

# Pediatric Resuscitation & AHA BLS/PALS Update



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# Cardiac Arrest - Shockable Rhythm

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# Defibrillation AEDs

- Recommended if available for in hospital pediatric arrests
- Age 1-8
  - attenuated dose system if available, if not use standard AED
- Age < 1 yr. (infants)
  - Manual defibrillator
  - If not, then dose-attenuator system
  - If not, then standard AED
- Rule of thumb – More is better! Dial UP!



# Shockable Rhythm?

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- Paddle/pad Sizes
  - Large (adult) weight >10 kg (child)
  - Small for infants < 10 kg
- Paddle/pad location
  - Ideally leave 3 cm between paddles or pads
  - R upper ant chest and L lower chest (heart in between)
- Other issues
  - Pulseless VT do not synchronize



# Debrillation

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- 15 mo old (10 kg) with v. fib arrest
- What defibrillation dose would you start with?
  - a) 40 J (4 J/kg)
  - b) 20-40 J (3 J/kg) 2010
  - c) 20 J (2 J/kg) 2015
  - d) 10-20 J (1 J/kg)

# Energy dose for defibrillation?

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- 2010: First dose 2-4 J/kg
- Evidence:
  - ROSC better with 1-3 J/kg than with 3-5 J/kg for first shock
- Recommendations:
  - First dose 2 J/kg (“for ease of education”)
  - Second dose 4 J/kg
  - Third dose  $\geq 4$  J/kg (max 10 J/kg)

# Lidocaine: Shock Refractory VF and pVT

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- Old: amiodarone for shock refractory VT and pVT
- Evidence: better ROSC lidocaine over amiodarone, no change in outcomes
- Recommendation (2015): either amiodarone (5 mg/kg) or lidocaine (1 mg/kg)

