In-House Resuscitation

“Remodeling an outpatient algorithm with an inpatient physiologic rationale”

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Is there a need to tweak?

Survive a cardiac arrest TO DISCHARGE

Survive a cardiac arrest TO DISCHARGE w/ Good Neurologic

Survive a cardiac (not respiratory) arrest

Survive a cardiac (not respiratory) arrest TO DISCHARGE
PEA AND ASYSTOLE
Incompatible bed partners
I don't feel a pulse!

BP: 139/59/34

Heart Rate: 32/19
Figure 4  Area fraction of predicted compressed cardiac structures. Area fraction of the cardiac chamber areas increases and that of the great vessel area (GVA) decreases as the compression point move from point A to points B and C. Point A, inter-nipple line; point B, halfway between A and C; point C, sternoxiphoid junction; RAA_{cmp}, predicted right atrial area compressed; LAA_{cmp}, predicted left atrial area compressed; RVA_{cmp}, predicted right ventricular area compressed; LVA_{cmp}, predicted left ventricular area compressed.
• 60 yo male

• HD# 16: Sepsis, ARDS, On/Off Ventilator - back on 2hr ago

• 2:15 AM in ICU:
  • Acute Hypotension, hypoxia
  • PEA Arrest
• 60 yo male

• HD# 16: Sepsis, ARDS, On/Off Ventilator - back on 2hr ago

• 2:15AM in ICU:
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Hypovolemia
Hypoxia
Hydrogen ion
Hypoglycemia
Hypo/HyperK+
Hypothermia
Tension Ptx
Tamponade
Toxins
Thrombosis

PEA
Volume
Obstruction
Pump
Ptx
Tamponade
PE
82 yo with Septic Shock secondary to UTI

PMHx: HFpEF, Mitral Stenosis (moderate), COPD (severe bullous), paroxysmal Afib

On ventilator, Abx, levophed, heparin

BP 87/49 mmHg - sinus tach

Afib recurs and over 2 min rate increases to 120 bpm and pulse disappears.

“PEA” Arrest
87/49 mmHg

52/32 mmHg

No PULSE

PULSE/PERFUSION IS NOT PRESENT

If new onset SVT or rapid atf may be cause, consider syncope cardiocversion

START CPR/LUCAS

FIRST

PEA

ASYSTOLE

Non-Shockable Rhythm

2min CPR

Vasopressin 40units x 1 IV/IO

Hyponatremia

Hypokalemia

Severe Anemia

Hypovolemia

Hypothermia

Reversible Causes & Treat

Hypokalemia

Calcium Chloride

Sodium Bicarbonate

Acute Coronary

Sodium Bicarbonate

Coronary Angioplasty

Acute Coronary

Drug of choice (OSMOL)

OSMOL

Norepinephrine

Lactate

Torsion Prenoar

Needle/Check Tube

Visual Stenosis

Pressure, IVF

Massive PE

Venous, CVP

Massive MI

PCI, ECMO

Second

Narrow

Wide

Rhythm/Pulse Check

NO ROSC = 2min CPR

epi 1mg q5min FIO 4

Vasopressin 40units x 1 IV/IO

Pharm/Temp

Acute Coronary

Acute Coronary

Acute Coronary

Drug of choice (OSMOL)

OSMOL

Norepinephrine

Lactate

Torsion Prenoar

Needle/Check Tube

Visual Stenosis

Pressure, IVF

Massive PE

Venous, CVP

Massive MI

PCI, ECMO
48 yo POD#2: AVR - bicuspid

- PMHx: Bicuspid Ao Valve w/ severe stenosis
- SVT with 80/59 mmHg
  - cardioverted back to NSR, BP 110/71 mmHg
- VTach without pulse, rate 170s
39 yo POD#3:

s/p temporal lobe GBM resection

- PMHx: GBM
- Called the nurse for the “worst smell I’ve ever known”
- Awake but not talking, staring off
- Unresponsive without a pulse
Bradycardic PEA
Asystole w/ Reversible causes
I. Patient Condition:

A. Indications

- AHA guidelines for CPR recommends consideration of ECMO to aid cardiopulmonary resuscitation in patients who have an easily reversible event, have had excellent CPR.
- Contraindications: All contraindications to ECMO use (such as Gestational age < 34 weeks) should apply to ECPR patients.
- DNR orders
- Futurity: Unsuccessful CPR (no return of spontaneous circulation) for 5-30 minutes.
- ECPR may be indicated on prolonged CPR if good perfusion and metabolic support is documented.

II. Vascular Access

A. Cannulation Site

Thoracic (for cardiac patients with recent sternotomy) or Peripheral vessel should be at discretion of the surgical team. Percutaneous cannulation of vessels for ECPR is only recommended if access to the vessels exists prior to CPR, and should only be performed providers who are skilled with vascular access. Percutaneous cannulation can be performed in patients >15 kgs. Placement in specialized areas such as the cardiac catheterization (or interventional radiology) laboratory where the placement of these catheters can be directly observed is ideal but non-mandatory.