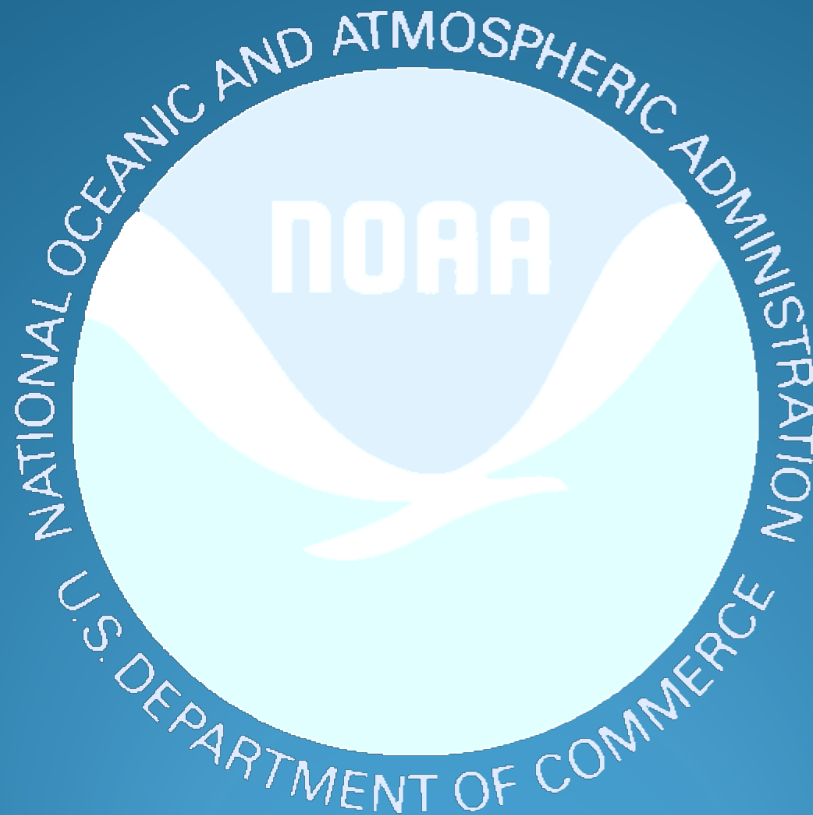


Gastrointestinal Intubation



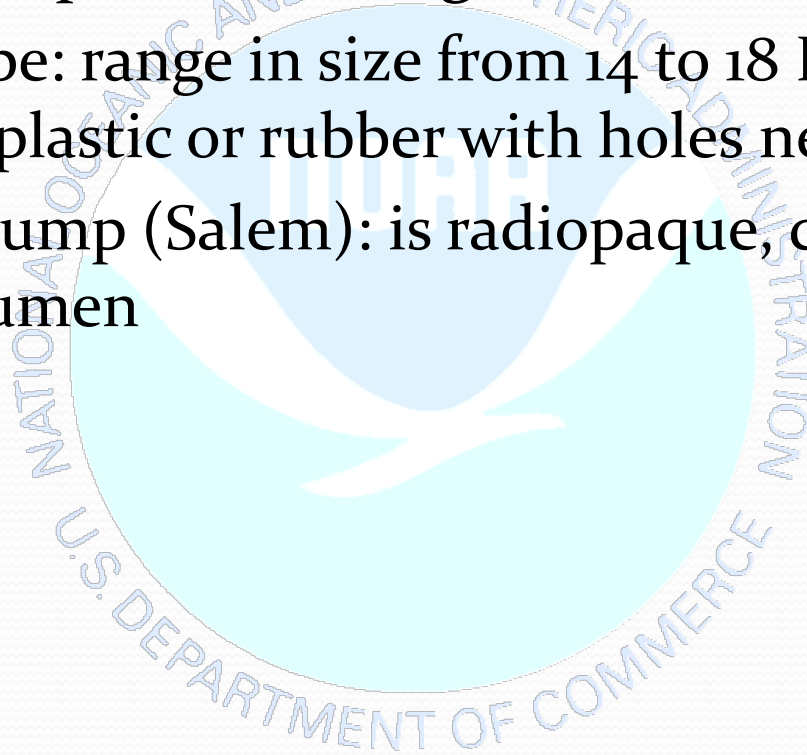
Nasogastric tubes

Overview

- Types of Tubes
- Indications for their use
- How to insert NG tubes
- Complications of NG tubes
- Enteral Feedings
- Indications and Complications.
- Gastrostomy

Types of Tubes

- Short tubes: passed through the nose into the stomach
 - Levin tube: range in size from 14 to 18 Fr, single lumen made of plastic or rubber with holes near the tip.
 - Gastric Sump (Salem): is radiopaque, clear plastic double lumen



Types Cont.

