**ICU GUIDELINE: MANUAL NASAL/ORAL DUODENAL FEEDING TUBE PLACEMENT**

**PREPARATION (BLUE BOX)**

a) Confirm indication; rule out contraindication.
b) Obtain MD order to insert Enriflex Feeding Tube™ (EFT); clarify with MD if EFT to be inserted via the oral or nasal route.
c) Obtain MD order for erythromycin* (250 mg IV); give via central access over 30 min, 15 - 30 min prior to EFT attempt.
d) Review chest x-ray to ensure sump tip in optimal gastric position for decompression; reposition as required*.
e) Place sump on suction for 5 min while gathering supplies.
f) Explain procedure to patient.
g) Place patient supine*.
h) Provide sedation for patient comfort as indicated*.
i) Prepare EFT (secure side port with multipurpose adapter/port cap – see supplies section); flush main port with 10 mL H2O.
j) Apply lubricant to EFT tip.

* UNLESS CONTRAINIDCATED

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**EFT INSERTION (PINK BOX)**

**STEP 1: PROXIMAL ESOPHAGUS** (approx 25 cm)

*Confirm tip position:*

- **Auditory:** Air injection: “burp” emitted from mouth. **Note:** If burp absent – remove EFT immediately.

**STEP 2: GASTRIC POSITION** (approx 55 cm)

*Confirm tip position:*

- **Auditory:** Air injection/auscultation - muffled “swoosh” LUQ.
  - **Tactile:** Manual draw on plunger - no resistance; easy withdrawal of air and liquid returns.
  - **Visual:** Liquid returns - opaque pale yellow or light green.
  - **Other:** pH 1 – 5 (Note: pH not applicable if receiving PPI).

**STEP 3: PYLORIC POSITION** (approx 70 - 75 cm)

Insert EFT at 5 cm intervals (55 cm, 60 cm, etc)

*Confirm tip position:* (at each 5 cm interval).

- **Auditory:** Air injection/auscultation - increasing clarity as tube moves right of midline into pylorus.
  - **Tactile:** a) Constant very gentle resistance as EFT inserted; EFT does not "spring back" when hand removed.
  - b) Manual draw on plunger - increasing resistance as EFT tip moves right of midline into pylorus.
  - **Visual:** Liquid returns – brighter yellow; returns may be difficult to obtain.
  - **Other:** pH > 7 (Note: pH not applicable if receiving PPI).

**STEP 4: DUODENAL POSITION** (>85 cm)

*Confirm tip position (initial):*

- **Auditory:** Air injection/auscultation - high-pitched "squeal" followed by "tinkling" bowel sounds at or left of midline.
- **Tactile:** Manual draw on plunger – some resistance; able to obtain liquid returns.
- **Visual:** Liquid returns – very bright clear yellow.
  - **Other:** pH > 7. (Note: pH not applicable if receiving PPI).

**STEP 5: CONFIRM TIP POSITION** (See RED BOX→)

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**INDICATIONS**

1) Gastric stasis (gastric residual volume >250 mL despite 24 hr trial of prokinetic.
2) Aspiration risk (i.e. nursed in the supine or prone position).
3) Severe acute pancreatitis.

**CONTRAINDICATIONS**

1) Upper GI surgery.
2) Significant GI bleed.
3) Coagulopathies (nasal insertion).
4) Facial fractures (nasal insertion).
5) Basal skull fracture (nasal insertion).
6) Esophageal varicies/diseases.
7) Elevated ICP.
8) Pharyngeal disorders.

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**SUPPLIES**

- Gloves
- Goggles
- Lubricant
- #12 EFT
- Stethoscope
- Blue pads
- Paper cups
- Silk tape
- pH paper
- Tap water
- Slip-tip syringe (60cc)
- Multipurpose Tubing Adapter
- Male/Female Port Cap

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**DEVELOPED BY:** J. Greenwood, RD, in collaboration with Dr. V. Dhingra & members of the ICU QI/QA Committee (update 24/3/2010).
### Problem: Unable to insert EFT into nostril

1) If patient does not have a nasally inserted gastric sump, try both nostrils to determine the most patent nare. To insert, direct EFT tip straight back into nostril; at point of resistance, gently rotate (roll) EFT while slowly inserting. If unsuccessful...

2) Insert EFT into same nostril as gastric sump. If unsuccessful...

3) Insert EFT via the oral route. If unsuccessful abort attempt.

### Problem: EFT coils in back of throat

1) If EFT at 55 - 60 cm mark but "muffled whoosh" absent LUQ
   - A) Tube coiled in throat?
     1) Inject 20 cc air into EFT. If "burp" present, EFT is coiled in back of throat. Pull back EFT and re-attempt insertion. If burp absent...  
     2) B) Tube in airway?
       1) If "burp" absent, hold EFT tip to ear. If air expiration noted, EFT is in airway. Remove EFT. Retatempt insertion. If burp and air expiration absent...
     3) C) Tube in distal esophagus?
       1) Insert EFT by an additional 10 cm (NOTE: Abort attempt if any significant resistance); re-attempt confirmation (air injection and auscultation).
       2) If still unclear, obtain a "chest x-ray for feeding tube placement".

### Problem: EFT at 70 - 75 cm mark; "muffled whoosh" remains LUQ

1) A) Tube coiled in fundas?
   1) Pull back EFT to 55 cm mark. Gently re-insert while slowly rotating (rolling) EFT. Confirm EFT tip position with air injection and auscultation. If unsuccessful...
   2) B) EFT tip "stuck" in pylorus?
      1) Flush EFT with 30 mL tap water to attempt to lift EFT tip off bowel wall. Continue to insert EFT to 85 cm mark while gently rotating EFT tip. If unsuccessful...
      2) Remove wire; secure EFT (see RED BOX above). Flush EFT with 30 mL tap water. Obtain an "abdominal x-ray for feeding tube placement" in 1 hr. If unsuccessful...
      3) Review x-ray to ensure 5 - 10 cm of excess loose EFT (no kinks or tight coils) sitting within the stomach with EFT tip in pylorus. Secure EFT (see RED BOX above). Obtain MD order for a 2nd dose of erythromycin*. Obtain an "abdominal x-ray for feeding tube placement" in 2 - 4 hrs. If unsuccessful abort attempt.

### Problem: On x-ray ETF tip < 2nd section duodenum

1) Secure EFT. Remove wire. Flush EFT with 30 mL tap water to lift EFT tip off bowel wall and stimulate peristalsis. Obtain an "abdominal x-ray for feeding tube placement" in 1 hr. If unsuccessful...

2) Abort attempt. Use tube as is. Consider initiating/continuing a prokinetic.

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