

# Critical Procedures

## *Handouts*

CCEM 2017

# REFRACTORY VF

**VF resistant to 5+ shocks**

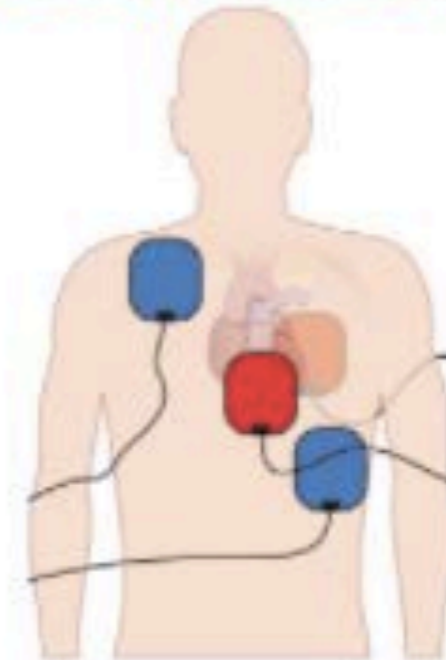
*Pre-arrival: discuss with nursing staff, 2nd defibrillator, 2nd set of pads in the room & esmolol available*

**Continue high quality CPR, confirm ETT, & attempt defibrillation with appropriate pad placement**

**Esmolol 500 mcg/kg bolus over 1 min  
+/- 50 mcg/kg infusion over 4 min**



**Double Sequential Defibrillation**



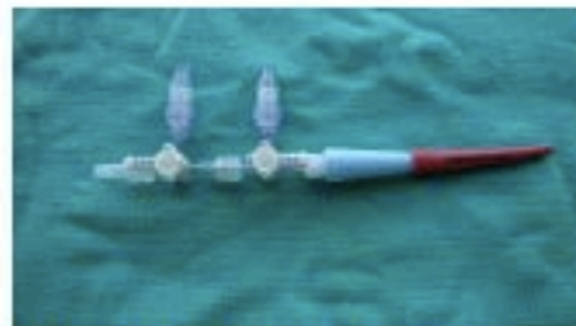
# BLAKEMORE PLACEMENT

## What you need

- Sengstaken-Blakemore Tube
- Salem Sump
- 60 ml Luer-lock Syringe
- 60 ml Slip-tip Syringe
- 2 christmas tree to male luer lock converters
- 3 three-way stopcocks
- 3 medlock caps
- Surgilube
- Roller-bandage (Kling)
- 1 one-liter bag of crystalloid
- Optional: 2 Hollister ETAD ET tube securing devices
- Possible Need: Laryngoscope, McGill Forceps, Hemostat



