NG TUBES

Enteral Feeding Tubes:
- Via Nasogastric route. Small and large bore tubes.
- Gastrostomy or jejunostomy tubes- used when client unable to ingest foods or upper GI tract impaired. Inserted surgically into the abdomen. Used for long-term nutritional support.

Nasogastric Tubes
- Via nostril, down pharynx, and into alimentary tract
- Large- bore tubes (greater than 12 Fr)
- Levin- flexible rubber or plastic, holes near tip, single lumen
- Salem sump-double lumen, larger tube drains gastric contents, smaller tube allows for inflow of atmospheric air preventing a vacuum if tube adheres to wall of stomach.
- Also inserted for:
  1. remove stomach contents for lab analysis
  2. to lavage (wash) stomach in cases of overdose or poisoning
  3. prevent nausea and vomiting, gastric distension following surgery- connect to suction used in clients with intact gag flex and cough reflex, adequate gastric emptying, require short term feedings

Nasoenteric Tubes
- Softer, more flexible, small-bore tubes 5 to 12 Fe in diameter, 22 to 60 inches in length, minimum of 40 inches in adults
- Tip may be weighted
- Used for clients at risk for aspiration

Gastrostomy and Jejunostomy Tubes
- For long term nutritional support, more than 6 to 8 weeks
- Placed surgically or by laparoscopy
- Can use low profile device which caps off when not in use, Techniques Figure 19-9, pg. 520
- Percutaneous endoscopic gastrostomy (PEG) and percutaneous endoscopic jejunostomy (PEJ)

Inserting NG Tube
- High Fowler’s position- easier for client to swallow and allows gravity to help
- Explain, get cooperation including hand signal
- Assess nares
  1. hyperextend head
  2. use flashlight to assess
  3. check breathing
  4. past history
Prepare tube
1. ice if rubber
2. warm water if plastic
3. small-bore insert stylet or guide wire

Determine how far to insert
1. measure from tip of nose to tip of ear to sternum
2. mark with adhesive tape, add 8-10 inches for intestinal placement

Insert tube
1. lubricate tip (water soluble)
2. insert into nostril, hyperextend head (down curve of nasopharyngeal junction)
3. direct tube along floor of nostril towards ear on that side
4. slight pressure at nasopharynx, eyes water
5. if meet resistance- remove, relubricate and try another nostril. DON’T FORCE
6. at oropharynx, client may gag- tilt head forward (facilitates passage into posterior pharynx and esophagus rather than larynx) and encourage swallowing (moves epiglottis over opening to larynx)
7. gags- pause, encourage few breaths
8. advance 2-4 inches with each swallow
9. continued gagging- withdraw slightly and check throat for coiling
10. advance to tape mark

Confirm placement
1. check pH of stomach contents-most accurate way
2. auscultate air(10-30 mL) for whoosh
3. if placement not confirmed- advance 2 inches and repeat checks
4. small-bore tube- leave stylet or guide wire in place so can advance and repeat tests on right side, placement confirmed by x-ray

Secure
1. tape to bridge of clients nose
2. tape to avoid pressing against and irritation nostril

Attach
1. to suction or feeding apparatus or clamp secure to client’s gown

Removing NG Tube
Assess client
Client prep
1. confirm M.D. orders
2. Sitting position
3. pad across chest
- **Tube prep**
  1. detach suction
  2. unpin
  3. remove tape

- **Remove tube**
  1. instill air (50 mL)
  2. take deep breath and hold, closes glottis to prevent aspiration
  3. pinch tubes
  4. remove and check intactness, place in bag

- Oral care
- Nasal care

**Confirming Tube Placement**
- Especially for small bore feeding tube- check by x-ray
- Check before each feeding, minimum of once a shift if feeding continuous
  1. Aspirate 20-30 mL GI secretions
     Gastric- grassy-green, off-white, tan
     Intestinal- (bile stained) golden yellow or brownish green
  2. Measure pH
     Gastric- usually 1-5, can be as high as 6 if on meds which control gastric acid.
  3. Ausculate air (5-20 mL) whoosh- not very accurate

