American Pain Society Recommendations for Improving the Quality of Acute and Cancer Pain Management

American Pain Society Quality of Care Task Force

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Background: The American Pain Society (APS) set out to revise and expand its 1995 Quality Improvement Guidelines for the Treatment of Acute Pain and Cancer Pain and to facilitate improvements in the quality of pain management in all care settings.

Methods: Eleven multidisciplinary members of the APS with expertise in quality improvement or measurement participated in the update. Five experts from organizations that focus on health care quality reviewed the final recommendations. MEDLINE and Cumulative Index to Nursing and Allied Health Literature databases were searched (1994-2004) to identify articles on pain quality measurement and quality improvement published after the development of the 1995 guidelines. The APS task force revised and expanded recommendations on the basis of the systematic review of published studies. The more than 3000 members of the APS were invited to provide input, and the 5 experts provided additional comments. The task force synthesized reviewers’ comments into the final set of recommendations.

Results: The recommendations specify that all care settings formulate structured, multilevel systems approaches (sensitive to the type of pain, population served, and setting of care) that ensure prompt recognition and treatment of pain, involvement of patients and families in the pain management plan, improved treatment patterns, regular reassessment and adjustment of the pain management plan as needed, and measurement of processes and outcomes of pain management.

Conclusion: Efforts to improve the quality of pain management must move beyond assessment and communication of pain to implementation and evaluation of improvements in pain treatment that are timely, safe, evidence based, and multimodal.

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Inadequate pain management is widely prevalent,1-3 harmful to patients,4,7 and costly.5,7 Studies demonstrate poor control of postoperative and trauma pain,5-11 cancer pain,12,13 and chronic noncancer pain.19,15 Inadequate knowledge among health care professionals, patients, and the public; lack of institutional commitment; regulatory concerns; and limited access to and reimbursement for interdisciplinary care pose significant barriers to effective pain management.

Implementation of the 1995 American Pain Society (APS) Quality Improvement Guidelines for the Treatment of Acute Pain and Cancer Pain16 effected improvements in pain assessment17-21 and prescribing practices,22-24 with less effect on patient outcomes.25-27 Quality improvement (QI) expertise, in pain management and other areas of health care, has grown, allowing new insights into the key elements necessary for success. This article provides updated and expanded recommendations to improve processes and outcomes in acute and cancer pain management in all care settings. These recommendations also provide an operational definition of quality pain management including elements of structure, process, and outcome, as well as standardized measures to evaluate quality of acute and cancer pain management. A discussion of health care system redesign needed to ensure access to and payment for necessary treatments for pain is beyond this article’s scope. The recommendations focus on acute and cancer pain because there is more evidence and consensus about assessment and treatment of these 2 types of pain than for chronic noncancer pain.
The 2005 APS recommendations result from literature reviews, expert experience, and consensus. MEDLINE and Cumulative Index to Nursing and Allied Health databases from 1994 through May 2004 provided studies on QI in pain management published since the development of the 1995 APS QI Guidelines. The search included the subject headings pain, outcome assessment (health care), total quality management, quality assurance, and quality of health care as well as the key word quality improvement. Of 617 identified citations, 51 articles were selected for review that met the following criteria: (1) included a description of the pain management QI strategies used, (2) focused on acute or cancer-related pain, and (3) reported at least 1 measure of improvement. Bibliographies of the 51 articles were screened for additional articles. Any type of acute and cancer pain and practice settings were considered, as were both empirical and qualitative studies to determine factors associated with improvements and measurement in pain QI initiatives. In addition, Web sites of the Agency for Healthcare Research and Quality, International Association for the Study of Pain, National Committee on Quality Assurance (NCQA), National Guideline Clearinghouse, Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and Institute of Medicine were searched for content on quality.

The task force included 11 members of the APS (4 nurses, 3 physicians, 2 psychologists, 1 doctor of pharmacy, and 1 pharmacologist). The task force chair (D.B.G.) prepared successive drafts and a fifth draft was placed on the APS Web site. More than 3000 APS members received e-mail invitations to provide comments. Input was also obtained at an open task force meeting at the APS annual scientific meeting in May 2004. Furthermore, 5 experts in quality from organizations that focus on health care quality (ie, 2 from the JCAHO and 1 each from the American Medical Association [AMA], the Washington Home Center for Palliative Care Studies, and the NCQA) served as an advisory panel, providing comments on the final draft.

