



Placement of Small Bowel Feeding Tubes in the ICU

Purpose:

It is anticipated that most feeding tubes inserted in the ICU should be considered for advancement into the small bowel.

Rationale:

1. This improves delivery of enteral nutrition.
2. This reduces the risk of ventilator-associated pneumonia in the setting of enteral nutrition.

Patient Preparation:

1. The patient is assessed for appropriateness of insertion of a feeding tube with intention of initiating enteral nutrition.
2. The patient is normally placed in the supine position with the head of the bed elevated.
3. The comfort of the patient should be assured and this may require some sedation.
4. If the patient already has a large bore gastric tube in, this should be removed after decompressing the stomach.

Equipment:

1. Feeding tube (Entriflex™ or Tiger Tube™)
2. 10 cc syringe
3. 60 cc Luer- Loc
4. Sterile water
5. Blue drop sheet
6. Tape
7. Lubricant, water based
8. Flush Entriflex™ tube with water prior to insertion

Medication:

If the patient is already on metoclopramide, continue as ordered.

If the patient is NOT already on metoclopramide, give 10 mg intravenously 20 minutes prior to placement and then every 6 hours for a total of 4 doses.

Insertion into stomach (~50cm):

The initial insertion involves placement of the tip of the tube into the stomach. If the patient is intubated in the ICU then consideration should be given to placing the tube through the mouth to avoid further problems with nose placement. If the tube is anticipated to be long-term after the patient is extubated or has a tracheotomy in place, then nasal passage is appropriate. Once placement is confirmed in the stomach, the next steps can be taken.

If there is difficulty accessing the esophagus there are maneuvers that can be used to make it easier. A jaw thrust or pull will help get the ETT off of the posterior pharynx. A straight bladed laryngoscope with Magill forceps can be used to place the tube directly into the esophagus.

Advancement into the small bowel:

Entriflex™

1. With the tube in the stomach, the wire is removed. A 30-degree bend 3 cm. from the tip of the wire is created and the wire placed back into the tube. It is seated into position and the caps applied.
2. The stomach is then inflated with approximately 500ml of air using the large syringe.
3. Advance the tube while rotating the syringe which is attached to the proximal end of the feeding tube. It can be rotated clockwise or counter-clockwise or both. As the tube is advanced, there should be gradual resistance that remains throughout the insertion process. Loss of resistance suggests that the tube has coiled in the stomach and should be withdrawn to straighten it out again. If the tube appears to meet resistance, it should be withdrawn and rotated and the tube advanced again.
4. Altering Patient Position: If there is difficulty inserting the tube, consideration may be given to turning the patient. Placement is usually achieved in the supine position but placement may be facilitated by placing the patient in a 45-degree left decubitus position.
5. Bedside assessment of the correct placement of the tube can then be done. The best method for this is removal of the wire and re-insertion. The wire can be removed halfway out and then attempt to re-insert. The wire should go all the way in with finger pressure. Undo resistance suggests the tube is still in the stomach and has coiled. The tube should be removed until the wire can be completely reinserted and then another attempt at insertion may be undertaken.
6. The time taken to advance into the small bowel may be in the range of 5-15 minutes. If it is taking longer than 15 minutes, it is unlikely to be successful. If you think that the appropriate location has been achieved or you are uncertain, then it is reasonable to stop and perform an abdominal x-ray.

Tiger Tube™

1. Once tube position is confirmed in the stomach the tube is advanced 10 cm every hour until the 100 cm mark is reached. An x-ray is then performed
2. If the tube is still in the stomach, the tube is pulled back to 50 cm and the process of advancement by 10 cm every hour is repeated until the 100 cm mark is reached.
3. If after the second attempt the tube is still in the stomach leave the tube and repeat the x-ray in 12 hours.
4. If the position is confirmed to be post-pyloric feeds are initiated and another abdominal x-ray is performed after 24 hours.

Completion:

1. Feeding can commence when position of the feeding tube is confirmed in the small bowel.
2. Normally, a gastric tube should also be placed to decompress the stomach. This may not be necessary in the patient who has already been fed and demonstrated no significant drainage from the stomach.