

IRISH ASSOCIATION FOR
**EMERGENCY
MEDICINE**



IAEM Clinical Guideline

**Nasogastric Tube Placement in Adult Patients
in the Emergency Department**

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DISCLAIMER

IAEM recognises that patients, their situations, Emergency Departments and staff all vary. These guidelines cannot cover all clinical scenarios. The ultimate responsibility for the interpretation and application of these guidelines, the use of current information and a patient's overall care and wellbeing resides with the treating clinician.

Revision History	Section	Summary of Changes	Author
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GLOSSARY OF TERMS

CXR	Chest X-ray
ED	Emergency Department
GI	Gastrointestinal
NPO	Nothing-by-mouth
NEX	nose – earlobe – xiphisternum
NGT	Nasogastric Tube
PPE	Personal Protection Equipment
PVC	Polyvinyl Chloride

Nasogastric Tube Placement in Adults Patients in the Emergency

Department

INTRODUCTION

One of the routine procedures in the ED is nasogastric tube insertion. It is frequently used for the management of patients who require decompression of the tract, intractable nausea and vomiting, alcohol intoxication, severe trauma, upper gastrointestinal bleeding, or who are endotracheally intubated. The process is quick, easy, and straightforward.

PARAMETERS

Target audience: This guideline is intended for use by emergency medicine clinicians and nurses involved in NGT placement.

Patient population: Adult patients >16 years who present to ED with an indication for a NGT placement.

AIMS

To provide an evidence-based guideline outlining the indications and the procedure of NGT placement in the required patient population.

INDICATIONS AND CONTRAINDICATIONS

The initial assessment should include the risks versus the benefits of a NGT and must be clearly documented in the medical notes prior to insertion. The decision to place a NGT must be made by a competent healthcare professional, with due consideration given to the following:

Indications	Contraindications
<ol style="list-style-type: none">1. Treatment of ileus or bowel obstruction2. Administration of medications or oral contrast3. Enteral nutrition	<p>Absolute</p> <ol style="list-style-type: none">1. Oesophageal stricture2. Basilar skull fracture or facial fracture3. Oesophageal abnormalities, such as recent caustic ingestions, diverticula, or stricture. <p>Relative</p> <ol style="list-style-type: none">1. Oesophageal varices/ bleeding diathesis

NASOGASTRIC TUBE TYPES

Nasogastric tubes are made of polyvinyl chloride (PVC), polyurethane, or silicone and are available in numerous sizes. There are various tubes used in GI intubation but the following two are the most common (figure 1):

- **Levin tube.** This is a single-lumen tube which is easy to insert. It is simple to use for the aspiration of gastric contents, the instillation of fluids and/or medications, and the application of low intermittent suction.

- **Salem sump tube.** This is a double-lumen tube with a “pigtail” used for intermittent or continuous suction.

The most used NGT size in adults is 16 Fr, although larger and smaller sizes are available.

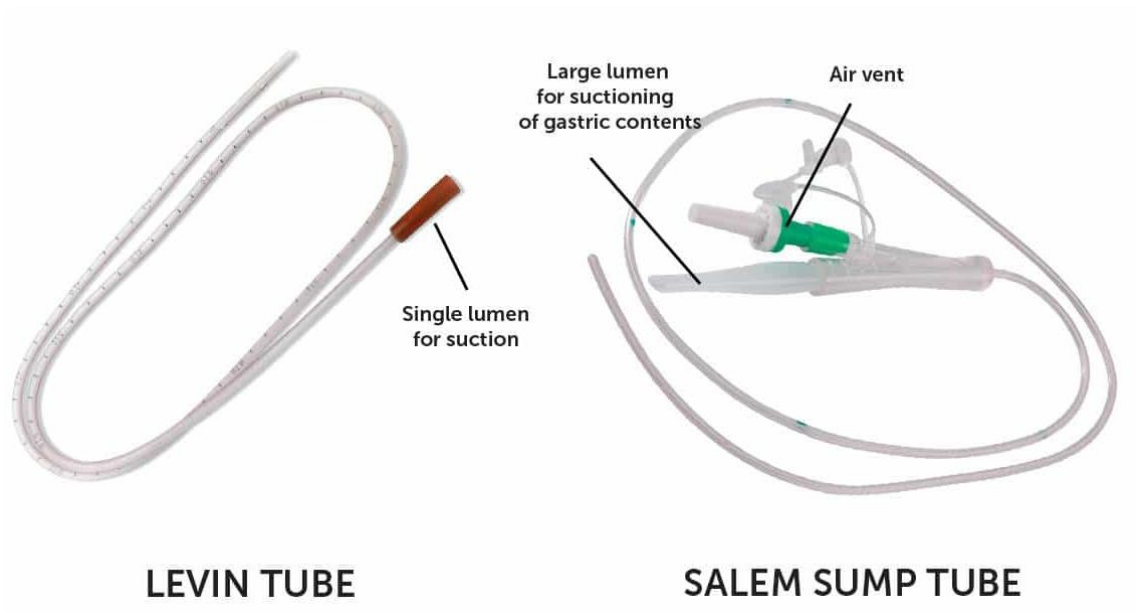


Figure 1: Levin tube and Salem sump tube

INSERTING A NASOGASTRIC TUBE

Below is a step-by-step description of the procedure of NGT insertion.

