

**N.K.P. Salve Institute of Medical Sciences & Research Centre and
Lata Mangeshkar Hospital**

Department of General Medicine

Medicine Skills Workshop

Workshop for MBBS 2024 B Batch Students

Date: 12.12.2025

(Time: 9:30 am – 12:00 noon)

Dr. Yoshita Talmale, Assistant Professor

	Intra Muscular Injection Dr. Saurabh Birajdar	Oxygen Therapy Dr. Sava Nanda Gopal
09:30am -10.15am	B1	B2
10.15am – 11.15am	B2	B3
11.15am - 12.00 noon	B3	B1

Dr. Yoshita Talmale
Assistant Professor
Dept. of Gen. Medicine

Dr. Tanuja Manohar
Professor & HOD
Dept. of Gen. Medicine



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Department of General Medicine

Medicine Skills Workshop for MBBS Students (III/II)

Topics

Intra Muscular Injection

Subcutaneous Injection

Intradermal Injection

Intravenous Injection

Urinary Bladder Catheterization

Aerosol Therapy & Nebulization

Nasogastric Tube Insertion

Basic Life Support

Advanced Cardiac Life Support

Lumbar Puncture

Pleural Tapping

Ascitic Tapping

Urine Analysis – Interpretation

Peripheral Smear-Inter pretation

Setting IV infusion calculating drip rate

Date

(Time 9.00 am – 01.00pm)

Venue:- Clinical Skills Lab – NKPSIMS & RC and LMH, Nagpur

Course coordinator :- Dr.

MBBS Students

Phase II	Phase (I)		Phase III (II)	
Skills Lab	Skills Lab	Ward	Skill Lab	Ward
1.IM Injection		1. Setting IV infusion	BLS + ACLS	LP (O)
2. ID	1.Urinary catheterization	Calculating IV drip rate		Pleural tap (O)
3. SC				Ascetic tap (O)
4. IV	2. O2 therapy (integrated with Respiratory	2. Aerosol & Nebulisation (Integrated with Respiratory Medicine)		PS interpretation (Integrated with pathology)
	3. RT			Urine analysis (Integrated with Pathology Biochemistry)
	4. BLS 1 day entire batch (4 per year) 4 days per batch (16 days per year)			

CODE BLUE TRAINING



Adapted From
2020 AHA-ACLS GUIDELINES



DEPARTMENT OF GENERAL MEDICINE



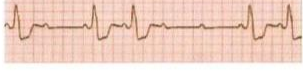
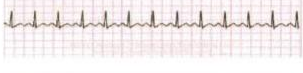

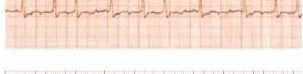


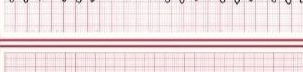


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DEPARTMENT OF GENERAL MEDICINE

