

Project: Ghana Emergency Medicine Collaborative

Document Title: ACLS Overview: Pulseless Arrest

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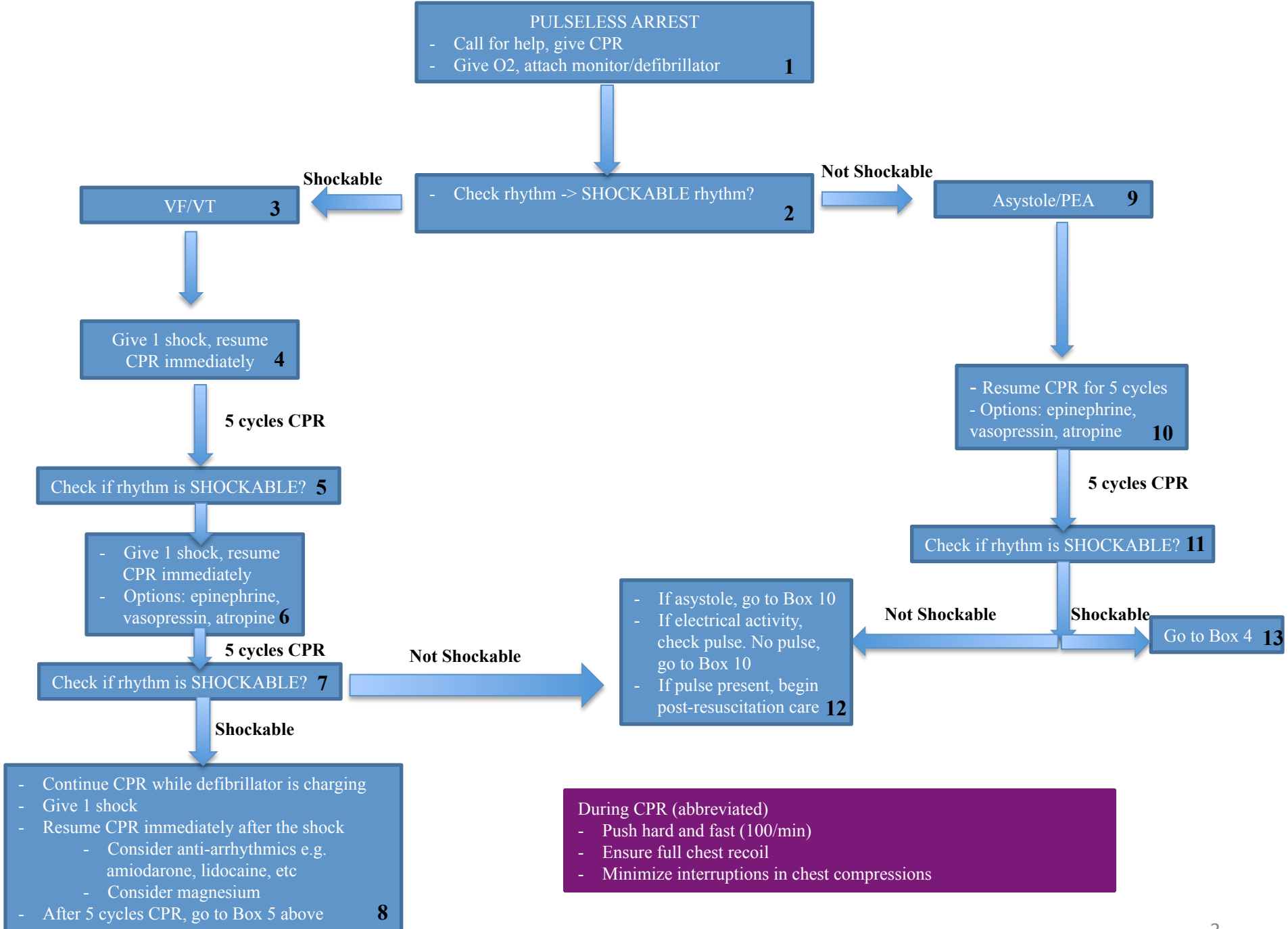
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