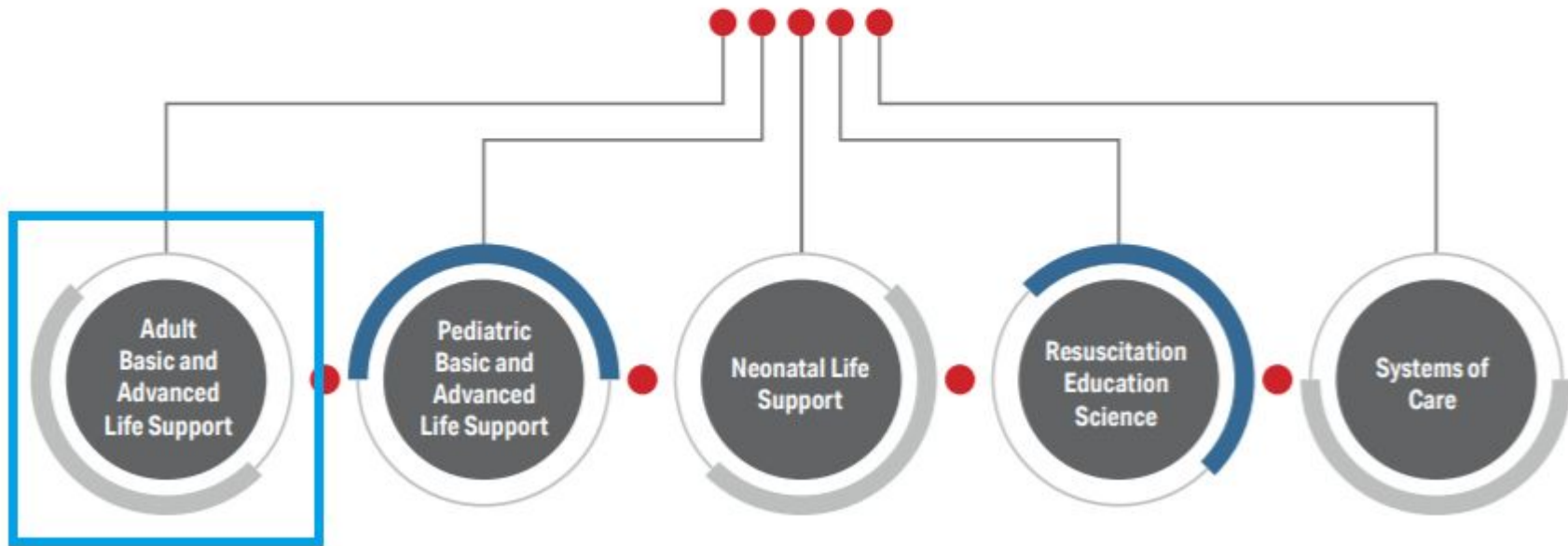

2020 AHA guideline updates

— Karen Poon —

Topics



1. Early initiation of CPR by lay rescuers

- Reaffirmed (2020): We recommend that **laypersons initiate CPR for presumed cardiac arrest** because the risk of harm to the patient is low if the patient is not in cardiac arrest

2. Early administration of epinephrine

- Reaffirmed (2020): With respect to timing, for cardiac arrest with a non-shockable rhythm, it is reasonable to **administer epinephrine as soon as feasible**.