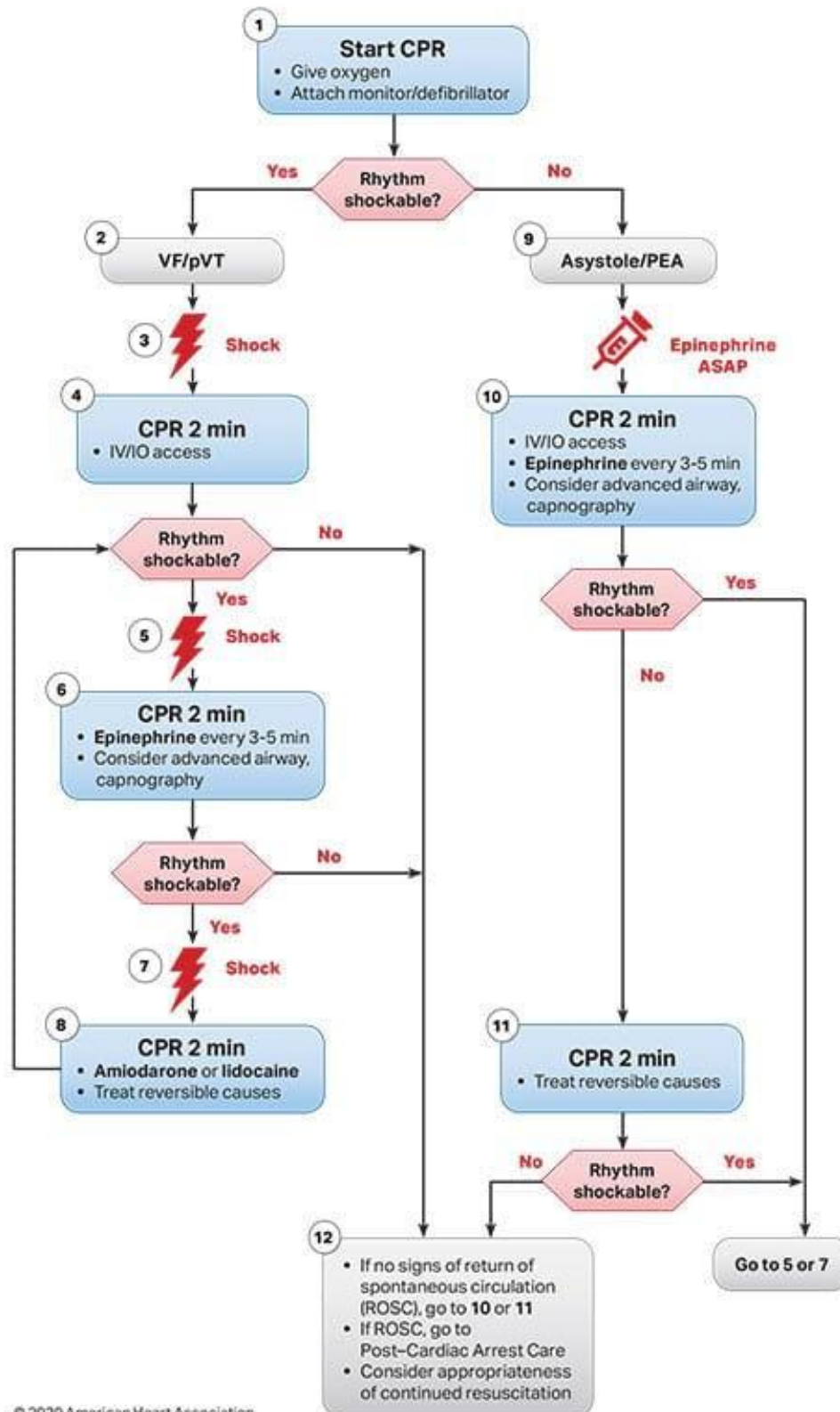
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2020 AHA-ACLS GUIDELINES

Rhythm	
<p>Doses/Details</p> <p>Synchronized Cardioversion Initial recommended doses: Narrow regular: 50-100 J Narrow irregular: 120-200 J biphasic or 200 J monophasic Wide regular: 100 J Wide irregular: defibrillation dose (NOT synchronized)</p> <p>Adenosine IV Dose: First dose: 6 mg rapid IV push; follow with NS flush. Second dose: 12 mg if required.</p> <p>Antiarrhythmic Infusions for Stable Wide-QRS Tachycardia</p> <p>Procainamide IV Dose: 20-50 mg/min until arrhythmia suppressed, hypotension ensues, QRS duration increases >50%, or maximum dose 17 mg/kg given. Maintenance infusion: 1-4 mg/min. Avoid if prolonged QT or CHF.</p> <p>Amiodarone IV Dose: First dose: 150 mg over 10 minutes. Repeat as needed if VT recurs. Follow by maintenance infusion of 1 mg/min for first 6 hours.</p> <p>Sotalol IV Dose: 100 mg (1.5 mg/kg) over 5 minutes. Avoid if prolonged QT.</p>	 <p>→ NORMAL SINUS RHYTHM</p>
	 <p>→ SINUS BRADYCARDIA</p>
	 <p>→ COMPLETE HEART BLOCK</p>
	 <p>→ SINUS TACHYCARDIA</p>
	 <p>→ SUPRAVENTRICULAR TACHYCARDIA</p>
	 <p>→ ATRIAL FIBRILLATION</p>
	 <p>→ ATRIAL FLUTTER</p>
	 <p>→ VENTRICULAR TACHYCARDIA (NO PULSE)</p>
	 <p>→ VENTRICULAR FIBRILLATION (NO PULSE)</p>
	 <p>→ VENTRICULAR ASYSTOLE (NO PULSE)</p>
	 <p>→ PULSELESS ELECTRICAL ACTIVITY (NO PULSE)</p>

Adult Cardiac Arrest Algorithm (VF/pVT/Asystole/PEA)



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CPR Quality

- Push hard (at least 2 inches [5 cm]) and fast (100-120/min) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Change compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 30:2 compression-ventilation ratio.
- Quantitative waveform capnography
 - If PETCO₂ is low or decreasing, reassess CPR quality.

