

PATIENT/FAMILY ANESTHESIA CHECK LIST

Henry Rosenberg, MD

President, Malignant Hyperthermia Association of the United States

Malignant Hyperthermia (MH) is an inherited disorder that predisposes a patient to an abnormal and potentially fatal response to certain gas anesthetics and a particular paralyzing drug used by anesthesia providers. The response consists of an acceleration of metabolism, muscle rigidity, muscle breakdown and high fever. The syndrome may develop at any time during anesthesia and may progress within minutes to cardiac arrest. Patients who have the genetic change that predisposes to this reaction usually have no outward signs that they are at risk. If however, there is a family or personal history of anesthetic problems that might indicate that the person might experience MH.

MH derives its name from the first descriptions of the syndrome when the dramatic manifestation of the disorder was a high body temperature during anesthesia. Most patients died from the syndrome. However thanks to education, better monitoring and the introduction of a treatment drug, dantrolene, less than 5 % of patients who develop MH succumb.

In the US, where over 30 million anesthetics are administered each year, there are about 1,000 cases of MH. The patient advocacy organization, the Malignant Hyperthermia Association of the US (www.mhaus.org), learns of two to four deaths per year from MH.

MH effects all ages and ethnic groups and may occur wherever general anesthesia is administered; hospitals, ambulatory surgery centers, office surgery suites, etc.

Although all anesthesia providers and most all surgeons have heard of the syndrome, not all may have handled a patient who develops MH. Recognition and treatment of MH requires a coordinated effort by all members of the surgical team and hence preparation and training are crucial for successful outcome. Even if a patient has had general anesthesia without problem, that is not a guarantee that they will not develop MH on a subsequent exposure.

The following questions are recommended when you or family members are planning surgery under general anesthesia: **They focus on MH, but also are pertinent for anesthesia in general, particularly in an outpatient setting.** For more information on MH please contact MHAUS at 607 674 7901.

The items in this checklist reflect the personal views of the author and not necessarily the views of the Malignant Hyperthermia Association of the United States.

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What you Should Ask Prior to Your Surgery Requiring Anesthesia

1. Who will provide the anesthesia and what is their background? Anesthesiologist? Nurse Anesthetist or Anesthesia Assistant? Sedation Nurse?
2. Is the facility licensed by the State?
3. Is the facility accredited by the Joint Commission or other accrediting agency?
4. Is there an anesthesia machine that is used? If so, who maintains the machine?
5. Are patients undergoing general anesthesia monitored by ECG (electrocardiogram)? Is Oxygen saturation measured by using a pulse oximeter? Is exhaled carbon dioxide measured? Are the concentrations of anesthesia gases monitored?
6. Is body temperature measured during anesthesia? How?
7. Is there a defibrillator present?
8. Have those that will provide my anesthesia/sedation satisfactorily completed an Advanced Cardiac Life Support course within the last two years?
9. Does the facility perform blood tests (“blood gases” and electrolytes) on site?
10. Is there a recovery area and is it staffed by a nurse?
11. Is there a written protocol for managing Malignant Hyperthermia?
12. Does the facility have 36 vials of dantrolene immediately available?
13. Does the facility have a cart or other location where additional supplies are kept to manage a case of MH?
14. Does the facility perform drills to prepare for MH each year? Have all current employees been trained?
15. What Hospital is back-up for the ambulatory center?
16. Is there a written protocol for transfer to a hospital in case of emergency?
17. How long does it take to transfer?
18. Are my records maintained by the facility? For how long?

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(Best practices outline to follow) and Dale Ann Micalizzi Founder and Executive Director of Justin's HOPE at The Task Force for Global Health/Child Survival and Development <http://www.taskforce.org/justinhope.asp>

The Patient/Family should be sure to:

1. Describe when the patient last consumed any liquid and solid food. What was it?
2. Provide accurate information, including dose and frequency of ALL medications that are being taken, including antidepressants, vitamins, and diet pills, performance enhancing and herbal medications.
3. Report all allergies and adverse reactions to (for example): medications, latex, and foods.
4. Describe the use of alcohol and/or recreational drugs, as well as how often/how much.
5. Relate whether the patient is taking prescription drugs illegally. What are these medications and their dose and frequency of use?
6. Ask as a reminder if any pre-operative testing (including ordered labs, x-rays, urinalysis etc.) will be completed, reviewed and acted-upon prior to surgery.
7. Provide the names and contact information about each of the patient's physicians to the surgical/anesthesia team.
8. Tell your surgical/anesthesia team about any recent illness symptoms, including an elevated temperature or flu-like symptoms in the week or day prior to the procedure. Tell them about any recent nausea or diarrhea.
9. Describe any recent injury or surgeries.
10. Provide full information about any diagnosed conditions and their treatments, including any history of asthma, heart problems or autoimmune deficiency.
11. Describe any problems that you or family members have experienced during or after anesthesia, including any history of muscle weakness or severe muscle pain after anesthesia.
12. Describe any personal or family history of brown or dark urine following anesthesia and surgery, or occurring spontaneously with exercise.
13. Describe any personal or family history of heat stroke.
14. Describe any personal or family history of muscle disorders.
15. Double check that the correct site is marked at time of surgery before patient enters the OR and verify that they use the WHO safe surgery checklist at their facility.