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Royal Cornwall Hospitals NHS Trust

Troubleshooting Percutaneous Endoscopic Gastrostomy (PEG) and Radiologically Inserted Gastrostomy (RIG) for Adults Only Clinical Guideline

V2.0

August 2019

Summary

Patient presents with gastrostomy complication:

PEG/RIG tube fallen out or displaced Urgent replacement required

Contact Interventional Radiology (IR) (01872 253962)
And/or contact Nutrition Nurse Specialist.

Out of hours call on call Consultant Radiologist through switch.

If placement of RIG/PEG is less than 8 weeks refer to Radiologist for replacement under fluoroscopy

IF Competent and placement of PEG/RIG >8 weeks
Attempt to replace a new balloon gastrostomy tube of the same size. Ensure tube position is confirmed in the stomach: gastric pH 5.5 or less and/or X-Ray confirmation.

If not competent or unsuccessful placement og gastrotomy tube

Insert ENPLUG (available in ED Grab box) **as per manufacturer's instructions**

Or Attempt to insert a smallersize Foley catheter and secure to abdomen with tape.

Do **not** feed through Foley catheter – this is to maintain stoma tract **only** until Radiologist or Nutrition Nurse available.

If procedure in IR delayed consider administrating IV fluids. Keep Nil by mouth (NBM)

Pain, fresh bleeding, leakage of gastric contents around PEG/RIG

Do **not use** the Gastrostomy tube
STOP any feed immediately
Seek Urgent senior medical review,
NEWS monitoring
Consider Abdominal X-Ray, CT scan, and/or
Gastroenterology or Surgical review

Consider IV fluids to maintain hydration.

Analgesia if required.

Gastrostomy tube broken or blocked

Blocked Try flush with warm water and massage tube using push-pause technique may take >30 minutes.

Use a 20mls purple enteral syringe but do not exert excessive pressure

Try carbonated water/ or 1 teaspoon bicarbonate diluted in pint water.

Pancrex V capsules. See guideline

May need IR to unblock/ replace tube discuss with Radiologist or Nutrition Nurse Specialist

Broken - Contact Nutrition Nurse or refer on feeding tube support on MAXIMs if not urgent.

Consider IV fluids until gastrostomy replaced in IR to maintain hydration

Ensure patient is NBM

Ensure oral medications switched to IV route if required and as per pharmacist instructions.

Percutaneous endoscopic gastrostomy (PEG) and Radiologically Inserted Gastrostomy (RIG) Care Pathway, 24 hours post insertion; on return to ward:

Check **PEG** site for signs of:

- Bleeding,
- Leakage from stoma,
- Tube displacement,
- Ensure external fixation device remains at 2-3mm from the skin. (Contact nutrition team/endoscopy if any concerns).

Check **RIG** site for signs of:

- Bleeding
- Leakage From Stoma
- Tube displacement
- Ensure suture are secure (these will remain in situ for 10 days)

OBSERVATIONS, as per NEWS

PAIN MANAGEMENT:

- Assess patient regularly for pain, provide adequate analgesia, particularly in the first 72 hours.

PEG

Patient to remain nil by mouth and tube for the next 4 hours from the time of insertion.
The patient **may** require IV fluids in the interim.

After 4 hours and if there are no complications*,

- Flush the tube with 50mls of water, if there is no resistance and the patient feels comfortable the feeding regime can be commenced, as per dietitian.
- Oral diet and fluids can commence if able and as per speech and language therapist (SLT) if unsafe swallow. (Refer to yellow therapeutic swallowing advice sheet if appropriate)

NB; the fixation plate should not be moved for the first 2 weeks, unless it is too tight or loose then contact Nutrition nurse #3089

RIG

Patient to remain nil by mouth and tube for the next 12 hours from the time of insertion.
The patient **will** require IV fluids in the interim.

After 12 hours and if there are no complications*,

- Connect a hydro bag with 600mls water to RIG running at 50ml/hr over 12hours. If pain on administration stop immediately and seek further assistance.
- Clear oral fluids only can commence if able and as per speech and language therapist (SLT) if unsafe swallow. (Refer to yellow therapeutic swallowing advice sheet if appropriate)

24 hours post insertion and if no complications*;

- Administer initial bolus feed (suggest 50ml fresubin original, as a test) to be prescribed by ward Doctor.
- Feeding regime can be commenced as per Dietitian
- Patient can restart oral diet and fluids if able or as per SLT.

