

ALS Module 8

Post Resuscitation Care

Relates to HLT404C Apply Advanced Resuscitation Techniques

Post Resuscitation Care

After the return of a spontaneous circulation (ROSC), resuscitation DOES NOT STOP. It is essential to continue observation of airway, breathing, circulation and disability.

A comprehensive management plan including various interventions provided in a structured way may significantly influence the final outcome.

The mnemonic 'ABCDEFGHI' has been outlined to assist with the process of managing a patient post arrest.

Post Resuscitation Care

Hypoxic brain injury, myocardial injury or subsequent organ failure are the predominant causes of morbidity and mortality after cardiac arrests.

The aims of therapy after initial resuscitation are to:

- Continue respiratory support.
- Maintain cerebral perfusion.
- Treat and prevent cardiac arrhythmias.
- Determine and treat the cause of the arrest.

Post Resuscitation Care

In addition treatable causes of cardiac arrest need to be addressed. These include:

4H's

Hypoxaemia

Hypovolaemia

Hypo/Hyperthermia

Hypo/Hyperkalaemia and other metabolic disorders including acidosis and disturbances of magnesium and calcium

4 T's

Tamponade: pericardial

Tension pneumothorax

Toxins/poisons/drugs including carbon monoxide, and cyclic antidepressants

Thrombosis: pulmonary embolus / acute myocardial infarction

A full history and examination will guide the possible investigations and management.

ABC... of Post Arrest Care

A = Airway

- Can it be protected if not then.....
- Intubation and ventilation are continued in the immediate post arrest period guided by appropriate monitoring



ABC... of Post Arrest Care

B= Breathing

- Assess respiratory status – arterial / venous blood gases can be taken to guide treatment
- Are they breathing?
 - Yes-O₂ therapy
 - No-Ventilate.
- Ventilation to normocarbica (e.g. PaCO₂ 35 to 40 mmHg) is appropriate. Routine hyperventilation may be detrimental, resulting in cerebral vasoconstriction and should be avoided.



ABC... of Post Arrest Care

B= Breathing continues...

Recent studies have recognized the potential harm caused by hyperoxaemia after ROSC. Once ROSC has been established and the oxygen saturation of arterial blood (SaO_2) can be monitored reliably (by pulse oximetry and/ or arterial blood gas analysis), it is reasonable to titrate the inspired oxygen to achieve a SpO_2 of 94 - 98%.



ABC... of Post Arrest Care

C= Circulation

- It is imperative to ensure an adequate systemic arterial blood pressure as soon as practicable after return of spontaneous circulation.
- Aim for a blood pressure equal to the patient's usual blood pressure or at least a systolic pressure greater than 100mg Hg, taken every 15 minutes
- If the blood pressure falls, a vasopressor (e.g.. adrenaline 50 to 100 mcg) may be given until fluid status and the need for intravascular volume expansion can be assessed – insertion of Central Venous Catheter (CVC) is required

ABC... of Post Arrest Care

D= Disability

- A set of neurological observations (GCS)
- Monitor blood glucose frequently after cardiac arrest
- Should treat hyperglycemia (>10 mmol/l) with insulin but avoid hypoglycemia

D = Documentation

- Complete appropriate forms as per local protocols/guidelines and handover is conducted with the appropriate staff

ABC... of Post Arrest Care

D= Debrief

- After the resuscitation event, thank the team and ensure that they are supported and offered to debrief applying the principle of LBW:
- What we did **well**
- What have we have **learnt**
- What could have been done **better**



ABC... of Post Arrest Care

E= Exposure

- Induced hypothermia has been shown to have positive outcomes in some patients still comatose after return of spontaneous circulation.
- Hyperthermia should be avoided
- For further information on induced hypothermia please read the ARC guideline 11.8 found at: - www.resus.org.au

ABC... of Post Arrest Care

E= Electrolytes

- Electrolyte disorders such as hypo/hypernatraemia may cause continuing cerebral damage.

