

Pain Relief Connection

The Pain Information Newsletter

Provided by MGH Cares About Pain Relief



Archived issues are available at <http://www.MassGeneral.org/PainRelief>

Volume 2, No. 11

November, 2003

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In the News

An article in *Oncology Times* (Vol 25, No. 20, Oct 25, 2003), a newsletter that covers cancer-related topics, describes a bill introduced in the House of Representatives, the National Pain Care and Policy Act. It is designed to improve pain care and professional training. Speaking in support of the bill, Richard Payne, MD, President of the American Pain Society, said: "Pain could be the number one health problem in the United States. There is really no other condition that costs as much in financial, social, and human terms."

Journal Watch

November was a particularly rich month for articles about pain in both the popular press and the professional literature. Much of this issue of *Pain Relief Connection* will highlight some of these articles.

A lot of media attention the past couple of years has been given to the abuse and diversion of prescription opioids. A few recent articles search for more balance and a better understanding of the important role of opioids in pain management, while recognizing that there are also legitimate concerns about risk of opioids.

Boston Globe, Nov 4: "[Painkiller phobia inflicts needless suffering: When the fear of addiction outweighs the pain](#);" "[Doctors face suits for under-medicating](#)."

Boston Globe, Nov 18: "[Putting pain in its place](#)."

New York Times Nov 25: "[The Delicate Balance of Pain and Addiction](#)." Requires free registration on web site, there may be a fee of \$2.95 for the full text.

USA Today Nov 17: "[Plenty of pills and potential for abuse](#)."

The articles mentioned below are all available via [MAGIC](#) on MGH computers. From any computer, clicking on the journal title links you to the Table of Contents page:

The [Journal of the American Medical Association](#) (*JAMA*) and [Archives of Pediatrics & Adolescent Medicine](#) (*APAM*) had theme issues on pain in November. Pain in young children is addressed in both *APAM* and *JAMA*. In an interview about his *JAMA* paper, "[Current Status of Pain Management in Children](#)," Richard Howard, MD said, "Children in pain rarely get the attention they need. There is a substantive gap between what we know and what we do." That second sentence applies to all populations in pain, but is further reinforced in an article in *APAM*, "[Do We Still Hurt Newborn Babies?](#)" Between the two journals there are 2 dozen pain-related articles.

In addition, the [New England Journal of Medicine](#) (*NEJM*) had a review article by MGH physicians Jane C. Ballantyne, and Jianren Mao on the controversial topic of "[Opioid Therapy for Chronic Pain](#)," and [Archives of Internal Medicine](#) has an article and editorial on [pain and depression](#), conditions which are frequently linked, but the interaction of which is poorly understood. The *JAMA* issue contains an article on [improved pain and function](#) in elders when depression is adequately treated. [Archives of Internal Medicine](#) (*AIM*) also has an article and editorial on suffering.

[The Lancet](#) began a 4-part series on anesthesia, the first 3 of which appeared in November. Interestingly, the series begins with a paper on anesthesia from the [patient's point of view](#). The next two are on [preoperative assessment](#) and [perioperative management](#). The final article will address practice guidelines.

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Published in September, but available free in November are two articles in the *Journal of Supportive Oncology*: “[Management of Cancer Pain in Geriatric Patients](#)” and “[Prescribing Methadone, A Unique Analgesic.](#)”

Medication Safety

[Morbidity and Mortality Rounds on the Web](#) is an online journal and forum on patient safety and health care quality. It is available by free subscription with e-mail alerts when a new issue is available. Each month a case is featured that illustrates a preventable medical error, accompanied by expert commentary. The November [case](#) describes an all-too-common error—look-alike medication vials are mixed up and the patient receives the wrong drug. In this case the intended medication was naloxone, an opioid antagonist, but lanoxin, in a similar vial, was drawn up and administered with a fatal result. In the course of presenting the case, it was stated that meperidine has a half-life of 2.5 – 4 hours in an adult, but 12 – 39 hours in neonates. The half-life of meperidine was not a factor in the error, but its inclusion highlights the importance of being familiar with (or having access to references for) opioid metabolism in special populations. As we advocate for improved pain management in infants and children, we must also ensure our interventions take all safety factors into consideration.

Pain-Related Education Opportunities

Dec 10 (Weds) 1:00 – 2:00pm **Why Pain Relief and Palliative Care Matter in a World of ‘Killer Diseases.’** Professor Harald Breivikhead, Director, Global Chronic Pain Collaboration, World Health Organization and International Association for the Study of Pain. Tufts New England Medical Center, Department of Anesthesia Conference Room; 800 Washington Street, Boston; on Ziskind 6 (next to Proger 5 North). NEMC stop on Orange Line.

