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**Good Practice Consensus Guideline – Exit Site Management for Gastrostomy Tubes in Adults and Children**

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## **Good Practice Consensus Guideline**

# **Exit Site Management for Gastrostomy Tubes in Adults and Children**

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**Good Nutrition Needs Nurses**

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## Good Practice Consensus Guideline – Exit Site Management for Gastrostomy Tubes in Adults and Children

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### Glossary of Terms

- Balloon gastrostomy tube: a gastrostomy tube retained internally by an inflatable balloon.
- Button gastrostomy or Low profile device: a skin level gastrostomy tube retained internally by an inflatable balloon or cage.
- Enteral Feed: delivery of nutrients directly into the gastro-intestinal tract via an enteral feeding tube.
- Excoriation: surface injury to the skin ( in this situation most commonly caused by gastric leakage).
- Gastrostomy tube: a medical grade tube placed directly through the abdominal wall into the stomach for the purpose of feeding. Usually made of polyurethane or silicone.
- Initial gastrostomy tube placement: the first time a gastrostomy tube is placed into the patient.
- Overgranulation: otherwise known as hypergranulation or granuloma. Develops due to the prolonged stimulation of fibrous tissue (fibroplasia) and new blood vessels (angiogenesis) (Widgerow & Leak 2010).
- PEG: Percutaneous Endoscopic Gastrostomy
- PIG: Percutaneously Inserted Gastrostomy
- PIGG: Per Oral Image Guided Gastrostomy

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- RIG: Radiologically Inserted Gastrostomy
- Stoma site: the surgically created opening on the abdominal wall where the gastrostomy tube enters/exits the stomach.

### **Introduction**

A gastrostomy is one type of enteral feeding tube. It exits through the abdominal wall allowing direct access to the stomach. The feeding tip of the tube (distal tip) sits within the stomach. It is used for the administration of nutrients, fluid or medication. It can also be used for gastric decompression.

An initial gastrostomy tube can be inserted: endoscopically, radiologically, surgically, or percutaneously in a surgical theatre environment. Subsequent placements/replacements can be undertaken via one of the above procedures or, for some types of gastrostomy, at the bedside. Bedside replacement of a gastrostomy tube will be dependent upon type of gastrostomy tube being replaced, patient condition, local protocols and practitioner competence.

In the first days following initial gastrostomy placement correct fixation of the gastrostomy tube is essential to promote the formation of a healthy stoma tract extending from the stomach to the outer abdominal wall.

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The point at which the gastrostomy tube exits the stoma tract onto the abdomen is called the stoma site.

The stoma site needs to be managed appropriately to prevent the development of complications including leakage, pressure damage, excoriation, infection and the development of overgranulation tissue.

*Product manufacturers should provide specific product advice regarding the care of their gastrostomy tube; their guidance should always be followed to ensure the functionality of the tube is optimised.*

The NNNG recognises that practice will vary according to individual risk assessments and local policy. However this good practice statement has been published in accordance with available evidence and consensus of expert opinion at the time of publication

### **Gastrostomy tube placement**

It is essential that the practitioner/patient/carer understands how the gastrostomy tube was inserted to:

- Ensure appropriate care of the tube and stoma site is provided.
- Be aware of whether the device is secured with or without anchoring sutures.

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- Understand where the feeding tip of the tube sits in the stomach or the small intestine.

The general term gastrostomy should always be used when describing such devices, to avoid misinterpretation of how a device is fitted and subsequently avoiding incorrect handling and care.

### **Gastrostomy Tube Retention Devices**

A gastrostomy tube is retained in position by an internal and external fixation device.

- **The Internal fixator** holds the device securely inside the gastrointestinal tract. This may be in the form of a flange, dome, string, basket or balloon.
- **The External fixator** may differ in appearance between manufacturers but should all serve the same purpose - to provide a means of securing the feeding tube externally, limiting unnecessary tube movement and leakage of gastric contents.

