MATERNAL ARREST

FIRST RESPONDER

- Activate CODE BLUE
- Document TIME OF ONSET of arrest
- Place patient 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 consideration of VA ECMO if ROSC not achieved
- Ventilate with 100% O_2**, 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 RECUSCITATIVE C/S: goal < 4min FROM ONSET OF ARREST, AT SITE OF ARREST.

  - IVs ABOVE diaphragm only, Humeral I.O. if necessary.
  - Continue CPR until ROSC. May need ECMO.
  - If $MgSO_4$- 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, Abruption, AFLP

- ✓ **Run hemorrhage checklist**
- ✓ MTP: early cryo, may need 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
- ✓ **VAE:** flood field with NS, 100% O_2, 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:** RV failure → LV failure. Tx: **inotropes, minimize fluids, maintain MAP, pulmonary vasodilators → early alert VA ECMO team**
  - Airway securement, vent settings to ↓PVR: ↓ETCO2, ↑FIO2, ↓PEEP & airway pressures.
  - Doses in **mcg/kg/min:** Dobutamine: 2-10, Dopamine: 2-10, Epi: 0.02-0.1, NE: 0.05-3.3, Milrinone: 0.125-0.375, 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
  - 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 → stat c/s

- ✓ Epi: 10-100mcg doses to effect, +/- CPR to circulate meds, ventilator support until LA wears off.
  - **Bezold-Jarisch Reflex** (2/2 neuraxial): triad of hypotension, severe bradycardia, & hypopnea/apnea → LOC, arrest→ stat c/s
  - → **Atropine** to abolish reflex, **Ephedrine**, **Epi** 10-100mcg to effect, IV fluids, +/- CPR to circulate meds

ANAPHYLAXIS: Supportive: maintain airway & hemodynamic support

- ✓ Epi 50-100mcg IV to effect for hemodynamic support (0.5-1mg IM), vasopressin, methylene blue for refractory vasoplegia
- ✓ Hydrocortisone 100-200mg IV, Albuterol, Diphenhydramine (H_1), Famotidine (H_2)

CARDIAC DX: MI/Ischemic heart dx/Cardiomyopathy/Aortic dissection (e.g. 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: AIRWAY protection, suction, MAG = DEFINITIVE TX: IV or IM to prevent next seizure, re-dose mag +/- benzos if refractory.
- ✓ $MgSO_4$- Toxicity? NO DTRs?→ Tx: Ca Gluconate 30mL 10%, or CaCl 10mL 10%. *If DTRs present → seek other cause of cardioresp collapse.
- ✓ 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: **H**ypovolemia, **H**ypo/Hyper K+, **H**ypoxia, **H**ypo/hyperthermia, **T**ension pneumo, **T**amponade, **T**hrombosis, **T**oxins (Narcan?)