- Medium Tubes: tubes are passed through the nose to the duodenum and the jejunum. Used for feeding
 - Polyurethane or silicone rubber feeding tubes have a narrower diameter (6 to 12fr) and require the use of a stylet for insertion
- Long tubes: passed through the nose, through the esophagus and stomach into the intestines. Used for decompression of the intestines.

Example of Salem Sump



Indications for GI Intubation

- To decompress the stomach and remove gas and fluid
- To lavage the stomach and remove ingested toxins
- To diagnose disorders of GI motility and other disorders
- To administer medications and feedings
- To treat an obstruction
- To compress a bleeding site
- To aspirate gastric contents for analysis

Intubating the client with an NG tube

- Assessment:
 - Who needs an NG:
 - Surgical clients
 - Ventilated client
 - Neuromuscular impairment .
 - Clients who are unable to maintain adequate oral intake to meet metabolic demands.
 - Assess patency of nares.

Assessment cont.

- Assess client's medical history:
 - Nosebleeds
 - Nasal surgery
 - Deviated septum
 - Anticoagulation therapy
- Assess client's gag reflex.
- Assess client's mental status.
- Assess bowel sounds.

Planning

- Gather equipment:
 - 14 or 16 Fr NG tube
 - Lubricating jelly
 - PH test strips
 - Tongue blade
 - Flashlight
 - Emesis basin
 - Catheter tipped syringe
 - 1 inch wide tape or commercial fixation device
 - Suctioning available and ready

Planning Cont.