F= Family/Friends

- Making sure they have been up dated on events and outcomes. If possible have them present during the resuscitation with a staff member assigned to them for support

F = Focused Interventions

- CXR - # ribs sternum, haemo-pneumothorax, ETT placement
- Bloods - Cardiac Markers, FBC, U+E's, Glucose
- 12 lead ECG
- Urinalysis

ABC... of Post Arrest Care

G= Gadgets

- SpO₂/ IDC/ NGT/End tidal CO₂

G= Give comfort measures

H= History including head to toe assessment

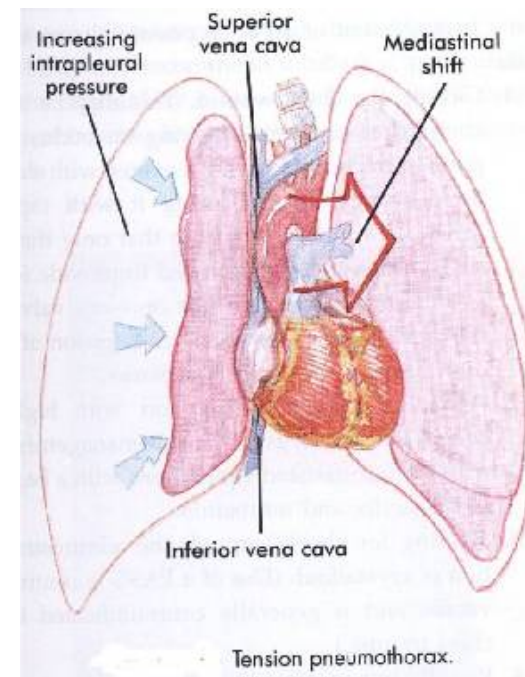
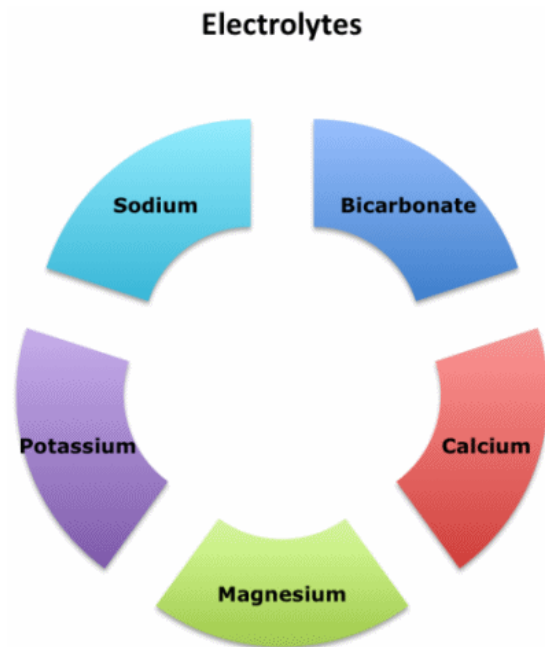
- Ask for more history/read notes/talk to family
- Look, Listen and Feel - head to toe – secondary findings and treatment

I = Investigations and inspect posterior surfaces

- CXR - # ribs sternum, pneumothorax, ETT placement
- Bloods - Cardiac Markers, FBC, U+E's, Glucose
- 12 lead ECG
- Urinalysis

ABC... of Post Arrest Care

If not already undertaken, management should be directed toward the treatment of underlying causes that have been identified (e.g. correction of electrolyte abnormalities, treatment of tension pneumothorax etc.).



Post Resuscitation Care

Resuscitation related injuries

- Rib fractures and other injuries are acceptable consequences of CPR, as death is the alternative from cardiac arrest.
- After resuscitation all patients should be reassessed for resuscitation-related injuries. The extent of injuries is often underestimated by standard investigations (e.g. chest x-ray).
- Other complications of resuscitation (e.g. Incorrect placement of tubes) should be identified and treated.
- Intravascular lines inserted under emergency conditions may need to be replaced

Post Resuscitation Care

Patient Transfer

- Transfer or evacuation to definitive care
- Important key elements to patient transport are:-
 - Communication
 - Stabilisation
 - Documentation
 - Interaction with relatives
 - Utilisation of local infrastructure

Adequate stabilisation + good planning + patient preparation + communication = SUCCESS

Post Resuscitation Care

Next Steps

Please now complete the online quiz by clicking on the **Exit** button - top right hand of your screen. This will take you back to the **Topic Outline** page.

Scroll down to number 2 **Module Assessment** and complete the online knowledge assessment.

Complete the evaluation form and print off your certificate.