

Pain Relief Connection

The Pain Information Newsletter

Provided by MGH Cares About Pain Relief

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Q & A: JCAHO Pain Standards

Q: The new MGH Pain Guidelines (see article on next page) specify that pain should be assessed when a patient has a procedure that is likely to cause pain. One of the examples given in the definition of procedural pain is venipuncture. Tell me I don't have to do a pain assessment every time I start an IV.

A: OK. You don't have to do a pain assessment every time you start an IV. But read on. Assessment is the ongoing collection and clinical analysis of information about a patient. Pain management should be viewed in the context of the overall care of the individual patient. Venipuncture in an infant is a much bigger deal than it is in most adults, not just technically, but in the consequences of the pain for the patient. The same might be said for an adult patient who is confused or emotionally labile. The patient with veins that are fragile or difficult to access may have a different experience than the person with robust veins. Past patient experience with venipuncture may have a significant impact on the experience. We are obliged by professionalism and ethics to inform a patient when we are about to do something that is likely to cause discomfort. Any conversation or interaction with the patient around any of these elements constitutes an "assessment," even though we are not doing a formal "pain assessment" that follows a prescribed method.

But we also need to apply a sense of proportionality to our clinical judgments. Many procedures and treatments have the potential to cause moderate to severe pain – bone marrow biopsy and dressing changes for severe burns leap to mind. While we certainly don't want a clinician to be cavalier about "mild" or short-lived pain, the broader intent of the Pain Standards and the MGH Guidelines is to identify, prevent, and ameliorate or eliminate as much pain as possible. We therefore encourage systematic assessment, care planning that prevents pain when possible, and interventions to minimize the severity and impact of pain when it is present.

There is a certain amount of natural anxiety when a new policy is introduced—anxiety about following the rules, getting it right, wondering about the criteria for evaluating my practice under the new policy. Rather than just weighing the "rules," think also about principles: respectful, patient-centered, individualized care; recognition of the important role that pain has in interfering with function, quality of life, and recovery from illness or injury; and optimizing care through collaboration with intra- and interdisciplinary colleagues.

Q: Why do I need to document pain severity on the flow sheet and the progress note? Isn't that duplication?

A: The purpose of any flow sheet is to be able to quickly review a patient's condition over time. In the case of pain, it is easier to see a trend in severity and to match changes in severity to interventions such as medication dose or schedule. Making pain "visible" by serial notation on the flow sheet increases the chance that pain will be consistently assessed and adequately managed over time and by multiple clinicians. The progress note provides a forum for documenting pain severity in the context of other characteristics of the pain, its impact on the patient, and the patient's response to interventions. By the way, this dual approach helps us comply with the JCAHO pain standard that documentation "facilitates ongoing reassessment and follow up."

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In the News

- A large coalition of organizations concerned about pain has designated September as **Pain Awareness Month**.
- **Patient Information Guide:** A new MGH *Patient Information Guide* was distributed this week to all inpatient units. The *Guide* will become a part of the packet of information given to each new patient. Included in the *Guide* is the updated “Patient Rights and Responsibilities” which now contains the statement, “you have the right to expect evaluation and treatment of pain.” This statement corresponds to the JCAHO standard, “patients have a right to appropriate assessment and management of pain.” A “Patient Rights and Responsibilities” brochure (in English and Spanish versions) will be available next month. In addition, the Rights and Responsibilities statement will be on the MGH web site.

New MGH Pain Policy and Guidelines

Last week a new MGH Pain Assessment and Management [Policy](#) was approved. In addition, Pain Management and Assessment [Guidelines](#) for nursing practice were also approved. The Policy and Guidelines are temporarily accessible on the PainRelief web site via these links, but will be removed when they become available on the MGH intranet in a few weeks. The Guidelines have several appendices that provide resources for pain assessment and management. The Pain Task Force has also created a 2-page teaching summary or [synopsis](#) to help orient clinicians to the new Policy and Guidelines, and to help them articulate their practice during the JCAHO survey Sept 15 – 19.

Journal Watch

The current issue of the *Journal of Pain and Symptom Management (JPSM)* (2003;26(1):655-667) contains an important article, “Definitions related to the medical use of opioids: Evolution towards universal agreement.” The article details the confusion and harm caused by various published definitions of “addiction,” “dependence,” and related terms, which led to the development of consensus definitions by a coalition of 3 major pain organizations. (See [Pain Relief Connection](#) Vol 1, # 7, July 2002). *JPSM* is available on MGH computers via [Magic](#).

