

Rhythm disturbances

MANAGING PULSELESS ELECTRICAL ACTIVITY (PEA) AND ASYSTOLE

Pulseless electrical activity (PEA) is defined as any electrical activity in the heart that does not result in pulsatile blood flow. As such, any pulseless rhythm (e.g., ventricular fibrillation) may be considered PEA, but this term is generally reserved for non-shockable (slow) rhythms.

Asystole is the absence of electrical activity, which also does not create any blood flow. Asystole is the common final pathway for any non-perfusing rhythm.

Causes of PEA

The causes of PEA are inclusive of every other cause of cardiac arrest, and should be treated accordingly.

Cardiogenic

- Defibrillation / cardioversion
- Cardiac catheterization

Hypovolemic

- Administer IV fluids / transfusion
- Stop bleeding

Distributive

- Provide vasopressor support

Obstructive

- Relieve obstruction
- Place chest tube



Fast rhythms are more likely cardiogenic or mechanical

Slow rhythms are more likely metabolic or ischemic

A mnemonic to remember many of the causes of PEA is the **5 H's and T's**

- Hypoglycemia
- H⁺ (acidosis)
- Hyper / hypokalemia
- Hypoxemia
- Hypothermia
- Thrombosis (including coronary)
- Toxins
- Tamponade
- Tension pneumothorax
- Trauma (including hemorrhage)