

Cardiac arrest in prone position

	Name:	Taylor Davies	Observa	tion at s	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
ŀ	lospital ID:	456 146 1576	Heart Ra	te:	50	Allergy	NKDA
	Ward:	Neurosurgery/Spinal	BP:		85/56		
		Background to scenario				pecific set up	
		ergoing a tumour debulking					ppropriate devic
		n the prone position. They					ning procedures
beco	ome cardio	vascularly unstable and an	rest	Ventilated, cannulated – IV fluids + arterial line Appropriate mode of anaesthesia & drugs			
					sthetic chart	anaestnesi	a & drugs
					ed, surgical tray	onen surae	erv ongoing
Required embedded faculty/actors						ired particip	
Anaesthetic senior + operating surgeon					sthetic on call t		
Second surgeon/ODP/Scrub					ons/ODP/Scrub		e participants
			Past Medica				· · ·
HTN	and childho	ood asthma but otherwise v				acher	
		ain (spinal surgery) or seizure		ery) leac	ling to diagnos	is of tumour	
		aesthetics, no airway conce					
Ana	esthetised lii	nes inserted according to l	ocal protocol				
		Drugs Home				ugs Hospital	
	odipine			Anaes	sthetic drugs, a	ntibiotics	
Dexa	amethasone	e (neurosurgery)					
			Brief to part	tici <u>pant</u>	S		
/011	are the on o	call team. You hear the an	aesthetic assist	tance/c	cardiac arrest b	ouzzer/bleep	go off in theatre
lou							
lou							
			Scenario D)irection			
TOU			Scenario D 2 1. 0- 5 minute				
4		Stage	e 1, 0– 5 minute				
			e 1, 0– 5 minute				
	Ventilated	Stage	e 1, 0– 5 minute 1.5	es – Tea			
4	Ventilated Ventilators	Stage , ETCO2 reducing slowly to	e 1, 0– 5 minute 1.5 Gats – poor trac	es - Tea ce↓50	m arrival	y	
۹ 3	Ventilated Ventilators HR droppir Anaestheti	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a	2 1, 0– 5 minute 1.5 Sats – poor trac s enter 50→25, gent)	es – Tea ce↓50 , BP dro	m arrival	у	
A 3 C	Ventilated Ventilators HR droppir Anaestheti Head in ap	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped	a 1, 0– 5 minute 1.5 Gats – poor trac s enter 50→25, gent) , surgeons ope	es - Tea ce↓50 , BP dro erating c	m arrival pping gradually	-	
A 3 C	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a	a 1, 0– 5 minute 1.5 Gats – poor trac s enter 50→25, gent) , surgeons ope	es - Tea ce↓50 , BP dro erating c	m arrival pping gradually	-	of deteriorating
A 3 C DE	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate,	a 1, 0– 5 minute 1.5 Sats – poor trac s enter 50→25, gent) , surgeons ope work with ana	es - Tea ce↓50 , BP dro erating c aestheti	m arrival pping graduall <u>y</u> on spine/head st on the case,	recognition	0
A 3 C DE	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped	a 1, 0– 5 minute 1.5 Sats – poor trac s enter 50→25, gent) , surgeons ope work with ana	es - Tea ce↓50 , BP dro erating c aestheti	m arrival pping graduall <u>y</u> on spine/head st on the case,	recognition	0
A 3 C DE	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate, mergency protocols, consi	a 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus	es - Tea ce↓50 , BP dro erating c aestheti scitatior	m arrival pping graduall on spine/head st on the case, n as per cardiad	recognition	0
A 3 C DE Rx	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate, mergency protocols, consi	a 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute	es - Tea ce↓50 , BP dro erating c aestheti scitatior	m arrival pping graduall on spine/head st on the case, n as per cardiad	recognition	0
A 3 C DE Rx	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com	a 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute	es - Tea ce↓50 , BP dro erating c aestheti scitatior	m arrival pping graduall on spine/head st on the case, n as per cardiad	recognition	0
A 3 C DE Rx A 3	Ventilated Ventilators HR droppin Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate, mergency protocols, consi Stage 2 r, improves with chest com	2 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with and der early resus 2, 5–10 minute pressions	es - Tea ce↓50 , BP dro erating c aestheti scitation es - Car	m arrival pping graduall on spine/head st on the case, n as per cardiad diac arrest	recognition c arrest in ne	urosurgery
A 3 C DE Rx A 3 C	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a ppropriate device, draped I handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice vstole, BP trace flattens, the	2 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect	es - Tea ce↓50 , BP dro erating c aestheti scitation es - Car t compr	m arrival pping gradually on spine/head st on the case, n as per cardiac diac arrest	recognition c arrest in ne	urosurgery