*pain, fresh bleeding, leakage of gastric

1. Aim/Purpose of this Guideline

1.1. This guideline is intended to assist decision making in all clinical areas admitting or caring for patients with Percutaneous Endoscopic Gastrostomy feeding tubes (PEGs) or Radiological Inserted Gastrostomies feeding tubes (RIGs) where there may be a problem, i.e. displaced, blocked, damaged, patient presenting with acute pain particularly in a newly placed gastrostomy. This document is likely to be used mainly on Acute Medical Unit, Same Day Medical Assessment, acute GP, urgent treatment centre and in Emergency Department, although all clinical areas will need to have access to it. This document can be read in conjunction with the PEG referral and placement guideline – Percutaneous Endoscopic Gastrostomy (PEG) Referral and Placement Clinical Guideline

1.2. The guideline is to ensure that the key symptoms of complications post-insertion and their significance are known to all staff involved in the immediate aftercare of patients who have gastrostomy feeding tubes to reduce the risk of complications developing into critical illness or death. This document does not cover complications with transgastric jejunostomy feeding or surgical jejunostomy feeding tubes.

1.3. This version supersedes any previous versions of this document.

1.4. **Data Protection Act 2018 (General Data Protection Regulation – GDPR) Legislation**

The Trust has a duty under the DPA18 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed and documented. We can't rely on Opt out, it must be Opt in.

DPA18 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the DPA18 please see the 'information use framework policy', or contact the Information Governance Team rch-tr.infogov@nhs.net

2. The Guidance

2.1. Definitions

- **Percutaneous Endoscopic Gastrostomy (PEG)**

A tract is made into the stomach via endoscopy under local anaesthetic and a feeding tube is inserted. It is held in place by an external fixation device and a soft plastic bumper internally. NB: Standard size 16 French.

- **Radiologically Inserted Gastrostomy (RIG)**

A gastrostomy tube is inserted under X-ray (fluoroscopy or ultrasound) guidance and is usually indicated if an endoscopic procedure cannot be performed. It can be replaced by balloon gastrostomies once the stoma site has healed. Standard size 12French

- **Balloon gastrostomy tube (BGT)**

The gastrostomy is held in place by a balloon filled with sterile water. The volume of the balloon should be checked weekly to ensure it is inflated sufficiently to prevent tube displacement as per manufacturer's instructions.

- **Low Profile Gastrostomy Device (LPGD)**

LPGD also known as button gastrostomy is a small device that sits close to the skin and is usually held in by a balloon. It has the same function as a PEG but is less cumbersome, easier to conceal, less obtrusive and may be useful for those patients that pull at their gastrostomy. Extension sets are connected onto the "button" part to enable water, feed, or medications to be administered. Once completed, the extension set is removed. LPGDs can be inserted into most patients once a stoma tract is established but are usually used more frequently in children than adults.

- **Surgically placed gastrostomy**

A gastrostomy feeding tube is inserted surgically under general anaesthetic. This is often used when a patient is unable to tolerate an endoscopy or an endoscope cannot be passed. These tubes may or may not be held in place by sutures so check before removing any sutures.

2.2. Following insertion of a RIG or PEG the following complications may occur immediately post op or may be delayed

2.2.1. **Immediate (<72h):** hemorrhage, perforation, peritonitis and/or aspiration.

2.2.2. **Delayed (>72h):** peristomal leakage or infection gastric outlet obstruction, buried bumper syndrome (migration of internal bumper of PEG tube into gastric or abdominal wall), dislodged PEG tube, skin or gastric ulceration, blocked PEG tube, tube degradation, over granulation around insertion site and gastric fistula after removal of PEG tube.

2.3. Pain on feeding or external leakage of gastric contents or fresh bleeding

Stop feed immediately. Seek urgent senior medical review. See also PEG referral pathway clinical guideline: Percutaneous Endoscopic Gastrostomy (PEG) Referral and Placement Clinical Guideline

2.4. Blocked RIG/PEG tubes

- Prevention and good operator practice and professional competence is the key
- Flush with sterile water (in hospital) before & after each feed & between and after all medicines (cooled boiled tap water in the community)
- Do not mix medicines together.
- If blocked try flushing with warm water and manipulate/ massage the tube near the blockage and using Push pause flushing technique to create turbulence and remove debris.
- Consider bicarbonate diluted in water i.e. 1 tsp in 1litre of water (strength of solution).
- Smaller syringes (20ml purple Enteral) can be used with caution but do not exert high pressure as high risk of rupturing the tube.