**THE 2005 APS RECOMMENDATIONS**

High-quality pain management includes appropriate assessment, including screening for the presence of pain, completion of a comprehensive initial assessment when pain is present, and frequent reassessments of patient responses to treatment; interdisciplinary, collaborative care planning, including patient and family input; appropriate treatment that is efficacious, cost conscious, culturally and developmentally appropriate, and safe; and access to specialty care as needed. This definition is consistent with a concept of quality encompassing structure, process, and outcomes and is applicable to acute pain, cancer pain, and chronic noncancer pain management. A continuous QI approach emphasizing a scientific, team approach to direct change efforts, with the recognition that individuals acting alone often fail to effect system and practice changes, is essential. The review of pain QI efforts since 1994 identified a variety of implementation models, supporting a number of key structural elements including the use of formalized interdisciplinary committees, analysis of current pain management practices in the care setting, a written standard of practice for pain assessment and documentation, explicit policies and procedures to guide the use of specialized techniques for analgesic administration, clearly defined accountability for pain management, information about pharmacologic and nonpharmacologic interventions for clinicians to facilitate order writing and interpretation and implementation of orders, patient and family education programs and materials, orientation and continuing education opportunities for staff, and an ongoing process that evaluates the outcomes and works to improve the quality of pain management.

A structured approach to assessment of current practice is an essential first step. Examples of questions to guide improvement activities include the following: (1) Why do we do what we do? (2) How do we know it works? (3) How can we do it better? The 6 core goals of health care quality (ie, pain management that is safe, efficacious, patient-centered, timely, efficient, and equitable) guide this process.

An interdisciplinary process should be used to improve pain management quality. Teams may be large executive committees or small “microsystems” of care (eg, the night shift in an emergency department or a small office practice) where work happens, and where the “quality” experienced by patients is made or lost. Findings from successful QI initiatives in other areas of health care highlight the critical role of physician leadership rather than mere physician participation in these efforts. Characteristics of physicians involved in improving the quality of care in today’s hospital environment include personal commitment, professional credibility, QI behavior and skills, and institutional linkages.

Efforts to improve pain management must move beyond merely improving pain assessment and documentation (Table 1). Customized evidence-based treatment regimens should be implemented that fit the circumstances, increase patient participation in the treatment plan, and use pain management quality measures effectively. The 2005 APS QI recommendations are multilevel and address the behaviors of providers, patients, and health care organizations. They cannot be accomplished by a single individual or discipline acting alone.

**RECOGNIZE AND TREAT PAIN PROMPTLY**

All patients should be routinely screened for pain, and when it is present, pain intensity should be recorded in highly visible ways that facilitate regular review by health care providers. A standard for pain assessment and documentation should be established in each setting to ensure that pain is recognized, documented, and treated promptly. The standard clarifies expectations about
the “who,” “how,” and “when” of pain assessment and documentation. The validity and reliability of pain assessment methods are now well established.33-37 Assessment of pain intensity alone is insufficient and may lead to unsafe care.38 Comprehensive pain assessment includes (but is not limited to) pain location and quality, aggravating and alleviating factors, and previous treatments and their effectiveness. This is necessary to establish a diagnosis, determine the impact of pain on physical and emotional function, and formulate an appropriate treatment plan.

Evidence supports the need for prompt treatment of patients with acute pain.39-43 As is expected with other clinical problems, such as fever or hyperglycemia, individual clinicians must account for their failure to respond promptly to reports of uncontrolled pain. This does not mean that pain can, or should, be treated on the basis of pain intensity rating alone, for example with number-based drug treatment algorithms like those commonly used for blood glucose level or blood pressure. Rather, clinicians must respond to pain reports in a manner appropriate to the type of pain (eg, acute vs chronic) and setting (eg, inpatient vs outpatient). There are concerns that increased attention to pain intensity ratings may lead to overly aggressive use of opioid analgesics, resulting in respiratory depression, particularly in the postoperative population.38 Appropriate responses may not always include more opioids but rather more detailed assessments, use of nonopioid analgesics or techniques, or nonpharmacologic interventions (eg, education, relaxation, and use of heat or cold).