MGH Pain Calendar

Dec 8 (Mon) 11:00am – 12:00N **Conversations About Cancer Pain** (for patients and families) Cancer Resource Room, Cox 1st floor. Sponsored by HOPES Program.

Dec 11 (Thurs) 8:00am – 9:00am **The Neurobiology of Acute and Persistent Pain.** Clinics 1 Auditorium

March 18 – 19, 2004 (Thurs – Fri) (*Tentative dates*) 8:00am – 4:30pm **Pain Relief Champions** course. Open to all disciplines. CE/CME/CPE will be available. Free to MGH and Shriners clinicians; \$60 for other Partners clinicians, \$120 for all others. Must attend both days. Stay tuned for further information.

URL notes: **Hold your cursor over the link for a second to see the URL.** If you are reading this in hard copy, this month’s links are:

Previous issues of *Pain Relief Connection*: <http://www.massgeneral.org/painrelief/Newsletter>

Center for Clinical & Prof. Development:

http://pcs.mgh.harvard.edu/CCPD/Educational_Offerings/cpd_offerings_calendar.asp

Patient Care Services Pain Resource Center: http://pcs.mgh.harvard.edu/Secure/Clinical_Resources/Pain_Resources.asp

Magic—Treadwell Library’s electronic catalog: <http://magic.mgh.harvard.edu>

Boston Globe, Nov 4:

http://www.boston.com/yourlife/health/diseases/articles/2003/11/04/painkiller_phobia_inflicts_needless_suffering?mode=PF;

and http://www.boston.com/yourlife/health/diseases/articles/2003/11/04/doctors_face_suits_for_under_medication?mode=PF

Boston Globe, Nov 18: http://www.boston.com/dailyglobe2/322/science/Putting_pain_in_its_placeP.shtml

New York Times Nov 25: <http://www.nytimes.com/2003/11/25/health/25DRUG.html>

USA Today Nov 17: http://www.usatoday.com/news/health/2003-11-17-pill-usat_x.htm

JAMA pain issue: <http://jama.ama-assn.org/content/vol290/issue18/index.dtl>

JAMA pediatric pain article: <http://jama.ama-assn.org/cgi/content/full/290/18/2464>

JAMA pain and depression in elders article: <http://jama.ama-assn.org/cgi/content/full/290/18/2428>

Archives of Pediatrics & Adolescent Medicine pain issue: <http://archpedi.ama-assn.org/cgi/content/full/157/11/1058>

APAM newborns and pain article: <http://archpedi.ama-assn.org/cgi/content/full/157/11/1058>

AIM pain and depression article: <http://archinte.ama-assn.org/cgi/content/full/163/20/2433>

AIM suffering article: <http://archinte.ama-assn.org/cgi/content/full/163/20/2429>

NEJM “Opioid Therapy for Chronic Pain:” <http://content.nejm.org/cgi/content/full/349/20/1943>

The Lancet, anesthesia from patient point of view: <http://snurl.com/38ur/>

The Lancet, preoperative assessment: <http://snurl.com/38uv/>; perioperative management: <http://snurl.com/38uw/>

Journal of Supportive Oncology, Cancer pain in elders: <http://www.supportiveoncology.net/journal/articles/0103175.pdf>

Journal of Supportive Oncology, Prescribing Methadone: <http://www.supportiveoncology.net/journal/articles/0103216.pdf>

Morbidity and Mortality Rounds on the Web: <http://webmm.ahrq.gov/>

Morbidity and Mortality Rounds on the Web November Case: <http://webmm.ahrq.gov/cases.aspx?ic=39>

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Pain Topics

Opioid-Induced Myoclonus

J. Andrew Billings, MD
Director, MGH Palliative care Service

Note: A selection of online medical dictionaries and drug references is provided at the end of this article.

Myoclonus (or multifocal myoclonus) is a condition in which sudden, uncontrollable, non-rhythmic twitches or muscular jerks occur spontaneously in various parts of the body. Mild manifestations of this syndrome are commonly observed in patients receiving opioids, particularly those in renal failure and/or receiving intravenous treatment, higher dosages, rapidly escalating dosages, or long-term opioid treatment. The condition has also been reported with spinal administration of opioids.

Myoclonus can be associated with a variety of other conditions, including renal and hepatic failure, non-opioid drug toxicity, movement disorders, and various central nervous system injuries and disorders. The syndrome can usually be distinguished easily from tics, dystonic reactions, asterixis, partial seizures, or akathisia.

