



Developing a transfer plan for MH crisis

When malignant hyperthermia (MH) surfaces in an ambulatory surgery setting, minutes count—the patient needs to be stabilized immediately and transferred to a hospital. But will the ambulance service have the right equipment and medications? Which hospital unit will receive the patient? Will the anesthesia provider go with the patient?

These are some of the issues that need to be addressed in advance. New MH transfer guidelines from the Ambulatory Surgery Foundation and the Malignant Hyperthermia Association of the United States (MHAUS) are intended to help ambulatory surgery centers (ASCs) develop such a plan.

The final guidelines, issued in the form of a colorful poster, were developed by a multidisciplinary task force of ASC, MH, and emergency medicine experts. The guidelines are similar to those posted for public comment in late 2009.

Patients need to be transferred because ASCs typically aren't equipped to treat MH beyond stabilizing the patient, notes Henry Rosenberg, MD, president of MHAUS and director of medical education and clinical research at Saint Barnabas Medical Center, Livingston, New Jersey, and a member of the task force.

The first line of response is to activate the MHAUS emergency protocol for MH:

- know the clinical signs of MH
- have trained anesthesia pro-viders on site
- call the MHAUS hotline at 800-MH-HYPER (644-9737) for additional assistance 24 hours a day
- keep 36 vials of dantrolene sodium, the only known antidote, on hand.

Plan needs to be ASC-specific

The transfer guidelines aren't prescriptive but outline issues each ASC needs to consider to develop a transfer protocol to fit its situation, Dr Rosenberg explains.

"We learned there is so much variation in ASC staffing, distance to the hospital, and arrangements for transport that we couldn't be more specific. These guidelines are more to stimulate a thought process," he says.

Transfer issues

Among issues the guidelines suggest considering are:

- the receiving hospital's capabilities, patient data to be reported, and transport team's capabilities
- timing of the transfer
- notification of the receiving hospital and coordination of communication.

**Malignant
hyperthermia
hotline**

1-800-644-9737

**Outside the US:
1-315-464-7079**

Download a sample MH
emergency therapy poster
at <http://medical.mhaus.org>

For example, who will take care of the patient initially and ultimately—the emergency department, the ICU, or the postanesthesia care unit?

Transport capabilities

Learning about transport capabilities is also key.

The task force learned there are all levels of emergency responders, Dr Rosenberg says, depending on the state, locale, and ambulance service. Some are limited to such tasks as giving oxygen and taking vital signs. Others can intubate patients, defibrillate, and give IV medications.

Another question that often arises: Should the anesthesia provider go with the patient? Again, that depends. If the anesthesia provider can't go, should another clinician go? Should the hospital send over an anesthesiologist? Should the surgeon go?

Blood gas analysis is another consideration. If the ASC doesn't have that capability, will samples be sent to a lab? Should the facility buy a machine to perform blood gas analysis?

Advice for nurses

The nursing staff should be part of an MH response and transfer plan. That includes annual training for staff in the recognition and treatment of MH, including where the dantrolene and ice are kept, Dr Rosenberg says.

Nurses can assemble a transport pack with the necessary supplies to go with the patient to the hospital and determine which monitoring equipment, including a temperature probe, will be used in the transfer, he suggests.

The AORN Malignant Hyperthermia Guideline in AORN's *Perioperative Standards and Recommended Practices*, is a comprehensive guide to preparing for an MH crisis and managing MH in the perioperative period.

"A response to MH is a process that requires thought and planning "in the same way there is a process for managing any acute emergency in an ambulatory center," Dr Rosenberg notes. ❖

The MH transfer guidelines are available in a 17 x 22 in laminated poster for \$55 from the ASC Association online store at www.ascassociation.org and from MHAUS at www.mhaus.org. Or phone 607/674-7901.