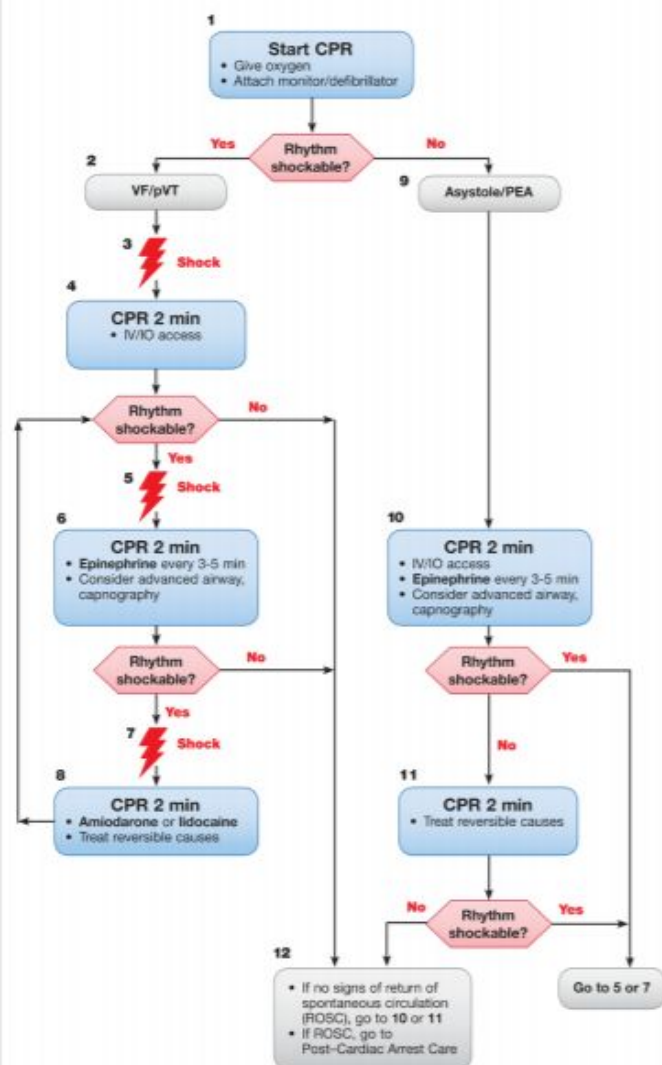
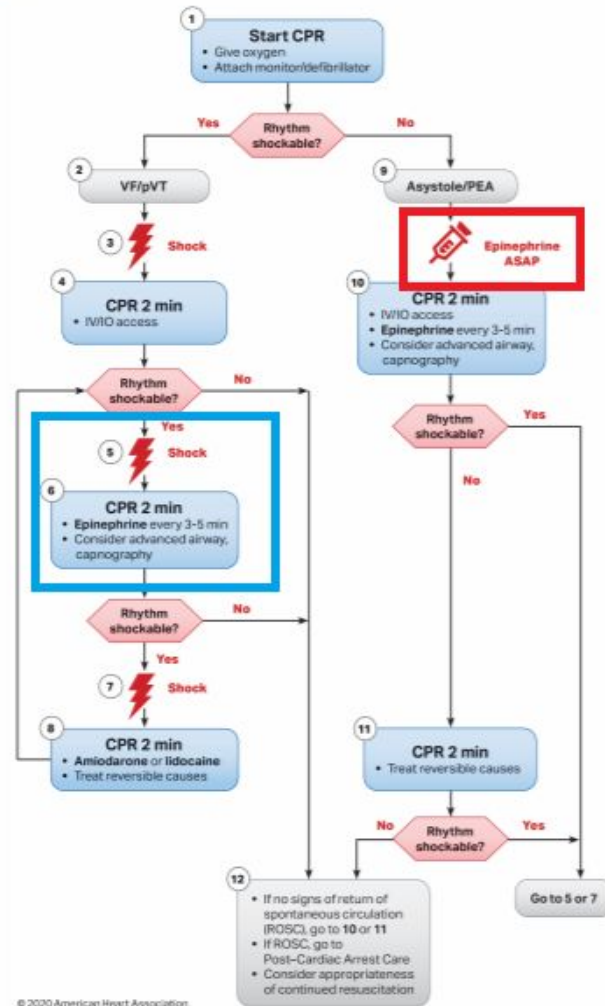


Figure 4. Adult Cardiac Arrest Algorithm.



