

MH POLICY REVIEW



**NORTH MEMORIAL AMBULATORY SURGERY CENTER AT MAPLE GROVE
MALIGNANT HYPERTHERMIA POLICY**

PURPOSE

To ensure all patients with suspected malignant hyperthermia will receive appropriate care.

POLICY

The policy of the North Memorial Ambulatory Surgery Center at Maple Grove (NMASCMG) is that patients who are known to have or family members known to have malignant hyperthermia will not be admitted, but in the event that the crisis occurs unexpectedly, the following procedure will take place.

Definition: Malignant Hyperthermia (MH): MH is a potentially fatal, inherited disorder occurring in those who are susceptible to an anesthetic triggering agent. These include all inhaled anesthetic gases and succinylcholine. Upon exposure, the syndrome causes abnormally increased levels of intracellular calcium within skeletal muscle. This causes sustained muscle contraction that leads to an accelerated metabolic state. The signs of MH include:

1. Unexplained rapid heart rate
2. Muscle rigidity
3. Increase exhaled carbon dioxide on a ventilated patient
4. Dysrhythmias
5. Metabolic acidosis
6. High body temperature (late sign)
7. Muscle breakdown

Immediate discontinuation of all triggering anesthetic agents and treatment with the drug dantrolene usually reverses the signs of MH (MHAUS, 2018). Anesthesia is required to notify the Malignant Hyperthermia Association of the United States (MHAUS) hotline **1-800-644-9737**.

PROCEDURE

1. See specific facility attachments for procedures
2. Obtain MH bin from designated area. This contains dantrolene and sterile water.
3. Distribute check list to ensure designated tasks are completed by responsible healthcare provider.
4. Monthly checks will be completed of the MH bin by anesthesia.

Attachments

Malignant Hyperthermia – Attachment A – MH Crisis
Malignant Hyperthermia – Attachment B – MH Crisis Checklist
Malignant Hyperthermia – Attachment C – MH Record

References

MHAUSS website: www.mhaus.org

NORTH MEMORIAL AMBULATORY SURGERY CENTER AT MAPLE GROVE MALIGNANT HYPERTHERMIA CRISIS

Procedure

Call for help

- Circulator, Pre-Op or Post-Op nurse should call for any available staff by activating the Code Blue button on the wall in the area the event is occurring. **ALL** available nursing personnel are to respond ASAP!

Stop Anesthesia Gases

- Hyperventilate with 100% O₂

Obtain the MH Bin

- PACU staff to deliver the MH Bin to the location of the event
 - The bin contains checklist for designated roles for personnel. First supervisor to respond to the crisis is responsible for ensuring the checklist/assigned duties are being done.
 - The bin also contains a MH Crisis Record. One PACU nurse to begin recording all events on the MH Record.
 - Bin contains dantrolene and sterile water along with mixing instructions. Nursing personnel to begin mixing dantrolene per mixing instructions.

Obtain Additional Emergency Equipment

- PACU staff to deliver crash cart and emergency airway cart to designated area

Begin Cooling Measures

- Nursing Assistant to obtain ice from the Phase 2 ice machine.
- Nursing personnel to obtain cold IV NS from the anesthesia refrigerator in anesthesia workroom.
- Gastric, bladder or rectal lavage with cool saline as needed per anesthesia direction

Designate someone to call the **MH Hotline 1-800-644-9737**

Most senior Clinical Leader available to **arrange transfer/admission** to an ICU

Other Considerations

- Watch and treat dysrhythmias. Do NOT use calcium channel blockers in treatment.
- Consider secondary PIV
- A medical doctor or designee may accompany patient during transfer per anesthesiologist's directive

Malignant Hyperthermia Crisis Checklist

Check Box	Action	Task	Responsible Person
	Stop Anesthesia Gases/Triggering Agent	<ul style="list-style-type: none"> Hyperventilate with 100% O2 	Anesthesia
	Call for help	<ul style="list-style-type: none"> Circulator, Pre-Op or Post-Op nurse should activate the Code Blue button on the wall 	Direct Caregiver
	Obtain MH Bin	<ul style="list-style-type: none"> PACU staff to deliver MH bin to location of event 	PACU Staff
	Obtain Additional Emergency Equipment	<ul style="list-style-type: none"> PACU staff to deliver crash cart and emergency airway cart to location of event Start IV or Secondary IV 	PACU Staff/Anesthesia/RN
	Documentation	<ul style="list-style-type: none"> One Nurse to document all events on MH Crisis Record located in MH Bin 	First responding supervisor
	Medication Administration	<ul style="list-style-type: none"> Mix and administer Dantrolene per laminated instructions in the MH Bin and anesthesia direction 	ALL available nursing staff
	Begin Cooling Measures	<ul style="list-style-type: none"> Nursing assistant(s) to obtain ice from ice machine in Phase 2 RN to obtain cold IV NS from anesthesia refrigerator in anesthesia workroom 	NA/RN

SECTION 3000: EMERGENCY
POLICY 3012 ATTACHMENT B
Approved by Dr. Monahan, Anesthesia

		<ul style="list-style-type: none"> Gastric or rectal lavage per anesthesia direction 	
	Call the MH Hotline	1-800-644-9737	Anesthesia
	Continuous Monitoring of the Patient and treatment of any observed abnormalities	<ul style="list-style-type: none"> Cardiac rhythm O2 Sats ETCO2 BP Temperature 	Anesthesia
	Notify Surgeon of MH Crisis if they are not present		Clinical Director
	Provide Family Update		Anesthesia/Surgeon/Clinical Director
	Plan for Transfer/admission to an ICU		Clinical Director
	Restock MH Bin		Anesthesia
	Team Debriefing		ALL members who responded to the MH Crisis

Section 3000: Emergency Policy 3012 Attachment C MH Record

Date/Time Event Recognized: <input style="width: 80%;" type="text"/>		Location: <input style="width: 80%;" type="text"/>		Airway/Ventilation	
Age: <input style="width: 40%;" type="text"/>	WT: <input style="width: 40%;" type="text"/>	Dantrolene Dose (2.5 mg/kg): <input style="width: 60%;" type="text"/>	# of vials: <input style="width: 40%;" type="text"/>	Breathing: <input type="checkbox"/> Spontaneous <input type="checkbox"/> Apneic <input type="checkbox"/> Agonal <input type="checkbox"/> Assisted	
				Time of first assisted ventilation: _____	
Time		Time			
	Anesthetic gases turned off		MH Hotline contacted (800.644.9737)	Ventilation: <input type="checkbox"/> Bag-Valve Mask <input type="checkbox"/> Endotracheal Tube	
	Hyperventilate with 100% FiO2		Ice applied to patient	Intubation: Time _____	
	Dantrolene first administered		Patient is stable	Size: _____ By Whom: _____	
			Transfer to another facility initiated	Confirmation: <input type="checkbox"/> Auscultation <input type="checkbox"/> Exhaled CO2	
Anesthesia Staff Present:				<input type="checkbox"/> Other: _____	

[illegible]

Section 3000: Emergency Policy 3012 Attachment C MH Record

[illegible]

Provider Printed Name: _____

Provider Signature: _____ **Date/Time:** _____

Participant List:

[illegible]