

MATERNAL ARREST

FIRST RESPONDER

- Activate **CODE BLUE**
- Document **TIME OF ONSET** of arrest
- Place patient **FLAT** and **SUPINE**
- **Start chest compressions** (place hands slightly higher on sternum.)

SUBSEQUENT RESPONDER(S)

- **DO NOT DELAY DEFIBRILLATION**
 - Remove all internal & external fetal monitors
- **MANUAL Left Uterine Displacement** maintained
- Follow ACLS protocols, early VA ECMO consideration
- Ventilate with 100% O₂, **secure airway** – **minimize interruption to chest compressions**. – BVM/LMA/ if ETT not possible.
 - *no induction meds or paralytics* if unconscious– just intubate. Anticipate swollen OB airway.

PREPARE FOR REUSCITATIVE C/S: goal < 4min FROM ONSET OF ARREST, AT SITE OF ARREST.

- IVs ABOVE diaphragm only, Humeral I.O. if necessary.
- If MgSO₄- toxicity suspected: TX: Ca gluconate (30mL 10%) or Ca Chloride (10mL 10%)
- NICU team for fetal delivery

POSSIBLE CAUSES

BLEEDING/DIC: Atony, Vaginal/Cervical Lac, Retroperitoneal or Intra-abdominal bleeding, Coag disorder, HELLP/capsule rupture, AFE, Abruptio, AFLP

- ✓ **Run hemorrhage checklist**
- ✓ MTP: early cryo, factor/fibrinogen concentrates
- ✓ Consider ECMO if severe pulmonary edema & unable to ventilate, or heart failure ²/₂ AFE

EMBOLISM: Coronary clot v SCAD, PE, AFE, VAE

- ✓ **PE:** consider STAT CTA, support RV (see below for AFE RV support)
- ✓ **VAE:** flood field with NS, 100% O₂, position pt L lateral, TEE, aspirate air from R heart catheter, inotropes, CPR may break up VAE
- ✓ **MI/SCAD:** consider STAT PCI → cath lab
- ✓ **AFE:** “Anaphylactoid” syndrome: ↑PVR → acute RV failure → acute LV failure. Concurrent DIC.
 - Tx: **Epi 1st 10-100mcg bolus to restore MAP, inotropes, minimize fluids, pulm vasodilators** → early alert VA ECMO team
 - Airway securement, vent settings to ↓PVR: avoid hypercarbia, 100% FIO₂, ↓PEEP & airway/intrathoracic pressures.
 - Doses **mcg/kg/min:** NE: 0.05-3.3, Epi: 0.02-0.1, Milrinone: 0.125-0.375, Dobutamine: 2-10, Dopamine: 2-10, vaso < 0.08 **U/min**.
 - Avoid phenylephrine in RV failure to **avoid ↑ PVR**. Avoid milrinone *bolus* to **avoid ↓ SVR**.
 - **DIC → MTP. Early cryo, fibrinogen replacement***
 - Pulmonary vasodilators: inhaled Nitric Oxide (5-40 ppm) or inhaled prostacyclin: Epoprostenol 10-50 ng/kg/min
 - Can consider AOK: 1mg Atropine, 8mg Ondansetron, 30mg Ketorolac – **if no s/s DIC*

ANESTHETICS: **L.A.S.T** → “intralipid” or “fat emulsion” in pyxis & continue CPR until either ROSC, or initiation of cardiac bypass until LA cleared.

- ✓ **L.A.S.T ACLS: REDUCE EPI DOSE: < 1mcg / kg ~ 50-100 mcg at a time****
- ✓ **100mL 20% intralipid bolus (or 1.5 mL/kg/min), then gtt 0.25mL/kg/min, can repeat bolus 2x, max total 10-12mL/kg in 1st 30min.**
- ✓ Secure airway if LOC. **Normocapnia:** Hyperventilation worsens CNS toxicity. Hypoventilation worsens cardiac toxicity.
- ✓ Seizure control: **BENZOS**, not propofol*
- ✓ Avoid Vasopressin, CCB, BB

HIGH SPINAL → supportive: maintain BP and secure airway

- ✓ Epi: 10-100mcg doses to effect, +/- CPR to circulate meds, ventilator support until LA wears off.
 - **Benzold-Jarisch Reflex (after spinal)** → **Atropine** to abolish reflex, epi 10-100mcg to effect. +/- CPR to circulate meds.

ANAPHYLAXIS: Supportive: maintain airway & hemodynamic support

- ✓ Epi 10-100mcg IV to effect for hemodynamic support (300mcg IM), vasopressin, methylene blue for refractory vasoplegia
- ✓ Hydrocortisone 100-200mg IV, Albuterol, Diphenhydramine (H₁), Famotidine (H₂)

CARDIAC DX: MI/Ischemic heart dx/Cardiomyopathy/Aortic dissection (eg: Marfan’s)

- ✓ MI/SCAD: ACLS, Cath lab → PCI
- ✓ Cardiomyopathy: Inotropes: Dobutamine, NE, Milrinone, Epi, TTE/TEE. Consider VA ECMO.
- ✓ Dissection: MTP → cardiac OR

HTN: PreE/Eclampsia

- ✓ Seizure control: **BENZOS**
- ✓ MgSO₄- Toxicity? NO DTRs? → **Tx: Ca Gluconate 30mL 10%, or CaCl 10mL 10%.** *if DTRs present → seek other cause of cardioresp collapse.
- ✓ Secure AIRWAY – expect ++ airway swelling.
- ✓ **SBP < 160mmHg** to avoid maternal stroke.

SEPSIS: IAI, Urologic, IUFD, Pneumonia, etc.. [E-coli, Staph, Strep A*]

- ✓ Supportive care & assess for: DIC, ARDS vs Pulm Edema, TTE/TEE to assess CV fxn

OTHER: **Hs & Ts:** Hypovolemia, Hypo/Hyper K+, Hypoxia, Hypo/hyperthermia, Tension pneumo, Tamponade, Thrombosis, Toxins