POST-CARDIAC ARREST CARE

Protect the brain · prevent fever · delay prognosis

COOL, NOT
freeze

TARGETS AFTER ROSC

SpO_2	$PaCO_2$	MAP	TEMP
94-98%	**35-45**	**> 65**	**≤ 37.5**
avoid hyperoxia	*mmHg (normocapnia)*	*mmHg*	*°C (prevent fever)*

IMMEDIATE PRIORITIES

1. Confirm ROSC; 12-lead ECG immediately
2. Secure airway; confirm with waveform capnography
3. Titrate FiO_2 down; support MAP (fluids / noradrenaline)
4. Identify & treat cause (4 Hs and 4 Ts); PCI if STEMI
5. If comatose: temperature control and admit to ICU

TEMPERATURE CONTROL *post-TTM2*

- **Prevent fever -** maintain ≤ 37.5°C in comatose survivors
- **Range 32-37.5°C -** routine 33°C is no longer the default (TTM2)
- **Duration -** controlled ≥ 24 h, then prevent fever ≥ 72 h from ROSC
- **Shivering -** analgesia, sedation, Mg, counter-warming, paralysis

REVERSIBLE CAUSES *4 Hs and 4 Ts*

4 Hs: Hypoxia · Hypovolaemia · Hypo/hyperkalaemia & metabolic · Hypothermia

4 Ts: Tension pneumothorax · Tamponade · Toxins · Thrombosis (coronary or pulmonary)

NEUROPROGNOSTICATION *multimodal, never one test*

Rule: wait ≥ 72 h and exclude confounders (sedation, NMB, hypothermia, hypotension, metabolic). Comatose, M ≤ 3. Need ≥ 2 concordant predictors from independent modalities.

Modality	Poor-outcome finding	Timing
Clinical exam	Bilaterally absent pupillary + corneal reflexes; M ≤ 3	≥ 72 h, off sedation
SSEP	Bilaterally absent N20 wave	≥ 24-72 h
NSE (biomarker)	> 60 µg/L and / or rising	48 & 72 h
EEG	Suppression, burst-suppression or refractory status	24-72 h
CT / MRI	Grey-white loss (CT) / diffuse restricted diffusion (MRI)	early / 2-7 d

Coronary angiography: immediate PCI for STEMI, cardiogenic shock, refractory VT or ongoing ischaemia. Stable without ST-elevation can wait (COACT, TOMAHAWK).

Ongoing support: glucose 140-180 mg/dL; treat clinical / electrographic seizures (levetiracetam or valproate; continuous EEG; no routine prophylaxis); lung-protective ventilation; DVT prophylaxis.

PEARLS & PITFALLS

- TTM2 changed practice: the goal is preventing fever, not inducing deep hypothermia - do not chase 33°C.
- Do not prognosticate too early or on one test - sedation and hypothermia confound; wait ≥ 72 h.
- Hyperoxia harms: dial FiO_2 down promptly once SpO_2 is reliably measured.
- Post-rewarming fever is common and dangerous - keep the device on to hold ≤ 37.5°C for 72 h.

References: ERC-ESICM Post-Resuscitation 2021 & 2025 · AHA Part 11 2025 · TTM2 2021 · TAME 2023.

Educational aid; verify doses against local protocol and patient factors.