Shock is a state of poor perfusion, which is most reliably indicated by tachypnoea, reduced level of consciousness and skin findings such as decreased capillary refill, pallor and diaphoresis.

- Low BP in isolation from other signs of shock may be benign.
- Hypotension may be a late sign of life-threatening shock (especially in the setting of major trauma).
- Chronically hypertensive patients in shock may present with a "normal" BP.

Patients with suspected brain injury should have their sBP maintained ≥100mmHg regardless of underlying shock type.

(a) HYPOVOLAEMIC SHOCK

(i) HYPOVOLAEMIC SHOCK (NON-HAEMORRHAGIC) (e.g., burns, dehydration, etc.)		
ICP	Optimise oxygenation to SpO_2 ≥94%.	**AP**
ICP	Early and rapid transport to definitive care	**AP**
ICP	Manage underlying cause wherever possible, according to appropriate CMG	**AP**
ICP	**IV/IO fluids** to maintain sBP of ≥90mmHg	**AP**

(ii) HYPOVOLAEMIC SHOCK (HAEMORRHAGIC)		
All haemorrhagic shock patients require **early, rapid transport** to definitive care. **Absolute minimum** scene time is warranted. All interventions should be considered with a view to minimising time to definitive control of bleeding – consider performing interventions en route.		
ICP	Optimise oxygenation to SpO_2 ≥94%.	**AP**
ICP	Control bleeding (arterial tourniquets, pelvic splint, pack and apply wound pressure, realign long bones)	**AP**
ICP	Manual spinal precautions – do not delay definitive care/transport to facilitate full spinal immobilisation	**AP**
ICP	<u>Minimal</u> warm **IV/IO fluids** to maintain sBP of 90mmHg	**AP**
Adrenaline infusion is not indicated in the trauma patient		

CMG 14 - SHOCK AND HYPOPERFUSION cont.

(Revised: November 2020)

(b) CARDIOGENIC SHOCK

Cardiogenic shock is caused by a decreased pumping ability of the heart. Some causes of cardiogenic shock include: AMI, dysrhythmias and drugs.

ICP	Optimise oxygenation to SpO_2 94%. Do not hyperoxygenate	**AP**
ICP	12 lead ECG	**AP**
ICP	Rapid transport to definitive care	**AP**
ICP	Manage acute coronary syndrome as per CMG 16	**AP**
ICP	Treat significant arrhythmias as per appropriate CMG	

sBP <90mmHg + clinical signs of shock+ pulmonary oedema		
ICP	Adrenaline infusion to maintain sBP of ≥90mmHg	
ICP	IV/IO fluid not indicated	**AP**

sBP <90mmHg + clinical signs of shock+ <u>NO</u> pulmonary oedema		
ICP	IV/IO fluid challenge 250 – 500ml If positive response, repeat to maintain sBP of ≥90mmHg	**AP**
ICP	Adrenaline infusion if unresponsive to fluid	

continues over

(c) DISTRIBUTIVE SHOCK

Distributive shock results from excessive vasodilation and the impaired distribution of blood flow. Some common causes include: sepsis, anaphylaxis, burns, neurogenic shock due to spinal cord or brain injury, drugs / toxins, and Addisonian crisis.

ICP	Optimise oxygenation to SpO_2 ≥94%.	**AP**
ICP	Identify possible cause and treat as per appropriate CMG	**AP**
ICP	Rapid transport to definitive care	**AP**
ICP	**IV/IO fluid** to maintain sBP of ≥90mmHg	**AP**
ICP	Consider adrenaline infusion if sBP <90mmHg with clinical signs of shock, refractory to fluids	

(d) OBSTRUCTIVE SHOCK

Obstructive shock is caused by a physical obstruction of the great blood vessels or an obstruction within or around the heart itself. Pulmonary embolism, cardiac tamponade and tension pneumothorax are all causes of obstructive shock.

ICP	Optimise oxygenation to SpO_2 ≥94% If assisted ventilation is required, use lowest tidal volume and PEEP value while still providing adequate oxygenation	**AP**
ICP	Decompress tension pneumothorax if suspected	
ICP	Early, rapid transport to definitive care	**AP**
ICP	**IV/IO fluid** to maintain sBP of ≥90mmHg	**AP**
ICP	Adrenaline infusion if sBP <90mmHg with clinical signs of shock	
ICP	Gentle handling	**AP**