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Care of a gastrostomy tube and stoma site			
No	Statement	Rationale	Reference
1.	<p>Ensure that you are aware of:</p> <ul style="list-style-type: none"> <li>• How the device is fitted i.e.; radiologically (RIG and PIG) endoscopically (PEG) or surgically</li> <li>• How the device is secured internally and externally (see above).</li> <li>• Whether external sutures are present</li> <li>• Where the distal tip of the feeding tube sits i.e. stomach or small intestine</li> <li>• Other healthcare professionals that are involved in providing care for the gastrostomy tube</li> </ul>	To determine the procedure the patient has undergone, the type of tube in-situ, the aftercare required for that tube and that the appropriate healthcare professionals are involved in care of the tube.	Edwards-Jones & Leahy-Gilmartin (2013b)
2.	<p><b>Following initial gastrostomy placement:</b></p> <p>Administration of feed should commence as per local policy and dietetic regimen (usually 4-6 hours post placement)</p>	To reduce the risk of developing post-operative complications and minimise unnecessary patient	National Institute of Clinical

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	<p>Record temperature, pulse, respiration (TPR) and blood pressure (BP) as per local post-operative protocol</p> <p>Observe the patient for signs and symptoms of severe pain post procedure, pain on administration of fluid, fresh bleeding or external leakage of gastric contents within the first 72 hours of gastrostomy placement.</p> <p>Should the patient complain of any of the above symptoms feeding should be stopped immediately and urgent medical support sought, as per local protocols/guidelines.</p>	<p>discomfort.</p>	<p>Excellence (2006)</p> <p>National Patient Safety Agency (2010)</p> <p>Taheri, Singh &amp; Duerksen (2011)</p>
<p>3.</p>	<p>The stoma site should be covered with a sterile dressing following the first gastrostomy tube placement.</p> <p>The dressing should be positioned beneath the fixation device.</p> <p>The brand of dressing used will depend upon local policy but must be 'dry' e.g. a foam dressing. An occlusive dressing should not be used to cover the gastrostomy site because a moist wound environment is not appropriate.</p>	<p>To protect the stoma site from unnecessary trauma and contamination and to absorb excess exudate and blood in the initial stage of healing.</p>	<p>Löser et al (2005)</p> <p>National Institute of Clinical Excellence (2006)</p> <p>Dealey (2012)</p>

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	<p>Within 24 hours of initial gastrostomy tube placement the dressing should be changed and the stoma site checked for the signs detailed above.</p> <p>Until granulation of the stoma tract has taken place it is advisable to change the sterile dressing on a daily basis and provide local disinfection (usually up to day 7 post procedure).</p>		<p>Winter (1962)</p>
4.	<p>Cleansing of the exit site should be undertaken on a daily basis with 0.9% sodium chloride, sterile water or cooled boiled water (according to patient setting and local guidelines) and sterile gauze (that does not shed fibres) to remove any debris as a result of the insertion procedure.</p> <p>This should continue daily for the first 7 days post initial insertion.</p>	<p>To prevent bacterial growth, reduce the risk of infection and maintain skin integrity and a healthy stoma.</p>	<p>Department of Health (2009) National Institute of Clinical Excellence (2006) Orme, Smith &amp; Berry (2008)</p>
5.	<p>Where possible do not move the external fixation device for at least the first 7-10 days following initial tube placement.</p> <p>Refer to manufacturer’s guidance and local policy for tube specific details.</p>	<p>To allow traction to assist in the stoma formation.</p>	<p>Level 6 evidence</p>

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	<p>For some patients, particularly children it may be advisable to consider using an additional fixation/securement device to minimise traction on the stoma site.</p>	<p>To minimise unnecessary traction or exploration of the stoma by the patient (especially confused, or very young).  This will prevent leakage, help form a perpendicular tract (making subsequent button placement easier), prevent trauma to the stoma site .  To minimise risk of friction e.g. waistband, nappy, underwear.</p>	<p>Level 6 evidence</p>
<p>6.</p>	<p>Exit site should be monitored on a daily basis for signs of:</p> <ul style="list-style-type: none"> <li>• Inflammation</li> <li>• Overgranulation</li> <li>• Infection</li> </ul>	<p>To detect the onset of complications and provide appropriate advice and treatment.</p>	<p>Ojo (2012) Schrag et al (2007) Warriner &amp; Spruce (2012)</p>

