

Managing Late Complications of Gastrostomy Tube Insertion

Sarah Fagan

PEG Credentialed Dietitian

(acknowledgement to Lisa Murnane)

Overview

Management of:

- Gastric Leakage
- Hypergranulation Tissue
- Buried Bumper Syndrome
- Dislodged Tubes
- Migrating Tubes

CASE 1: Miss GL

- 3 monthly PEG clinic appt
- Feed leaking out of PEG site
- Staining her t-shirt
- Very upset and embarrassed



Gastric Leakage

- Leakage of enteral formula &/or gastric contents from the gastrostomy stoma site can be a significant management problem⁽¹⁾
- Complication rate is 1-2%⁽²⁾
- Exact etiology is not known
- No difference in gastric leaking rates between PEG and RIG⁽³⁾
- Increase burden of care for patients:
 - Pain & discomfort
 - Leaking on clothes & hygiene
 - Social isolation
 - Associated financial burden with treatments/dressings

1. Lynch C, Fang J. Prevention and Management of Percutaneous Endoscopic Gastrostomy (PEG) Tubes. Practical Gastroenterology. 2004;66-9.
2. Sherwin. Complications Related to Percutaneous Endoscopic Gastrostomy (PEG) Tubes. A Comprehensive Clinical Review. Journal of Gastrointestinal and Liver Disease. 2007;16:407-18.
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Gastric Leakage

Risk Factors ^(2, 4)	Management
Impaired wound healing <ul style="list-style-type: none"> - Unstable BGL's - Malnutrition - Immuno-compromised 	Improve BGL's and nutrition status
Infected gastrostomy stoma site	Inspect stoma site for infection <ul style="list-style-type: none"> - swab & culture Consider antibiotics
Gastric hyper secretion	Consider use of proton pump inhibitors
Excessive cleaning with corrosive agents (hydrogen peroxide)	Advise on recommended cleaning method
Excessive device movement	Correct position of internal & external bumper Consider use of low profile tube to reduce torsion

2. Sherwin. Complications Related to Percutaneous Endoscopic Gastrostomy (PEG) Tubes. A Comprehensive Clinical Review. Journal of Gastrointestinal and Liver Disease. 2007;16:407-18.

4. McClave SA, Neff RL. Care and long-term maintenance of percutaneous endoscopic gastrostomy tubes. JPEN. 2006;30(1 Suppl):S27-38.

Gastric Leakage

- The use of a larger tube is not indicted⁽¹⁾
- Remove tube for several hours to allow tract to reduce in size⁽²⁾
- If gastric pressure is of concern, trial venting of gastrostomy tube
- Monitor & treat constipation
- Consider jejunal extension, especially if gastric dysmotility is a contributing factor
- Last resort..... re-site gastrostomy feeding tube

