

# SHOCK

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Definition - Shock is a syndrome of derangement in oxygen delivery or utilization, leading to cellular hypoxia and organ dysfunction or quite simply *inadequate tissue perfusion*.

*Hypovolemic shock* - inadequate tissue perfusion is secondary to inadequate preload.

*Distributive shock* - inadequate tissue perfusion is secondary to vasodilation either from loss of sympathetic tone or sepsis.

Biochemistry of shock - mitochondria

Clinical scenario - ABC

Clinical Markers of shock

*Decompensated shock vs Compensated shock*

CLASSIFICATION OF DEGREES OF HYPOVOLEMIC SHOCK				
	Class I	Class II	Class III	Class IV
Blood loss (ml)	<750	750-1500	1500-2000	>2000
Blood loss (%)	<15	15-30	30-40	>40
HR (beats/min)	<100	100-120	120-140	>140
BP	Normal	Normal	Decreased	Decreased
Pulse pressure	Normal	Decreased	Decreased	Decreased
Capillary refill	Normal	Delayed	Delayed	Delayed
Respiratory rate	14-20	20-30	30-40	>40
Urine output (ml/hr)	>30	20-30	5-15	Negligible
Mental status	Slight anxiety	Mild anxiety	Confusion	Lethargy
Fluid replacement	Crystalloid	Crystalloid	Crystalloid and RBCs	Crystalloid and RBCs

If shock is inadequate tissue perfusion then the best marker would be a perfusion marker

Perfusion markers - Global

Lactate / Base deficit

Resuscitation is the correction of shock. The ultimate goal is to *restore perfusion and adequate oxygen delivery to tissue i.e OPTIMIZE OXYGEN DELIVERY*.

Keep SaO<sub>2</sub> > 90%

Supply supplemental O<sub>2</sub>  
Mechanical ventilation,  
if necessary

Optimize Cardiac Index

May need early hemodynamic monitoring

Optimize Hb

11-13 g/dL