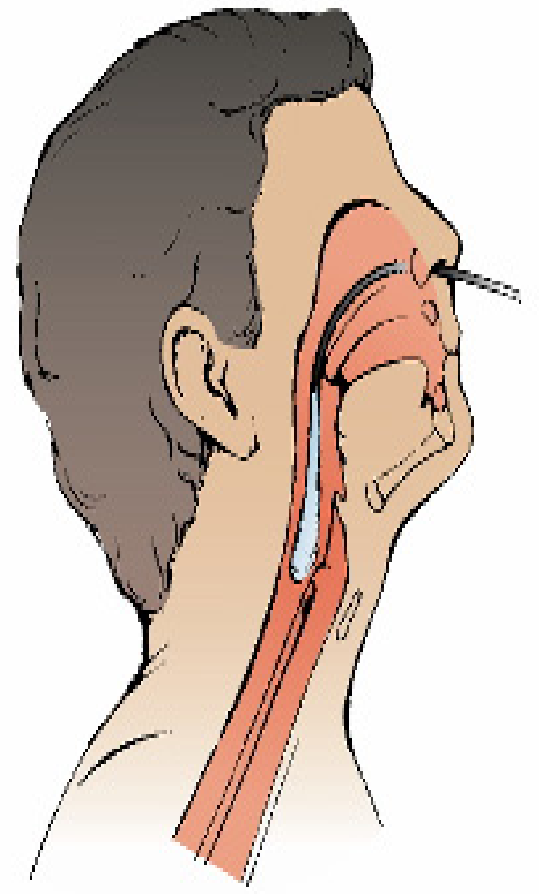
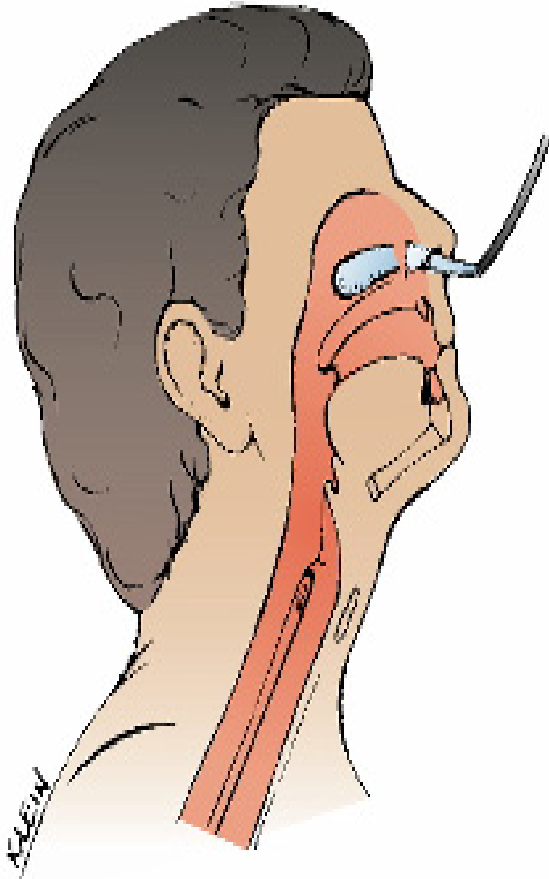
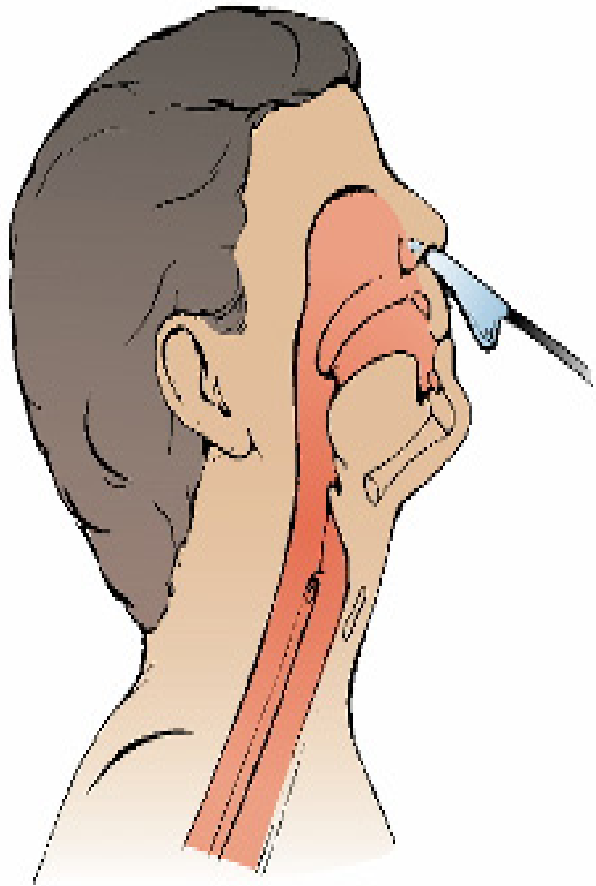
- Explain procedure to client
- Position the client in a sitting or high fowlers position. If comatose-semi fowlers.
- Examine feeding tube for flaws.
- Determine the length of tube to be inserted.
- Measure distance from the tip of the nose to the earlobe and to the xyphoid process of the sternum.
- Prepare NG tube for insertion.

Measurement



Implementation

- Wash Hands
- Put on clean gloves
- Lubricate the tube
- Hand the client a glass of water
- Gently insert tube through nostril to back of throat (posterior nasopharynx). Aim back and down toward the ear.
- Have client flex head toward chest after tube has passed through nasopharynx

