

In presence of volatile agent and/or sux: unexpected, unexplained increase in etCO₂, unexplained tachycardia/tachypnea, prolonged masseter muscle spasm after sux, hyperthermia

Start

1. Call for "ANESTHESIOLOGIST STAT" and MH CART
2. Turn off volatile agents and transition to TIVA
 - ▶ Do not delay treatment to change circuit or CO₂ absorber
3. Assign dedicated person to start mixing dantrolene
4. Secure airway with ETT, turn FiO₂ to 100% and hyperventilate at flows of 10L/min
5. Call MH hotline: 1-800-644-9737
6. Terminate procedure if possible
7. Request chilled IV saline
8. Give DANTROLENE
9. Consider Arterial Line, large bore IV placement
10. Give bicarbonate for suspected metabolic acidosis (maintain pH > 7.2)
11. Treat hyperkalemia, if suspected
12. Treat dysrhythmias, if present
 - ▶ Standard antiarrhythmics are acceptable; **DO NOT USE** calcium channel blockers
13. Send labs (tube colors)
 - ▶ ABG
 - ▶ CMP (mint green), CK (mint green), PT/PTT/INR (light blue)
 - ▶ Serum myoglobin (red or gold), urine myoglobin
14. Initiate supportive care
 - ▶ Consider cooling patient if temperature >38.5C
 - Lavage open body cavities
 - NG lavage with cold water
 - Apply ice externally
 - Infuse cold IV saline
 - STOP cooling if temperature < 38.5C
 - ▶ Place Foley catheter
 - Monitor UOP
 - Consider diuresis to obtain UOP > 1mL/kg/hr
15. Call Intensivist and PACU charge RN for bed
16. If ASC - Arrange for transfer to inpatient facility
 - ▶ Transfer when clinically stable (see reference)

DRUG DOSES and Treatments

Dantrolene	Mix each ampule with 60 mL sterile water 2.5 mg/kg every 5 min until symptoms subside May require up to 30 mg/kg
Bicarbonate	1-2 mEq/kg, slow IV push (for suspected metabolic acidosis)

HYPER-kalemia treatment

Calcium Gluconate	30 mg/kg IV
-or-	
Calcium Chloride	10 mg/kg IV
Insulin/dextrose	10 units regular IV 1-2 amps D50W as needed

Triggering Agents

Inhalational (volatile) anesthetics
Succinylcholine

ASC Considerations – Prior to Transfer

- ETCO₂ is declining or normal
- HR is stable or decreasing; no ominous dysrhythmias
- IV dantrolene administration has begun
- Temperature is declining
- Generalized muscular rigidity is resolving

Differential Diagnosis

Cardiorespiratory

Hypoventilation
Sepsis

Endocrine

Thyrotoxicosis
Pheochromocytoma

Iatrogenic

Exogenous CO₂ source
(laparoscopy)
Overwarming
Neuroleptic malignant
syndrome

Neurologic

Meningitis
Intracranial bleed
Hypoxic encephalopathy
Traumatic brain injury

Toxicology

Radiologic contrast
neurotoxicity
Anticholinergic syndrome,
Cocaine, amphetamine,
salicylate toxicity
Alcohol withdrawal