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	<ul style="list-style-type: none"> <li>• Leakage and excoriation</li> <li>• Pressure damage</li> </ul> <p>Identification of any problems and treatment initiated should be documented, signed and dated in the patient notes.</p>		<p>Nursing and Midwifery Council (2010)</p>
<p>7.</p>	<p><b>From day 7 onwards:</b></p> <p>Clean the stoma site, the gastrostomy tube and surrounding skin with non-perfumed hypoallergenic soap and fresh tap water using a clean cloth for this purpose only (In hospital disposable wipes may be used).</p> <p>Where the patient is at high risk of infection or the quality of the tap water is of concern, it may be worth considering using cooled boiled water for cleansing.</p> <ul style="list-style-type: none"> <li>• Dry thoroughly but gently</li> <li>• Do not apply any creams or talcum powder</li> <li>• Check that the external fixator is positioned as per manufacturers</li> </ul>	<p>To remove any exudate and prevent both bacterial and fungal infection.</p> <p>To minimise the development of moisture and subsequent localised skin damage or infection.</p>	<p>Wong (2003) Edwards-Jones &amp; Leahy-Gilmartin (2013a, 2013b) Löser et al (2005), NICE (2008) Level 6 evidence</p>

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	<p>guidance ensuring that it is not too loose or too restrictive (normally 2 – 5mm from the surface of the abdomen giving sufficient room for the patient to take a deep breath comfortably).</p>	<p>Application of creams and/or talcum powder along with a poorly positioned external fixator may precipitate unnecessary tube movement.</p>	
8.	<p>If the gastrostomy tube has a flat internal disc or flange the gastrostomy tube should be gently advanced / inserted into the stomach and returned to its initial position:</p> <ul style="list-style-type: none"> <li>• As per manufacturers guidance and local policy</li> <li>• As a minimum, by 2-3cm from day 10 onwards</li> <li>• At least once a week but not more frequently than once a day regardless of whether the distal tip of the tube sits in the stomach or small intestine.</li> </ul> <p>Where anchoring sutures are in place to promote tract development insertion of the gastrostomy tube may need to be delayed until after the sutures have</p>	<p>To reduce the risk of developing a buried bumper and to maintain the patency of the tract and tube.</p>	<p>National Institute of Clinical Excellence (2006) Cappell et al (2009) Schrag et al (2007) Level 6 evidence</p>

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	been removed. Check local protocols		
9.	<p>Rotating of the gastrostomy tube should be undertaken if the tube’s distal tip sits in the stomach.</p> <p><b>The device should not be rotated if there is a jejunal extension sitting within the gastrostomy tube or if the tube is a gastrojejunostomy.</b></p> <p>Where appropriate rotation of the tube should be commenced 7-10 days after tube insertion, as per local guidance, and be undertaken on at least a weekly basis but not more frequently than once a day.</p> <p>This action should be undertaken where the tube has an internal flange, disc, basket or balloon.</p>	<p>To minimise the risk of dislodging the small intestine extension.</p> <p>To promote a health tract and maintain tube patency.</p>	<p>Best (2004, 2009) National Institute of Clinical Excellence (2006) Level 6 evidence</p>
<b>Assessment and treatment of exit site problems</b>			
<b>Inflammation</b>			
10a	<p>Observe the stoma site and surrounding skin daily for signs of:</p> <ul style="list-style-type: none"> <li>• Redness</li> <li>• Heat</li> </ul>	<p>To identify any signs and symptoms of infection, leakage or inadequate tube care.</p>	<p>Edwards-Jones &amp; Leahy-Gilmartin (2013a) Warriner &amp;</p>

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	<ul style="list-style-type: none"> <li>• Swelling</li> <li>• Exudate</li> <li>• Discomfort/Pain</li> </ul>		<p>Spruce (2012)</p>
<p>10b</p>	<p>If localised inflammation is observed:</p> <ul style="list-style-type: none"> <li>• Check the position of the external fixation device</li> <li>• Consider loosening or tightening as appropriate (should be 2-5mm from the skin)</li> <li>• Check that neither the stoma site or gastrostomy tube is irritated by clothing or other restrictions e.g. waist bands, underwear, nappies</li> <li>• Where possible correct problem</li> <li>• Protect the affected skin. Use an appropriate barrier film (not an occlusive dressing)</li> <li>• A polyurethane foam dressing placed under the fixation device may be used as a cushion</li> </ul>	<p>To ensure the fixation device is not too loose causing unnecessary movement or too tight causing pressure damage.</p> <p>To prevent further damage to the affected skin and allow it to heal</p> <p>To minimise friction and patient discomfort.</p>	<p>Ojo 2012 Löser et al(2005) Level 6 evidence</p>

