

**Table 1. Complications associated with enteral feeding**

	<b>Complication</b>	<b>Prevention and Management</b>
<b>Access and delivery</b>	Tube misplacement	<ul style="list-style-type: none"> <li>• Use lubricated tube. Position patient correctly.</li> <li>• Use guidewire/rigid stylets with caution due to perforation risk.</li> <li>• Avoid nasally administered tubes in patients with base of skull fractures.</li> </ul>
	Tube displacement/dislodgement	<ul style="list-style-type: none"> <li>• Check correct position of tube by abdominal X-ray prior to feed administration.</li> <li>• Secure effectively with adhesive tape. Nasal bridles significantly reduce tube displacement, but increase skin ulceration.</li> </ul>
	Tube obstruction	<ul style="list-style-type: none"> <li>• Control retching/vomiting.</li> <li>• Tubes &lt; 8Fr in diameter clog more easily. Use tube exclusively for feed delivery. Do not give <b>any</b> medications via feeding tube. Flush tube routinely during feed stoppages. Do not concentrate enteral formulas. Clogged tubes may be re-opened with a warm water digestive enzyme solution.</li> </ul>
	Aspiration/regurgitation	<ul style="list-style-type: none"> <li>• Avoid large bore tubes. Advance feed rate progressively according to protocol. Maintain bed head at 45°. Initiate prokinetic agents at time of feed initiation. Use post-pyloric tubes.</li> </ul>
<b>Infectious</b>	Feed contamination	<ul style="list-style-type: none"> <li>• Use fully closed feeding systems, commercial enteral products and good hand hygiene practices.</li> <li>•</li> </ul>
	Sinusitis	<ul style="list-style-type: none"> <li>• Consider orally administered tubes.</li> </ul>
	Aspiration pneumonia	<ul style="list-style-type: none"> <li>• Prevent aspiration (see above).</li> </ul>
	Diarrhoea	<ul style="list-style-type: none"> <li>• Consider <i>Clostridium difficile</i> or other bacteria.</li> </ul>
<b>Gastrointestinal</b>	Nausea/Vomiting	<ul style="list-style-type: none"> <li>• Avoid excessive volumes of feed. Use high energy, high protein feed when needed.</li> <li>• Avoid delivering high volumes of feed into the duodenum or jejunum.</li> </ul>
	Distension/bloating	
	Abdominal discomfort	
	Gastric stasis	<ul style="list-style-type: none"> <li>• Stimulate gastric emptying, gut motility and good stool consistency by using fibre feeds.</li> </ul>
	Constipation	
	Diarrhoea	<ul style="list-style-type: none"> <li>• Feed-related diarrhoea may be associated with feed osmolality, fat content, lack of fibre or feed contamination, HIV infection, and hypoproteinaemia.</li> <li>• Antibiotics (notably Co-amoxiclav and the 3<sup>rd</sup> generation cephalosporins) commonly cause diarrhoea in the ICU. Use of probiotics reduces the incidence.</li> <li>• Enteral replacements of electrolytes and gastric acid suppression are associated with diarrhoea in the ICU.</li> </ul>
<b>Metabolic</b>	Refeeding syndrome	<ul style="list-style-type: none"> <li>• See main text.</li> </ul>
	Hyperglycaemia	<ul style="list-style-type: none"> <li>• Avoid overfeeding. Use fibre-containing/diabetic feeds when indicated.</li> </ul>
	Hyper/hyponatraemia	<ul style="list-style-type: none"> <li>• Sodium disturbances usually reflect altered hydration status. Provide or restrict free water as applicable. Sodium-restricted formulas may be required. Check medications as a source of additional sodium.</li> </ul>
	Hyper/hypophosphataemia	<ul style="list-style-type: none"> <li>• Hyperphosphataemia occurs in renal failure. Manage as indicated.</li> <li>• If phosphate low, check for refeeding syndrome. Phosphate depletion may also occur following SLEDD. Sucralfate is a phosphate binding agent, and may contribute to low levels. Replace IV.</li> </ul>
	Hyper/hypokalaemia	<ul style="list-style-type: none"> <li>• Hyperkalaemia occurs in renal failure, and in acidosis. Manage as indicated.</li> <li>• Low potassium may be caused by gastrointestinal losses (diarrhoea, stoma, fistula, vomit) and in refeeding syndrome. Take measures to limit losses, and replace IV.</li> </ul>
	Hyper/hypomagnesaemia	<ul style="list-style-type: none"> <li>• High magnesium occurs in renal failure. Manage as indicated.</li> <li>• Low magnesium may be caused by gastrointestinal losses and refeeding syndrome. Take measures to limit losses and replace IV.</li> </ul>
	Tube-feeding syndrome	<ul style="list-style-type: none"> <li>• Tube-feeding syndrome is combined azotaemia, hypernatraemia and dehydration caused by concentrated feeds with high solute load and inadequate free water content. Do not modify or concentrate feed formulations. Deliver adequate fluids.</li> </ul>
Vitamin/mineral deficiency	<ul style="list-style-type: none"> <li>• Vitamin and mineral deficiency is rare with modern feeds, but can occasionally occur when enteral intake is very low, or micronutrient losses/depletion high.</li> </ul>	