### INVOLVE PATIENTS IN THE PAIN MANAGEMENT PLAN

Patients engaged in collaborative care, shared decision making with their providers, and chronic disease self-management have improved health outcomes.44,45 Pain treatment and goals should be tailored to the needs, desires, and circumstances of individual patients. This approach does not mean that professionals relinquish responsibility for providing evidence-based care, or that patient or family demands for illogical, inappropriate, or unsafe care should be heeded. Physicians should share evidence with patients and families in a comprehensible manner that is appropriate to their circumstances so that they can make better decisions and anticipate their needs. For example, physicians can provide information about available pain control options, how to use the options chosen, and how to achieve realistic goals and outcomes.

Brief educational interventions and pain management diaries are useful strategies that improve adherence and reduce pain intensity.46,47 Patients can be educated to control decisions that affect them.29 Patients need access to their own medical information and to information about organizational performance in terms of safety, evidence-based practice, and patient satisfaction to make informed decisions when selecting a health plan, hospital, clinical practice, or alternative treatment.30

### IMPROVE TREATMENT PATTERNS

Inappropriate traditional practices, such as the regular use of intramuscular injections, meperidine hydrochloride, and sole reliance on “as-needed” analgesic administration, should be eliminated. Numerous trials support the superiority of multimodal therapy for treatment of acute pain48-51 and cancer pain.52-54 The choice of analgesic should be based on the type and severity of pain, the impact of pain on physical and emotional functioning, and the individual’s response to empirical trials. Opioids and nonsteroidal anti-inflammatory drugs should be provided in an around-the-clock dosing schedule during the first several days after major surgery to prevent and control moderate to severe acute pain.55,56 Similarly, cancer pain should be treated in a proactive manner, which in most situations should include the use of both scheduled and as-needed analgesics, along with nonpharmacologic interventions such as teaching patients about pain control options, side effects, and realistic goals.57

A pitfall identified by the taskforce in early pain QI efforts was miscommunication to the public that identifying pain management as a patient right meant all pain could be completely prevented or elimi-
nated. Data from clinical trials suggest that a 33% to 50% decrease in pain intensity is meaningful from a patient’s perspective and represents a reasonable standard of intervention efficacy. Although QI efforts can lower the percentage of patients with moderate to severe acute and cancer pain, the elimination of pain is, in many cases, impossible. Standards for optimal outcomes in pain management are evolving and more research is needed. It is unrealistic and undesirable to cast “no pain” as a treatment or QI goal. Improvements in treatment should strive to make pain management safe, effective, patient-centered, timely, efficient, and equitable.

REASSESS AND ADJUST THE PAIN MANAGEMENT PLAN AS NEEDED

Physicians should frequently reassess pain relief, side effects, and adverse events, as well as the impact of pain and treatment on patient function and quality of life. Each patient represents an individual therapeutic experiment requiring frequent reassessments and analgesic titration. A key issue in the quality and safety of pharmacologic treatment is the recognition that patients’ needs change. Reassessment in a timely and comprehensive manner appropriate to the circumstances (eg, type of pain and care setting) will help ensure safety and efficacy. Readjustments may include upward titration of treatment as well as tapering of the analgesics and implementation of adjuvant therapies.

Much care is provided in outpatient settings where reassessments can be particularly challenging because of limited resources allotted for direct interactions with health care providers. Transitions between care settings are where QI efforts have the greatest potential to bring improvement by fostering the design and testing of new vehicles to facilitate communication and continuity of care. Examples to date include novel automated telephone triage systems that allow patients to call in to report unrelieved pain or unacceptable side effects and receive appropriate structured responses or computer-based support systems. Quality improvement efforts must foster active patient and family engagement in the treatment plan.