A 3 C DE Rx A 3	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice rstole, BP trace flattens, the can be bleeding/venous a	2 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute pressions se may reflect air embolism/re	es – Tea $ce \downarrow 50$, BP dro erating c aestheti scitation es – Car t compr etractio	m arrival pping graduall on spine/head st on the case, n as per cardiad diac arrest ressions when th n	recognition c arrest in ne	urosurgery
A 3 C DE Rx A 3 C	Ventilated Ventilators HR droppin Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice rstole, BP trace flattens, the can be bleeding/venous a rrest management as per A	2 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi	es - Tea ce↓50 , BP dro erating c aestheti scitation es - Car t compr etractio ical guid	m arrival pping gradually on spine/head st on the case, n as per cardiad diac arrest ressions when th n dance	recognition c arrest in ne ney are start	urosurgery
A 3 C DE Rx A 3 C	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice rstole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound	2 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi d closure/cons	es - Tea ce↓50 , BP dro erating c aestheti scitation es - Car t compr etractio ical guid	m arrival pping gradually on spine/head st on the case, n as per cardiad diac arrest ressions when th n dance	recognition c arrest in ne ney are start	urosurgery
A 3 C DE Rx A 3 C	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos Identificati	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a popropriate device, draped handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice stole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound on/treatment of the cause	2 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi d closure/cons	es - Tea ce↓50 , BP dro erating c aestheti scitation es - Car t compr etractio ical guid	m arrival pping gradually on spine/head st on the case, n as per cardiad diac arrest ressions when th n dance	recognition c arrest in ne ney are start	urosurgery
A 3 C DE Rx A 3 C	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos Identificati	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a ppropriate device, draped handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice stole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound on/treatment of the cause pach to management	 1, 0– 5 minute 1.5 5 ats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi d closure/cons 	es - Tea ce↓50 , BP dro erating c aestheti scitation scitation t compr etractio ical guid sideratic	m arrival pping graduall on spine/head st on the case, n as per cardiad diac arrest diac arrest ressions when the n dance on of head posi	recognition c arrest in ne ney are start	urosurgery
A 3 C DE Rx A 3 C Rx	Ventilated Ventilators HR droppin Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos Identificati MDT appro	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a propriate device, draped d handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice stole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound on/treatment of the cause pach to management Sta	2 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi d closure/cons	es - Tea ce↓50 , BP dro erating c aestheti scitation scitation t compr etractio ical guid sideratic	m arrival pping graduall on spine/head st on the case, n as per cardiad diac arrest diac arrest ressions when the n dance on of head posi	recognition c arrest in ne ney are start	urosurgery
A 3 C DE 8x 4 3 C 2 8x	Ventilated Ventilators HR droppin Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos Identificati MDT appro	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a propriate device, draped d handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice stole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound on/treatment of the cause pach to management Sta	 1, 0– 5 minute 1.5 5 ats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi d closure/cons 	es - Tea ce↓50 , BP dro erating c aestheti scitation scitation t compr etractio ical guid sideratic	m arrival pping graduall on spine/head st on the case, n as per cardiad diac arrest diac arrest ressions when the n dance on of head posi	recognition c arrest in ne ney are start	urosurgery