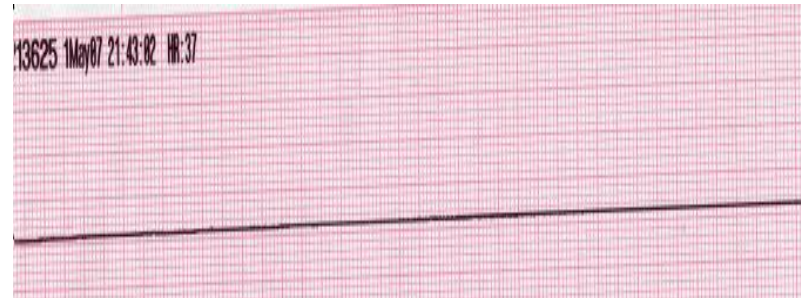
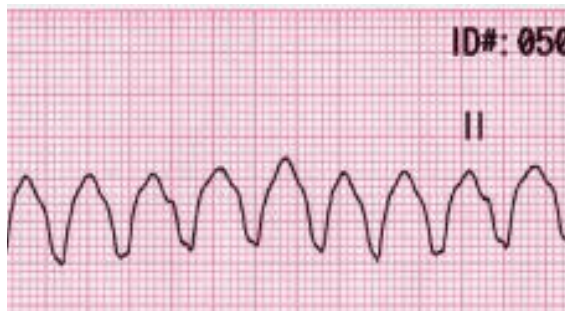
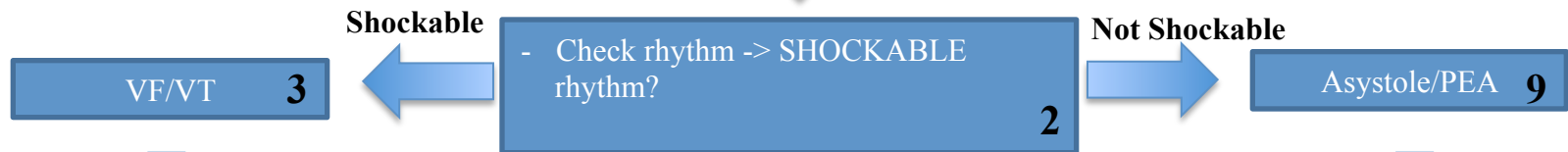
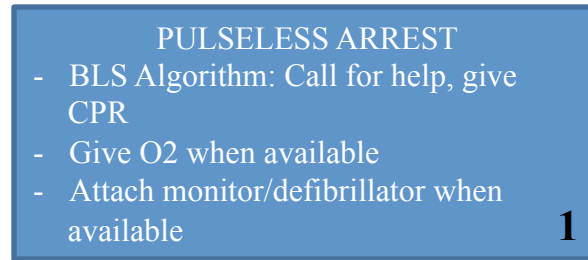
Full Guidelines for CPR in Pulseless Arrest Algorithm