- **Aspirating from small-bore tube**
  1. Inject 20 mL air into tube-clears tube and moves away from mucosal lining
- **Aspirate air and fluid:**
  1. If fluid aspirated, check pH, then flush with water
  2. If no fluid aspirated, use smaller syringe (10mL) to avoid creating negative pressure and tube collapse
  3. If no fluid aspirated again, repeat with large syringe to inject air, small to aspirate but leave attached for 15 minutes
  4. Change client’s position from side to side

**Enteral Feeding**
1. Intermittent- 300-500 mL several times a day
   Stomach preferred site
   Given over 30 minutes
   Bolus- use syringe to deliver formula
   Not recommended because given rapidly. OK is client tolerates.
   Monitor closely for distension, aspiration

2. Continuous- over 24 hour period using infusion pump so at constant rate
Essential when using small bowel used with small bore feeding tube.

Cyclic- usually over 6-12 hours, often at night, client can sometimes eat regular meals during day.

Open systems- open top containers or syringe use flip-top can or powder mixed with sterile water

Closed system- prefilled container tat is spiked, generally good for 24-36 hours.

**Tube Feeding Procedure**

1. Fowler’s position or in chair, right side lying with head
2. Assess placement
3. Assess residual- evaluate absorption of last feeding
   - If 100mL (or more than half of last feeding) withdrawn, check procedure
   - Reinstall all gastric contents (avoid disturbance of electrolyte balance)
4. Administer feedings at room temperature
   - Feeding Bag (open system)
     - Hang 12 inches above insertion point
     - Clamp tubing, add formula, and displace air
     - Attach ban to NG tube and regulate rate
   - Syringe (open System)
     - Remove plunger from syringe and attach to pinched or clamped tube.
     - Add formula
   - Prefill Bottle with Drip Chamber (closed system)
     - Attach administration set to formula container
     - Close clamp and hang 12 inches above insertion point
     - Fill drip chamber and displace air
     - Attach set to NG tube
5. For all systems- flush NG tube with 50 to 100 mL water before all feeding is through.
6. Clamp and cover feeding tube
7. Client should remain in position for at least 30 minutes after feeding

- **Continuous Drip (Variations)**
  1. Label containers
  2. Check residual every 4-6 hours
  3. Then flush with 30-50 mL of water

**Gastrostomy/Jejunostomy Feeding**

1. Insert tube 4-6 inches if not in place
2. If tube already in place—determine placement by checking pH
   Pour 15-30 mL water into syringe and allow to flow through to determine potency
3. Check residual- follow M.D. orders or facility policy
4. Hold syringe 3-6 inches above Ostomy opening
5. After formula goes in, add 30 mL water
6. Clamp tubing if remains in place, remove catheter if not

NG Tube for Suction
- Intermittent—single lumen (Levin) decreases risk of damaging mucous membrane near distal port
- Continuous—Salem sump—double lumen
  1. Assess
  2. Initiating suction
    - semi Fowler’s
    - confirm placement
    - connect
      - Intermittent—single lumen, 15-60 secs.
      - Suction, then none, 80-100 mm Hg
      - Continuous—double lumen, 60-120 mm Hg
      - Smaller tube provides continuous flow atmospheric air avoids damage to gastric mucosa
      - Air vent must be above stomach—prevents reflux of gastric contents into air lumen
    - assess every 30 mins, then every 2 hours when stable
    - c/o fullness, nausea, epigastric pain, or decrease in gastric secretions in collection bottle, look for problems
    - mouth care every 2 hours
    - empty collection container and measure for I and O according to facility policy

3. Irrigate
   - pad
   - turn off suction and disconnect
   - determine placement
   - inject 30 mL irrigant
   - gently aspirate
   - if no return, inject 20 mL of air, then aspirate or reposition client
   - repeat until solution used or running freely