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<b>Overgranulation/Granuloma</b>		
<b>10c</b>	<p>Common causes of overgranulation include:</p> <ul style="list-style-type: none"> <li>• Excess moisture</li> <li>• Critical colonisation or true infection</li> <li>• Friction/movement at wound interface</li> <li>• Presence of foreign material</li> </ul> <p>If overgranulation is observed:</p> <p>Step 1:</p> <ul style="list-style-type: none"> <li>• Ensure the external fixator is positioned in accordance with the manufacturer’s guidance (usually skin level 2-5mm away from the abdomen).</li> <li>• If a low profile device is in situ check the device fits comfortably in the tract and has minimal movement.</li> </ul>	<p>To minimise the development of overgranulation tissue forming through unnecessary movement.</p>
		<p>Widgerow &amp; Leak (2010)</p> <p>Edwards-Jones &amp; Leahy-Gilmartin (2013a, 2013b)</p> <p>Warriner &amp; Spruce (2012)</p> <p>Level 6 evidence</p>

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	<ul style="list-style-type: none"> <li>• Apply a barrier film to protect surrounding skin</li> <li>• If overgranulation tissue is exuding ensure the affected skin is cleaned as a minimum, once a day (see above)</li> <li>• Consider swabbing the site for bacterial and fungal infection</li> <li>• Apply foam dressing impregnated with an antimicrobial agent under the fixation device/ main body of the tube.</li> <li>• Change as clinically indicated (dressings commonly need changing initially after 48-72 hours). Ensure care is taken not to put undue pressure on the internal bumper whilst changing dressings.</li> <li>• If overgranulation tissue is extensive apply a double layer of foam dressing over the affected area.</li> <li>• Review effectiveness of treatment after 1 week (or as per local guidelines).</li> </ul>	<p>To minimise skin damage to the healthy peri-stomal skin and the breakdown of the stoma site.</p> <p>To reduce microbial contamination (microbial contamination is pro-overgranulation) and compress overgranulation tissue.</p> <p>To provide additional compression.</p> <p>To ascertain effectiveness of</p>	<p>Widgerow &amp; Leak (2010)</p> <p>Edwards-Jones &amp; Leahy-Gilmartin (2013a, 2013b)</p> <p>Warriner &amp; Spruce (2012)</p> <p>Level 6 evidence</p>
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	<p>If above treatment is ineffective in treating the overgranulation tissue consider moving onto step 2.</p>	<p>treatment.</p>	
	<p>Step 2: Continue care as per step 1 but in addition:</p> <ul style="list-style-type: none"> <li>• Incorporate an antimicrobial cleanser into daily stoma site care in place of soap and water.</li> <li>• Review effectiveness of treatment after 1 week (or as per local guidelines).</li> </ul> <p>If above treatment is ineffective in treating the overgranulation tissue consider moving onto step 3.</p>	<p>To reduce bacterial contamination at the site. To ascertain effectiveness of treatment.</p>	<p><b>Khan &amp; Naqvi (2006)</b> <b>Warriner &amp; Spruce (2012)</b> <b>Level 6 evidence</b></p>
	<p>Step 3: Continue to monitor the following:</p> <ul style="list-style-type: none"> <li>• That the external fixator is positioned in accordance with the manufacturer’s guidance.</li> </ul>	<p>To suppress the growth of overgranulation tissue.</p>	<p><b>Leak K (2002)</b> <b>Horrocks (2006)</b> <b>Johnson (2009)</b> <b>Dealey (2012)</b></p>



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	<ul style="list-style-type: none"> <li>• Review effectiveness of treatment weekly (or as per local guidelines)</li> <li>• To reduce the risk of toxicity change back to standard dressing once wound is healthy.</li> </ul>		
	<p>Step 4 :</p> <p>Where above treatment proves ineffective:</p> <ul style="list-style-type: none"> <li>• Re-swab the site for both bacterial and fungal infection</li> <li>• Clean and monitor site at least daily, with antimicrobial cleanser</li> <li>• Consider using topical corticosteroid cream, ointment or tape, licensed for use with over granulating tissue.</li> <li>• Apply directly onto the overgranulation tissue once or twice a day for a maximum of 7-10 days. <i>Strength of cream/ointment may differ in paediatric practice.</i> Check with local policy and/or pharmacist.</li> <li>• Apply a single layer of foam onto the overgranulating tissue, beneath the external fixation device.</li> <li>• If the overgranulation tissue is extensive, further compression may</li> </ul>	<p>To reduce the bioburden contribution to overgranulating tissue.</p> <p>To provide compression to the treatment site.</p>	<p>Hampton (2007)</p> <p>Ojo (2010)</p> <p>D’Souza 2013</p> <p>Level 6 evidence</p> <p>Johnson (2007)</p>