During CPR

- Push hard and fast (100/min)
- Ensure full chest recoil
- Minimize interruptions in chest compressions
- One cycle of CPR: 30 compressions + 2 breaths; 5 cycles, 2 mins
- Avoid hyperventilation
- Secure airway and confirm placement

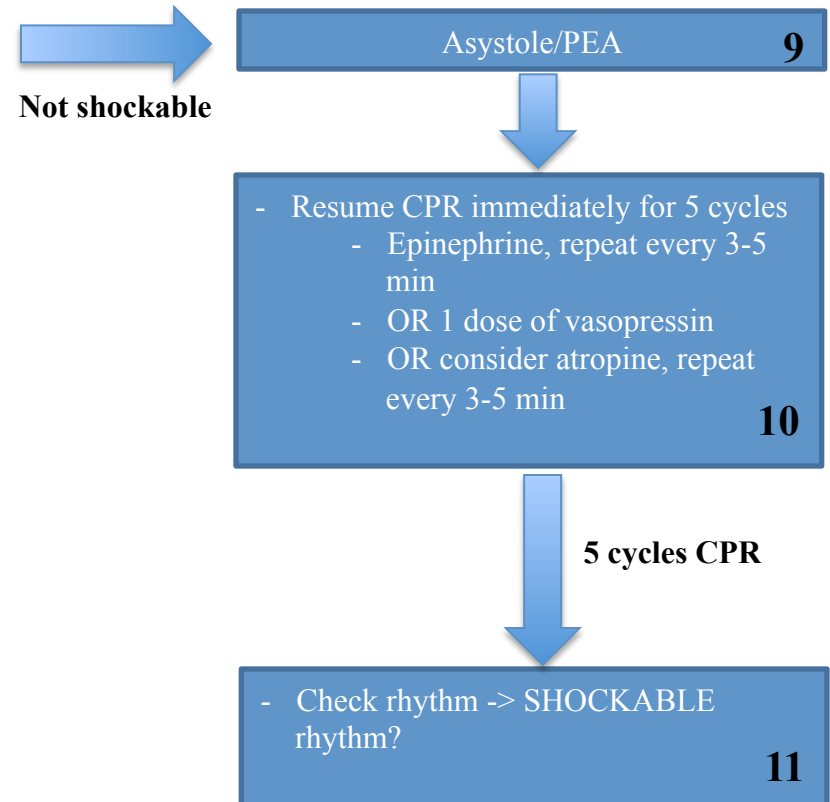
** After advanced airway is placed, rescuers no longer deliver cycles of CPR. Give continuous chest compressions without pauses for