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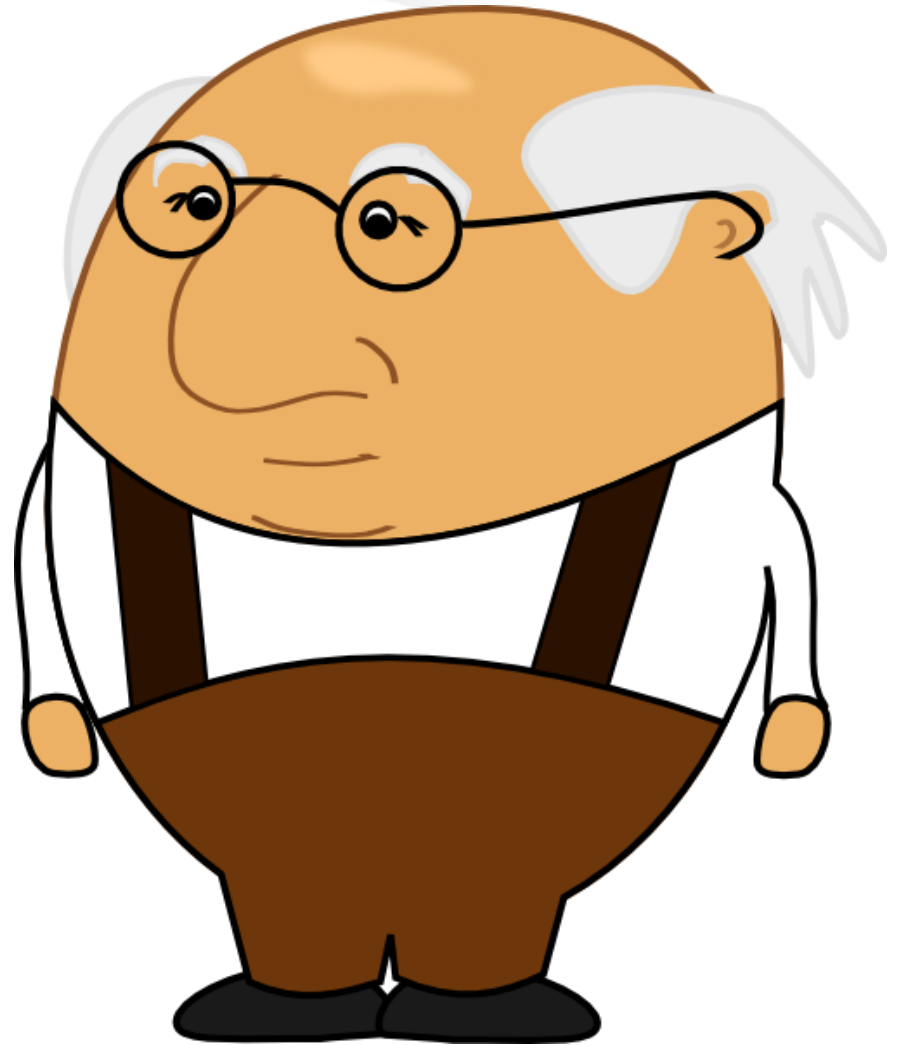
CASE 1: Miss GL

- Commenced on protein pump inhibitor (Nexium) and bowel regime (lactulose + coloxyl and senna) and problem resolved



CASE 2: Mr HT

- Red lump of skin under PEG site
- Not sore but occasionally bleeds if knocked





Hypergranulation

- Also called
 - granulation
 - hypertrophic granulation
 - hyperplasia of granulation tissue
 - proud flesh
- Minor complication but not uncommon

Hypergranulation - Clinical Features (4)

- Highly vascular
- Moist and bleeds easily
- Dark pink or light red flesh
- Smooth, bumpy or granular
- Forms beyond the surface of the stoma opening



Hypergranulation – WHAT is it from??

- Exact etiology is unknown
- Widely accepted that the cause is related to an inflammatory response predicated by:
 - Excessive moisture
 - Prolonged inflammation^(6, 7)
 - Oedema⁽⁸⁾
 - Mechanical or trauma^(5, 9)
 - Reaction to foreign body^(6, 7)
 - Allergy/ hypersensitivity

5. McGrath A. Clinical review: Overcoming the challenge of overgranulation. . Wounds. 2011;7(1):42-9.

6. Harris A, Rolstad B. Hypergranulation tissue: a non-traumatic method of management. Ostomy Wound Management. 1994;40(5):20-30.

7. Nelsen L. Wound care: points of friction. Nursing Times. 1999;95(34):72

8. Vandeputte J, Hoesktra H. Observed hypergranulation may be related to oedema of granulation tissue.

http://www.medlineplace.com/woundcare/products/dermagel/PDFs/Observed_Hypergranulation.pdf2006 [cited 4th July 2014].

9. Hanlon M, Heximer B. Excess granulation tissue around a gastrostomy tube exit site with peritubular skin irritation. . Journal of Wound Ostomy and Continence Nursing. 1994;21(2):76-7.

Hypergranulation - Prevention

- Keep stoma clean & dry ⁽¹⁰⁾
- Prevent excessive friction
- Ensure correct position of external flange/bolster
- Monitor for signs of infection
- Ensure low-profile device is fitted correctly ⁽⁵⁾