Pain-Related Meetings and Education

The American Medical Association has just published an excellent **free CME series on pain**. The first 2 of 4 modules (3 CME credits each) are now available. <http://www.ama-assn.org/ama/pub/category/10171.html>

Clinical Review for the Generalist Hospice and Palliative Nurse. Aug 8 (Fri), 5:30-9:00pm, Aug 9 (Sat), 8:30am-3:00pm. Ramada Inn, Auburn, MA. For Registration form and additional info, call 781-255-7077 or e-mail hospicefed@aol.com.

Nursing Care of the Patient in Pain. Aug 25 - Dec 19, 2003. *Web-based course* for 3 undergraduate or graduate credits. University of Iowa. For registration form or more info, call 800-272-6430 or e-mail: credit-programs@uiowa.edu. Online [registration](http://www.uiowa.edu/~ccp/pages/de/deopp.html) (<http://www.uiowa.edu/~ccp/pages/de/deopp.html>) is available.

Practical Aspects of Palliative Medicine: Integrating Palliative Care into Clinical Practice. Oct 17-19 (Fri-Sun). Sheraton Boston Hotel. Online [brochure](#) and registration are available. Info at 617-384-8600. (<http://cme.med.harvard.edu/cgi-bin/hmscme.cgi?SECTION=CLASSES&ID=00231740&SO=N>)

Semi-Annual meeting of the Massachusetts Pain Initiative. Sept 16 (Tues), 8:00am – 11:30am. Location in central Massachusetts TBA. Keynote Speaker is Judy Foreman, syndicated health columnist for the *Boston Globe*. \$15. Contact Amy Goldstein at MassPI for more information: Amy.Goldstein@cancer.org or 508-652-4360.

MGH Pain Calendar

Overview of Pain Treatment: Physiology, Opiates, & Interventional Approaches. Wednesday, July 30, 2003, 12:00 - 1:00 p.m., Cox 8 Conference Room. First in a series of lectures geared towards oncology, pain, and palliative care fellows.

Conversations about Cancer Pain (for patients and families) with Annabel Edwards, sponsored by the HOPES Program. Monday Aug. 4 at 11:00am, Cancer Resource Room, Cox 110. Free, no registration necessary. Call 617-724-1822 for info.

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>
MGH Pain Assessment and Management Policy: http://www.massgeneral.org/painrelief/Pain_Policy.pdf
Pain Assessment and Management Guidelines: http://www.massgeneral.org/painrelief/Pain_Guidelines.pdf
Teaching synopsis of Pain Policy and Guidelines: http://www.massgeneral.org/painrelief/Pain_Guidelines_Synopsis.pdf
Magic (available only on MGH-networked computers): <http://magic.mgh.harvard.edu>

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PAIN TOPICS

The Use of Heat and Cold in Pain Modulation

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Introduction

Thermal modalities are passive modalities, whether they are applied by the patient or the nurse, physical therapist, athletic trainer, or parent. It is essential that each patient is evaluated for the cause of pain in order to make an appropriate clinical decision about the use of passive modalities. The passive role may be appropriate for patients in acute pain, for those with recurrent pain from reinjury or exacerbation of disease, or for palliative care. Some modalities may be appropriate for chronic pain, but only if their application is associated with a functional goal, and are best applied by the patient himself. Self-application of heat or ice can be used to provide symptomatic relief from pain which permits a more active treatment approach, and can be used as a reward for accomplishing a functional goal. These modalities are easy to apply, and can be used effectively in an overall plan of care for a variety of pain patients. They are most often effective in conjunction with techniques of soft tissue mobilization, exercise, stretching, and stabilization.

Heat

There are three theories of pain relief using heat. The vascular theory is based on the finding that heat application induces vasodilatation, which can increase tissue blood flow up to 30 ml per 100 g of tissue (Lehmann and DeLateur 1990). The increase in blood flow reduces pain by effectively supplying oxygenated blood and nutrients while washing out metabolites (including those that contribute to nociception, such as K⁺) accumulated during muscular activity. Through this mechanism it is expected that there will be an increased potential for edema formation due to the increase in capillary permeability induced by heat.

The counterirritation theory is based on the gate control mechanism originally proposed by Melzack and Wall (1965). Pain may be modulated by thermoreceptor afferent input which can act as a gating mechanism in the dorsal horn of the spinal cord at the spinal level of the pain and thermal sensory input. The dual affective stimulation is said to block pain transmission to higher centers. Also, heating of a painful part can induce whole body relaxation, perhaps through a descending pain inhibitory pathway which influences the same gate in the dorsal horn, and helps to inhibit painful muscle spasm or muscle tension.

