



The Communicator

New Website Feature Tests MH Knowledge

Thankfully, MH doesn't happen very often. But, would you know what to do if you were faced with an actual case in your operating room, ICU, ambulatory surgery center or office surgery center?

Starting this past February, visitors to the MHAUS website (www.mhaus.org) have had the opportunity to challenge themselves. Each month, a Case of the Month will be posted with a list of multiple-choice questions. Then on the first of each month, the answers will be posted along with a new case.

"These are actual cases from the MH Hotline service," says Josephine Nichols, Business Manager for MHAUS, who is in charge of this project. "We de-identify the patient information, of course, but the case information is real."

At the ASA meeting in October 2004, MHAUS President Dr. Henry Rosenberg urged booth visitors to try a similar challenge, a Case of the Day. The activity yielded interesting reactions from the participants, and Dr. Rosenberg thought it would be equally beneficial to extend this to visitors at our website.

"Reading about a topic is one thing, applying that knowledge is often a challenge. The Case of the Month will permit care givers to face similar challenges that those of us who serve on the Hotline face," Dr. Rosenberg says. "In some cases, the diagnosis and therapy is straightforward; in others, the correct answer is subtle. We are also investigating the possibility of providing CME credit for the exercise based on those who respond to six or more cases."

The contest guidelines are spelled out on the Case of the Month page at www.mhaus.org. (See either

HOME or the Professional's Info Center page for the link.) Anyone who wishes to enter should submit his/her answers with his/her name and address by e-mailing MHAUS. At the end of each quarter, the person with the most correct answers will be notified of their winner status and will be given the choice of either a one-year new or renewal membership with MHAUS plus the Grand Rounds or In-Service video, or five MH Emergency Therapy posters. At the end of the year, the person with the most correct answers will be notified and given a Grand Prize.

You may enter once every month, if you choose. Challenge yourself and join the educational contest. Good luck!

Also new to the MHAUS website: MH-related abstracts are now available at the Professional's Info Center section. Three of the MH abstracts presented at this past year's ASA meeting are posted with permission from the ASA, Anesthesiology Journal and the primary authors. One of the two manuscripts for the Massik Award is also posted. It is MHAUS' hope that by making these abstracts available can keep everyone up to date on the most recent information available.

Please let us know what you think.

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Malignant Hyperthermia (MH) is an inherited muscle disorder which, when triggered by potent inhalation anesthetics and succinylcholine, may cause a life-threatening crisis. The incidence of MH is low, but, if untreated, the mortality rate is high. Since the advent of the antidote drug, dantrolene sodium, and with greater awareness of the syndrome, the mortality rate has decreased. Great advances in our understanding of MH have been made since it was first recognized in the early 1960s, but the nature of the fundamental defect(s) is still unknown.

MHAUS advocates that all surgical patients undergoing general anesthesia should receive continuous temperature monitoring, that adequate supplies of dantrolene be stocked near the OR and that thorough family histories be obtained.

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An Update From the President of MHAUS

I am pleased to report to you, the members and supporters of MHAUS, a brief report on the activities of the association during the past year.

It will be impossible for me to report on all the activities, but I will highlight some of the more significant developments and programs. The fact that there is so much to report is a tribute to the direction of the Board of Directors, the Executive Director, Dianne Daugherty, and the fine staff of the organization: Jo Nichols, Gloria Artist, Fay Kellogg, Cynthia Solyian, and Diane Van Slyke and our part-time public relations expert Al Rothstein.

Those of you who wish to know more about the organization and its mission may log on to the MHAUS web site, www.mhaus.org and peruse the publications, the video clips, slide show in both English and Spanish as well as a report on the manuscript awards that have been offered through the generosity of Mr. George Massik, a founding member of MHAUS.

As you know, the primary mission of MHAUS is to provide education and information concerning this potentially fatal disorder to members of the medical community as well as to patients and family members who are at risk to developing MH. Not only is this achieved through publications such as *The Communicator* and the web site, but also through exhibits at meetings of anesthesiologists, nurses, surgical societies, as well as ambulatory

societies. This past year MHAUS exhibited at the World Federation of Societies of Anesthesiologists, held every four years. This year the meeting was in Paris. It enabled Dianne, Barbara Brandom (Director of the NAMH Registry), and myself to interact with anesthesiologists from different parts of the world who are interested in the problems of MH. The information was reported in *The Communicator* (Volume 22, Number 3, Summer 2004 issue).