Shock Energy for Defibrillation

- **Biphasic:** Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- **Monophasic:** 360 J

Drug Therapy

- **Epinephrine IV/IO dose:** 1 mg every 3-5 minutes
- **Amiodarone IV/IO dose:** First dose: 300 mg bolus. Second dose: 150 mg, or
- **Lidocaine IV/IO dose:** First dose: 1-1.5 mg/kg. Second dose: 0.5-0.75 mg/kg.

Advanced Airway

- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions

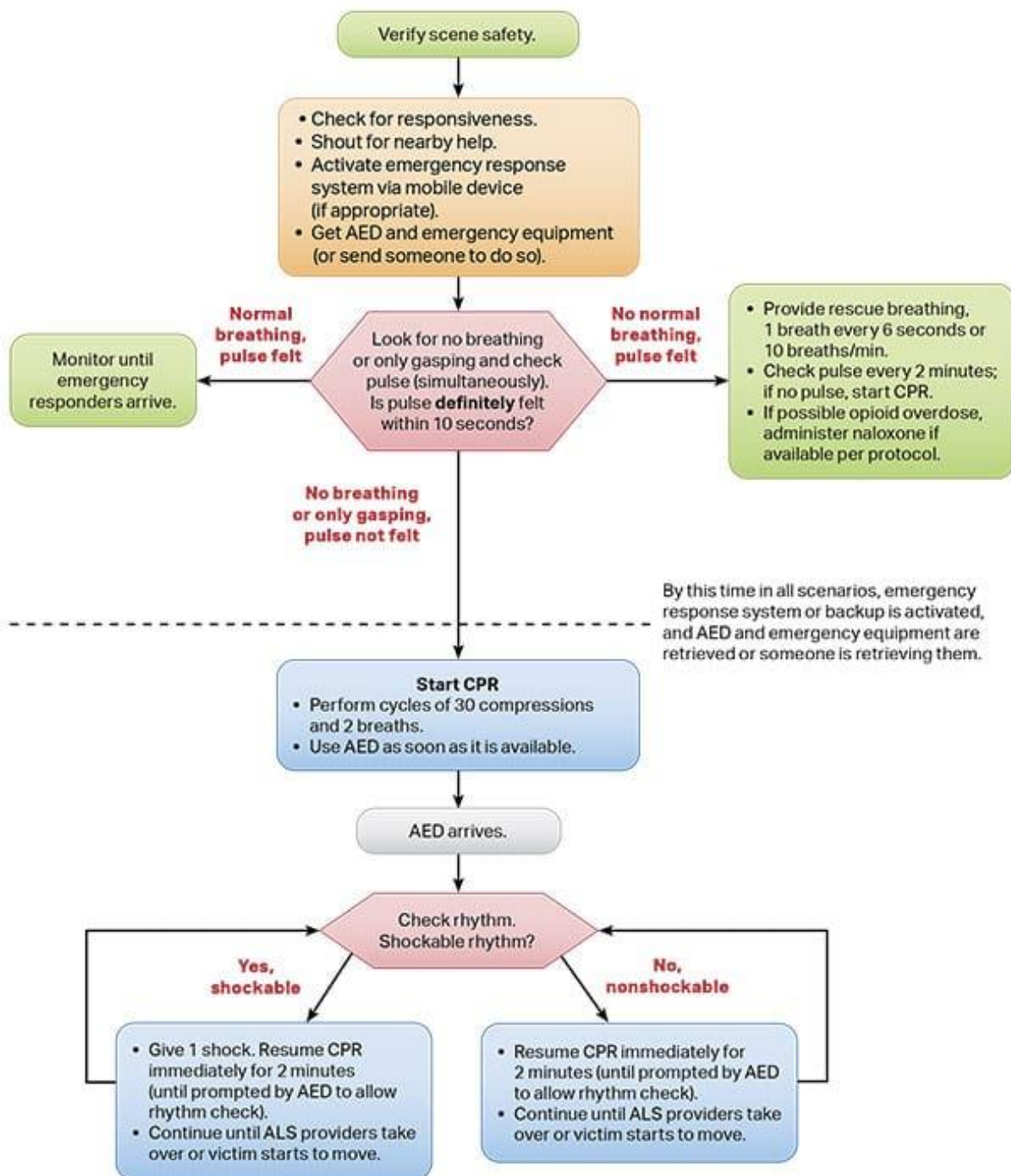
Return of Spontaneous Circulation (ROSC)