3. Real time audiovisual feedback during CPR

- New (2020): : It may be reasonable to use **audiovisual feedback devices during CPR** for real-time optimization of CPR performance.
- Example: <https://www.youtube.com/watch?v=g7Jg16wcxtU>

4. Physiological monitoring of CPR quality

- New (2020) : It may be reasonable to use physiologic parameters such as **arterial blood pressure or ETCO₂** when feasible to **monitor and optimize CPR quality**

5. Double sequential defibrillation NOT supported

- New (2020): The usefulness of double sequential defibrillation for refractory shockable rhythm has **NOT** been established.
- Double sequential defibrillation:

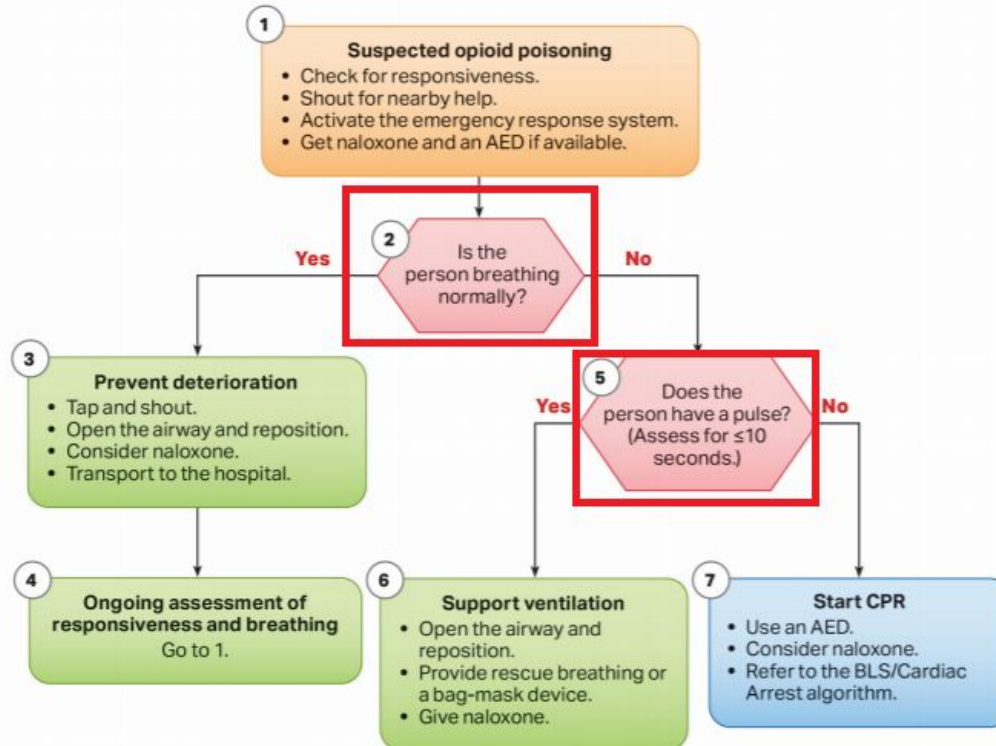
<https://www.youtube.com/watch?v=F7ioMBJW48o>

6. IV access preferred over IO

- New (2020): IO access may be considered if attempts at **IV access** are unsuccessful or not feasible only

7. Algorithm for opioid overdose

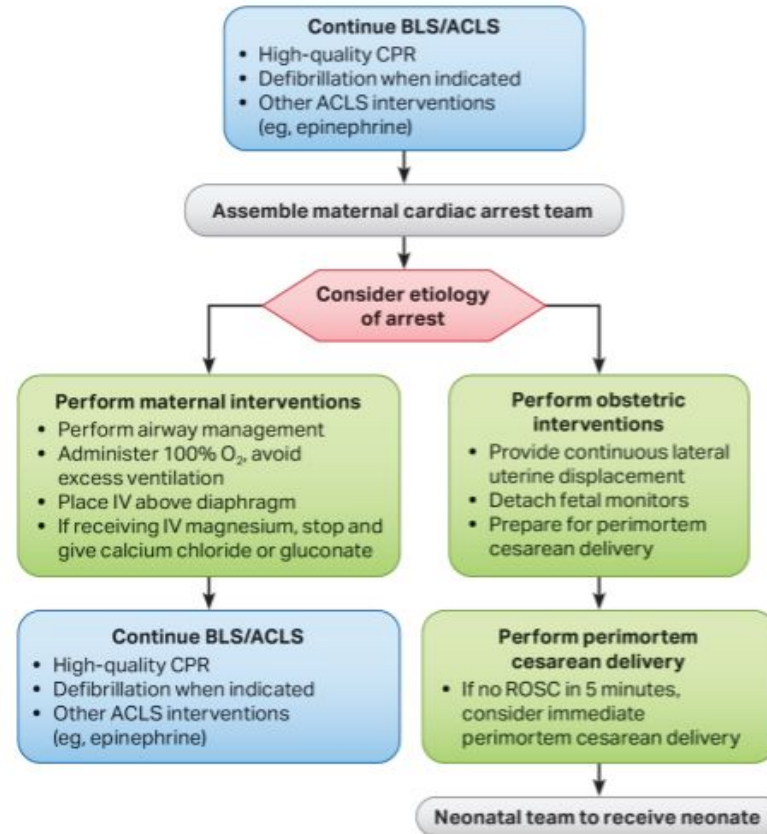
Figure 6. Opioid-Associated Emergency for Healthcare Providers Algorithm.



