Cardiac arrest in prone position

Name:	Taylor Davies	**Observation at start**		**CRT:**	4s
D.O.B.	05/07 (55Y)	**RR:**	Ventilated	**Temp:**	36.8
Address:	(Insert local address)	**ETCO2:**	4.3->1.5	**BM:**	5.6
		Sats:	Poor trace	**Weight:**	80
Hospital ID:	456 146 1576	**Heart Rate:**	50	**Allergy**	NKDA
Ward:	Neurosurgery/Spinal	**BP:**	85/56		

Background to scenario	Specific set up
A patient is undergoing a tumour debulking (spinal or posterior fossa) in the prone position. They suddenly become cardiovascularly unstable and arrest	Mannequin in theatre, head in appropriate device In prone position, follow local proning procedures Ventilated, cannulated – IV fluids + arterial line Appropriate mode of anaesthesia & drugs Anaesthetic chart Draped, surgical tray open, surgery ongoing

Required embedded faculty/actors	Required participants
Anaesthetic senior + operating surgeon Second surgeon/ODP/Scrub	Anaesthetic on call team Surgeons/ODP/Scrub can also be participants

Past Medical History

HTN and childhood asthma but otherwise well till recently. Working as school teacher
Recent back pain (spinal surgery) or seizures (neurosurgery) leading to diagnosis of tumour
No previous anaesthetics, no airway concerns
Anaesthetised lines inserted according to local protocol

Drugs Home	Drugs Hospital
Amlodipine Dexamethasone (neurosurgery)	Anaesthetic drugs, antibiotics

Brief to participants

You are the on call team. You hear the anaesthetic assistance/cardiac arrest buzzer/bleep go off in theatre

Scenario Direction

Stage 1, 0– 5 minutes – Team arrival	
A	Ventilated, ETCO2 reducing slowly to 1.5
B	Ventilator settings set appropriately, Sats – poor trace ↓ 50
C	HR dropping gradually as participants enter 50→25, BP dropping gradually
DE	Anaesthetised (with your choice of agent) Head in appropriate device, draped, surgeons operating on spine/head
Rx	Arrival and handover as appropriate, work with anaesthetist on the case, recognition of deteriorating patient Activate emergency protocols, consider early resuscitation as per cardiac arrest in neurosurgery protocol
Stage 2, 5–10 minutes – Cardiac arrest	
A	ETCO2 low, improves with chest compressions
B	No Sats trace
C	HR ↓ to asystole, BP trace flattens, these may reflect compressions when they are started
Rx	The cause can be bleeding/venous air embolism/retraction Cardiac arrest management as per ALS/Neurosurgical guidance Supine positioning if necessary/wound closure/consideration of head position/device Identification/treatment of the cause MDT approach to management
Stage 3, 10– 15 minutes - ROSC	
A	ETCO2 recovered
B	Sats 92%
C	ROSC after a few cycles of CPR/identification and treatment of cause → HR 120, BP 90/65
DE	
Rx	Team discussion regarding surgical options/imaging/post op destination Follow protocols - Cardiac arrest during Neurosurgery, Neuroprotection following cardiac arrest Consideration of team support

Guidelines

Management of cardiac arrest during neurosurgery in adults

AoA QRH Handbook – Neuroprotection following cardiac arrest

Guidance for Starting anaesthetist Role

Opening lines/questions/cues/key responses	Relevant HPC / PMH
I don't know what happened, one second they were fine, the next everything is alarming. Decent amount of bleeding up till now (750ml)	Handover patient history as above
Concerns	**Actions**
	Shaken by incident, handover leadership to on call team

Guidance for ODP/Scrub/Surgical roles	Guidance for other roles
Actions Competent at their roles Support in team management and local protocols	

Session Objectives	
Clinical	Management of cardiac arrest in a neurosurgical/spinal patient Management of cardiac arrest in a prone patient
Non-technical skills	
Teamworking	Coordinating a team, exchanging information with MDT
Task management	Planning, anticipating next steps, Following guidance
Situational awareness	Recognising deteriorating patient, information gathering
Decision making	Identifying/balancing risks and options, continuous evaluation