- Do not insert Guide wires into the tube to unblock blind at the bedside.
- Pancrex V enzymes can be used in hospital contact Pharmacist for advice
- In some instances it may be necessary to replace the entire tube this is not so easy in the case of a PEG as it needs to be traction removed by the radiologists.
- Contact Nutrition Specialist Nurse for support Monday- Friday only

2.5. RIG/PEG is displaced/ fallen out.

2.5.1. During working hours contact Newlyn unit x 3962 to discuss with a Consultant Radiologist. *See also care plan CHA3926 emergency replacement of gastrostomy checklist (adults only) –*CHA3400: Gastrostomy tube and stoma site complications – Stoma site Infection

2.5.2. <8 weeks since primary insertion of PEG/RIG

CAUTION Note the gastrostomy tract may take several weeks from initial insertion (particularly in malnourished patients) to mature i.e. up to 8 weeks and therefore there is a risk that a replacement tube may be replaced into the peritoneum. Care should be taken with these patients and procedure should be performed by a health care practitioner with experience. Ideally they should be replaced by a radiologist under fluoroscopy guidance. Patients at discharge are advised to attend ED urgently for prompt replacement and to avoid a new procedure.

2.5.3. 2.4.3. >8 weeks since primary insertion of PEG/RIG

If primary placement is greater than 8 weeks and the gastrostomy tract appears healed and healthy then aim to replace displaced PEG/RIG with a balloon gastrostomy tube (BGT) as soon as possible. These are available from Newlyn unit in hours and/ or Emergency Department grab box out of hours i.e. weekends, nights and bank holidays size 12 French (FR)

2.5.4. Aim to replace the PEG/RIG tube with the same size BGT or smaller where possible. The patient may have a spare tube with them. It may not be possible to replace the tube depending how long the tube has been displaced as the tract will begin to heal quickly, within 2 hours in some cases.

2.5.5. If the tract has started to heal then the tract may need dilatation and replacement in Newlyn unit following discussion with Consultant Radiologist along with a referral on MAXIMS. This is a Monday – Friday service with an out of hour's service at the discretion of the Radiologist on call.

2.5.6. If a BGT is not available or of the correct size and/or the tract has started healing then

2.5.6.1. Consider inserting an ENPLUG. ENPLUG™ is designed for emergency temporary measure to keep gastrostomy stomas from closing or at least reduce the risk of stoma closures when a gastrostomy device has fallen out or been pulled. Insert as per manufacturer's instructions. These are available in sizes 10FR, 12FR, 14FR and 16FR and are 7cm length. They should be available in Emergency Department grab box or Phoenix ward.

or

2.5.6.2. Consider inserting a smaller size Foley catheter, which is to maintain the tract open **only and until** a definitive and safe tube replacement can be arranged. A Foley should **not** be used for administering feeds, medicines or water. The patient **MUST NOT** be discharged home with Foley catheter in place.

2.5.7. If a BGT is placed then confirmation of position **must** be checked. Aspirate from BGT and test gastric fluid with CE marked pH indicator strips for the testing of human gastric aspirate (as per manufacturer's instructions). The gastric pH should be 5.5 or less to help determine if placement is in the stomach and therefore safe to use for feeding, medicines and water. If there any concerns the tube will need to be X-rayed to confirm safe to use before discharge home.

2.5.8. pH may not a reliable or safe method if the patient is taking a Proton Pump Inhibitor (PPI). In this situation consider checking pH before PPI is due or X-ray confirmation

2.5.9. The BGT should not be used for administration of feeding/ medication or water until the position has been checked by pH. However if this is not possible then the tube position will need to be confirmed by fluoroscopy, this will need to be discussed with the Consultant Radiologist and requested on MAXIMS.