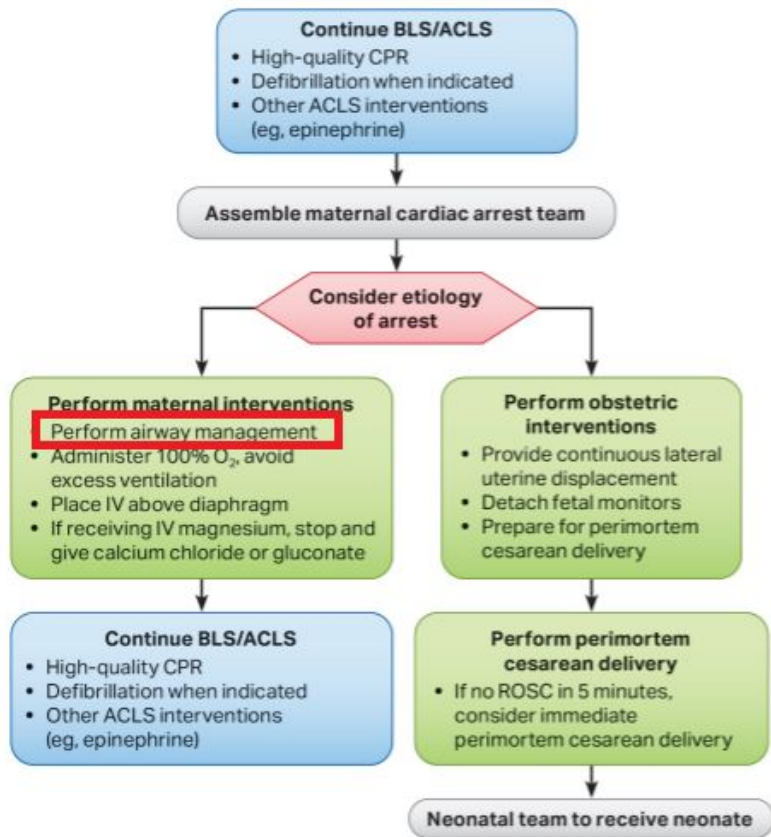
Standard resuscitative measures should **take priority over naloxone administration**

8. Cardiac arrest in pregnancy

Figure 9. Cardiac Arrest in Pregnancy In-Hospital ACLS Algorithm.

