REGIONAL ADULT PARENTERAL DRUG MONOGRAPH

GENERIC NAME
dantrolene

Effective Date: May 2013 **Revised Date:** Jan 2024	CLASSIFICATION **Skeletal muscle relaxant**	OTHER NAMES **Dantrium**	PAGE 1 of 2

ADMINISTRATION POLICY:

IV bolus – **Restricted to nurses in ED/OR/ICU/PCU/Cardiac Room. Physician must be present for treatment of malignant hyperthermia crisis**

IV Intermittent – **Restricted to nurses in ED/OR/ICU/PCU/Cardiac Room**

RECONSTITUTION/DILUTION/ADMINISTRATION:

Available as: 20 mg single use vial (vials also contain 3 grams mannitol)

Reconstitution: Add 60 mL **sterile water for injection** (preservative free) to each vial. Shake until solution is clear.
Final concentration: 0.33 mg/mL dantrolene (50 mg/mL mannitol).
Protect reconstituted solution from light.

IV Bolus: Administer dose as quickly as possible. Repeat until symptoms subside (heart rate, muscle tone, and temperature should all decrease). Flush before and after with sterile water for injection.

IV Intermittent: Add dose to sterile empty IV bag and infuse over 1 hour. Empty 1000 mL IV bags and check that luer lock male adapter plugs are available with the dantrolene supply on the malignant hyperthermia cart in the OR. (Use luer lock male adapter plugs to facilitate multiple entries into the empty IV bag.) Flush before and after the sterile water for injection.

DOSAGE:

Usual:

Treatment of malignant hyperthermia:

Crisis: Initially 2.5 mg/kg IV Bolus. May repeat dose until symptoms subside up to a total cumulative dose of 10 mg per kg (rarely some patients need to go up to 30 mg/kg). Regimen may be repeated if symptoms reappear. **NOTE:** Manufacturer's labelling suggests a minimum of 1 mg/kg

Post-crisis follow-up: 1 mg per kg IV every 6 hours for 24 to 72 hours or a continuous IV infusion of 0.25 mg/kg for 24 hours. Re-evaluate (May switch to oral therapy. See additional notes for dose)

Prophylaxis of malignant hyperthermia: 2.5 mg/kg infused over 60 minutes, beginning 75 minutes prior to anticipated anesthesia

Neuroleptic malignant syndrome: 2 to 3 mg/kg IV bolus initially. May repeat dose (usually every 4 to 6 hours) until symptoms subside or a maximum cumulative dose of 10 mg/kg has been reached. May reduce to 1 mg/kg every 6 hours once symptoms controlled.

Maximum Rate: N/A
Maximum Concentration: 0.33 mg/mL
Maximum Cumulative Dose: 10 mg/kg

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STABILITY/COMPATIBILITY:

Stability of Reconstituted vials: 6 hours at room temperature. (**DO NOT refrigerate**)

Compatibility: Compatible with **s**terile water for injection
Incompatible with D5W, normal saline

PRECAUTIONS, POTENTIAL ADVERSE REACTIONS:

- Muscle weakness: loss of grip strength, difficulty swallowing, choking
- Visual symptoms, inability to focus
- Nausea, dizziness and fatigue
- Dyspnea
- Dantrolene should not be administered concurrently with calcium channel blockers (cardiac depression and worsening of hyperkalemia)

ADDITIONAL NOTES AND NURSING CONSIDERATIONS:

- Use care to prevent extravasation of the solution into surrounding tissues due to its high pH (approximately 9.5)
- Each vial contains 3000 mg of mannitol; concentration once reconstituted is 50 mg mannitol/mL. This must be taken into consideration when preventing and treating late renal complications of malignant hyperthermia.
- Avoid glass bottles for infusions
- After initial IV administration during crisis, dantrolene may be switched to oral therapy as tolerated. Dose: 4 to 8 mg/kg/day divided in 3 to 4 doses; begin 1 to 2 days prior to surgery, last dose 3 to 4 hours prior to surgery.
- Vials may contain latex