

# The 5 Quadrads Approach to Assessment of the Cardiovascular Emergency

## ABCDs (Initial Assessment)

1. **Airway** – Open? If not, then manually open. C-Spine injury?
2. **Breathing** – Moving air? Is it adequate? If not, then assist ventilations.
3. **Circulation** – Carotid pulse present (unconscious patient)? Peripheral pulses?
4. **Defibrillation** – If carotid pulse is absent in unconscious patient, LOOK for VF!

## ABCDs (Detailed Assessment)

1. **Airway** – Gag reflex? Airway occlusion or secretions? Requires airway mgmt.
2. **Breathing** – Apply Oxygen. Assess ETT placement. Chest injury? O<sub>2</sub> sat.
3. **Circulation** – ECG monitor. Vital signs (HR, BP). Initiate IV. Draw labs.
4. **Differential Diagnosis** – **THINK! Treat if Cause is found.**
  - ♦ **Disability** – mental status? Pupillary response? GCS?
  - ♦ **Expose – Examine – Extremities** – Expose patient. Examine quickly for gross injuries. Signs of pregnancy? Temp? Medic alert? Extremity pulses
  - ♦ **Fingers – Foley – Flip** – Check for pelvic and genitalia injury. Log roll patient.
  - ♦ **Gastric Tube – “Gunk”** – Contraindications for NG tube? Check aspirate for blood, pills, odor.
  - ♦ **History** – Expanded history to develop differential diagnosis. Delay until patient stable. Use family, friends, first responders.

## O<sub>2</sub> – IV – Monitor – Fluids

Asses response to treatment. Manage based upon diff diag.

## Temp – HR – BP – Resp

Assess for temp extreme. Manage as indicated.

## Tank – Tank – Pump – Rate

Consider problems in these categories and treat as indicated.

## The “H’s and the T’s”

### Differential Diagnoses in the Advanced Five Quadrads Approach

*Consider in cardiac arrest patients presenting with  
Asystole or Pulseless Electrical Activity*

The “H’s”	The “T’s”
<b>Hypovolemia</b> (Look for cause of volume loss including obvious bleeding, anaphylaxis, pregnancy with gravid uterus.)	<b>Trauma</b> (Massive trauma, electrocution, lightning strike, drowning, submersion)
<b>Hypoxia</b> (Inadequate oxygenation for any reason)	<b>Tension Pneumothorax</b> (Asthma, trauma, COPD, ventilator use, positive pressure ventilation)
<b>Hypo/Hyperthermia</b> (Profound hypothermia, Heat stroke)	<b>Thrombosis, Lungs</b> (Pulmonary embolus)
<b>Hypo/Hyper-Electrolytes</b> (Potassium, Sodium, Magnesium, Calcium)	<b>Thrombosis, Heart</b> (Acute MI)
<b>Hypo/Hyperglycemia</b> (Low glucose from insulin reaction, DKA, Non-ketotic hyperosmolar coma)	<b>Tamponade, Cardiac</b> (Trauma, renal failure, chest compressions, carcinoma, central line perforation, pericarditis)
<b>Hydrogen Ion</b> (Acidosis, DKA, Drug overdose, renal failure)	<b>Tablets (Drug Overdoses)</b> (TCA, Phenothiazines, Beta-blockers, Narcotics, Calcium channel blockers, Cocaine, Digoxin, Aspirin, APAP)