Opioid-induced myoclonus is presumed to represent an excitatory response to the drug or its metabolites (or, less likely, preservatives in intravenous preparations). The excitatory effect is probably not mediated through opioid pathways. Opioid antagonists reportedly have not been useful for this condition and, indeed, may worsen it, though at least one report has been published of neuroexcitatory symptoms from a fentanyl overdose that responded to low dosages of naloxone.

In its more extreme form, multifocal myoclonus is a feature of **opioid-induced hyperexcitability**, a neuroexcitatory syndrome that may include agitation, delirium, seizures, violent spasms or jerking, and total body allodynia or hyperalgesia (“paradoxical pain”). Responding to the worsened pain or hyperexcitability with higher dosages of opioids will only worsen this condition. Meperidine is the opioid most commonly associated with serious hyperexcitability, but all opioids have been implicated.

Treatment of opioid-induced myoclonus. In general, this side effect of opioids does not need to be treated unless it is bothering the patient, though it should serve as a warning to the clinician to observe for more serious effects, such as delirium and hyperalgesia. Family members often worry about the jumpiness and twitching, but can usually be reassured that the patient is not troubled. However, hyperexcitability and at times, myoclonus, can make life miserable or even unbearable.

Here are the usual options if this syndrome requires treatment:

1. **Reduce the opioid dosage.**

- Can you substitute non-opioid analgesics, such as NSAIDs?
- Commonly, patients who require higher and prolonged dosages of opioids have neuropathic pain, which responds only partially to opioids, but they can reduce their opioid regimen when treated with tricyclic antidepressants or anticonvulsants.
- Consider non-drug therapies, such as acupuncture.
- Would the addition of low dosages of corticosteroids reduce swelling and associated pain?
- Also, consider radiation, chemotherapy, surgery, and nerve blocks.

2. **Change (“rotate”) to a dissimilar opioid**, particularly of a different class, such as from morphine to methadone, fentanyl, hydromorphone, or levorphanol.

- Use an [equianalgesic table](#) to convert to an equivalently effective dosage. Currently, methadone is the favored alternative, since it may have some additional activity against neuropathic pain while having relatively little likelihood of producing significant myoclonus. Fentanyl and its relatives (alfentanil and

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sufentanil) may likewise be less neurotoxic than other opioids. If the patient has renal failure, many physicians favor hydromorphone, but there is no evidence of this drug's superiority in azotemic patients.

- Some clinicians recommend reducing intravenous opioid dosage by switching to or partially substituting an oral opioid or transdermal fentanyl.

3. ***Symptomatic management.***

- Add a benzodiazepine, such as diazepam or clonazepam. Midazolam drips are used in extreme cases.
- Similarly, baclofen may be tried, as well as dantrolene or valproic acid.

None of these agents work very well, though sedation may be welcome when myoclonus is troublesome.

4. ***Improve renal function*** by assessing for and treating dehydration.

5. ***Stop antidepressants and antipsychotic agents*** (and perhaps also NSAIDs), since some evidence suggests that these other drugs contribute to the problem of myoclonus. Neuroleptics may certainly lower the seizure threshold, though this side effect is rarely important clinically.

Selected References (all listed references are available from MGH computers via [MAGIC](#))

Mercadante S. Pathophysiology and treatment of opioid-related myoclonus in cancer patients. *Pain* 1998; 74: 5-9.

Cherny N, Ripamonti C, Pereira J, Davis C, Fallon M, McQuay H, Mercadante S, Pasternak G, Ventafridda V. Strategies to manage the adverse effects of oral morphine: An evidence based report. *Journal of Clinical Oncology* 2001; 19: 2542-2554.

Ferris DJ. Controlling myoclonus after high-dosage morphine infusions. *American Journal of Health- System Pharmacy*. 1999 May 15;56(10):1009-10.

Hagen N, Swanson R. Strychnine-like multifocal myoclonus and seizures in extremely high-dose opioid administration: treatment Strategies. *Journal of Pain and Symptom Management* 1997; 14: 51-57.

Medical Dictionaries online

<http://cancerweb.ncl.ac.uk/omd/>

<http://medical-dictionary.com/>

<http://www.medterms.com/script/main/hp.asp>

<http://www.nlm.nih.gov/medlineplus/mplusdictionary.html>

Drug information online:

<http://www.medscape.com/druginfo>

<http://www.nlm.nih.gov/medlineplus/druginformation.html>

<http://www.rxlist.com/>

<http://www.drugs.com/>

MGH Hospital Formulary (available from MGH computers): <http://www.crlonline.com/crlsql/servlet/crlonline>

Equianalgesic table: http://www.massgeneral.org/painrelief/mghpain_equichart.htm

MAGIC (MGH Treadwell Library online catalog): <http://magic.mgh.harvard.edu>

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