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	<p>need to be considered. In such cases a double layer of foam placed beneath the external fixator can be used.</p> <ul style="list-style-type: none"> <li>Review effectiveness of treatment after 1 week and on completion of treatment (or as per local guidelines).</li> </ul>	<p>To ensure ongoing assessment of overgranulation tissue.</p>	
	<p>Step 5 :</p> <p>If above steps prove ineffective consider changing to an alternative brand or type of gastrostomy tube</p> <ul style="list-style-type: none"> <li>Change the gastrostomy as per local policy and per manufacturers' guidance.</li> <li>If replacing a balloon gastrostomy refer to the NNG Good Practice Guideline: Changing of a Balloon Gastrostomy Tube (BGT) into the Stomach for Adults and Children (2012) for further guidance.</li> </ul>	<p>To assess suitability of alternative gastrostomy tubes in resolving overgranulating tissue</p>	<p>Level 6 evidence</p>
	<p>Step 6:</p> <p>If the issue remains unresolved liaise with Tissue Viability Service and consider referring the patient to the appropriate medical team for consideration of</p>	<p>For further assessment and treatment.</p>	<p>NICE (2008)</p>

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	biopsy, histology, cauterisation, laser and/or surgical debridement.		
<b>Leakage</b>			
<b>10d</b>	<p>Leakage at the stoma site may be:</p> <ul style="list-style-type: none"> <li>• Gastric contents</li> <li>• Feed/fluid/medication</li> </ul> <p>If leakage is observed monitor whether it is attributed to:</p> <ul style="list-style-type: none"> <li>• A blockage within the tube, due to kinking or inadvertent obstruction e.g. patient sitting on the administration set</li> <li>• Increased workload of breathing in children</li> <li>• Chronic cough</li> <li>• A poorly secured or poorly fitting tube</li> <li>• A poorly connected administration set</li> <li>• Constipation</li> <li>• Buried bumper (the internal bolster becomes embedded in the gastric</li> </ul>	<p>To ensure the tube is not blocked and leaking unnecessarily.</p> <p>To ensure the distal tip of the tube is free and situated in the stomach.</p>	<p>National Patient Safety Agency (2010)</p> <p>Ojo (2011)</p> <p>Warriner &amp; Spruce (2012)</p> <p>Level 6 evidence</p>

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	mucosa).		
	<p><b>Action:</b></p> <ol style="list-style-type: none"> <li>1. If leakage is seen within the first 72 hours following initial gastrostomy insertion and is associated with pain stop feeding and seek medical advice.</li> <li>2. Identify if constipation is a problem and treat according to medical staff advice.</li> <li>3. Protect the surrounding skin using a barrier film.</li> <li>4. Test leakage with a pH indicator strip. If leakage is pH 5.5 or below this is suggestive of the presence of gastric acid.</li> <li>5. Review medications and consider using anti-secretory therapy or proton pump inhibitors (PPIs) Note: there are specific difficulties with the administration of PPIs via gastrostomy tubes.</li> <li>6. Check condition of tube:             <ul style="list-style-type: none"> <li>• Observe tube for signs of tube degeneration cracking or</li> </ul> </li> </ol>	<p>To minimise patient harm and initiate appropriate investigations.</p> <p>To reduce pressure on the abdominal region.</p> <p>To minimise the risk of skin breakdown.</p> <p>To minimise the risk of skin damage caused by gastric acid.</p> <p>To minimise unnecessary tube movement.</p>	<p>National Patient Safety Agency (2010)</p> <p>National Patient Safety Agency (2005)</p> <p>White &amp; Bradnam (2011)</p>