The third theory involves the direct influence of heat on neuromuscular tissue, including muscle spindles and on sensory nerve conduction. When animal muscle spindles and exposed nerve endings are directly heated, a significant decrease in neuronal activity of the secondary endings and an increase in activity of primary endings and Golgi tendon organs have been measured. This produces a net inhibitory influence of the motor neuron pool that breaks the vicious circle of pain-spasm-pain (Newton 1990). It presumably takes a very intense amount of heat to achieve direct heating of nerves in situ.

Many people associate better penetration with wet heat, rather than dry. Examples of wet heat include hot packs and whirlpool and dry heat include an infra-red heating lamp, and ultrasound. Dry heat actually elevates skin temperatures more than deeper structures, while wet heat elevates both skin and deeper tissues slightly more (Abramson 1967).

A variety of hot packs are commercially available for self-application of heat. Each type has advantages and disadvantages in terms of price, ease of reuse, temperature control, length of heating, and portability. Patients are instructed in the use of superficial heat to warm muscles before stretching and exercise, for relaxation, and for transient pain reduction when there is no edema present. Once patients are instructed in the safe use of superficial heat, including the appropriate use of a protective barrier such as toweling to prevent burns, patients may be invited to use heat independently before or after exercise or functional activities.

For acute injuries, heat is contraindicated.

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Many physical therapists apply ultrasound as a heating modality. It has deeper heating effects, as well as nonthermal benefits, and penetrates to structures such as joints, muscle, and bone. It has been shown in experimental studies to stimulate tissue regeneration and bone growth (Dyson et al. 1968, Duarte 1983) and increase pain threshold and collagen extensibility (Alyea et al. 1956, Gersten 1955). In a meta-analysis of 22 studies on the effect of ultrasound application in the treatment of musculoskeletal disorders, however, no significant effect of ultrasound on pain reduction was found (Gam and Johannsen 1995).

Cold

Cold therapy can be delivered in three basic forms: cold packs, ice massage, or vapocoolant spray. Cold packs are commercially available or can be made at home with crushed ice, ice cubes, or bags of frozen vegetables (not to be eaten after use!). Cold packs are useful for postexercise soreness, acute inflammation, or inflammation associated with edema, and transient reduction of pain (symptomatic relief).

In ice massage, ice is rubbed directly over the skin until numbness is felt. Ice massage delivers cold to a more focal area with greater efficiency than a cold pack and may also provide more effective counterirritant therapy for pain relief. Patients are instructed in the safe use of ice massage, the warning signs of frostbite, and the four stages of sensation during ice massage (cold, burning, aching, and numbness). Ice massage is useful for relaxation, transient pain reduction, and treatment of local inflammation.

Cold application for pain relief can achieve peripheral or central responses. Brief, intense cold such as that delivered with a vapocoolant spray most likely produces peripheral receptor adaptation (Cattell and Hoagland 1931). The counterirritation discussed in the section on heat therapy also applies to cold therapy. Brief, intense cold can slow conduction velocity in C fibers carrying nociceptive input to the spinal cord. This action and receptor adaptation may be the mechanism of the trigger point therapy advocated by Travell and Simons (1983).

For every 1°C decrease in intramuscular temperature, a decrease of 1.2 m per second in motor nerve conduction velocity (Lehmann and DeLateur 1990) and a 2 m-per-second drop in sensory nerve conduction velocity has been recorded (Buchthal and Rosenfalck 1966). The “hunting response,” characterized by cold-induced vasodilatation after an initial vasoconstriction, occurs in the ears, nose, fingers, and toes. This phenomenon is seen when tissue temperature is reduced by more than 10°C. Under conditions of continued intense cold, this reversal continues as a cycling of vasoconstriction-vasodilatation, permitting tissue temperature to be kept somewhat constant, although lower than precooled temperatures (Michlovitz 1990). Prolonged cold can also produce vasodilatation in deeper muscle tissues and stimulate profound hyperemia (increased blood flow to the effected area) after withdrawal of the cold (Clarke et al. 1958).

Which is best, heat or cold?

The choice between using heat or cold for pain should take into account several factors. Heat decreases pain and induces relaxation. Therefore, it may have a counterproductive sedative effect if used before exercise. It increases tissue extensibility (softer and easier to stretch—think of what happens when mozzarella cheese is warmed), which is advantageous when addressing stiff joints through self-mobilization and stretching. Heat decreases overall stiffness of musculoskeletal tissues. It may result in edema and should be used carefully if swelling is already a component of the patient’s problem.

Cold decreases pain and swelling and is especially indicated in an acute injury; however, it increases overall stiffness and decreases tissue extensibility. Some patients have a profound aversion to cold and experience anxiety with its use. Many patients with neuropathic pain do not tolerate cold well.