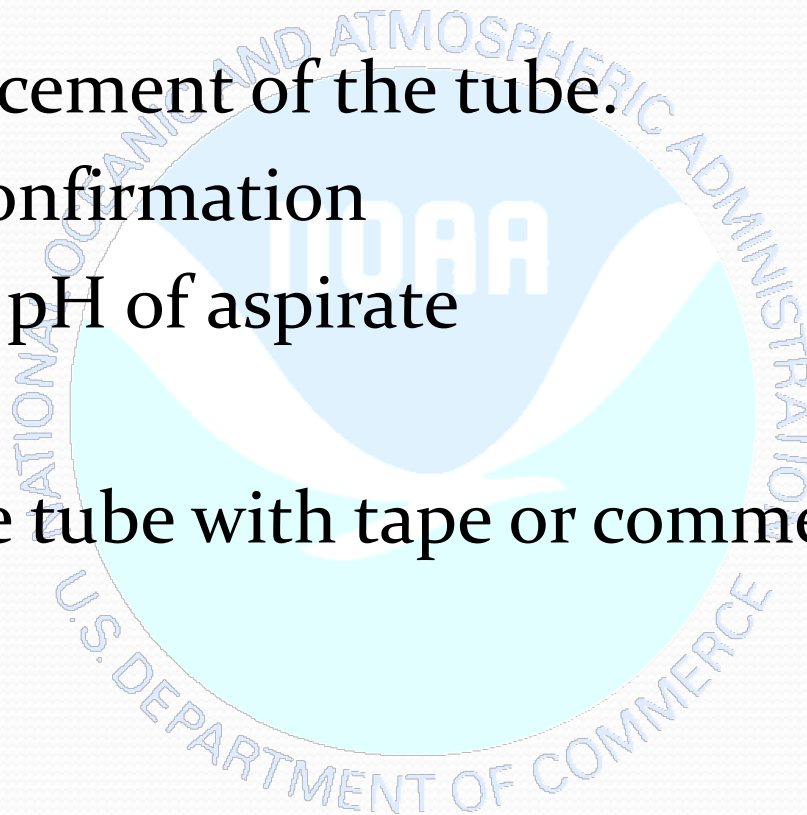


Implementation Cont.

- Emphasize the need to mouth breathe and swallow during the procedure.
- Swallowing facilitates the passage of the tube through the oropharynx.
- When the tip of the tube reaches the carina stop and listen for air exchange from the distal end of the tube. If air is heard remove the tube.