We are extremely proud of the activities of the MH hotline. Our 26 volunteer hotline experts handled 528 calls to the hotline during the year from 200 hospitals and 20 ambulatory centers, providing on-time information to clinicians handling cases of MH. The expertise provided is recognized and appreciated by the anesthesia community. As a result of the activities of the hotline, I was invited to give a presentation to the Annual Sickle Cell Disease Clinical Meeting at the NIH facilities in Bethesda, Maryland. The organization is seeking a model for a hotline to deal with medical problems of Sickle Cell disease and thought the present MH hotline model was one that appeared to best fit their needs. In addition, Dianne Daugherty was a participant and cofacilitator of a roundtable session at the National Heart Lung and Blood Institute of the NIH, Public Interest Organization, where representatives of numerous patient advocacy organizations meet to discuss common

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The Malignant Hyperthermia Association of the United States is a not-for-profit organization dedicated to reducing the morbidity and mortality of malignant hyperthermia and other heat-related disorders by: improving medical care related to MH; providing support information for patients; and improving the scientific understanding and research related to MH and other kinds of heat-related syndromes.

For more information or for materials on malignant hyperthermia or MHAUS' programs, call 607-674-7901; write MHAUS, 11 East State St., PO Box 1069, Sherburne, NY 13460; or visit us on the Internet at www.mhaus.org.

issues and to share experiences with programs that help their patient constituency.

Members of the Professional Advisory Council and the hotline are regularly invited to speak at national and local meetings on topics related to MH and are frequent contributors to the medical literature. We are beginning to post the abstracts of presentations and publications on the MH web site for easier access.

Despite the compliments that we receive and the appreciation that is voiced by the community, we are well aware that the problem of MH is far from resolved. This past year there were five fatalities directly or indirectly related to MH in young people. The last one in January 2005 involved a 20-year-old student in Milwaukee, Wisconsin undergoing routine shoulder surgery. MH can present in surprising ways and progress at rapid speed, outpacing the determined efforts of expert clinicians to control the runaway metabolism. Although humbled by such experiences, the members of MHAUS become more determined to do whatever possible to prevent such tragedies.

We have concentrated our efforts this past year on defining the optimum configuration of a molecular genetic (DNA) diagnostic test to determine susceptibility to MH through two consensus meetings over the past two years. Several articles in *The Communicator* have discussed such testing. What has been surprising is that the logistics of introducing such a clinical diagnostic test in an approved laboratory has been far more daunting than originally anticipated. At present, I anticipate a launch of a genetic test for diagnosing susceptibility by the summer of 2005.

This test, however, is far from perfect. The great virtue of the genetic

test is that it can be performed on a blood sample and does not require a muscle biopsy. However, only perhaps 30-50% of MH-susceptibles will be positive on the test since not all the mutations and genetic changes related to MH are known. Nevertheless, the information from the test will be extremely helpful within specific families, since once a mutation is determined in a family, then all those with the mutation can be considered MH susceptible, thereby avoiding a muscle biopsy for confirmation. Careful selection criteria are being established in order to make the test as cost effective as possible with the results incorporated into the North American MH Registry database.

Some other highlights of the year include: Updating of the website and the slide show, revamping the database of the North American MH Registry of MHAUS, awards for support of the MH mission at our annual reception at the American Society of Anesthesiologists meeting, the introduction of a media award, distribution of MH policy and procedure manuals formatted to meet the needs of hospitals, ambulatory surgery centers, and office surgery centers, media exposure to the problems of MH and how MHAUS is meeting the needs, translation of a large variety of MH information into Spanish, further enhancement of the subdivision of MHAUS that deals with the analogous problem of the Neuroleptic Malignant Syndrome, and support of basic research in MH.

Additionally, we have created new patient alert stickers and awareness bracelets as part of our endless commitment to patient safety.

