Troubleshooting and management of feeding-tube and insertion site problems in adults

Problem	Possible causes	Preventive strategies	Management
leakage around tube	'kinking' of tube	ensure appropriate stabilising device is used and check tube frequently	straighten and inspect tube for damage; replace tube if damaged [NB1]
	excessively large boluses	ensure dietetic assessment to determine appropriate feeding regimen	decrease bolus volume (feed and/or water flushes) and increase feed frequency or energy density of formula—seek advice from dietitian
	tube migration into stomach	adjust flange or external retention device so that it is sitting 0.2 to 0.5 cm from the skin (ensure snug fit with balloon against abdominal wall)—there are centimetre markings on the tube	
	diameter of tube too small	avoid side torsion or excessive tension on tube and ensure appropriate stabilising device is used—seek advice from stomal therapy service and/or a clinical nutrition nurse or gastroenterologist trained in tube management	use dressings and barrier wipes to protect skin dressings should be absorptive and remove moisture from skin (eg a foam dressing) if possible, avoid replacing with a larger tube, which results in tissue breakdown and a larger stoma adjust flange or external retention device so that it is 0.2 to 0.5 cm from the skin (ensure snug fit with balloon against abdominal wall)—there are centimetre markings on the tube tube may need to be replaced, ideally at a different site [NB1]
	tube perished	regularly inspect tube for splits or cracks, discolouration, or irregular beading of tube ensure only appropriate substances are administered via tube	replace tube [NB1]
	balloon deflated	check balloon volume	refer to manufacturer's guidelines replace tube if balloon has burst or is leaking [NB1]
	buried bumper syndrome; suspect if tube cannot be advanced or rotated in stoma or there is increased leakage, if patient has abdominal pain, or if feeds cannot be infused through tube	avoid excessive tension between external and internal bolster	replace tube, normally via endoscopy [NB1]
skin irritation (redness, bleeding, soreness, swelling or ooze)	leakage around tube (see above for possible causes)	avoid excessive tension on tube and ensure appropriate stabilising device is used—seek advice from stomal therapy service or a clinical nutrition nurse or gastroenterologist trained in tube management	dry the skin and apply barrier wipe around the site—seek advice from stomal therapy service or ostomy association on the most appropriate barrier wipe and dressing options
	cellulitis, candidiasis (thrush), abscess or folliculitis	ensure skin is protected if tube is leaking	collect skin or wound swab—antimicrobial therapy may be required (see *Therapeutic Guidelines: Antibiotic*) if tube is colonised with *Candida* species, the tube should ideally be replaced and give antimicrobial therapy [NB1]

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Troubleshooting and management of feeding-tube and insertion site problems in adults (cont.)

Problem	Possible causes	Preventive strategies	Management
granulation tissue	excessive tube movement moisture infection ill-fitting device	maintain cleanliness of area keep the site free of moisture prevent excessive movement by securing the external retention device with a 0.5 cm gap check disc daily and ensure correct fit	ensure correct fit of tube—external disk should be 0.5 cm from skin apply a foam or hypertonic dressing and change daily short term use of corticosteroid (if infection is not suspected) apply silver nitrate or other topical coagulant (styptic) daily until improved—seek advice from stomal therapy service or clinical nutrition nurse
dislodged tube	tube pulled out, burst balloon, tube breakdown, external bumper or disc inadvertently removed	ensure tube is appropriately secured for cognitively impaired patients, distractions (eg an activity apron) may prevent tube being pulled out	replace tube as soon as practical to prevent tract closure if tract is mature (established for longer than 1 month), PEG tube can be reinserted without endoscopy [NB1] if tract is immature (estbalished for less than 1 month), contact endoscopy unit if a replacement PEG tube is not available, insert largest available Foley catheter, or wash and dry old PEG tube, and tape into position (arrange for replacement gastrostomy tube within 24 hours). The Foley catheter or dislodged PEG tube should not be inserted against resistance and **should not be used for feeding** until the patient has been reviewed by an experienced practitioner. If doubt about the location of the PEG exists, use a PEG-o-gram to confirm location before feeding
blocked tube	poorly crushed medication [NB2]	use liquid formulations when possible flush tube with at least 30 mL of room-temperature water before and after administering medication and feeds review medication regularly to minimise polypharmacy check with pharmacist before administering newly prescribed medications—some medications cannot be crushed or are inappropriate for use with a PEG (eg bulk-forming laxatives, cholestyramine) [NB2]	warm water is most effective for resolving blockage; gently but firmly push and pull plunger of a syringe containing 30 to 50 mL water back and forth (do not use force). If tube remains blocked, instil lukewarm water into tube and clamp; wait up to 30 minutes, then attempt flushing avoid using soft drinks or other liquid to unblock tubes if a build-up of feed in the tube is suspected, pancreatic enzymes plus sodium bicarbonate may be useful replace tube [NB1]
	use of blended tube feeds	recommend administration via a larger feeding tube (greater than 14 fr) ensure appropriate viscosity with the addition of water bolus feeding rather than continuous feeding to minimise tube blockages	
	inadequate flushing before and after feeds	flush tube with at least 30 mL of room-temperature water before and after feeding. Ideally, flush at least every 4 to 6 hours	
	displacement of tube into anterior abdominal wall	N/A	imaging required replace tube [NB1]

PEG = percutaneous endoscopic gastrostomy; fr = French units; N/A = not applicable

NB1: Should be performed by trained personnel only.

NB2: For detailed information about drug administration in patients with an enteral feeding tube, see the *Australian Don't Rush to Crush Handbook*, available online through MIMS or for purchase from The Society of Hospital Pharmacists of Australia website.