Gastric Port Set-Up



Esophageal Port Set-Up



## How to Do It

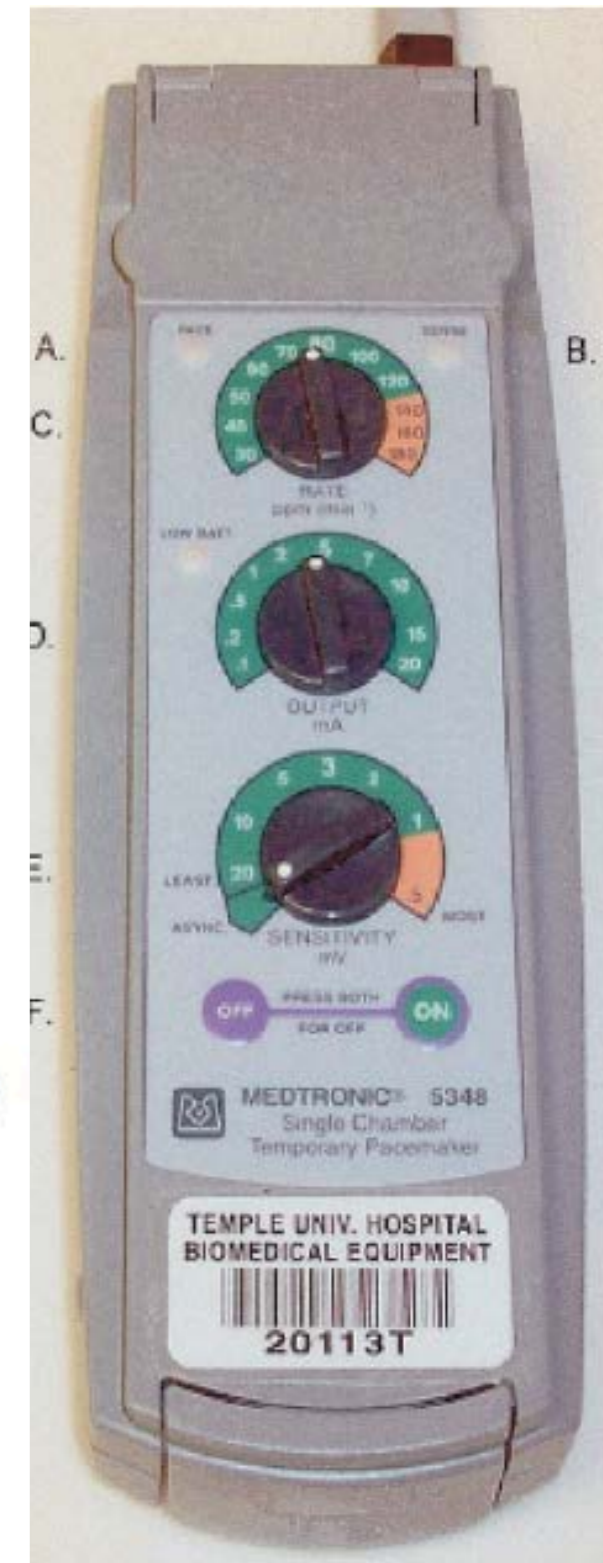
1. Patient should be intubated and the head of the bed up at 45 degrees.
2. Test balloons on Blakemore and fully deflate. Mark salem sump at the 50 cm mark of the Blakemore with the tip 2 cm above gastric balloon and then 2 cm above esophageal balloon.
3. Insert the Blakemore tube through the mouth just like an NGT. You may need the aid of the laryngoscope and sometimes McGill forceps. Make sure the depth-marker numbers face the patient's right-side.
4. Stop at 50 cm. Test with slip syringe while auscultating over stomach and lungs. Inflate gastric port with 50 ml of air.
5. Get a chest x-ray to confirm placement of gastric balloon in stomach.
6. Inflate with additional 200 ml of air (250 ml total)
7. Apply 1 kg of traction using roller bandage and 1 liter IV fluid bag hung over IV pole. Mark the depth at the mouth. The tube will stretch slightly over the next 10 minutes as it warms to body temperature.
8. After stretching, the tube may be secured to the ETAD tube holder.
9. Insert the salem-sump until the depth marked gastric is at 50 cm on the Blakemore. Suction both Blakemore lavage port and salem sump. You may need to wash blood clots out of the stomach with sterile water or saline.
10. If bleeding continues, you will need to inflate esophageal balloon:
11. Pull salem sump back until the esoph. mark is at the 50 cm point of the Blakemore. Attach a manometer to the second 3-way stopcock on the esophageal port of the Blakemore. Inflate to 30 mm Hg. If bleeding continues, inflate to 45 mm Hg.
12. Consider switching traction to Hollister ETAD Device.



# Transvenous Pacemaker Placement

## CCEM 2017

- 1) **Make sure they are hemodynamically supported:**
  - a) Effectively TC paced:
    - i) fixed mode (not demand)
    - ii) 60-70 bpm + enough mAmps for capture.
  - b) Pressors:
    - i) Push dose Epinephrine (ie. "Dirty Epi")
    - ii) Norepinephrine or Dopamine (Cards preference) drip
- 2) **Become sterile and place a SHEATH INTRODUCER:**
  - a) RIGHT Internal Jugular (or LEFT Sub-clavian)
- 3) **Secure the WIRE SHEATH to the hub of the Sheath Introducer**
  - a) *Frequently forgotten!*
- 4) **Have non-sterile assistant pass you the PACER WIRE KIT:**
  - a) Test the BALLOON (usually 1.3 mL of air) with included syringe
  - b) Test the LOCK on the balloon port (plastic tends to stick)
  - c) Pass the wires off the sterile field to non-sterile assistant
- 5) **Non-sterile assistant adds adapters and connects to the GENERATOR:**
  - a) Positive (red) to proximal wire (closer to patient)
  - b) Set the GENERATOR:
    - i) Rate **80** (different from TC pacer)
    - ii) **Asynchronous**
    - iii) **20 mAMP**
    - iv) **\*\*\*DO NOT TURN ON... YET\*\*\***





