SPECIAL CIRCUMSTANCES 2021

5 TOP MESSAGES

1. CHECK
   • Follow the ABCDE approach
   • Take safety measures where needed

2. TREAT
   • Follow the ALS algorithm
   • Minimise no-flow time
   • Optimise oxygenation
   • Use your resources

3. PRIORITISE
   • Reversible causes
   • 4 Hs
   • 4 Ts

4. MODIFY
   • Modify ALS algorithm
   • Special causes
   • Special settings
   • Special patient groups

5. CONSIDER
   • Transfer
   • ECPR
CORONARY THROMBOSIS

KEY EVIDENCE

- Cardiovascular prevention reduces the risk of acute events
- Early reperfusion improves outcomes following CA
- STEMI patients sustained ROSC: immediate PCI if < 120min; Fibrinolysis if > 120min
- No-STEMI patients sustained ROSC: individualise decision to perform coronary angiography

KEY RECOMMENDATIONS

- Enhance cardiovascular prevention & BLS training
- Detect parameters suggesting coronary thrombosis
- Activate STEMI network immediately
- Resuscitate and choose reperfusion strategy considering setting and patient conditions
CARDIAC ARREST FOLLOWING CARDIAC SURGERY

KEY EVIDENCE

- Adequate training and protocols improve outcomes
- Modifications to the standard ALS algorithm include immediate correction of reversible causes and emergent resternotomy
- In patients with VF/pVT defibrillation with up to three stacked shocks might restore perfusion
- In case of asystole or extreme bradycardia, epicardial or transcutaneous pacing might restore perfusion

KEY RECOMMENDATIONS

- Apply 3 consecutive shocks
- Apply early pacing
- Correct reversible causes
- Perform early resternotomy
TRAUMATIC CARDIAC ARREST

KEY EVIDENCE

TCA is different from CA due to medical causes

Treating reversible causes simultaneously takes priority over chest compressions

Ultrasound helps to identify the underlying reason(s)

Hypovolaemia from blood loss is a leading cause for TCA

KEY RECOMMENDATIONS

If appropriate: perform resuscitative thoracotomy or REBOA early

Control haemorrhage and restore blood volume

Don’t pump an empty heart

Use ultrasound to target resuscitative interventions

Treat reversible causes immediately
PULMONARY EMBOLISM

KEY EVIDENCE

Clinical history, capnography and echocardiography help to recognise PE during CPR

Thrombolytic treatment, surgical embolectomy or percutaneous mechanical thrombectomy might restore pulmonary perfusion

Initial PEA and low CO₂ readings support diagnosis

KEY RECOMMENDATIONS

Suspected PE => thrombolytics if CA or severe instability

Known PE => thrombolytics or surgical embolectomy or percutaneous thrombectomy

Perform emergency echocardiography

Use capnography

Consider ECPR as a rescue therapy for selected patients
ACCIDENTAL HYPOTHERMIA

KEY EVIDENCE

Vital signs should be checked for 1 minute by clinical examination, ECG, EtCO2 and ultrasound.

Arrested hypothermic patients should, where possible, be directly transferred to an ECLS centre for rewarming.

In-hospital prognostication of successful ECLS rewarming should be based on the HOPE or ICE score, serum potassium prognostication is less reliable.

KEY RECOMMENDATIONS

Use HOPE or ICE score for prognostication.

Check for presence of vital signs for up to 1 minute.

In hypothermic CA use ECLS rewarming.