Finally, all of this would

not be possible without the generous support of numerous individuals, patients, physicians, nurse anesthetists, perianesthesia and operating room nurses and many, many others. A particular thanks goes to our corporate sponsors, Procter and Gamble Pharmaceuticals, Inc., Arizant Healthcare Inc., Vanguard Anesthesia Associates, and Sharn, Inc., as well as the American Society of Anesthesiologists and the American Association of Nurse Anesthetists.

Those of you wishing to learn more about MH may log on to www.Medscape.com, www.genetests.org or www.orpha.net, in addition to the MH web site.

Our Board of Directors is very cognizant of their responsibility to make sure that the funds that are contributed to support are mission are used effectively and productively.

*Thank you
Henry Rosenberg, MD, CPE
President of MHAUS*



MHAUS Welcomes Dr. Tobin To Board of Directors

MHAUS is pleased to announce that Dr. Joseph Tobin is joining the Board of Directors as of the April 2005 meeting to be held in New York City.

Dr. Henry Rosenberg, President of MHAUS, contacted Dr. Tobin late last year asking him to consider serving the organization at this level. Dr. Tobin is a Professor of Anesthesiology and Pediatrics at the Wake Forest University School of Medicine in Winston-Salem, North Carolina. He has been a Hotline Consultant since 1999, directs the biopsy center at Wake Forest in North Carolina, and he also received the 2004 Hotline Partnership Award.

“Dr. Rosenberg told me he was hoping to bring a biopsy center director onto the board to help MHAUS further its efforts with testing and also to help better serve the patients’ needs. Part of my enthusiasm for joining the board and contributing to MHAUS at this level,” Dr. Tobin says, “is that I can continue the work of one of my mentors, Dr. Tom Nelson.” Dr. Nelson directed the Wake Forest

Center until his retirement in 2002.

Dr. Tobin serves on many other non-profit boards, including the **Winston-Salem Ronald McDonald House**, **The Winston-Salem Horizons Residential Care Center** for children and young adults who are medically fragile and require chronic care, and he also is the Secretary for the **Society for Pediatric Anesthesia**.

For MHAUS, he hopes to be “an energetic voice for the families that need to be served at the biopsy centers, an active advocate for the families, and to act as a liaison between the families who need to be served at the centers and the development of the new genetic test.”

Initially, the biopsy testing centers will examine the muscle of patients who have had a suspicious MH episode. Once a family is noted to be MH susceptible, samples may be forwarded for genetic analysis. If the genetic analysis reveals one of the mutations being examined, then other members of that family are the ones most likely to be helped by the genetic test and avoid the muscle biopsy.

“There are three hot spots in the genes we know we can look at to find MH genetic markers, with 17 known mutations,” Dr. Tobin explains. “If the family has one of the

know 17 mutations, it will save those family members from needing a biopsy.”

But this is why the biopsy centers will still play such a vital role, Dr. Tobin points out, “because the genetic test is only sensitive enough to detect between 25-35% of MH susceptible cases.”

As for his vision for the future of MHAUS, “We are working on multiple fronts,” Dr. Tobin says. The biggest goals for the coming months, he explains, include achieving a CPT code for the biopsy procedure. (CPT = Current Procedure Terminology. Codes that are used by insurers, including Medicare, for reimbursement purposes. Without this code and a diagnosis code, reimbursement may not happen). This code will hopefully reduce the cost of the procedure to families by more appropriate reimbursement from insurance carriers; bringing the genetic test to fruition making it a reality finally available to patients; fundraising on behalf of MHAUS to broaden the scope of its activities; and enhancing our communication about the syndrome amongst medical providers and the general population.

Also part of that vision, he adds, will be increased international cooperation among physicians, scientists and governmental healthcare agencies on behalf of MH susceptible families.

Dr. Tobin resides with his family in North Carolina.



Dr. Tobin with Khisghe Sambuughin at the MHAUS Recognition Reception in October at the ASA meeting in Las Vegas

From the MH Consultants' Discussion Group: A Question and Answer on MH and Pregnancy

This past winter, an interesting question was posed to the Hotline Consultant Internet discussion group:

Q: A pregnant woman's husband is MHS. She needs emergent gallbladder surgery. Would giving an MH trigger to the woman be dangerous to the fetus?