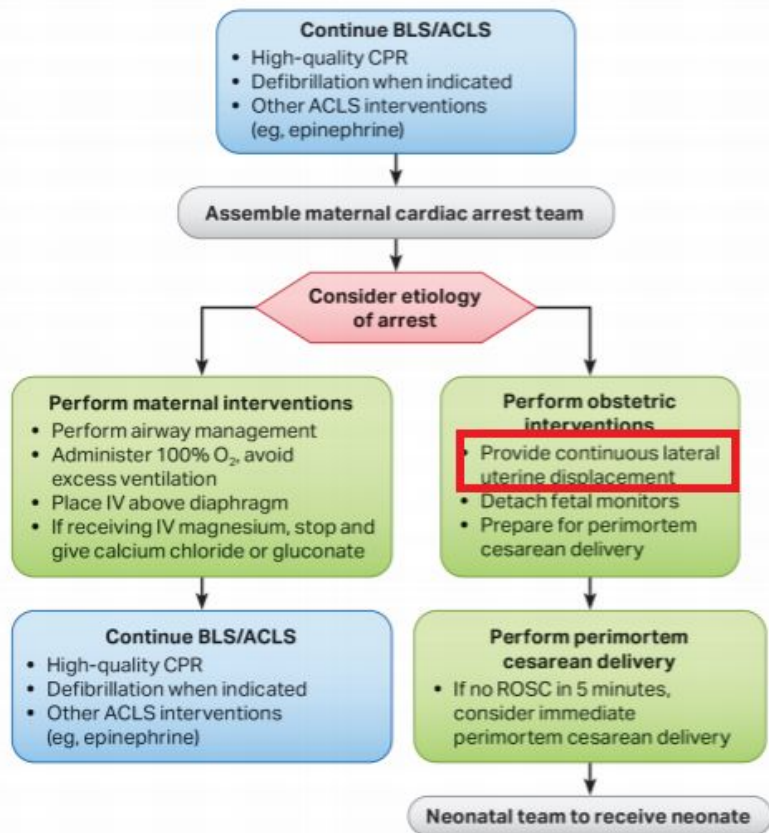


8. Cardiac arrest in pregnancy



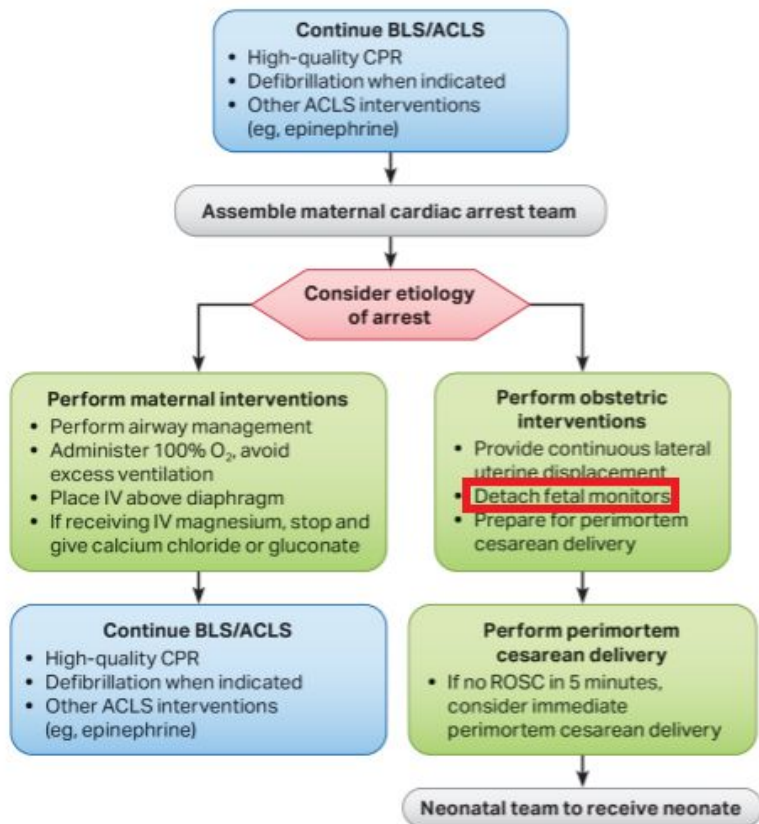
- Because pregnant patients are more prone to hypoxia, **oxygenation and airway management should be prioritized** during resuscitation from cardiac arrest in pregnancy.