Equipment required:

- NG tube, various sizes
- Disposable gloves
- Water – based lubricant
- Disposable bowl and protective towel
- 60 mL catheter tip syringe
- Topical anaesthetic (benzocaine spray)
- Glass of water with straw (if swallow is deemed safe)
- Dressing to secure the NGT

Procedure

1. Explain the procedure to the patient, carer(s) or family and agree a signal (e.g. raised hand) so that the patient can communicate during the procedure.
2. Position the patient in a semi-upright position with neck in neutral alignment. Check that the nostrils are patent (ask patient to sniff with one nostril closed) and perform nasal hygiene if required.
3. Hand hygiene and PPE should be worn throughout the procedure.
4. Unpack the tube, check for kinks, and if the tube has a guide wire gently push it into the tube to ensure it is firmly attached to the connector.
5. Estimate the NEX measurement: measure from the bridge of the nose to the ear lobe and then down 5cms below the xiphisternum. Mark the tube at this point with pen or tape.
6. Submerge the distal tip of the tube in water to activate the lubricant.
7. Insert the tip of the tube into the chosen nostril, advancing it gently until ~10cm reached. The patient may sneeze. If resistance is felt withdraw slightly and alter the angle of insertion. If this is unsuccessful, try the other nostril.

8. Encourage natural swallow by offering small sips unless NBM or swallow deemed unsafe.

9. Advance the tube down the oesophagus with successive swallows until the NEX measurement is seen at the nostril. Check that the tube is not coiled in the throat or mouth.

10. Fix the tube position to the nose using dressing to secure it.

11. Check correct NGT position by use of CXR. The CVR viewing field should include the upper oesophagus and extend to below the diaphragm.

- The NGT tube should remain centrally located, down to the level of the diaphragm, should bisect the carina and the tip clearly visible and below the left hemidiaphragm (figure 2).
- When obtaining radiographs, it is important to inform the radiologist that the study is being done to specifically assess NGT placement.

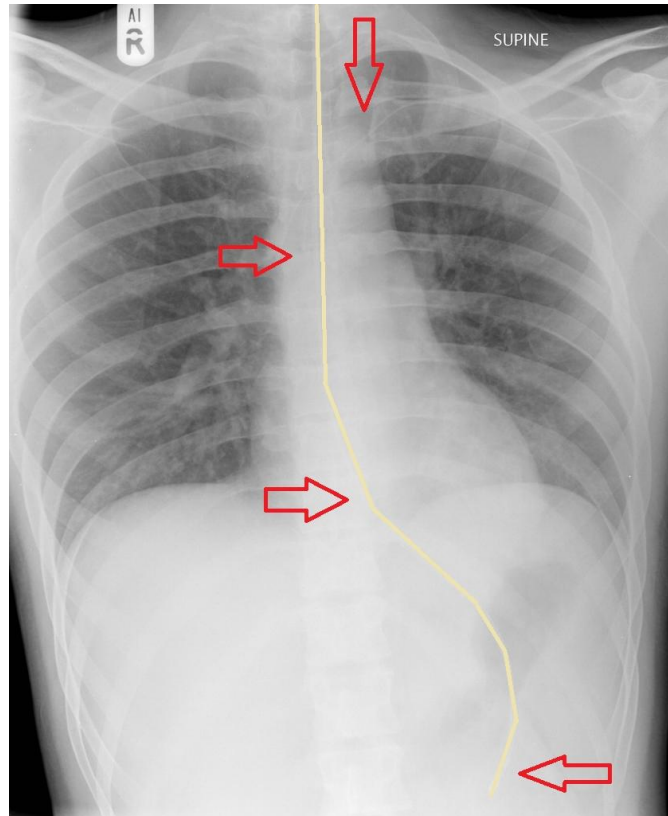


Figure 2: Correct placement of NGT on a CXR. Case courtesy of Derek Smith, Radiopaedia.org, rID: 32991

NOTE: If the patient shows sign of respiratory distress e.g. coughing, gasping, cyanosis, the tube may have entered the trachea so withdraw immediately to allow patient time to recover. If after 3 attempts NG insertion has failed or the tube has been pulled out by the patient on 3 occasions, contact a senior as soon as possible.

COMPLICATIONS

- Aspiration.
- Discomfort.
- Trauma to the tissues inside the sinuses, throat, oesophagus, or stomach if not properly inserted.

- Incorrect placement in the lungs, which could lead to serious complications if food/medications are delivered through the NGT.

TIPS FOR NGT INSERTION

- When inserting the nasogastric tube, it may be helpful to place your other hand behind the patient's head to keep him or her from pulling back.
- Ask the patient to take sips of water when passing the NGT through the pharynx into the oesophagus and through the oesophagus into the stomach. This technique allows the patient to swallow the tube, which can greatly improve the chance of success and reduce gagging.
- Sometimes having the patient tuck their chin toward their chest while sipping water can help facilitate tube passage from the oropharynx into the stomach.

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