A: Regarding management of the (pregnant woman) whose partner is MHS, we have a large number of these in the New Zealand region. Neil Pollock and myself published an article on the management of the MHS parturient in *Anaesthesia and Intensive Care* 1997, volume 25 pages 398-407. I would like to quote from that article, as I know it is not readily available in North America.

"All potent volatile anaesthetic agents rapidly cross the placenta and should be avoided in [pregnant] partners of MHS fathers. Using a biological assay method for measurement, Kvisselgaard detected suxamethonium in umbilical vein blood after a maternal dose of 300mg of suxamethonium (Kvisselgaard N, Moya F. Investigation of placental thresholds to succinylcholine. *Anesthesiology* 1961; 22:7-10). A more sensitive radioimmunoassay measurement of suxamethonium in animals found foetal transmission of the drug at doses of 2mg/kg (Dabrovka J, Crul JF, Van der Kleijn E. Placental transfer of ¹⁴C labelled succinylcholine in near-

term Macaca Mulatta monkeys, *Br J Anaesth* 1973;45:1087-1095) and prolonged paralysis of the newborn in a mother with serum cholinesterase deficiency demonstrates the placenta is a relative and not absolute barrier to the passage of ionized muscle relaxants (Baraka A, Haroun S, Bassili M, Abu-Haider G. Response of the newborn to succinylcholine injection in homozygotic atypical mothers. *Anesthesiology* 1975; 43: 115-116). Suxamethonium should be avoided in women with MHS partners."

This pregnant patient requiring urgent cholecystectomy should be treated as if she herself were MHS. Rapid sequence induction can be carried out with (1) Rocuronium 1mg/kg; (2) Rocuronium 0.5 mg/kg followed by induction agent with intubation at 60 seconds from roc; (3) Remifentanil 4mcg/kg for intubation (profound brady and hypotension may occur, so precede this with atropine), as this lasts only a short time if there is difficulty with intubation; (4) Awake fiberoptic intubation if there are concerns about ability to intubate.

Anaesthesia can be continued with propofol infusion, opioids and rocuronium. Baby could be monitored postoperatively, but be aware that the baby will be "anaesthetised" with minimal heart rate variability and that this is "normal". It is tachycardia, which would be of concern. Mother does not need

any extra monitoring, beyond that required to detect premature labor. As others have said, any of the usual standard tocolytics are safe. -- Elaine Langton, Wellington Hospital, Wellington, New Zealand.

Congratulations to Cynthia Wong and her team

Congratulations to MH Hotline Consultant Cynthia Wong and her team at Northwestern Memorial Hospital in Chicago. In February, they were featured on national news programs and in newspapers across the country when they published their findings in a study on epidurals during childbirth in the February 17th edition of the *New England Journal of Medicine*.

Through a study of 728 women over the course of three years, they found women receiving epidurals early in labor were no more likely to have a caesarean section than women receiving epidurals later. Dr. Wong is an obstetric anesthesiologist at Northwestern. To read more about her study, go online to www.medicalnewstoday.com/medicalnews.php?newsid=20151.

Recruiting and Training Hotline Consultants

What is an MH Hotline Consultant? While there is no official “job description,” the Hotline Consultant is a highly trained medical specialist who answers phone calls from medical professionals when they encounter MH in the field. Volunteering on rotating shifts, they help callers work through their situations to help them diagnose and treat MH symptoms

“Since 1982, the malignant hyperthermia Hotline Consultants have assisted hundreds of physicians and nurses in handling complex cases of malignant hyperthermia,” Dr. Charles Watson, Hotline Consultant since 1990 and chair of the Hotline Quality Assurance Committee, wrote in his summary of the Hotline activity in our Summer 2002 issue.

They come to serve for many different reasons. Some are drawn to help their colleagues, some see the Hotline as away to further serve and protect patients, and some remember their own first MH experiences and want to

be that calm voice on the end of the phone for someone in need.

“Hearing the change in the tone of the voice of the caller when you help them solve what is a life-threatening problem,” Dr. Mike Adragna wrote in our Winter 2003/2004 issue, “is the most rewarding thing about working with the Hotline. You give them answers that save their patient’s life and they are so grateful.”

“What I like best about my work with the Hotline is the chance to speak with health care providers from around the country,” Dr. Margaret Weglinski, Hotline Consultant since 1997, said in our Summer 2003 issue. “Whether it’s answering a straightforward question about MH or trying to determine whether or not a patient is experiencing an MH episode, I find it rewarding to (hopefully) be of assistance.”