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	<p>bubbling.</p> <ul style="list-style-type: none"> <li>• Check how long device has been in situ. (If the device has been in situ for the length of time the manufacturer recommends or longer arrange a tube change).</li> <li>• If the tube is at risk of being pulled by the patient reduce risk by placing the tube in a security device or secure under clothing.</li> </ul> <p>7. Check tube position.</p> <ul style="list-style-type: none"> <li>• If the external fixator is too loose reposition as per manufacturers’ instructions, or 2-5mm from the abdomen.</li> <li>• If balloon retained device, check balloon inflation and contents correspond with manufacturers recommendations.</li> <li>• If a low profile device (button gastrostomy) is in place, re-measure the stoma tract and ensure correct size gastrostomy is used.</li> </ul>	<p>To appropriately identify the condition of the tube.</p> <p>To minimise harm to the tube and patient.</p> <p>To minimise unnecessary tube movement.</p>	<p>Level 6 evidence</p>
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	<ul style="list-style-type: none"> <li>• If leakage is particularly bad consider placing a jejunal extension/gastrojejunostomy.</li> <li>• If tube is not mobile within the tract and buried bumper is suspected refer patient back to the specialist nurse, GP or hospital consultant.</li> </ul>	<p>To keep stomach empty whilst allowing the tract to heal</p> <p>For further advice and assessment.</p>	
	<p>Additional Considerations:</p> <ul style="list-style-type: none"> <li>• Consider removing the tube and placing an alternate device</li> <li>• Consider referring patient back to dietitian for advice regarding feeding regime.</li> </ul>		Level 6 evidence
<b>Pressure Damage</b>			
10e	<p>If pressure damage is observed around the external fixator</p> <ul style="list-style-type: none"> <li>• Check the position of the gastrostomy and external fixator. Check documentation for previous recordings of appropriate external fixator position.</li> <li>• Consider changes in body weight</li> </ul>	<p>To ensure the device is not too tight.</p> <p>To ensure correct size tube is in-situ.</p>	<p>Edwards-Jones &amp; Leahy-Gilmartin (2013a, 2013b)</p> <p>Level 6 evidence</p>

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	<ul style="list-style-type: none"> <li>• Re-adjust external fixator to 2-5mm from the abdomen</li> <li>• Consider re-measuring the stoma tract if a low profile device (button) is in situ and insert correct size tube.</li> </ul> <p>Additional actions:</p> <ul style="list-style-type: none"> <li>• As per local trust policy/guidelines</li> </ul>		
<b>Infection</b>			
10f	<p>If infection is suspected and inflammation due to poor tube positioning has been eliminated, consider the following actions:</p> <ul style="list-style-type: none"> <li>• Swab area - Monitor for both bacterial and fungal infection</li> <li>• Establish whether the patient has any allergies</li> <li>• Apply a dressing impregnated with an antimicrobial agent directly onto tissue surrounding the gastrostomy tube, under the fixation device until further appropriate systemic treatment is identified and initiated.</li> <li>• If bacterial or fungal infection is confirmed administer systemic antibiotics or antifungal agents as prescribed.</li> </ul>	<p>To identify contaminants and whether systemic treatment is indicated to treat appropriately.</p> <p>To prevent the administration of medications / dressing that cause an allergic reaction.</p>	<p>Edwards-Jones &amp; Leahy-Gilmartin (2013a 2013b) Dealey (2012) NICE (2008) Pratt et al (2007)</p>

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	<ul style="list-style-type: none"> <li>• <b>NB: Topical antibiotics should not be used</b></li> <li>• In some persistent cases following treatment for a fungal infection it may be advisable to replace the gastrostomy tube (particularly if a silicone tube is in situ)             <ul style="list-style-type: none"> <li>• Assess site daily or:                 <ul style="list-style-type: none"> <li>○ as clinically indicated by level of exudate</li> <li>○ as further diagnostic interventions indicate</li> </ul> </li> </ul> </li> </ul>	<p>To treat infection appropriately</p> <p>To minimise the risk of fungal infection re-establishing itself within the enteral feeding tube.</p> <p>To establish the effectiveness of treatment and identify whether further treatment is indicated.</p>	
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Appendix

Level	Description	Example
One	Strong evidence from at least one systematic review of well designed randomised controlled trials (RCTS)	Meta-analyses The Cochrane Collaboration
Two	Evidence from at least one properly designed RCT of appropriate size	Articles published in peer-reviewed journals
Three	Evidence from well designed trials without randomization: cohort,time series or matched case controlled studies	Articles published in peer-reviewed journals
Four	Evidence from well designed non-experimental studies from more than one centre or research group	Articles published in peer-reviewed journals
Five	Opinions from respected authorities, based on clinical evidence, descriptive studies or reports from committees	NICE guidelines Evidence-based local procedures and care pathways
Six	Views of colleagues/peers	Nursing colleagues or members of the multidisciplinary team

Source: <http://www.ebnp.co.uk/The%20Hierarchy%20of%20Evidence.htm>



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## **Good Practice Consensus Guideline – Exit Site Management for Gastrostomy Tubes in Adults and Children**

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The NNNG recognises that practice will vary according to individual risk assessments and local policy. However this good practice statement has been published in accordance with available evidence and consensus of expert opinion at the time of publication

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