8. Cardiac arrest in pregnancy



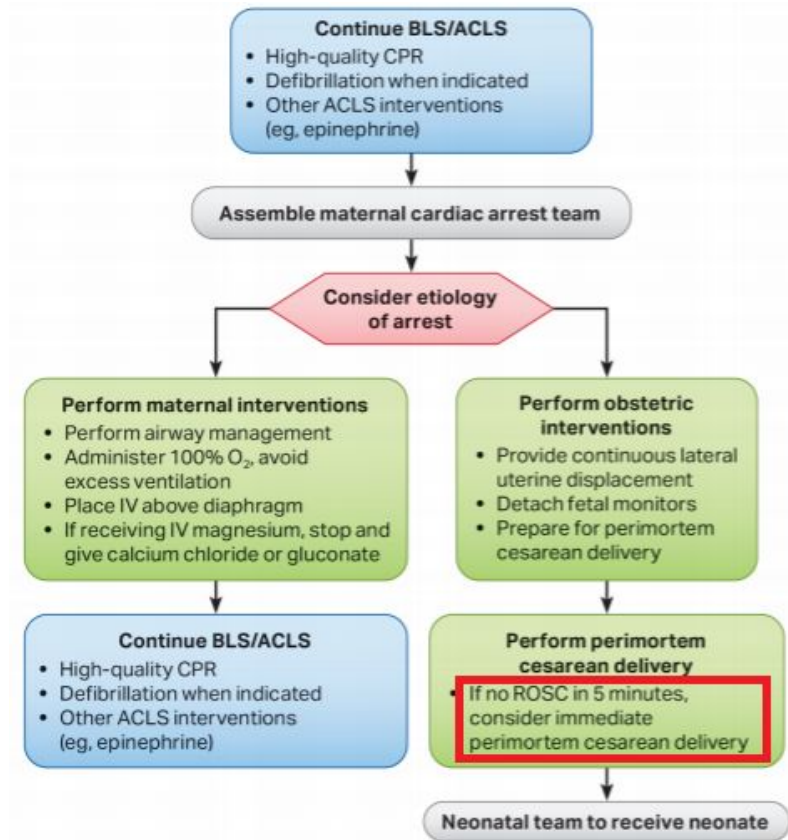
- Relief of aortocaval compression through **left lateral uterine placement**

8. Cardiac arrest in pregnancy



- Because of potential interference with maternal resuscitation, fetal monitoring should **NOT** be undertaken during cardiac arrest in pregnancy

8. Cardiac arrest in pregnancy

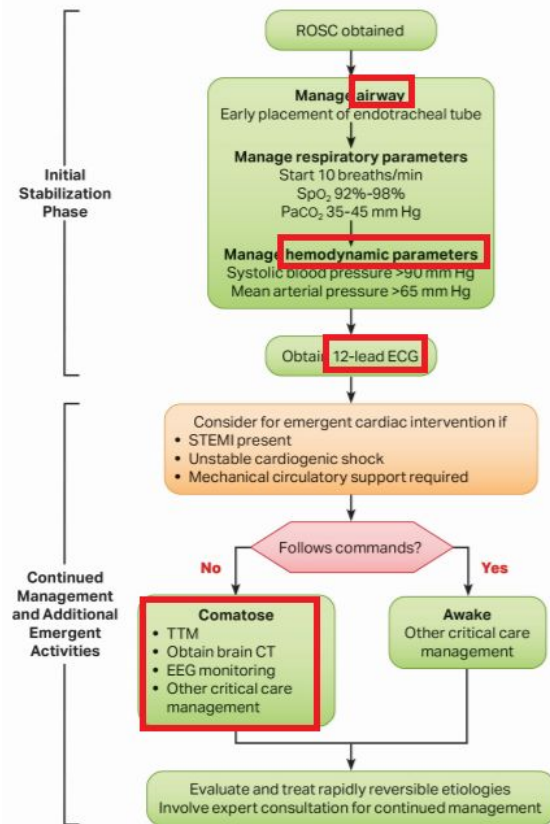


- Consider perimortem cesarean delivery if no ROSC in 5 mins

8. Cardiac arrest in pregnancy

- New (2020): We recommend **targeted temperature management** for pregnant women who remain comatose after resuscitation from cardiac arrest
- **Fetus be continuously monitored for bradycardia** as a potential complication