- Advance tube each time client swallows until desired length has been reached.
- Do not force tube. If resistance is met or client starts to cough, choke or become cyanotic stop advancing the tube and pull back.

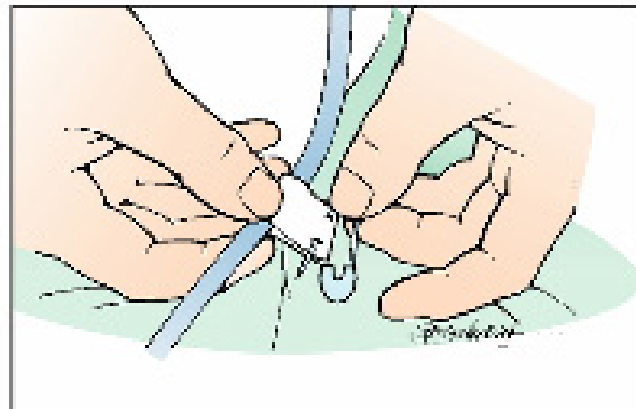
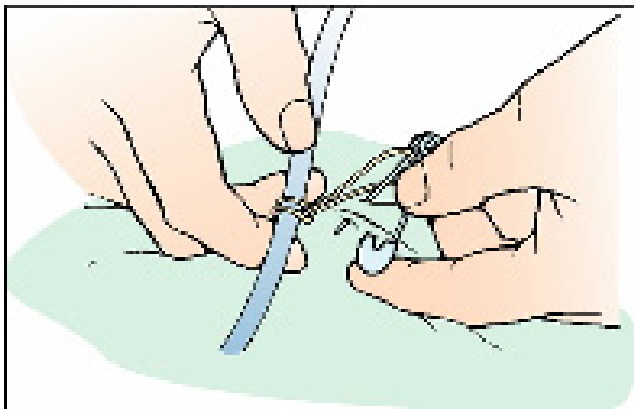
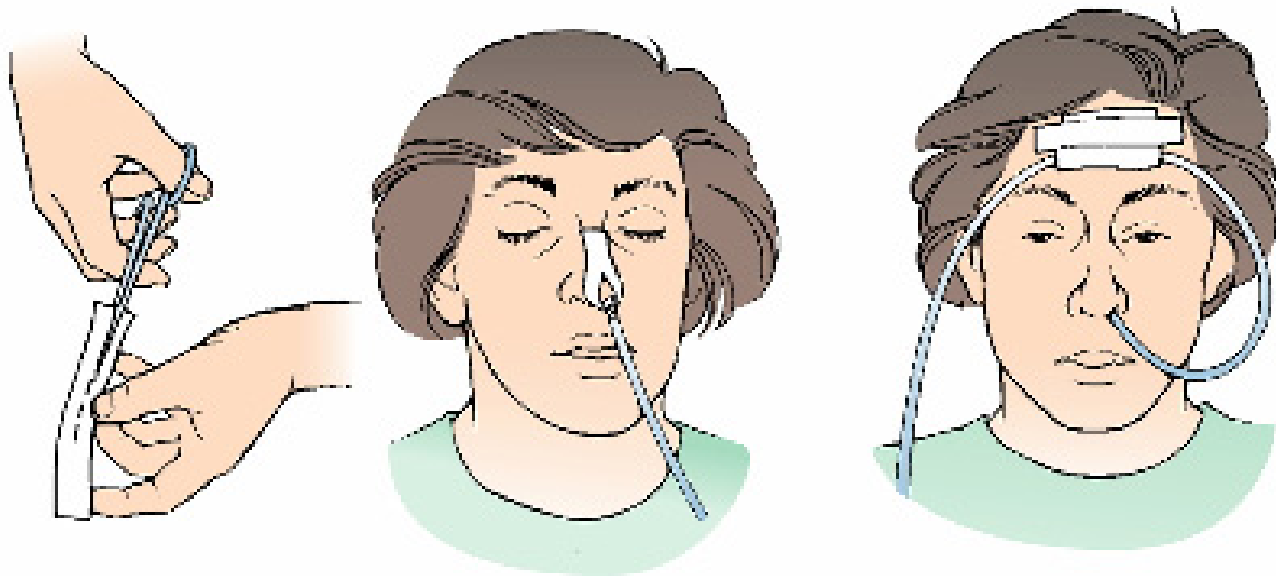
Implementation Cont.

