DANTROLENE

Indication	• Malignant hyperthermia characterised by fulminant hypermetabolism of skeletal muscle[1] • Reverse or attenuate anaesthetic induced malignant hyperthermia (e.g. suxamethonium)

INTRAVENOUS

Presentation	• Vial: 20 mg
Dosage[1,2]	• 1 mg/kg o Repeat as needed until symptoms subside o Maximum cumulative dose 10 mg/kg
Preparation	• Add 60 mL of water for injection to each vial[3] (the full 60 mL required) o Use an air inlet needle to reduce vial pressure or vent the vial after 30 mL and then add the second 30 mL of water for injection[3] o Shake vigorously until the solution is clear and colourless to orange[3] o *Concentration now equal to 1 mg in 3 mL*
Administration	• Draw up prescribed dose • IV injection as rapid bolus[2]

Special considerations	• As soon as malignant hyperthermia reaction recognised[1]: o Discontinue anaesthetic agents o Administer dantrolene • Administration via CVL or large peripheral vein preferred[3] o Steady (but not forceful) rapid bolus injection to avoid catheter or vessel endothelial wall damage • Consider the large fluid volumes that are required in the overall management plan • Each vial contains 3 g of mannitol[3] o Consider implications if mannitol used to prevent or treat late renal complications of malignant hyperthermia[3]
Monitoring	• Ensure venous patency before administration • Adequacy of ventilation[2] • Core temperature continuously[2] • ECG[2], BP[2], oxygen saturation[2] signs of compartment syndrome or fluid overload • ABG[2], serum electrolytes[2], serum creatine kinase[2], urinary output and myoglobulin[2], coagulation profile[2] • Extravasation risk: may cause necrosis[1]
Compatibility	• Fluids o Water for injection only[3] • Y site o Not recommended[3]
Incompatibility	• Fluids o No information[3] • Drugs o Do not mix with other drugs–extensive list of incompatibilities[3]
Interactions	• May potentiate the effects of non-depolarising muscle relaxants, (e.g. vecuronium)[4]
Stability	• Vial o Store below 25 ºC. Protect from light[1] • Reconstituted solution[3] (if on-going bolus doses required) o Stable for 6 hours at 15–25 ºC. Protect from light[1]
Side effects	• Circulatory: pulmonary oedema[2] • Integumentary: thrombophlebitis[2], tissue necrosis secondary to extravasation[2] • Nervous: urticaria[2], erythema[2]
Actions	• Skeletal muscle relaxant • Acts by interfering with calcium efflux, thereby stopping the contractile process[5]
Abbreviations	ABG: arterial blood gas, BP: blood pressure, CVL: central venous line, ECG: electrocardiogram, IV: intravenous
Keywords	Dantrolene, malignant hyperthermia, muscle relaxant, sodium hemiheptahydrate

The Queensland Clinical Guideline *Neonatal Medicines* is integral to and should be read in conjunction with this monograph. Refer to the disclaimer. Destroy all printed copies of this monograph after use.

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