5. McGrath A. Clinical review: Overcoming the challenge of overgranulation. . Wounds. 2011;7(1):42-9.

10. Dunford C. Hypergranulation Tissue. . Journal of Wound Care. 1999;8(10):506-7.

Hypergranulation - Management

Hypergranulation should not be treated unless it is problematic ⁽¹⁰⁾

Treatment Options	Indications / Contraindications
Foam Dressing ^(6, 11, 12)	<ul style="list-style-type: none">- Non-occlusive & absorbent- Apply firmly to create local pressure
Hypertonic sodium chloride dressing (i.e. Mesalt™, Curasalt™)	<ul style="list-style-type: none">- Absorbs exudate- Hypertonic environment is unfavourable to bacteria- Apply for 3-4 weeks- Avoid application to unaffected skin- Minimal evidence & expensive
Topical Steroids ⁽¹³⁾ (i.e. corticosteroid cream)	<ul style="list-style-type: none">- Promotes collagen breakdown- Not licensed for this use- Little evidence of efficacy

6. Harris A, Rolstad B. Hypergranulation tissue: a non-traumatic method of management. *Ostomy Wound Management*. 1994;40(5):20-30.

10. Dunford C. Hypergranulation Tissue. *Journal of Wound Care*. 1999;8(10):506-7.

11. Williams C. Lyofoam. *British journal of nursing*. 1996;5(12):757-59.

12. Rollins H. Hypergranulation tissue at gastrostomy site. *Journal of Wound Care*. 2000;9(3):127-9.

13. Stephen-Haynes J. Achieving effective outcomes in patients with overgranulation. *Wound Care Alliance UK*. 2010.

Hypergranulation - Management

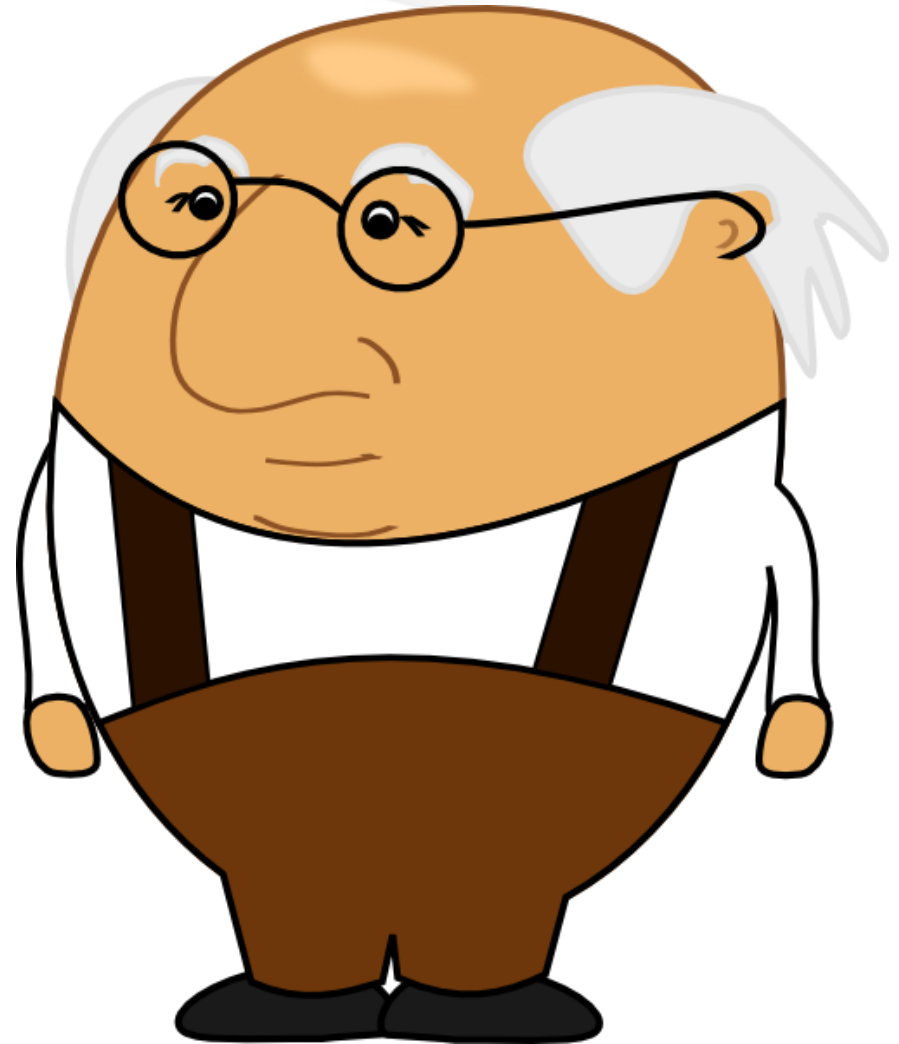
Treatment Options	Indications / Contraindications
Topical antimicrobial products (i.e. povidone-iodine: Betadine™, cadexomer-iodine) (WUWHS best practice statement)	Use for 10-14 days
Silver Nitrate(5, 13)	Not ideal Can cause further inflammation Requires multiple treatments Potential to damage surrounding skin May cause pain Should only be considered as last option
Systemic antibiotics (WUWHS 2008)	Not recommended for local wound infections