- Check placement of the tube.
 - X-ray confirmation
 - Testing pH of aspirate
- Secure the tube with tape or commercial device

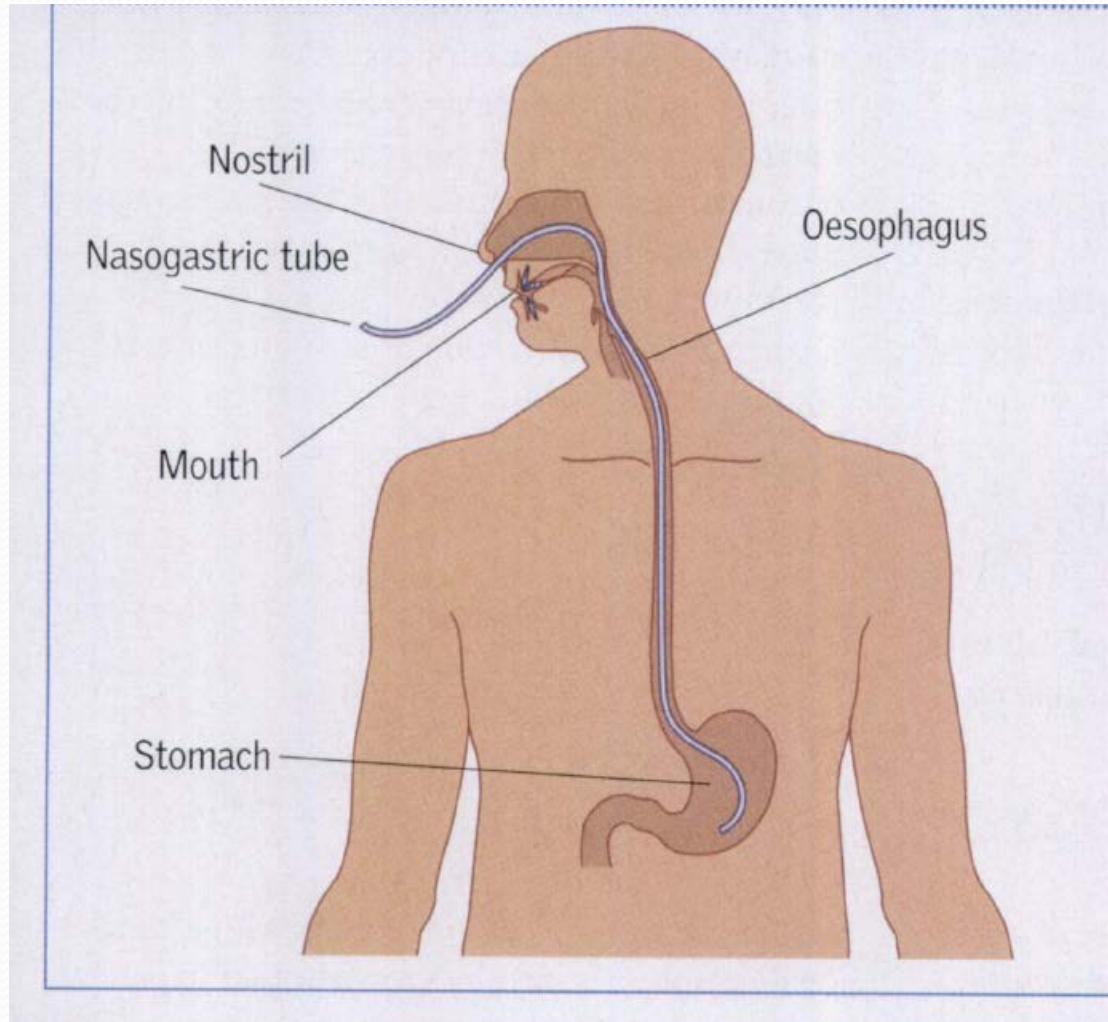


NG Tube Insertion





Nasogastric Tube Position



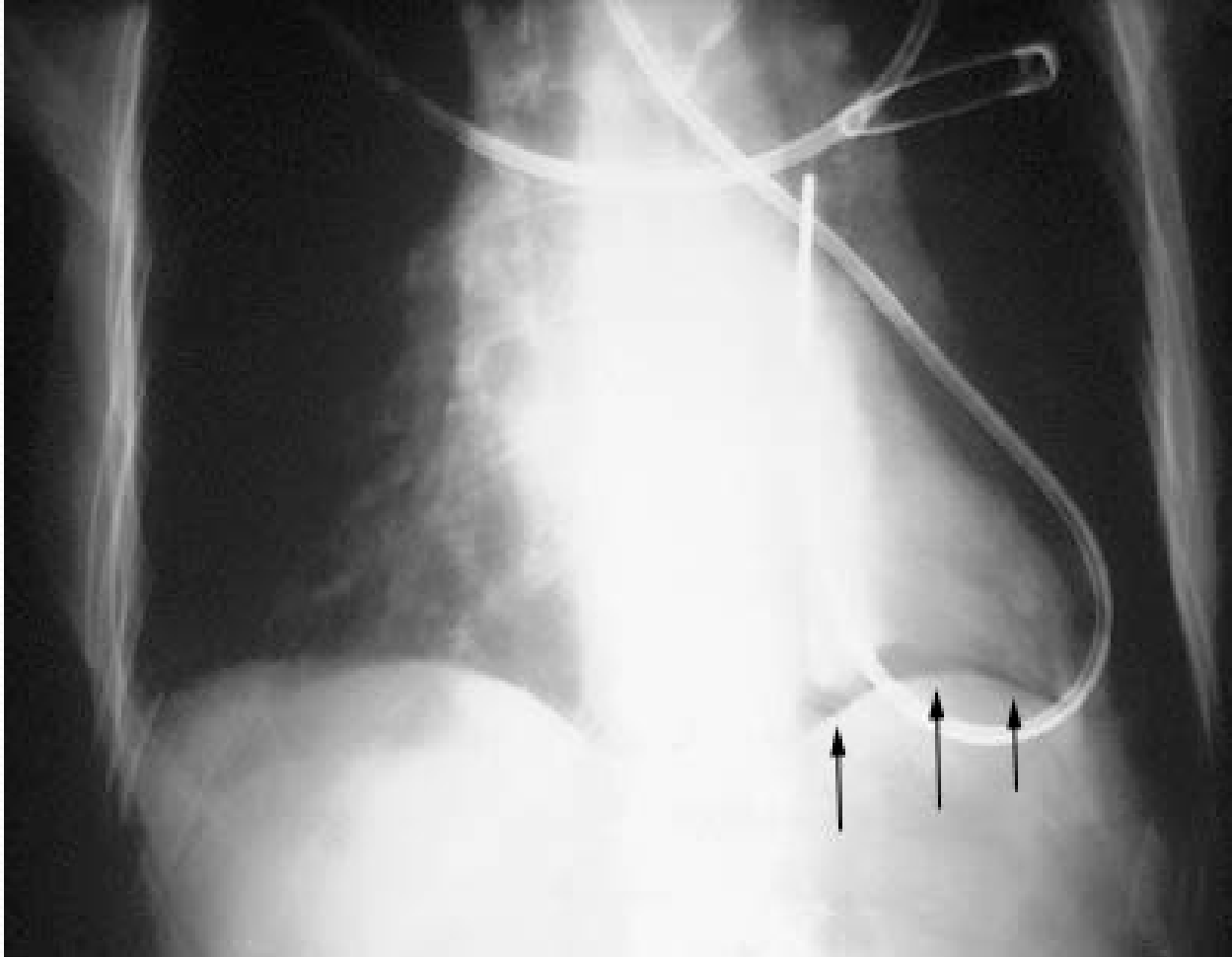
Evaluation

- Observe client to determine response to procedure.
- **ALERTS!!!** Persistent gagging – prolonged intubation and stimulation of the gag reflex can result in vomiting and aspiration
 - Coughing may indicate presence of tube in the airway.

Evaluation Cont.

- Note location of external site marking on the tube
- Documentation
 - Size of tube, which nostril and client's response.
 - Record length of tube from the nostril to end of tube
 - Record aspirate pH and characteristics

X-ray of misplaced NG tube



Testing Placement

- Wash hands and put on clean gloves
- Draw up 30cc of air into the syringe and attach to end of the NG tube. Flush tube with 30cc of air prior to attempting to aspirate fluid. Draw back on the syringe to obtain 5 to 10 cc of gastric aspirate.
- If unable to aspirate:
 - Advance tube – may be in air space above aspirate level
 - If intestinal placement suspected (pH 4-6) withdraw tube 5 to 10 cm
 - Have client lie on his/her left side wait 10-15 mins and attempt aspiration again.

Testing Placement cont.

- Observe appearance of aspirate:
 - From client with enteral feeding – appearance of curdled enteral feed
 - From nasointestinal – bile stained
 - From stomach (non feed)– green, tan, bloody, brown.
 - Pleural fluid – pale yellow and serous
 - Gently mix aspirate in syringe

Testing Placement cont.

- Note:

- In a study by Metheny et al (1994) the gastric aspirate of 880 clients were examined:
 - > gastric aspirate ranged in color from green to yellow, tan/brown or bloody
 - > respiratory aspirate was described as tan or yellow/green (Best 2005)

