

ACT FAST. Successful treatment depends on early diagnosis and aggressive treatment.  
The onset of a reaction can be within minutes of induction.  
Previous uneventful anaesthesia DOES NOT exclude MH.

## DIAGNOSIS:

1. unexplained, unexpected increase in end-tidal CO<sub>2</sub> together with
2. unexplained, unexpected increase in heart rate together with
3. unexplained, unexpected increase in oxygen consumption

(Masseter muscle spasm, and especially more generalised muscle rigidity after suxamethonium, indicate a high risk of MH susceptibility but are usually self-limiting)

ASK  
COLLEAGUES  
FOR HELP

### Eliminate trigger drug

- Turn off vaporisers & remove
- 100 % Oxygen, max flow
- Hyperventilate (2-3 times normal minute ventilation)
- Place Activated Charcoal Filters on both limbs of anaesthetic workstation
- Change soda lime & breathing circuit if/when feasible

### Give Dantrolene

- 2 – 3 mg/Kg IV, then
- 1 mg/Kg every 5 min, until
- ETCO<sub>2</sub> < 6 kPa & Temp < 38.5 °C, then
- Pause & observe
- Give further 1 mg/Kg as required to keep ETCO<sub>2</sub> < 6 kPa & Temp < 38.5 °C, even if this means exceeding total dose of 10 mg/Kg

### Active body cooling

- Turn off active warming
- Apply ice to axillae/groins
- Cold IV fluids
- Cold peritoneal lavage
- Other cooling methods according to need and availability of equipment & expertise
  - Surface cooling devices
  - Intravascular devices
  - Extracorporeal heat exchange

## MONITOR

ECG, SpO<sub>2</sub>, end-tidal CO<sub>2</sub>; Direct arterial BP, CVP; Core & peripheral temperature; Urine output & pH; ABGs, K<sup>+</sup>, glucose; Haematocrit, platelets, clotting indices; Creatine kinase (peak 12-24 hr)

## TREAT

- **Acidosis:** give sodium bicarbonate 50 mmol if pH<7.2 despite hyperventilation
- **Hyperkalaemia:** sodium bicarbonate 50 mmol, glucose (50 mL 50%) & insulin 10 IU, IV calcium 0.1 mmol/Kg (in extremis)
- **Myoglobinuria:** forced alkaline diuresis (aim for urine output >2 mL/Kg/hr; urine pH > 7)
- **DIC:** clotting factors, platelets
- **Tachyarrhythmias:** amiodarone, beta-blockers (N.B., avoid calcium channel blockers – interaction with dantrolene)
- **Compartment syndrome**

Manage patient in ICU/HDU for 24 hrs. Further dantrolene may be needed.  
Counsel patient and family. Refer to MH Unit [www.ukmhr.ac.uk](http://www.ukmhr.ac.uk)

EMERGENCY HOTLINE: 07947 609601 OR CONTACT MH CONSULTANT 0113 2433144

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