9. Postresuscitative care

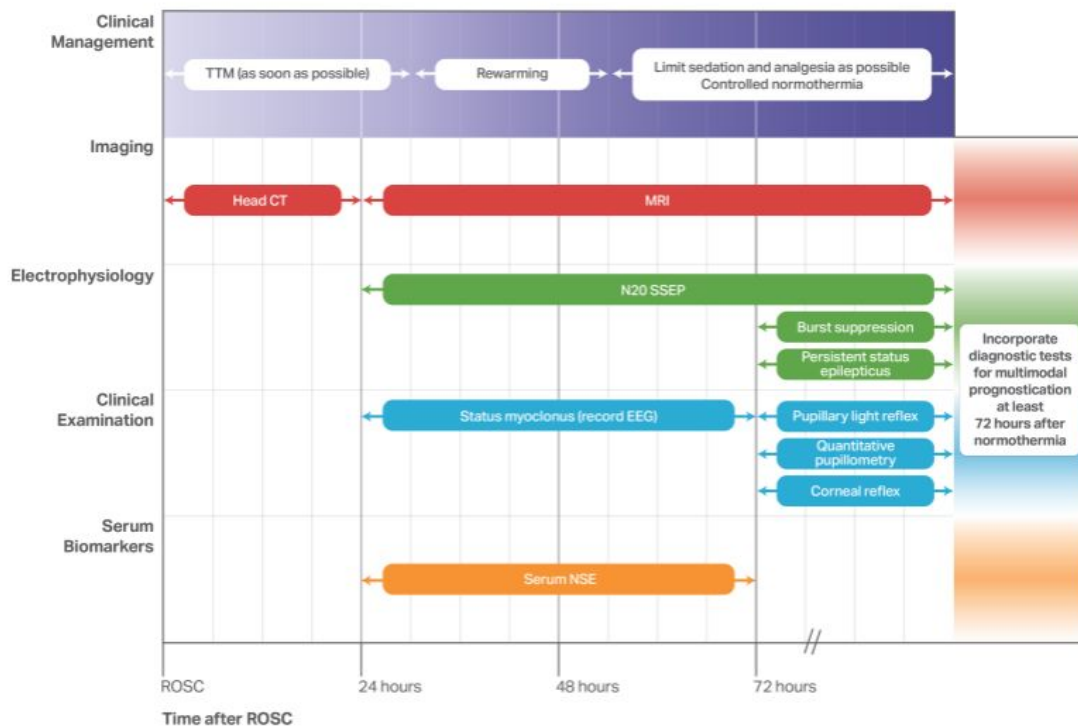


Key activities in post-ROSC care:

- **Airway** management → Lung protective ventilation
- **BP control** (Sys > 90 mmHg; Mean > 65 mmHg)
- Emergent **cardiac intervention**
- **Targeted temperature management** (TTM)
- **Multimodal neuroprognostication**

10. Multimodal approach to neuroprognostication

Figure 8. Recommended approach to multimodal neuroprognostication in adult patients after cardiac arrest.



10. Multimodal approach to neuroprognostication

- **Predictors for poor neurological outcome**
 - **Neuroimaging**
 - CT: (<24 hrs): **Cerebral edema**→ GWR 1.16- 1.22
 - MRI (2-5 days): **Hyperintense areas on DWI**→ Whole brain ADC, Proportion of brain volume with low ADC, lowest ADC value in specific brain areas
 - **Electrophysiology**
 - **Malignant EEG patterns (>72h): Burst suppression** after rewarming over an unreactive background, **status epilepticus**
 - **Bilateral absence of N2O cortical wave of SEEP** (at 72h)

10. Multimodal approach to neuroprognostication

- **Predictors for poor neurological outcome**
 - **Clinical exam** (at 72h)
 - **GCS motor score ≤ 2**
 - Bilaterally **absent pupillary/ corneal reflex**
 - Automated infrared **pupillometry**
 - **Biomarkers** (at 24, 48, 72 h)
 - **Neuron specific enolase (NSE)**
 - **S-100B**

Full details of AHA guideline updates

- https://cpr.heart.org/-/media/cpr-files/cpr-guidelines-files/highlights/hghlgths_2020_ecc_guidelines_english.pdf

Thank you!