breaths. Give 8-10 breaths/min. Check rhythm every 2 minutes.

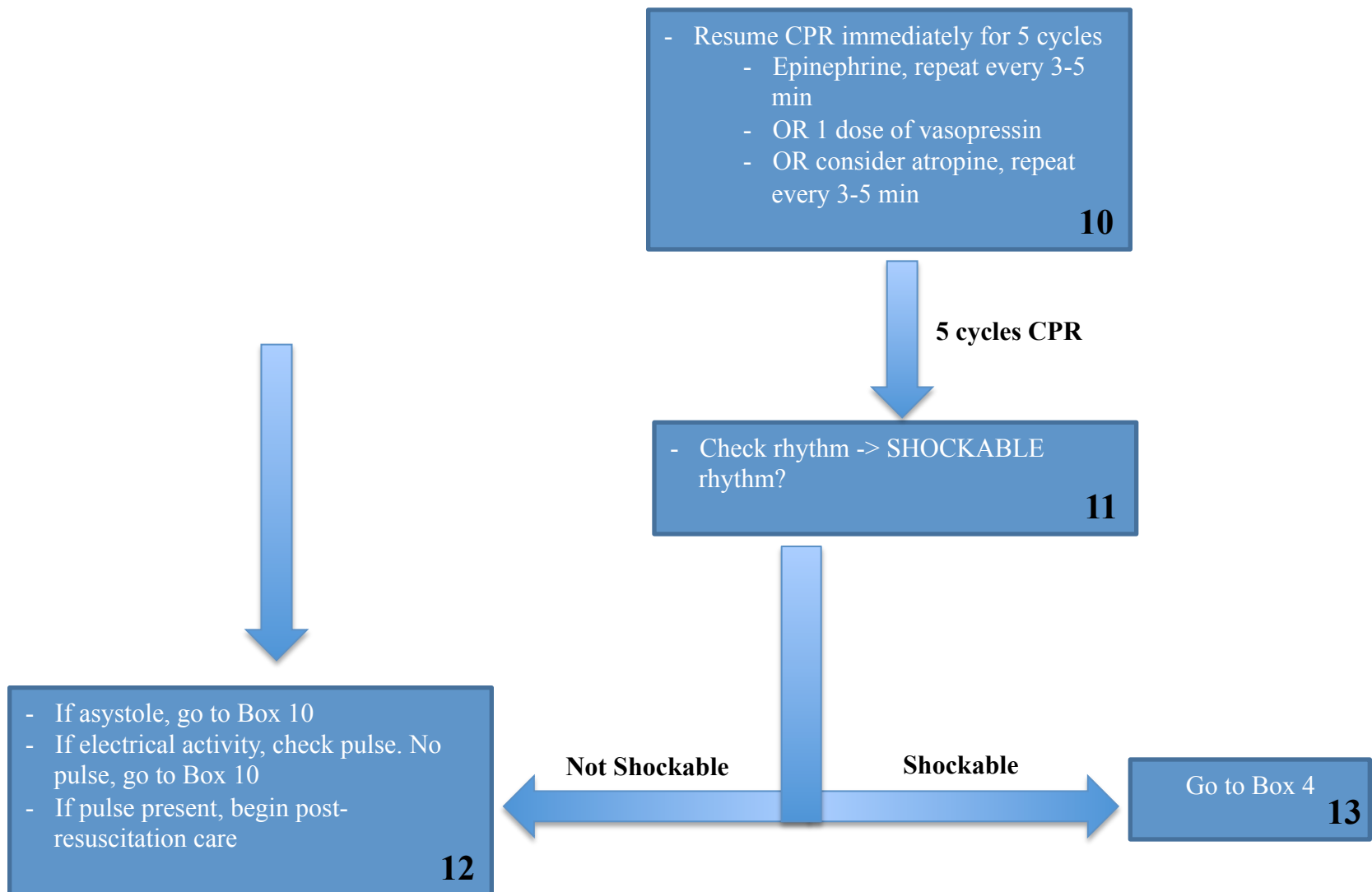
- Rotate compressors every 2 minutes with rhythm checks
- Search for and treat possible contributing factors
 - HYPOVOLEMIA
 - HYPOXIA
 - HYDROGEN ION (ACIDOSIS)
 - HYPO/HYPERKALEMIA
 - HYPOGLYCEMIA
 - HYPOTHERMIA
 - TOXINS
 - CARDIAC TAMPONADE
 - TENSION PNEUMOTHORAX
 - THROMBOSIS (CORONARY/PULMONARY)
 - TRAUMA