2.5.10. Stoma site leakage of gastric contents see also care plan CHA 3397 CHA3397: Gastrostomy tube and stoma site complications - Gastric leakage

- Check for constipation and treat if required
- Consider Prokinetics to promote gastric emptying if appropriate
- Consider Proton Pump Inhibitor to reduce acid content of leakage and prevent skin excoriation
- Ensure that the external fixation plates are correctly positioned. It should be 2-3mm away from the skin to avoid excessive movement.
- Balloon gastrostomy tube/ RIG - check that the correct amount of water is in the balloon and it is changed weekly as the water can evaporate over time and the balloon can deflate which may exacerbate any leakage.
- Apply barrier creams
- Consider discussing PEG O'gram with consultant radiologist

2.6. Infection see also care plan CHA 3400 CHA3400: Gastrostomy tube and stoma site complications – Stoma site Infection

- Take a swab for culture & sensitivity document date and time
- NEWS monitoring
- Monitor site for inflammation, pain and worsening infection.

Bacterial infection identified:	**Fungal infection Identified:**
• Topical antibiotics may be suitable for minor infections. • Systemic antibiotic cover is required for more severe infections- seek medical / microbiology advice. • Consider silver dressing to treat	• If Candida is present at the stoma site treat as prescribed and consider changing the tube as Candida can penetrate the tube material and continue to re-infect the site. • Consider systemic and topical antifungal

infection • Change tube to coincide with antibiotic therapy	treatment

2.7. **Contact details**

- Interventional Radiology (IR) Ext. 01872 253962/2344 Mon-Fri 9-5pm. Sat/Sun 9-5pm contact on call Consultant IR via switchboard.
- Nutrition Specialist Nurse (PEGS/ RIGs) contact RCH switchboard 01872 250000 and bleep 3089 or 01872 252409 / 2301 or on MAXIMS 'feeding tube support' service this is monitored regularly through the day note: referrals after 2pm will be actioned the next working day.
- Head & neck Specialist Nurse (RIGS) via RCH switchboard

3. Monitoring compliance and effectiveness

Element to be monitored	Monitor all complications that occur as far as is possible to capture this data.
Lead	Gastroenterology
Tool	Datix incident reporting – review of related incidents
Frequency	Monitor through Governance meetings and DATIX reporting
Reporting arrangements	Each department involved in gastrostomy will be expected to audit their practice and communicate any deviation from this guideline. Reporting to Nutrition steering group
Acting on recommendations and Lead(s)	Gastroenterology Governance meetings PEGs Interventional Radiology Governance – RIGs
Change in practice and lessons to be shared	Required changes to practice will be identified and actioned through Nutrition Steering group/Matron/ Sister meetings

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Inclusion & Human Rights Policy' or the Equality and Diversity website.

4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Document Title	Troubleshooting Percutaneous Endoscopic Gastrostomy (PEG) and Radiologically Inserted Gastrostomy (RIG) for Adults Only Clinical Guideline V2.0		
Date Issued/Approved:	05 August 2019		
Date Valid From:	August 2019		
Date Valid To:	August 2022		
Directorate / Department responsible (author/owner):	Gastroenterology Tracy Lee/ Nutrition specialist nurse		
Contact details:	01872 252409		
Brief summary of contents	The document supports health care professionals caring for patients with PEGs or RIGs To ensure that the key symptoms of complications post-insertion and their significance are known to all staff involved in the immediate aftercare of patients who have been given gastrostomies, to reduce the risk of complications developing into critical illness or death..		
Suggested Keywords:	PEG, RIG, Gastrostomy, blocked Gastrostomy, misplaced Gastrostomy		
Target Audience	RCHT	CFT	KCCG
	✓		
Executive Director responsible for Policy:	Nurse Executive		
Date revised:	05 July 2019		
This document replaces (exact title of previous version):	Clinical guideline for troubleshooting gastrostomy in Emergency Department , MAU and GP acute services V1.0		
Approval route (names of committees)/consultation:	Gastroenterology Governance meeting Medicine/ED Governance Board		
Care Group Manager confirming approval processes	Roz Davies, General Manager, Medicine/ED Division		
Name and Post Title of additional signatories	James Bebb, Consultant Gastroenterologist		
Name and Signature of Divisional/Directorate Governance Lead confirming approval by specialty and divisional management meetings	{Original Copy Signed}		
	Maria Lane		

