QRH Session Plan: Intra-operative Cardiac Arrest

Ice breaker: Desert Island Cardiac Arrest

Choose three items you would want if managing a cardiac arrest.

Can you name where are they kept in this theatre complex?

Priorities in cardiac arrest

1. Confirm cardiac arrest
2. Call for help: emergency buzzer or brass bell / bleep system OOH
3. Start CPR
    a. Allocate chest compressions: high quality, minimise interruptions
    b. Top end: secure the airway, FiO2 to 100%, consider manual ventilation (or volume control)
    c. Turn off anaesthetic
4. Assessment of rhythm +/- rapid defibrillation
5. Identify the cause
    a. Hs and Ts
    b. Specific peri-operative problems – specialty specific

Box A: POTENTIAL CAUSES	
4 H's, 4 T's:	**Specific peri-operative problems:**
Hypoxia **(→ 2-2)**	Vagal tone
Hypovolaemia	Drug error
Hypo/hyperkalaemia	Local anaesthetic toxicity **(→ 3-10)**
Hypothermia	Acidosis
Tamponade **(→ 3-9)**	Anaphylaxis **(→ 3-1)**
Thrombosis **(→3-5)**	Embolism, gas/fat/amniotic **(→ 3-5)**
Toxins	Massive blood loss **(→ 3-2)**
Tension pneumothorax	

Review storage locations of key pieces of equipment incl. defib and cardiac arrest drug boxes.

Point out QRHs in anaesthetic rooms which contain:

- List of locations of key equipment
- Page on intra-operative cardiac arrest. Particularly useful are:
    - Checklist of things to do/confirm at the 'top end'
    - List of specific peri-operative problems to consider

? Quick refresher on how the defib works

Lessons from NAP7

1. Cardiac arrests in theatre are relatively common (1 in 3000). Most (~80%) present with non-shockable rhythms.
2. BUT outcomes are good. 75% survived the initial arrest (better than in-hospital arrests overall). Of those who survived to discharge, the vast majority had a good functional outcome.
3. Most common causes: (1) Major haemorrhage; (2) Bradyarrhythmia; (3) Cardiac ischaemia. Causes varied significantly by surgical specialty. Specialties most likely to have an arrest (in Bath): GI and trauma.
4. Almost half of anaesthetists had recent experience of periop cardiac arrest and 4.5% reported an impact on their subsequent ability to deliver patient care. Recommendations for managing the 'aftermath' include having a 'hot debrief', pausing the list to consider whether staff are fit to continue working that shift, use of support tools such as TRiM and offering a 'cold debrief' at a later date.