MONITOR PROCESSES AND OUTCOMES OF PAIN MANAGEMENT

Data on pain management quality should be collected to allow a better understanding of specific quality problems, provide motivation for change, and provide points for comparison after changes have been made. Baseline data will help identify problems of underuse, overuse, or misuse of pain management interventions to construct QI goals. A comprehensive evaluation involves measurement of both practice patterns and patient outcomes. A few measures should be chosen that are goal-oriented and easy to collect. Measurements should be collected over a reasonable interval so that data can quickly provide insight into a problem. Different types of clinical environments require different types of point-of-care information. The right information, in the right format, at the right time is critical for data to be widely accepted and useful to practicing clinicians.

Because practice settings vary considerably in size, complexity, resources, and patient populations, measurement goals will differ depending on the type of pain and stage of the patient’s disease. Goals should be specific, measurable, and patient-centered. An example of a process goal would be to target a 20% increase in the use of nonsteroidal anti-inflammatory drugs in a particular postoperative patient population that is currently receiving only monodonal opioid treatment. Measurements for QI research purposes, and accountability (performance measures) need to be distinguished, yet overlap does exist. Although specific measurement tools and methods may vary, QI teams are encouraged to use standardized QI indicators for acute and cancer pain. A set of 6 standardized quality indicators derived from a systematic review of 20 pain QI studies (Table 2) with medical, surgical, and cancer diagnoses in inpatient settings is recommended. Data on sex, race, and ethnicity of patients should be included to uncover and address disparities in pain management that have been shown to exist.

Measurement of patient satisfaction with pain management (used alone), patient beliefs about pain, and extensive audits of analgesic treatment are not recommended. Satisfaction measures are notoriously complex, almost always skewed toward the positive, and difficult to interpret.

Although QI does not require, nor often allow, the strict control of variables needed for research, use of a scientific approach and measures with established validity and reliability are desirable when designing QI strategies. For example, core outcome measures have been identified from acute pain trials (eg, pain intensity, percentage of patients with certain levels of pain relief, and time to medication) and cancer pain trials (eg, pain intensity, pain interference, pain site, and temporal and qualitative aspects of pain).

PAIN MANAGEMENT PERFORMANCE MEASUREMENT

Performance measures are rate based and reported as fractions or percentages of a total number of eligible events. These measures are used for external accountability and public reporting and facilitate QI activities. For example, of all health plan members carrying a diagnosis of cancer, how many are screened on a regular basis for the presence of pain? Performance indicators reported to health care purchasers or consumers can be powerful drivers of health care choice. Comparing the performance of health care systems allows competition and promotes quality; thus, QI teams are encouraged to participate in (and third-party payers are encouraged to require) performance measurement reporting.

In late 2001, the JCAHO, AMA, and NCQA began a 2-year collaborative project, funded by Purdue Pharma, LP (Stamford, Conn), to identify pain management perfor-
mance measures focusing on arthritis, back pain, and cancer. A jointly nominated expert panel assisted in developing a general framework and clinical logic for pain management, participated in evidence evaluation, identified common aspects of care for measurement, and recommended priorities and pain management measures across the care continuum. Thirty-four candidate measures identified by the panel in the fall of 2002 were narrowed to 8 measures, which were then field tested by the JCAHO and NCQA in the summer and fall of 2003. These measures were as follows: for arthritis: screening and comprehensive assessment for pain in patients with arthritis, initiation of disease-modifying antirheumatic drug therapy for patients with rheumatoid arthritis, and therapeutic exercise for osteoarthritis; for back pain: comprehensive assessment for pain in patients with low back pain and appropriateness of imaging studies for acute low back pain; for cancer: screening and comprehensive assessment for pain in patients with cancer and use of opioids in cancer pain management; and across diagnoses: preventive treatment of opioid-induced constipation.

The JCAHO field tested 5 measures applicable to the inpatient setting. The Joint Commission may add these core measures to the complement of existing ORYX core measure sets. The AMA-convened Physician Consortium for Performance Improvement will review the core set of 8 measures to identify a subset suitable for implementation at the physician level. Pain management measures approved by the consortium will then be added to the consortium’s portfolio of measurement sets and made available for use by practicing physicians. A paper on this JCAHO-AMA-NCQA pain management project is under development.

