

5 Minute Flashcards

Card 13: Fire in theatre

QUESTIONS – *discuss amongst your team!*

Case:

A 65 year-old man is in theatre for a shoulder replacement. After prepping and draping the skin, the surgeon makes an incision using diathermy. The skin prep then catches fire.

(1) Management of fire in theatre

1. What 3 things does a fire require?
2. What is the immediate management of a surgical fire?
3. What type of fire extinguisher is available in theatre, and where does it live?



(2) What are the risk factors for a surgical fire?



(3) How can we prevent surgical fires?

Think of ways to tackle each part of the fire triad

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ANSWERS!

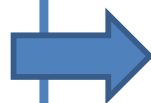
(1) Management of fire in theatre

1. Oxygen, heat, fuel source
2. **Scrub nurse/ surgeon** to pour water or saline onto flames to extinguish, if needed use fire extinguisher
Anaesthetist to switch to room air if safe to do so (... if the patient has a high O2 requirement, use a closed circuit)
3. CO2 fire extinguisher – locate this in your theatre!



(2) Risk factors

1. Surgical site above xiphoid (closer to oxygen source!)
 2. Open oxygen device (e.g. facemask)
 3. Use of ignition device: laser, diathermy, fiberoptic, drills, defibrillator
- Airway laser surgery can combine all 3!*



(3) Prevention of surgical fire

1. Fuel

When alcohol-based skin prep is used, use minimal amount, allow to dry, avoid pooling

2. Heat/Ignition source

Only activate heat source only when tip is in line of sight
Tenting of drapes

Use incise drape or wet swab to protect patient's skin if using a heat source

Avoid use of dry swabs in area of heat source

Have bowl of saline/water always available to extinguish

Use laser resistant ETTs for laser surgery above xiphoid

3. Oxygen - anaesthetist input

Use closed circuit if high risk of fire i.e. if operating above xiphoid with ignition source. (A facemask is open so causes accumulation of O2 under surgical drapes)

Use room air if no O2 requirement

If O2 requirement, use minimal amount

Further learning: Surgical fires become 'Never event', Clinical Services Journal, 2020

Teresa S. Jones et al; Operating Room Fires, Anesthesiology; Volume 3 2019, Vol.130, 492-501