Sengstaken / Minnesota Tube Care in Critical Care

**Aim**
To provide a guide for the care of patients with Sengstaken-Blakemore tubes or Minnesota tubes on Critical Care

**Scope**
Medical and nursing monitoring and care of patients with Sengstaken/Minnesota tubes.
This is not a guide for the insertion of tubes which is performed by competent individuals according to approved protocols.

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### Step 1. Identification of specific type of tube inserted

**Sengstaken-Blakemore Tube:**
- **External:** Three main lumens
- **Internal:** Gastric balloon, Oesophageal balloon and Gastric suction port

**Minnesota Tube:** Main tube stocked in DCCQ – may be labeled as a Sengstaken tube
- **External:** Four main lumens
- **Internal:** Gastric balloon, Oesophageal balloon, Gastric suction port and oesophageal suction port

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### Step 2. Maintenance of traction

- Cut a length of ETT tape to approximately 3 metres
- Tie one end of the tape to the end of the Sengstaken tube around the suction port
- Tie the other end of the tape to a 500mL bag of fluid
- Place a drip stand at the foot of the bed and hang the tape over the stand (see picture)
- Shorten tape if necessary to allow bag to hang
- Note the length of the Sengstaken tube at the nose/lips in CIS
- Traction should maintained on the tube at all times

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### Prevention of complications

- **Ulceration of mucosa:** Ensure traction maintained at angle which prevents Sengstaken tube from putting pressure on nasal soft tissues or oral commissures (use foam block included with tube)
- **Dislodgement of tube:** Check CXR on admission to confirm position of gastric balloon following insertion and re-check length of tube at nose/lips hourly.
- **Oesophageal ischaemia/necrosis:** Balloon only to be inflated under guidance and regularly deflated (see steps 3&4)
Nursing Observations

Hourly
- **Insertion Site Check**: Check insertion site (lips/nose) for signs of trauma or skin necrosis and tube length
- **Aspiration**: Aspirate from gastric suction port with catheter-tip syringe
- **Balloon pressures**: Check oesophageal balloon pressure if inflated and record in CIS

Two-Hourly
- **Aspiration**: Aspirate from oesophageal suction port if oesophageal balloon inflated to remove secretions

12-Hourly
- **Deflate gastric balloon**: Once haemorrhage controlled, take off traction *THEN* deflate gastric balloon to assess for signs of rebleeding. If bleeding has ceased then leave tube in with balloon deflated (see Step 4)

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Step 3. Management of active bleeding after tube insertion

- If continuing to aspirate fresh blood from gastric suction port contact doctor immediately
- Consider increase to 1L traction if still bleeding from gastric port (normally gastric varix) – discuss with gastroenterology to confirm plan for management of ongoing haemorrhage
- Consider inflation of oesophageal balloon in uncontrolled haemorrhage only: discuss with gastroenterology team prior to oesophageal balloon inflation
- Doctor to slowly inflate oesophageal balloon to 30mmHg
- Continue to inflate oesophageal balloon until bleeding stopped or 40mmHg reached
- Confirm position of oesophageal balloon with CXR

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Step 4. Management of oesophageal balloon and removal of Sengstaken tube

- After bleeding controlled reduce oesophageal balloon pressure every 3hrs by 5mmHg until reaching 25mmHg without bleeding
- If bleeding recurs, increase pressure in 5mmHg increments until bleeding stopped or 40mmHg reached
- **Deflate oesophageal balloon for 5 mins every 6hrs if bleeding is controlled to help prevent necrosis**
- Maintain oesophageal balloon pressure at 25mmHg for 12-24hrs
- Remove tube after 24-48hrs (confirm with gastroenterology team):
  - Take off tube traction *THEN* deflate gastric balloon
  - If no bleeding after 12-24hrs remove Sengstaken tube