## 6) Introduce the PACER WIRE through the SHEATH INTRODUCER:

- To a depth of **20 cm**
- Inflate the BALLOON (1.3 mL of air)
- LOCK the valve and leave the syringe in attached

## 7) Turn the GENERATOR on and advance the WIRE with the BALLOON UP:

- Advance to electrical capture at GENERATOR RATE (80 bpm) and mechanical capture
- Better - visualize wire in the RV on bedside Ultrasound*

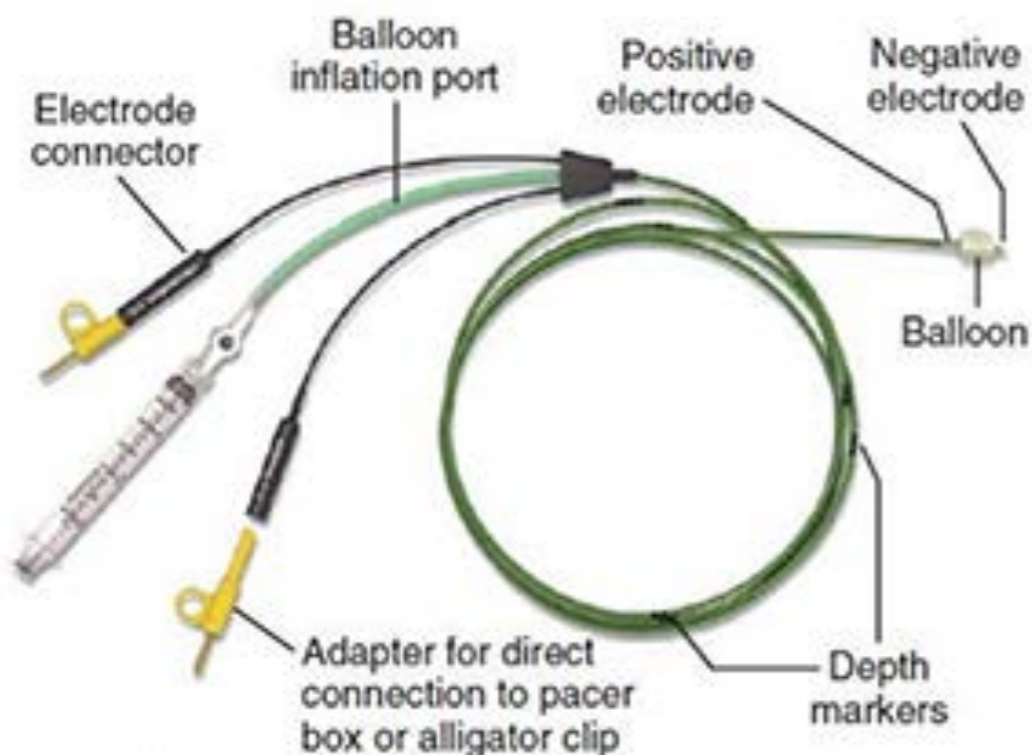
## 8) Decrease AMPS:

- Find minimum needed to maintain electrical **AND mechanical capture**
- Set mAMPS to double the minimum

## 9) Deflate the BALLOON and secure the PACER WIRE in the SHEATH INTRODUCER HUB

- may require additional securing method if SHEATH INTRODUCER and PACER WIRE are not ideally compatible*

## 10) Confirmatory CXR and ECG



### Trouble-shooting Pearls:

- Stabilize patient prior to starting placement of Sheath Introducer
- Remember the Sterile Wire Cover and to check the balloon lock
- Proximal is (+) positive is Red
- Generator:** [Asynch], [20 mAMPS], rate [80] different than TC [60]
- Balloon UP** after 20 cm
- Balloon DOWN** and lock after capture
- CXR, **US**, fluoroscopy if not working
- After 20 cm only advance the wire with the **balloon UP***