- Pulse and blood pressure
- Abrupt sustained increase in PETCO₂ (typically ≥40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

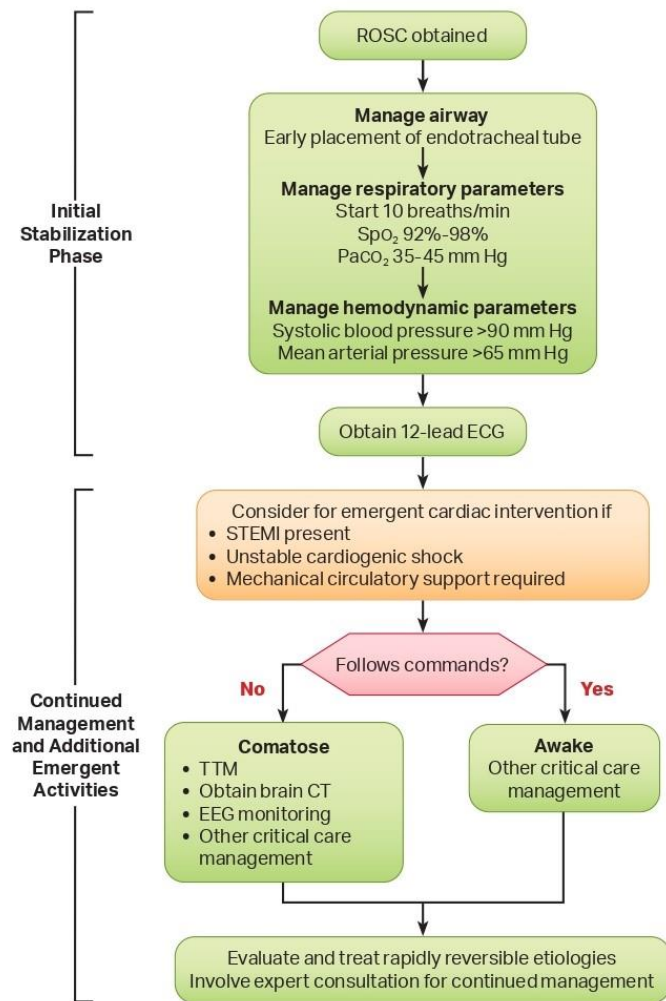
Reversible Causes

- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-/hyperkalemia
- Hypothermia
- Tension pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary

Adult Basic Life Support Algorithm for Healthcare Providers



ACLS Healthcare Provider Post-Cardiac Arrest Care Algorithm



Initial Stabilization Phase

Resuscitation is ongoing during the post-ROSC phase, and many of these activities can occur concurrently. However, if prioritization is necessary, follow these steps:

- **Airway management:** Waveform capnography or capnometry to confirm and monitor endotracheal tube placement
- **Manage respiratory parameters:** Titrate FiO_2 for SpO_2 92%-98%; start at 10 breaths/min; titrate to PaCO_2 of 35-45 mm Hg
- **Manage hemodynamic parameters:** Administer crystalloid and/or vasopressor or inotrope for goal systolic blood pressure >90 mm Hg or mean arterial pressure >65 mm Hg