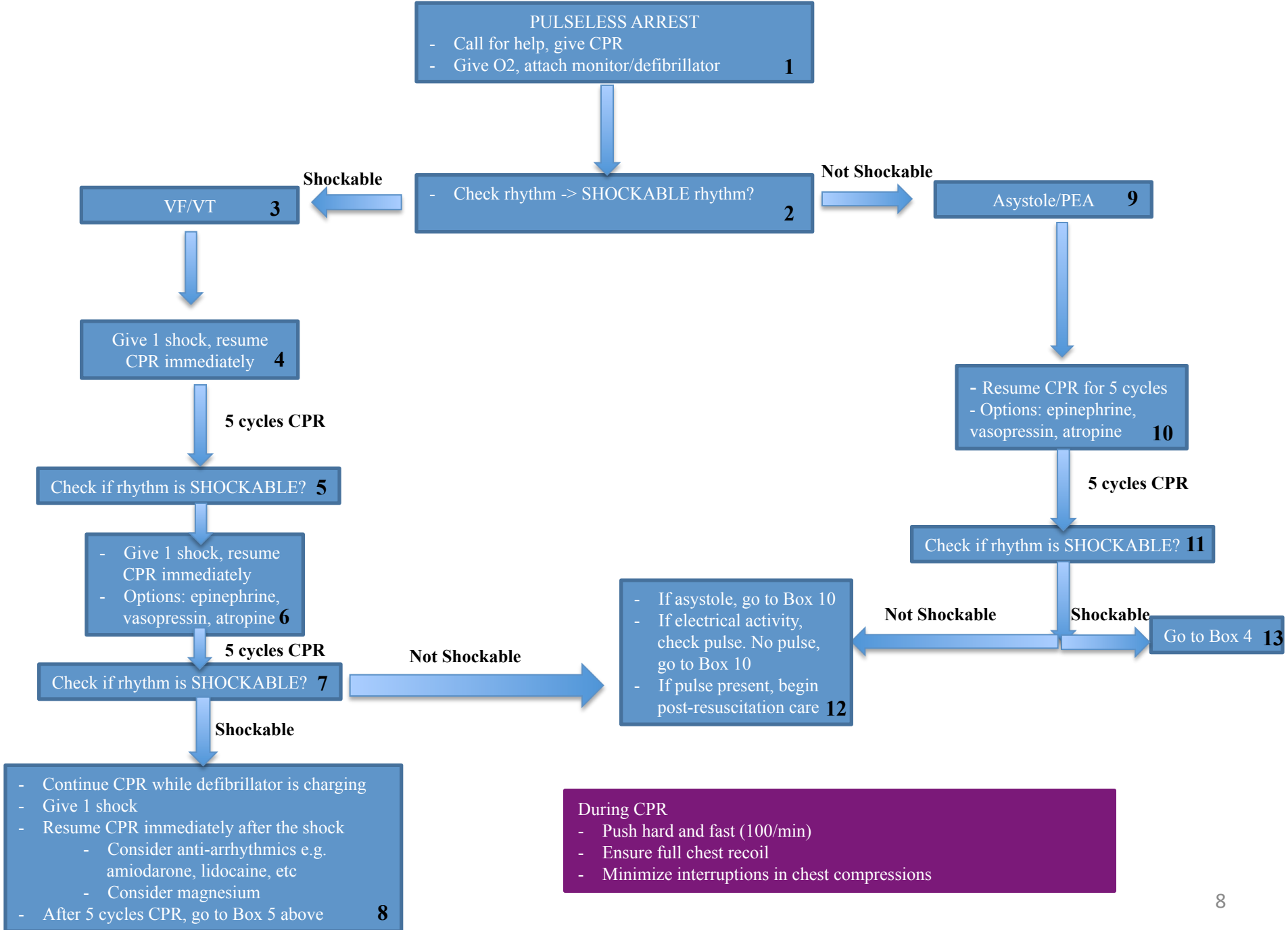




Glenlarsen, [Wikimedia Commons](#)







- Continue CPR while defibrillator is charging
- Give 1 shock
- Resume CPR immediately after the shock
 - Epinephrine, repeat every 3-5 min
 - OR 1 dose of vasopressin

6

5 cycles CPR

- Check rhythm -> SHOCKABLE rhythm?