Dr. Ronald Litman, Hotline Consultant since 2002 told us in our Spring 2004 issue, “It’s very rewarding to help other doctors and their patients. Plus, I’ve

become my department’s MH consultant and the manager of our MH cart. I’ve learned a great deal about MH and related disorders since I became a consultant.”

But after

over 20 years of saving lives, our team needs to mentor for the future. Hotline Coordinator Gloria Artist has been working with the current consultants to identify new team members.

“Some Consultants are retiring, others are busy with many projects,” Gloria says. “We thought it would be a good idea to find and train additional people to broaden the talent pool.”

“Once a consultant has recommended someone,” Gloria explains, “that person is contacted to get their curriculum vitae in order to consider that person as a possible MH Hotline Consultant and an integral part of our mission to educate and assist other anesthesiologists to manage possible MH crises.”

The CV is reviewed by the Hotline Quality Assurance Committee, and a mentor is partnered with the new Consultant who acts as an advisor the first few times the new person takes a call. The mentors review and supply feedback on the content of the reports the new consultant submits during a scheduled two-week coverage period. This feedback is important to the learning process and assures a high degree of quality in the gathering of important data.

Additionally, the new Consultant receives a copy of the Hotline Consultant Handbook, a sample copy of the AMRA form for the North American MH Registry, copies of various other procedural forms and a copy of the most

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recent Quality Assurance Review.

“We send them the quarterly Quality Assurance review without the answers and have them review it with their mentors to see how they would respond in the same situations,” Gloria explains. “This gives them an idea of what kind of cases are coming through on the Hotline and the correct way to handle them.

If you are a current Consultant and know someone who you think would be a great addition to the team, contact Gloria Artist at 607-674-7901.

Article on MH in Horses Appears in Web Magazine: www.thehorse.com

AAEP Convention 2004: Medicine I – Equine Malignant Hyperthermia

By Kimberly S. Herbert, editor of www.thehorse.com

We've all heard of people and animals that are “sensitive” to anesthesia. Monica Aleman, MVZ, PhD, Dipl. ACVIM, head of the neuromuscular disease lab at the University of California, Davis, at the 50th annual American Association of Equine Practitioners (AAEP) Convention in Denver, Colo., December 4-8, 2004, reported on a genetic problem called

equine malignant hyperthermia (EMH) that can make simple anesthesia deadly for some horses.

Malignant hyperthermia-like episodes in the horse have been associated with drugs such as halothane, isoflurane, succinylcholine, and caffeine. It has been shown that a mutation in the ryanodine receptor 1 (RYR1) gene causes a dysfunction in the sarcoplasmic receptors of skeletal muscles, and that results in the excessive release of calcium into the myoplasm. This triggers a series of events that result in a hypermetabolic state and/or death.

Symptoms include hyperthermia (fever), hyperhidrosis (excessive sweating), tachycardia (high heart rate), dysrhythmias (abnormal heart rhythm), tachypnea (swallow breathing), muscle rigidity, and death with acute rigor mortis.

Her study was the first to identify a mutation in the RYR1 gene in the horse, but it is unknown if this mutation is responsible for all cases of EMH. Aleman said a benefit of this discovery is the creation of a faster and more direct screening test to identify susceptible horses.

She is currently accepting samples from horses that practitioners think might suffer from EMH. She can accept hair and whole blood, but prefers muscle. Practitioners should also send signalments and the pedigrees of affected horses. Aleman can be contacted mrleman@ucdavis.edu.

(editor's note: this article is reprinted with kind permission of copyright owner The Horse: Your Guide To Equine Health Care; www.TheHorse.com and is from their February 2005 issue, Article #5426.)

The Lila And Jerry Lewis Memorial Fund

There are many special people who take the time each year to remember their loved ones in a way that helps MHAUS. The people below have made gifts during FY 04-05 in memory of Lila and Jerry Lewis. We are most grateful for their support and special tribute gifts.