Signature of Executive Director giving approval	{Original Copy Signed}			
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet & Intranet	✓	Intranet Only	
Document Library Folder/Sub Folder	Clinical / Gastroenterology			
Links to key external standards	National Patient Safety Agency (2010) Rapid response report early detection after Gastrostomy NICE (2006) Nutrition and hydration in adults			
Related Documents:	NICE 2006 Nutrition and hydration in adults			
Training Need Identified?	Yes			

Version Control Table

Date	Version No	Summary of Changes	Changes Made by
17/7/2015	V1.0	Initial Version	Tracy Lee Nutrition specialist Nurse
5/7/2019	V2.0	Updated to latest Trust template and summary updated with PEG and RIG Care Pathway replaced on page 3.	Tracy Lee CNS nutrition

Appendix 2. Initial Equality Impact Assessment Form

<table>
<tr><td colspan="6">Name of the strategy / policy /proposal / service function to be assessed
Troubleshooting Percutaneous Endoscopic Gastrostomy (PEG) and Radiologically Inserted Gastrostomy (RIG) for Adults Only Clinical Guideline V2.0</td></tr>
<tr><td colspan="3">Directorate and service area:
Gastroenterology</td><td colspan="3">New or existing document:
Existing</td></tr>
<tr><td colspan="3">Name of individual completing assessment:
Tracy Lee</td><td colspan="3">Telephone:
01872 252409</td></tr>
<tr><td>1. Policy Aim*

Who is the strategy / policy / proposal / service function aimed at?</td><td colspan="5">The document ensures that staff will be guided by the expected standard set by the organisation.</td></tr>
<tr><td>2. Policy Objectives*</td><td colspan="5">Support health care professionals caring for patients with PEGs or RIGs To ensure that the key symptoms of complications post-insertion and their significance are known to all staff involved in the immediate aftercare of patients who have been given gastrostomies, to reduce the risk of complications developing into critical illness or death.</td></tr>
<tr><td>3. Policy – intended Outcomes*</td><td colspan="5">Prevent or reduce adverse consequences associated with PEGs or RIGs and establishing an effective standard and management.</td></tr>
<tr><td>4. *How will you measure the outcome?</td><td colspan="5">Adverse events associated with clinical care are captured through Mortality Review and Serious Incidence. Any issues relating to complications with PEGs or RIGs will be identified through these processes.
DATIX</td></tr>
<tr><td>5. Who is intended to benefit from the policy?</td><td colspan="5">All adult outpatients and clinical staff. May be of applicable and of benefit to inpatients alongside gastrostomy care plans.</td></tr>
<tr><td rowspan="3">6a Who did you consult with

b). Please identify the groups who have been consulted about this procedure.</td><td>Workforce</td><td>Patients</td><td>Local groups</td><td>External organisations</td><td>Other</td></tr>
<tr><td>X</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="5">Please record specific names of groups

Senior matrons
Ward managers
Gastroenterologists
Interventional Radiologists</td></tr>
</table>

What was the outcome of the consultation?	**Agreed.**

7. The Impact
Please complete the following table. **If you are unsure/don't know if there is a negative impact you need to repeat the consultation step**.

Are there concerns that the policy **could** have differential impact on:

Equality Strands:	Yes	No	Unsure	Rationale for Assessment / Existing Evidence
Age		**X**		This guideline relates only to adult patients.
Sex (male, female, trans-gender / gender reassignment)		**X**		
Race / Ethnic communities /groups		**X**		
Disability - Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.		**X**		
Religion / other beliefs		**X**		
Marriage and Civil partnership		**X**		
Pregnancy and maternity		**X**		
Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian		**X**		

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:

- You have ticked "Yes" in any column above and
- No consultation or evidence of there being consultation- this excludes any *policies* which have been identified as not requiring consultation**. or**
- Major this relates to service redesign or development

8. Please indicate if a full equality analysis is recommended.	**Yes**		**No**	**X**

9. If you are **not** recommending a Full Impact assessment please explain why.			
Not required			
Date of completion and submission	5/7/2019	Members approving screening assessment	Policy Review Group (PRG) **APPROVED**

This EIA will not be uploaded to the Trust website without the approval of the Policy Review Group.

A summary of the results will be published on the Trust's web site.