7

Shockable

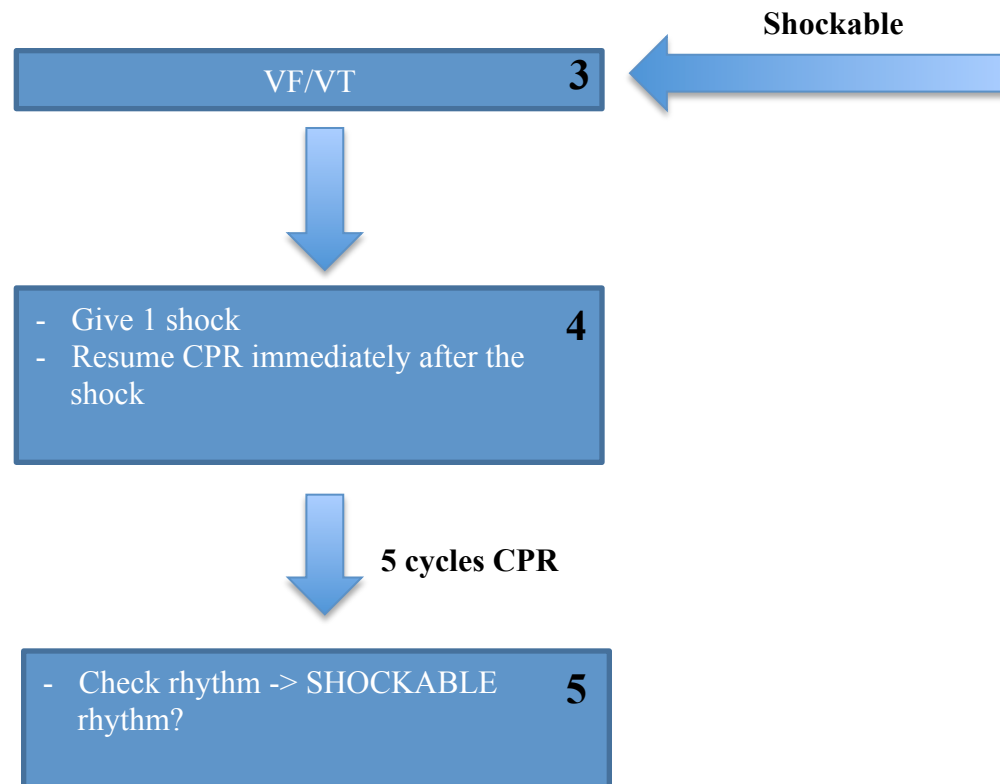
- Continue CPR while defibrillator is charging
- Give 1 shock
- Resume CPR immediately after the shock
 - Consider anti-arrhythmics e.g. amiodarone, lidocaine, etc
 - Consider magnesium
- After 5 cycles CPR, go to Box 5 above