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MH Hotline Activity from April-September 2004



In this 6-month interval, Hotline Consultants handled 87 reports and 43 questions. Drs. Brandom, Gronert, Herlich, Litman, Melton,

Miller, Millman, Rosenbaum, Rosenberg, Schulman, Theroux, Tobin, Wedel, Weglinski, and Wong provided their time and expertise. Calls came from 36 states, the province of British Columbia, and from Peru. Anesthesiologists made 71% of calls; the rest came from CRNAs, nurses, physicians and pharmacists. There were 5 episodes considered “definite MH” by consultants, 2 of which ended in death. Four other deaths not due to MH were also reported. These cases are summarized below.

Case Summaries

An 11-month-old girl developed high temperature and cardiac arrest during ENT surgery. Accidental overcooling complicated resuscitation. The child died from pulmonary edema and coagulopathy.

The other death was not due to “classical” MH. A 6-year-old girl developed rigidity, high temperature, and seizures during a febrile illness; she had not received anesthesia. She had had 2 similar episodes in the past. The results of previous medical evaluations were not known. An aggressive

resuscitation that included large amounts of dantrolene led to no improvement and the child died. She is presumed to have had an underlying neuromuscular disorder.

The other 3 “definite MH” cases presented with increased metabolism (raised CO₂ production, temperature, and heart rate). One patient also developed muscle breakdown, and another had limb rigidity. One patient developed a recrudescence reaction in the PACU (increased temperature and serum potassium) that was successfully treated with dantrolene.

The other 4 deaths were due to severe heart disease, sepsis (blood infection), hyperkalemia from an occult myopathy (likely muscular dystrophy), and cocaine or amphetamine overdose. The first 3 patients died after surgery. The last patient presented to the Emergency Department with high blood pressure and body temperature, then signs of central nervous system injury.

Three episodes were reported from office-based surgical sites; only 1 case was considered “probable MH.” That patient was treated with dantrolene then transferred to a hospital; the office had no laboratory facilities. Another case appeared to be due to anesthesia machine malfunction, with CO₂ retention. In the third case, increased body temperature (no measure of CO₂ levels by a

capnograph) during sevoflurane anesthesia in a 19-year-old man was treated with 1 vial (20 mg) of dantrolene before transfer to a hospital. The cause of the temperature elevation was thought to be a viral illness present before surgery. These cases highlight the limitations of some office-based settings: lack of standard monitors like capnographs, inadequate supplies of dantrolene, no laboratory facilities, and the use of 911-based transfers for emergencies.

There were 3 cases where patient care seemed less than ideal. A 3-year-old had uneventful sevoflurane anesthesia. There was no personal or family history of MH. Six hours after surgery, the child developed a fever that responded quickly to Tylenol®. The next day, the anesthesiologist told the parents that the fever was probably due to MH. Fevers like this are common in children, and are not related to MH.*

Two cases, both in children, were reported where known MH patients were accidentally exposed to a triggering agent (sevoflurane). The first exposure (5 min.) ended when an OR nurse noticed in the preoperative notes that the patient’s father had a history of MH. In the other case, the exposure lasted 30 minutes and seemed to be due to a poor “handover” for a break. Neither child suffered any harm from these exposures.

continued

In the U.S. and Canada, the MH Hotline is 1-800-MH-HYPER. Outside the U.S., call 1-315-464-7079.

Two callers reported cases of possible MH following “nontriggering” general anesthesia. An 80-year-old man developed increased temperature, shaking and jaw rigidity several hours after aortic surgery. These signs responded to dantrolene. The anesthetic included propofol and fentanyl; no triggering agents were used. The patient had a positive muscle biopsy in 1985, likely the now discredited calcium uptake test.

The other case was in a 2-year-old girl with a positive family history of MH. She had dental restorations under general anesthesia with propofol, nitrous oxide, and morphine. Her body temperature was reported to rise to 106°F; carbon dioxide production did not increase. The child was treated with dantrolene then transferred to a children’s hospital, where the parents were told this was an MH episode. Both of these cases deserve further scrutiny as the documentation was incomplete and MH occurring during “nontriggering” anesthesia is considered extremely rare. Also, fever after dental surgery is often due to an infectious process from seeding of bacteria from the mouth and gums from disruption of the tissues.