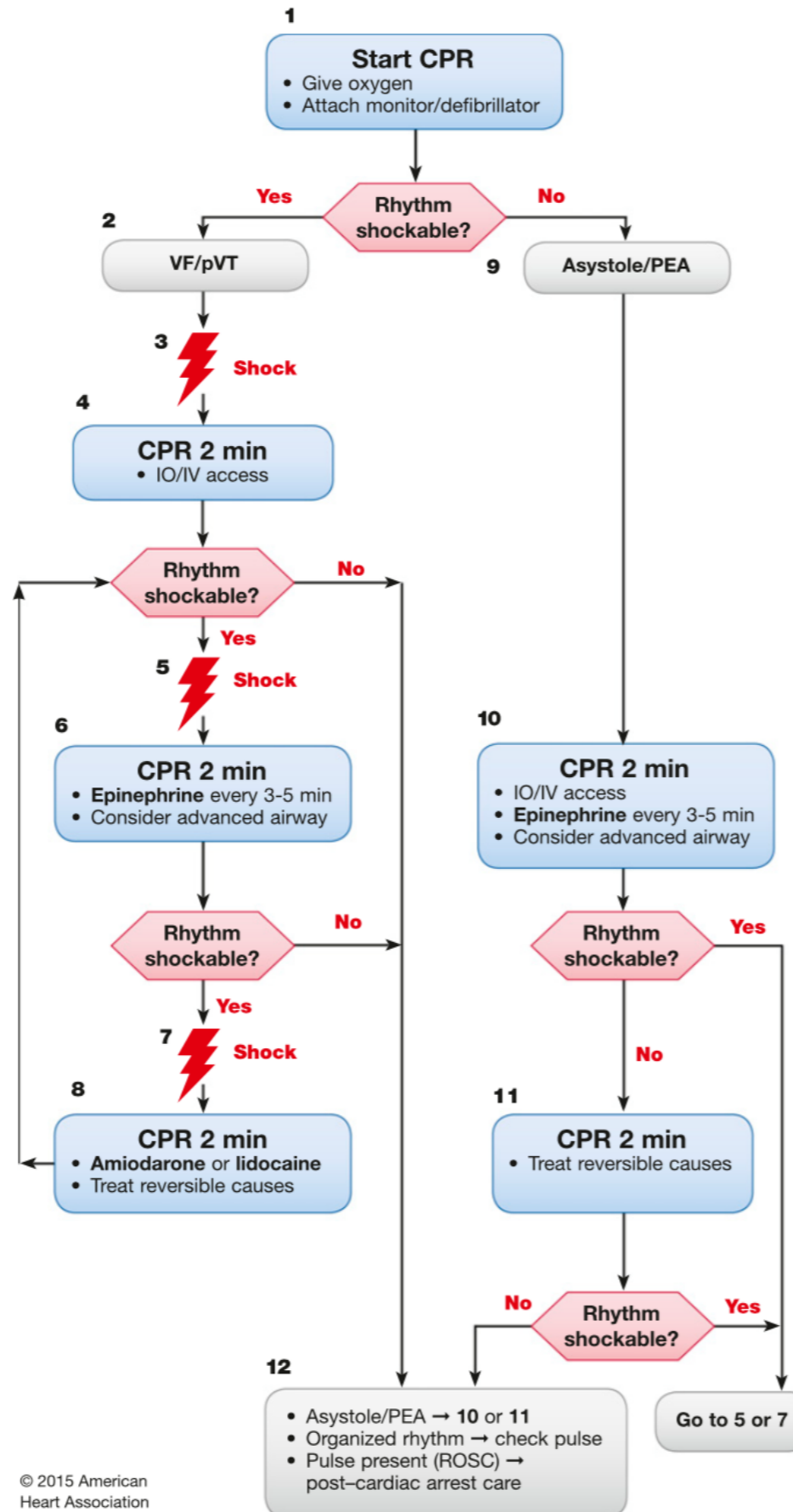
# Pulseless Arrest Algorithm

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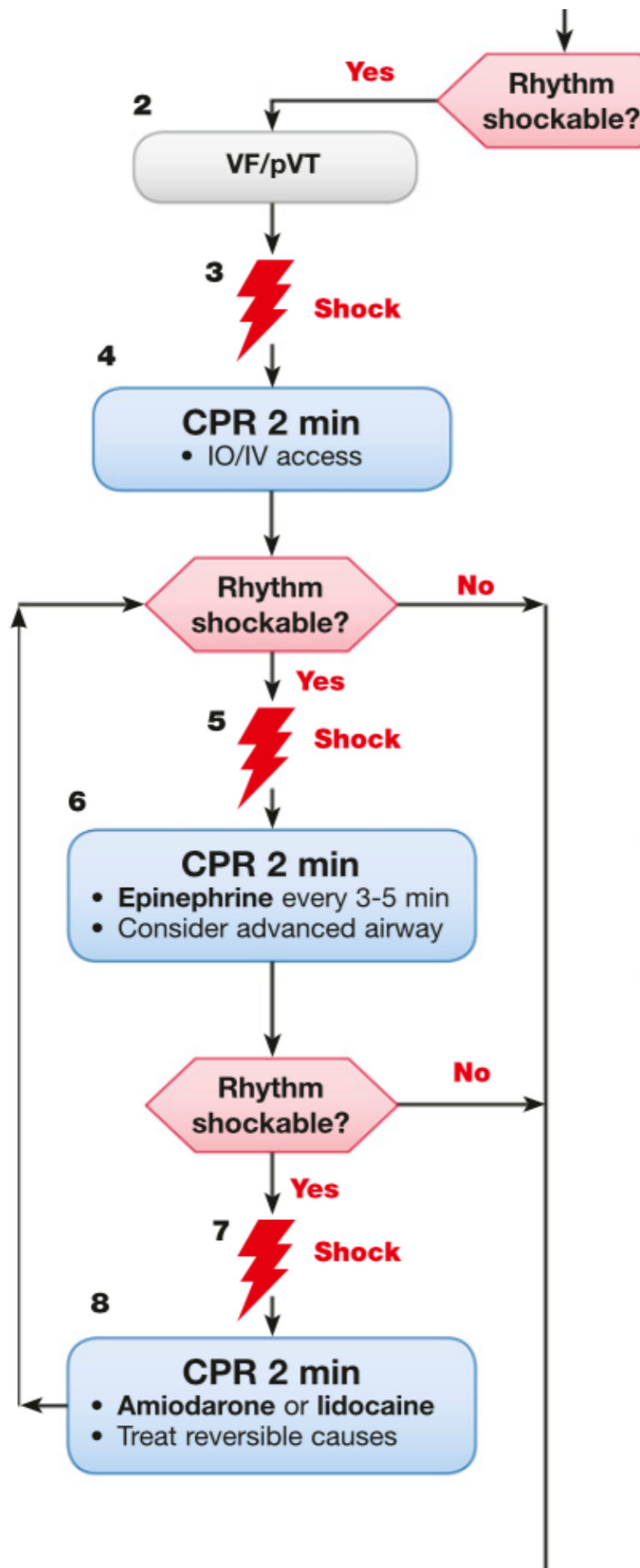
- Call for help; Send for defibrillator
- Start CPR immediately
- Shockable rhythm
  - VF occurs in 5 – 15 % pediatric out of hospital arrest, 20 % of in-hospital arrest
- Asystole or PEA
  - Most common ECG finding
  - PEA – organized electrical activity without a pulse
  - CPR and epinephrine



# Pediatric Cardiac Arrest Algorithm—2015 Update



**Figure 3**  
Pediatric Cardiac Arrest Algorithm—2015 Update.



- Shockable Rhythm
- Quality CPR - 2 min. cycles
- Shock:
  - 2, 4,  $\geq 4$  J/kg
- Drugs:
  - Epinephrine 0.01 mg/kg (0.1 ml/kg) 1:10,000 q3-5m
  - Amiodarone 5 mg/kg or
  - Lidocaine 1 mg/kg