Continued Management and Additional Emergent Activities

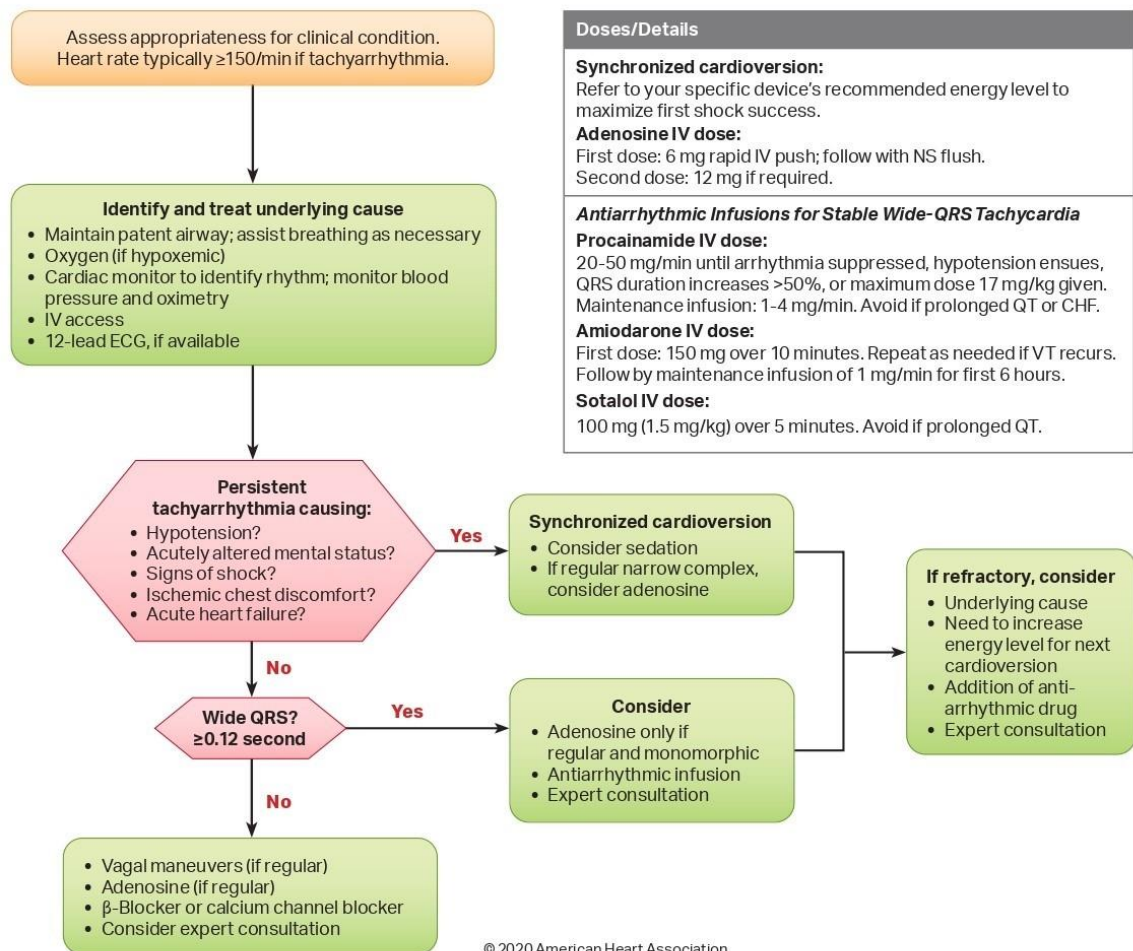
These evaluations should be done concurrently so that decisions on targeted temperature management (TTM) receive high priority as cardiac interventions.

- **Emergent cardiac intervention:** Early evaluation of 12-lead electrocardiogram (ECG); consider hemodynamics for decision on cardiac intervention
- **TTM:** If patient is not following commands, start TTM as soon as possible; begin at 32-36°C for 24 hours by using a cooling device with feedback loop
- **Other critical care management**
 - Continuously monitor core temperature (esophageal, rectal, bladder)
 - Maintain normoxia, normocapnia, euglycemia
 - Provide continuous or intermittent electroencephalogram (EEG) monitoring
 - Provide lung-protective ventilation

H's and T's

Hypovolemia
Hypoxia
Hydrogen ion (acidosis)
Hypokalemia/hyperkalemia
Hypothermia
Tension pneumothorax
Tamponade, cardiac
Toxins
Thrombosis, pulmonary
Thrombosis, coronary

Adult Tachycardia With a Pulse Algorithm



Adult Bradycardia Algorithm