One caller asked about a

patient still complaining of all-over muscle aches 5 months after an MH episode. This is common among survivors of fulminant MH, and may persist for up to a year. These patients may also report heat intolerance, especially with exercise, cramps, muscle weakness, and fatigue. These symptoms also occur in survivors of exertional heat stroke and may represent a common pathway among various hyperthermic states.

The MHAUS Hotline continues to provide a valuable

service to anesthesia providers and their patients. Unfortunately, deaths from MH are still occurring. Hopefully the lessons learned from these patients mean their deaths were not in vain.

** Editorial comment: There have been several deaths in known MH patients over the years where, because of communication failures, the patient received MH trigger agents.*

for MH term definitions, visit www.mhaus.org

Meet This Issue’s Consultant

The Hotline Activity was summarized this issue by Dr. Greg Allen, staff anesthesiologist at Providence St. Peter Hospital in Olympia, Washington. Dr. Allen has been an MH Hotline Consultant since 1988 when he was recruited by Dr. Henry Rosenberg while completing a fellowship in Philadelphia. Dr. Allen is also the former director of the MH Registry.

When asked what is most important to Dr. Allen about his participation with MHAUS, he replies, “Helping MH patients and their families get accurate care that is safe and advice that is accurate. That obliges me to keep current and connected with a lot of different disciplines, such as genetics and pharmacology, to provide that care and advice. I got involved with MH in 1984 as a resident who needed a research project. That blossomed into a part of my career that has been very satisfying, both personally and professionally.”



Now You Can Also Keep Up To Date In Spanish With New Translated Materials

MHAUS is pleased to announce the following materials are now available in Spanish translations at www.mhaus.org:

Brochures: "What is MHAUS," "What is MH," "Dentistry and Oral/Maxillofacial Surgery," "Drugs, Equipment & Dantrolene," "Clinical Update – Managing MH," and "Preventing MH-An Anesthesia Protocol."

Also, Dr. Rosenberg's MH Slide Show is now available on the MHAUS website in a Spanish version as well.

"MHAUS realized the demand for information on MH is not limited to the English-

speaking community," says Dianne Daugherty, Executive Director for MHAUS.

Dianne credits Dr. Ernesto Rojas in Colombia and Dr. Alejandro Recart in Chile for helping make this possible. "They have been instrumental and we appreciate their dedication and ongoing efforts."

But this is just the beginning. Plans are underway to work with MH experts in other countries to develop a single place on the web that will act as a conduit to MH information and resources in countries across the globe. Watch for details to come.

Honoring Your Anesthesia Provider

Have you recently gone through surgery and were extremely pleased that your anesthesia professional was one of those individuals who made you feel that they were there for you? Their overall attitude and specific attention to your case made you feel much more comfortable about the level of overall concern for your health and welfare?

MHAUS has developed a way you can recognize a particular anesthesia professional and express your appreciation in print!

Through our program called "Honor Your Anesthesia Professional," we offer the following: For a \$50 donation or more, your personal thank you message can be directed to your "special" anesthesia professional in our quarterly newsletter, *The Communicator*. We will print your personal message (25 words or less) as well as highlight the names of those professionals in a prominent location in *The Communicator* for a full year.

Additionally, recognition will be highlighted on the MHAUS website reserved for this elite group. If an address is available, MHAUS will send a congratulatory letter to the anesthesia professional passing along the appreciation of one of his/her patients.

If you feel your anesthesia professional deserves your special thanks, please call or email the MHAUS administrative offices to express your appreciation of their outstanding care!

Every Second Counts With MH... Are You Prepared?



Your response time could be reduced by 50% when trained by the MH Procedure Manual

The MH Procedure Manuals (in the hospital, ambulatory or office-based version) are tools to prepare all members of your medical staff for an MH crisis. These manuals assign specific tasks with checklists and emphasize frequent mock drills to minimize the risk associated with MH. These durable manuals contain all you need to be prepared for an MH episode including an instructional video, which enacts the response plan.

Member Cost: \$157.50 (plus S/H) = \$165
Non-Member Cost: \$175 (plus S/H) = \$182.50

For more information or to order, contact MHAUS, PO Box 1069, Sherburne, NY 13460, www.mhaus.org, or 607-674-7901.