A 3 C DE X X A 3 C X	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos Identificati MDT appro	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a propriate device, draped thandover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice stole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound on/treatment of the cause pach to management Stage 2 overed	2 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi d closure/cons ge 3, 10– 15 m	es - Tea ce↓50 , BP dro erating c aestheti scitation es - Car t compr etractio ical guid sideratio	m arrival pping gradually on spine/head st on the case, a as per cardiad diac arrest ressions when the n dance on of head posite • ROSC	recognition c arrest in ne ney are start ition/device	ed
A 3 C DE Rx A 3 C Rx	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos Identificati MDT appro	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a propriate device, draped d handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice stole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound on/treatment of the cause pach to management Sta	2 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi d closure/cons ge 3, 10– 15 m	es - Tea ce↓50 , BP dro erating c aestheti scitation es - Car t compr etractio ical guid sideratio	m arrival pping gradually on spine/head st on the case, a as per cardiad diac arrest ressions when the n dance on of head posite • ROSC	recognition c arrest in ne ney are start ition/device	ed
A 3 C DE X X A 3 C X X	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos Identificati MDT appro ETCO2 rec Sats 92% ROSC afte	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate, mergency protocols, consi Stage 2 vi, improves with chest com ice vistole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound on/treatment of the cause pach to management Sta overed	2 1, 0– 5 minute 1.5 Sats – poor traces s enter 50→25, gent) , surgeons ope work with ana der early resus der early resus 2, 5–10 minute pressions se may reflect air embolism/resurgi d closure/cons ge 3, 10– 15 m tification and t	es - Tea ce ↓ 50 , BP dro erating c aestheti scitation t compr etractio ical guid sideratio hinutes - treatme	m arrival pping gradual! on spine/head st on the case, as per cardiad diac arrest ressions when the n dance on of head position • ROSC	recognition c arrest in ne ney are start ition/device	ed
A 3 C DE Rx A 3 C Rx	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos Identificati MDT appro ETCO2 rec Sats 92% ROSC afte Team discu	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a popropriate device, draped I handover as appropriate, mergency protocols, consi Stage 2 , improves with chest com ice stole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound on/treatment of the cause pach to management Stage overed r a few cycles of CPR/iden	a 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi d closure/cons ge 3, 10– 15 m tification and t otions/imaging	es - Tea ce J 50 , BP dro erating c aestheti scitation caestheti scitation t compr etractio ical guid sideratio hinutes - treatme g/post o	m arrival pping gradual! on spine/head st on the case, as per cardiac diac arrest ressions when the n dance on of head positive ent of cause → op destination	recognition c arrest in ne ney are start ition/device HR 120, BP 90	ed D/65
A 3 C DE 8x A 3 C 2 8x 2 8x 2 2 2 0 E	Ventilated Ventilators HR droppir Anaestheti Head in ap Arrival and patient Activate e protocol ETCO2 low No Sats tra HR↓ to asy The cause Cardiac at Supine pos Identificati MDT appro ETCO2 rec Sats 92% ROSC afte Follow prot	Stage , ETCO2 reducing slowly to settings set appropriately, S ng gradually as participant ised (with your choice of a opropriate device, draped I handover as appropriate, mergency protocols, consi Stage 2 vi, improves with chest com ice vistole, BP trace flattens, the can be bleeding/venous a rrest management as per A sitioning if necessary/wound on/treatment of the cause pach to management Sta overed	a 1, 0– 5 minute 1.5 Sats – poor trace s enter 50→25, gent) , surgeons ope work with ana der early resus 2, 5–10 minute oressions se may reflect air embolism/re ALS/Neurosurgi d closure/cons ge 3, 10– 15 m tification and t otions/imaging	es - Tea ce J 50 , BP dro erating c aestheti scitation caestheti scitation t compr etractio ical guid sideratio hinutes - treatme g/post o	m arrival pping gradually on spine/head st on the case, a as per cardiad diac arrest ressions when the dance on of head posi • ROSC ent of cause → op destination	recognition c arrest in ne ney are start ition/device HR 120, BP 90	ed D/65

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

For further simulation resouces please visit rcoa.ac.uk/simulation

Critical Incidents

Management of cardiac arrest during neurosurgery in adults

AoA QRH Handbook - Neuroprotection following cardiac arrest

Identifying/balancing risks and options, continuous evaluation