Testing Placement Cont.

Measure pH of aspirated GI contents by dipping pH strip into the fluid or by applying a few drops of the fluid to the strip. Compare the color of the strip with the color on the chart.

- Gastric fluid from a client who has fasted for at least 4 hours usually has a pH range from 1 to 4 but may be increased if the client is receiving acid inhibiting medications (pH 4-6)

Testing Placement Cont.

- Fluid from nasointestinal tube of fasting client usually has a pH greater than 6. intestinal contents are less acidic than stomach.
- Clients with a continuous tube feed may have a pH of 5 or higher.
- Pleural fluid from the tracheobronchial tree is generally greater than 7.
- National Patient Safety Association(2005a) recommend a pH of less than 5.5 feedings can be initiated (Best, 2005)

Testing Placement Cont.

- Measure the length of the tube from nostril to tip.
- If after repeated attempts, it is not possible to aspirate fluid from a tube that was originally established by x-ray examination to be in the desired position and there are NO risk factors for dislocation, tube has remained in original position and the client is NOT experiencing any difficulty you may assume the tube is correctly placed.

Responsibilities

- Identify signs and symptoms of inadvertent respiratory migration.
- Identify conditions that increase the risk for spontaneous tube dislocation from the intended position (retching, vomiting, nasotracheal suctioning, severe coughing)

Enteral Nutrition

- What is it:
 - The administration of nutrients directly into the GI tract. The most desirable and appropriate method of providing nutrition is the oral route, but this is not always possible.
 - Nasogastric feeding is the most common route
 - Nurses are the main healthcare professional responsible for intubation

Questions?