Slide Show Presentation For MH Risk Available

MHAUS offers a slide show kit (CD-ROM and/or slides format) with lecture notes on "Managing Malignant Hyperthermia Risk in Today's Surgical Environment." This presentation reviews the risk of MH and assesses current trends in the management of MH in the inpatient and outpatient settings. Two CMEs are available.

This is a valuable tool to assist in developing standard of care practice guidelines and algorithms to ensure patients at risk will have access to appropriate interventions for treating MH. This program is arranged so that it can also be used as a self-study program to enhance individual knowledge of MH and the risks involved.

Cost is \$125 plus shipping and handling for either the slides or the CD. For both formats, the cost is \$135 plus shipping and handling. Call 607-674-7901 or visit www.mhaus.org to order.

Every MH-Susceptible Should Wear A Medical ID Tag

MHAUS now has help available for the MH-susceptibles who have no insurance, or cannot afford to purchase a medical ID tag.

The **Sandi Ida Glickstein Fund** was established for the purpose of providing free ID tags for MH-susceptible patients who qualify.

To take advantage of this program, please send us a letter indicating why you would like MHAUS to provide you with a complimentary ID tag.

The goal of the free ID tag program is to ensure the safety of all MH-susceptibles during an emergency situation and to prevent a tragic outcome from MH.

For further information, please contact MHAUS at 11 East State Street, P.O. Box 1069, Sherburne, N.Y. 13460-1069; call 607-674-7901, or visit www.mhaus.org.

Have you visited us lately? Log on to www.mhaus.org to get the latest information on MH, order materials, post a message to the bulletin board or learn about the "Hotline Case of the Month."

Yes! *I want to support MHAUS in its campaign to prevent MH tragedies through better understanding, information and awareness.*

A contribution of: \$35 (Basic) \$50 \$100 \$250 \$500 \$1000 (President's Ambassador) or (other amount) \$ _____, will help MHAUS serve the entire MH community.

Please print clearly:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ E-mail: _____

I am MH Susceptible I am a Medical Professional

Please charge my Visa Mastercard Discover American Express

Name on card: _____

Credit Card Number: _____

Expiration Date: _____

Please clip out this handy coupon or feel free to photocopy if you prefer to keep your issue intact, then mail to: MHAUS, PO Box 1069, Sherburne, NY 13460-1069

MHAUS Happenings, Events and Notices

❖ **Coming in April!** MH New Awareness Silicon Wristbands: Share awareness and support our organization with our exclusive awareness silicon band. Your participation will help support MHAUS and, at the same time, raise awareness about MH. The red band with “MH Strikes Fast” embedded on it will prompt people to ask what the MH stands for. For a small donation of \$2.00 each (plus S/H), this band is your chance to support MHAUS and raise awareness about MH and make a statement. Call MHAUS at 607-674-7901 or visit our website at www.mhaus.org for more information.

❖ **THANKS!** MHAUS is grateful for the financial support of the following State Societies of Anesthesiology: **Arkansas, California, Connecticut,**

Florida, Indiana, Maine, Michigan, New Hampshire, Ohio and Pennsylvania. Our grateful appreciation also goes to the following state components of the American Society of PeriAnesthesia Nurses: **Texas and Wisconsin.** Call the MHAUS office today to ask how your group can help.

❖ **New Alert Stickers for MHS Patients.** Since 1981, MHAUS has been dedicated to patient safety. We now offer a new program that gives patients an active role in their care and will increase their safety when they go in for surgery. The “Alert Kit” includes two items free of charge that will help prevent MH. This package consists of one red MH Alert (Tyvek) Identification Band and two red MH Alert Stickers (4 inches wide and 3 inches

long) that will have the words “Malignant Hyperthermia” and the MH Hotline number prominently noted on each. The stickers are intended to be used on the front of a patient's chart and inside to advise medical staff the patient is MH-susceptible. This program is available for both medical professionals and patients. The MH Alert Kit can be ordered on our website at www.mhaus.org, or by contacting MHAUS at 607-674-7901.

❖ **MH Review on Medscape:** Drs. Rosenberg and Litman have completed a review of MH at www.medscape.com/viewprogram/3534?src=search. This project, funded by P&GP, includes information about recognizing and treating the MH syndrome, plus information on how to counsel the patient and family on the genetic implications.

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