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CASE 2: Mr HT

- Foam dressing applied daily for 3 weeks
- Reiterated importance of drying around PEG site and cleaning with soapy water daily



CASE 3: Mr BB

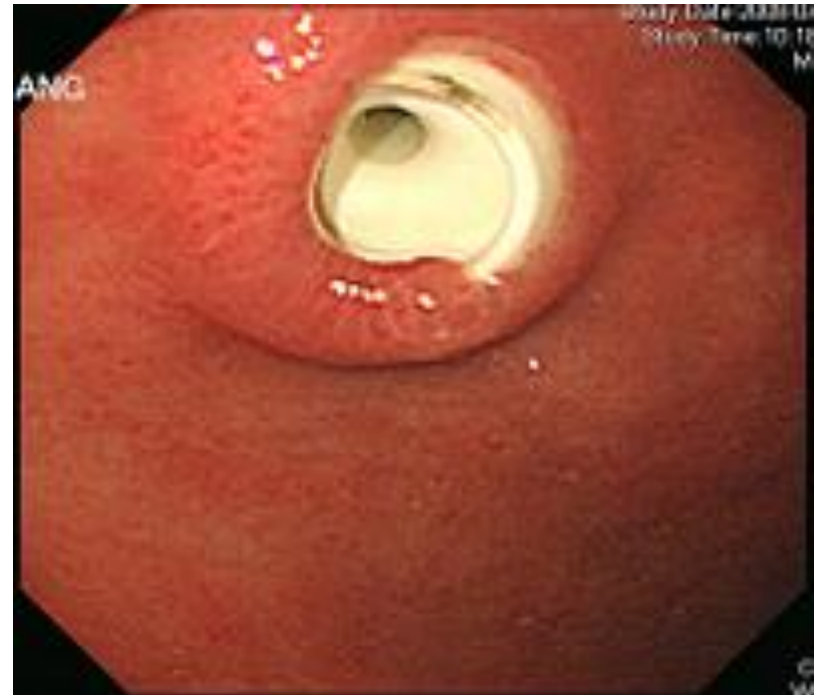
- 3 monthly visit to PEG clinic
- Pain when dietitian attempting to rotate PEG and moving PEG in and out





Buried Bumper Syndrome⁽¹⁴⁾

- Buried bumper syndrome is a rare complication
- Usually prevented by:
 - Daily 360 degree rotation
 - External flange pulled along tube away from skin, tube pushed inwards 2-3 cm then carefully pulled back to resistance of internal fixation device



Buried Bumper Syndrome⁽¹⁴⁾



- Clinical features:
 - Unable to do above prevention measures
 - Protrusion at stoma site
 - External marking less than usual (i.e. close to 1cm)
- Nearly always removed via endoscopy

CASE 3: Mr BB

- PEG removed via endoscopy and new tube placed
- Reminded regarding importance of daily rotation