8

Not Shockable

- If asystole, go to Box 10
- If electrical activity, check pulse. No pulse, go to Box 10
- If pulse present, begin post-resuscitation care

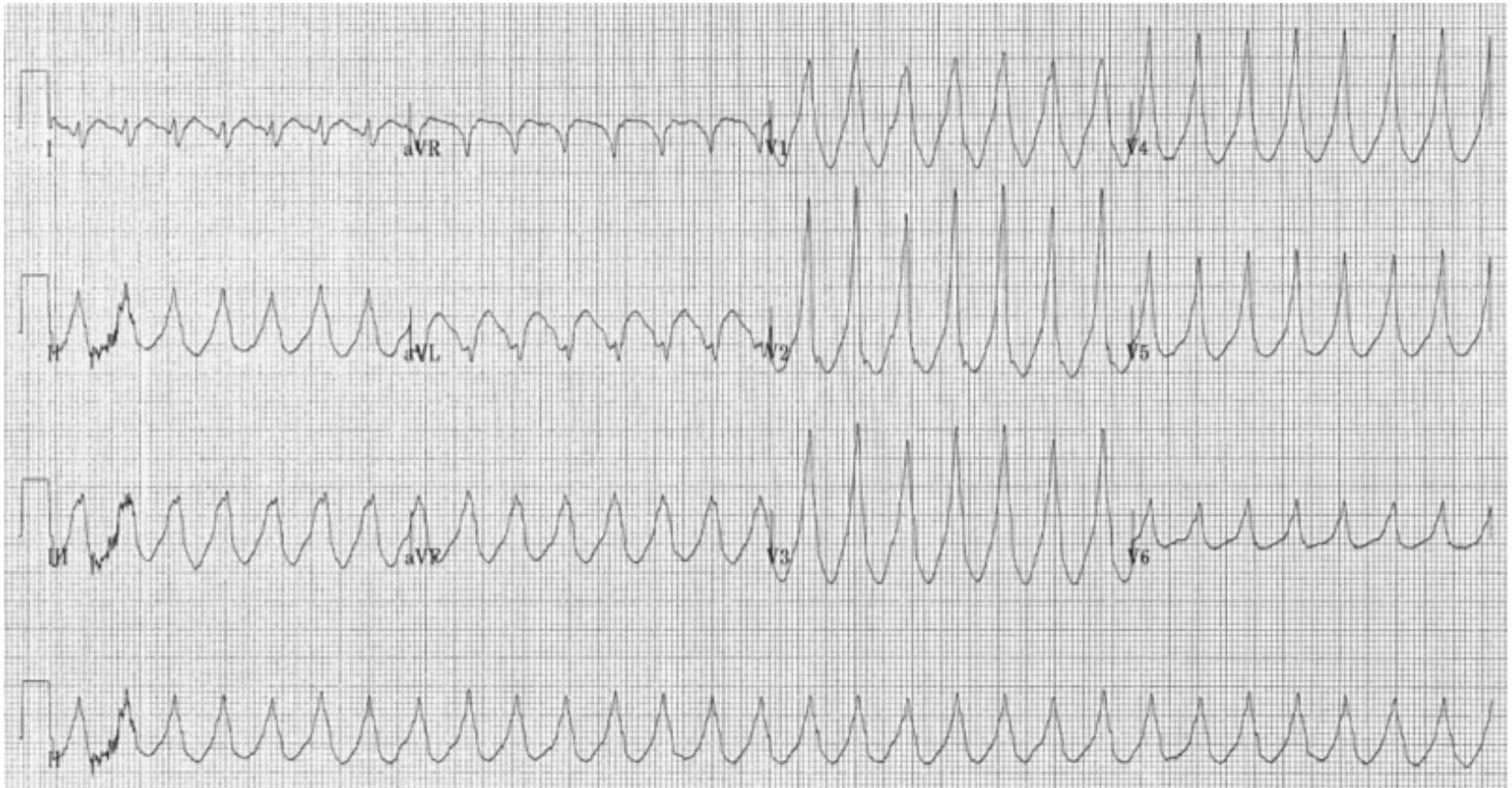
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Wide Complex Tachycardia

