. Marie-Pier Lirette, SickKids Paediatric Emergency Medicine Fellow
Reenu Chokkhar, Registered Nurse, SickKids Connected Care
Samantha Cicciarella, Nurse Practitioner, SickKids G Tube Feeding Program
Silvana Oppedisano, Nurse Practitioner, SickKids G Tube Feeding Program

Special thanks to Luke Itani, Graphic Artist in the SickKids Creative Services Studio, for his ongoing dedication to the creation of this CPG.

Supporting Documents
Dressing Options
Assessing exudate
Levine Wound Swab Technique
SickKids e-Formulary

References


©The Hospital for Sick Children (“SickKids”). All Rights Reserved. This document was developed solely for use at SickKids. SickKids accepts no responsibility for use of this material by any person or organization not associated with SickKids. A printed copy of this document may not reflect the current, electronic version on the SickKids Intranet. Use of this document in any setting must be subject to the professional judgment of the user. No part of the document should be used for publication without prior written consent of SickKids.

Wound Care Education Institute: Exudate: The Type and Amount Is Telling You Something Published on January 29, 2016 by Keisha Smith, MA, CWCMS https://blog.wcei.net/exudate-the-type-and-amount-is-telling-you-something


Attachments:

- Additional Definitions.pdf
- Antimicrobials.pdf
- Assessing Exudate.pdf
- Biofilm.pdf
- CPG FINAL (May 2023).pdf
- Dressing Options.pdf
- Infection Prevention.pdf
- Levine wound swab.pdf
- Wound Cultures.pdf