CASE 4: Ms MG

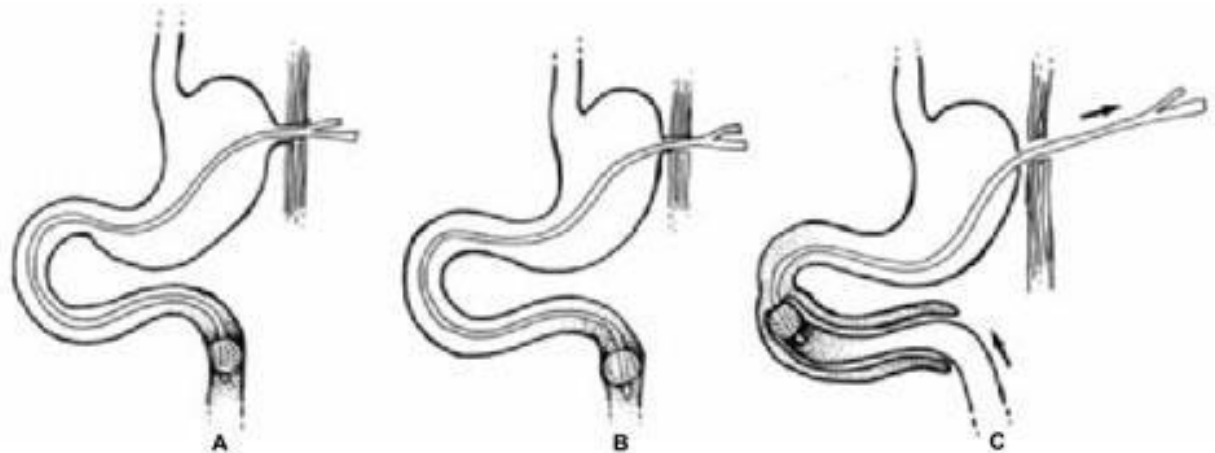
- Phone call to Dietitian.....
- Nausea++ when feeding



Migrating Gastrostomy Tube

Clinical Features

- cm marking at skin greater (eg. 5cm compared to 2cm)
- Y-port sitting at skin level
- Symptoms of gastric outlet obstruction: nausea & vomiting, epigastric pain, abdominal distension



Migrating Gastrostomy Tube

Management

- Do not pull tube back to normal position if excessive resistance
- Deflate balloon, pull back to usual cm marking
- Reinflated balloon to usual volume
- Secure external fixation device close to skin with clip or bread tie
- Consider low-profile device

CASE 4: Ms MG

- Advised to check cm marking...
- PEG had been retracted into stomach.
- Pulled back out to usual marking and flange tightened to skin level
- Advised to place bread tie to keep flange in correct position



CASE 5: Mr DG

- Phone call to dietitian
- VERY DISTRESSED!!!
- PEG has fallen out at work



Dislodged Gastrostomy Tube

- Tube dislodgement usually occurs due to:
 - Burst or deflated balloon
 - Tube disintegration
 - Patient ‘pulling’ at tube
- A displaced gastrostomy tube requires prompt attention to prevent the stoma/tract from closing.
- Most health services have protocols to manage dislodged feeding tubes.

Dislodged Gastrostomy Tube

Early / Initial Displacement⁽¹⁵⁾

- Within 0-4 weeks of insertion, tract/fistula may not be fully mature
- Removal of gastrostomy tube during this time may cause peritonitis
- ‘Blind’ insertion of replacement gastrostomy at bedside is NOT recommended within 2-4 weeks of insertion
- Urgent replacement should occur via endoscopy or radiology
- After 2-4 weeks a replacement balloon gastrostomy may be inserted at the bedside by a suitably qualified professional

Dislodged Gastrostomy Tube

Late Displacement⁽¹⁵⁾

- Most commonly seen in balloon-retained devices.
- Within approximately 4 weeks stoma tract is matured & well formed.
- Tube displaced = established tract can close within 12-24hrs.
- To preserve the fistula:
 - Reinsert feeding tube into stoma & tape to skin. Do not use until device is replaced by a suitably qualified professional.
 - If replacement tube unavailable, temporary use Foley/urinary catheter of same gauge/French to keep tract open. Tape to skin, do not use.

CASE 5: Mr DG

- Told to put PEG tube back into stoma, tape down and DO NOT use
- Presented to ED
- Balloon had burst (10 months since placed)
- Tube replaced at bed side



Reference List

1. Lynch C, Fang J. Prevention and Management of Percutaneous Endoscopic Gastrostomy (PEG) Tubes. *Practical Gastroenterology*. 2004:66-9.
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13. Stephen-Haynes J. Achieving effective outcomes in patients with overgranulation. *Wound Care Alliance UK*. 2010.
14. Loser C, Aschl G, Hebuterne X, Mathus-Vliegen EM, Muscaritoli M, Niv Y, et al. ESPEN guidelines on artificial enteral nutrition--percutaneous endoscopic gastrostomy (PEG). *Clin Nutr*. 2005;24(5):848-61.
15. Westaby D, Young A, O'Toole P, Smith G, Sanders DS. The provision of a percutaneously placed enteral tube feeding service. *Gut*. 2010;59(12):1592-605.