- DDX:
 - Ventricular Tachycardia (VT)
 - SVT w/ BBB (often rate dependent)
 - SVT w/ atrioventricular conduction via accessory pathway
- How to differentiate:
 - Concordance in leads V1-V6
 - RS >100 ms in the precordial leads
 - AV disassociation
- When in doubt treat as VT

V Tach



V Fib



Wide Complex Tachycardia

- Stable
 - Amiodarone 150 mg over 10 min or other antiarrhythmic
 - Prepare for synchronized cardioversion
- Unstable
 - ABC's/Call for help/Start CPR
 - Defibrillate: Biphasic 120-200 J (When in doubt pick 200 J), monophasic 360 J
 - Epinephrine 1 mg IV q3-5 min
 - Vasopressin 40 Units IV
 - May try amiodarone or lidocaine after 3 attempts at defibrillation
 - Amiodarone 300 mg, may repeat w/ 150 mg x1
 - Lidocaine 1-1.5 mg/kg, then 0.5-0.75 mg/kg, max is 3 mg/kg

- Continue CPR while defibrillator is charging
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5 cycles CPR

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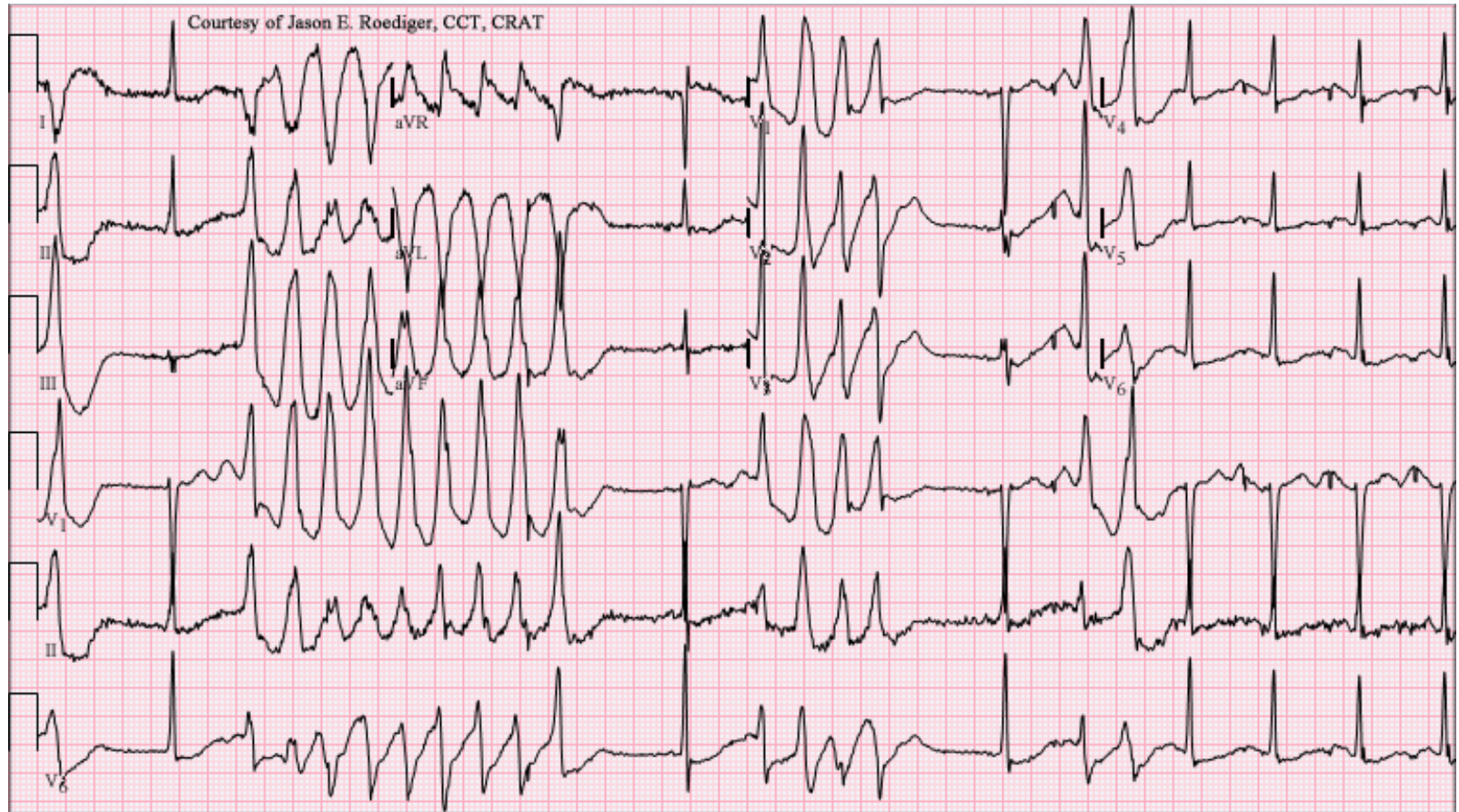
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Not Shockable

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torsades de pointes



Pulseless Arrest

4 Basic Rhythms

Shockable

V-fib

V-Tach

Non-Shockable

Asystole

PEA

Shockable Rhythms

- Ventricular Tachycardia
- V-Fib
 - Shock early
 - ABC's
- Tx of VT/VF
 - Shock- biphasic 200j, monophasic 360j (one x)
 - CPR-IV, ETT
 - Shock
 - CPR-epi/vasopressin
 - Shock
 - CPR-Lido/amiodarone
 - Shock
 - CPR-epi
 - Shock
 - CPR- lido/amio

NON-Shockable

- PEA
- Asystole
- Tx of Asystole & PEA
 - CPR-IV,airway
 - Meds-vasopressin/epi
 - CPR-2 min
 - Meds-epi,atropine*
 - CPR
 - Meds-epi,atro
 - CPR
- *Atropine used in PEA, only for HR < 60

Tachycardia's

Stable vs. Unstable

- Stable
 - MI
 - 12 lead
 - Narrow complex
 - Wide complex
 - Treat causes
 - H's and T's
- Unstable
 - Altered MS
 - CP
 - Hypotension
 - Signs of shock

Contributing Factors

H's and T's

- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo/hyperkalemia
- Hypoglycemia
- Hypothermia
- Toxins (drugs)
- Tamponade (cardiac)
- Tension PTX
- Thrombosis (coronary or pulmonary)
- Trauma