The clinician should choose a modality based on the patient’s preferences and, in the case of chronic pain, convenience for self-treatment. In pain that has persisted well beyond an expected healing time, the emphasis is not on pain relief, but on using the modality as a method of coping with pain. It should be possible for a patient to learn to safely apply a modality as a specific part of the total pain rehabilitation program.

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References

- Abramson DI: Comparison of wet and dry heat in raising temperature of tissue. *Arch Phys Med Rehab* 48:654, 1967.
- Alyea WS, Rose DL, Shires EB. Effect of ultrasound on threshold of vibration perception in a peripheral nerve. *Arch Phys Med Rehabil* 1956;37:265.
- Buchthal F, Rosenfalck A. Evoked action potentials and conduction velocity in human sensory nerves. *Brain Res* 1966;3:1.
- Cattell M, Hoagland H. Response of tactile receptors to intermittent stimulation. *J Physiol* 1931;72:392.
- Clarke RSJ, Hellon RF, Lind AR. Vascular reactions of the human forearm to cold. *Clin Sci* 1958;17:165.
- Duarte LR. The stimulation of bone growth by ultrasound. *Arch Orthop Trauma Surg* 1983;101:153.
- Dyson M, Pond JB, Joseph J, Warwick R. The stimulation of tissue regeneration by means of ultrasound. *Clin Sci* 1968;35:273.
- Gam AN, Johannsen F. Ultrasound therapy in musculoskeletal disorders: a meta-analysis. *Pain* 1995;63:85.
- Gersten JW. Effect of ultrasound on tendon extensibility. *Am J Phys Med* 1955;34:362.
- Lehmann JF, Delateur BJ. Cryotherapy. In Lehmann JF (ed), *Therapeutic Heat and Cold* (4th ed). Baltimore: Williams & Wilkins, 1990;590.
- Melzack R, Wall PD. Pain mechanisms: a new theory. *Science* 1965;150:971.
- Michlovitz SL. Cryotherapy. The Use of Cold as a Therapeutic Agent. In SL Michlovitz (ed), *Thermal Agents in Rehabilitation* (2nd ed). Philadelphia: F.A. Davis, 1990;68.
- Newton RA. Contemporary Views on Pain and the Role Played by Thermal Agents in Managing Pain Symptoms. In SL Michlovitz (ed), *Thermal Agents in Rehabilitation* (2nd ed). Philadelphia: F.A. Davis, 1990;38.
- Travell JG, Simons DG. *Myofascial Trigger Point Manual*. Baltimore: Williams & Wilkins, 1983.

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Online Pain Resources: Physical Therapy and Rehabilitation

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- Physical Therapy <http://www.achesandpainonline.com>
<http://www.ppaonline.co.uk>
- General site for physical therapists, including chat room:
<http://www.physicaltherapist.com>
- Glossary of physical therapists terms: http://members.optushome.com.au/physio/glossa_m.html
- Australian Physiotherapy Association: <http://www.physiotherapy.asn.au/apacd/infosheet/d12.htm>
- American Physical Therapy Association <https://www.apta.org>
- Canadian Physiotherapy Association: <http://www.physiotherapy.ca/>
- Chartered Society of Physiotherapists: <http://www.csp.org.uk/>
- For websites on all Physical Therapy/physiotherapy associations see:
http://www.mednets.com/index.cfm/fuseaction/articles_physiotherapy_physical_therapy_societies_and_associations_physioass/active_search/1/get_search_results.htm
- American Pain Society <http://www.ampainsoc.org>
- International Study of Pain <http://www.halcyon.com/iasp>
- Canadian Pain Society <http://www.canadianpainsociety.ca>
- British and Irish Pain Society <http://www.painsociety.org/>
- Australian Pain Society <http://www.apsoc.org.au>
- New Zealand Pain Society <http://nzps.org.nz>
- Medical information on pain:
NIH Pain and Neurosensory Mechanisms Branch (NIDCR):
<http://www.dir.nidcr.nih.gov/dirweb/pnmb/pnmb.asp>
- Information on chronic pain in general (US Government site)
http://www.ninds.nih.gov/health_and_medical/disorders/chronic_pain.htm
- Practice guidelines for chronic pain management for anesthesiologists:
http://www.asahq.org/publicationsAndServices/chronic_pain.html
- Neuroscience information centre: <http://www.brainland.com>
- Functional MRI site for pain <http://www.fmrib.ox.ac.uk/pain/index.html>
- Pain info & CE/CME site: <http://www.pain.com>
- General medical information:
National Library of Medicine UK <http://www.omni.ac.uk/browse>
- National Library of Medicine US <http://www.nlm.nih.gov/>

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