CONCLUSIONS

Quality of care is a property of health systems that is influenced by a wide variety of internal and external factors. Multilevel approaches addressing health care providers, organizations, and patients must be adapted to improve the quality of pain management. A scientific and systems-oriented approach is crucial. Quality improvement activities, evidence-based standards of care, patient involvement in decision making, disease management models for care delivery, and the sharing of performance data can improve the quality of pain management. Improvements in quality may best be achieved through broad-based collaborative initiatives, yet small microsystems of care can also be successful.

Neither the type nor the number of QI interventions predicts successful change in health care performance. A synergistic approach emphasizing multiple interventions to support change is key. Education, prompts, computerized decision support systems, feedback including peer comparisons, formulary restrictions, pharmacy and therapeutic guidelines, opinion leaders, academic detailing, clinical pathways, case management, algorithms, standard orders, incentives, and regulation (policies and preauthorization) are all encouraged. Use of multiple interventions was critical to success in a multicenter back pain QI initiative sponsored by the Institute for Healthcare Improvement. In that study involving both provider organizations and third-party payers, use of a manageable

<table>
<thead>
<tr>
<th>Quality Indicator</th>
<th>Measure (Tool)</th>
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<tbody>
<tr>
<td>Intensity of pain is documented with numeric (eg, 0-10, 0-5) or descriptive (eg, mild, moderate, severe) rating scale</td>
<td><strong>Process (Assessment and Treatment)</strong></td>
</tr>
<tr>
<td>Pain intensity is documented at frequent intervals</td>
<td>Is there any documentation of pain? __Yes __ No</td>
</tr>
<tr>
<td>Pain is treated by route other than intramuscular, and, when possible, multimodal approach is used (eg, combinations of regional or local techniques, with nonopioid, opioid, adjuvant analgesics, and nonpharmacologic methods)</td>
<td>In charts where there is some documentation of pain, did documentation include use of either numeric (eg, 0-10, 0-5) or descriptive (eg, mild, moderate, severe) pain intensity scale? __Yes __ No</td>
</tr>
<tr>
<td>Percentage of patients receiving intramuscular injections</td>
<td>How many pain intensity ratings (either numeric or descriptive) were recorded during this (24-h) period by RNs? _____</td>
</tr>
<tr>
<td>Percentage of patients receiving nonopioid alone, opioid alone, regional techniques (eg, neuraxial), and various combinations of nonopioid, opioid, and regional techniques</td>
<td>Percentage of patients receiving meperidine hydrochloride (Patient question) Did you use any nondrug interventions in addition to analgesics to manage your pain? __Yes __ No</td>
</tr>
<tr>
<td>On this scale (0-10), please indicate the worst pain you had in the first 24 h.</td>
<td>Adequacy of information you received about pain and pain control options while in hospital: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent</td>
</tr>
<tr>
<td>On this scale (0-10), please indicate the least pain you had in the first 24 h. How often were you in moderate to severe pain in the first 24 h?</td>
<td>If yes, please check all that apply: relaxation, meditation, heat, cold, deep breathing, walking, imagery or visualization, other (please describe)</td>
</tr>
<tr>
<td>__Always __Almost always __Often __Almost never __Never</td>
<td></td>
</tr>
<tr>
<td>Circle the number that best described how, during the first 24 h, pain interfered with your: activity, mood, sleep, (may add other items for specific populations) 0 = does not interfere, 10 = completely interferes</td>
<td></td>
</tr>
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| Outcomes |
| Adequacy of information you received about pain and pain control options while in hospital: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent |

*Adapted from Gordon et al.24
number of clinical goals, frequent outcome measurement among a reasonable sample size, vigilance in maintaining gains, involvement of physicians and outpatient staff, and changes in standard protocols for imaging, physical therapy, and referral led to improvement.

Barriers to the implementation of pain QI goals must be identified and addressed to avoid impasses. The most common barriers in multicenter pain QI projects were lack of administrative support and staff resources to work on QI and collect data, reliance on guidelines distribution in lieu of direct staff contact, staff turnover, and resistance to change. Solutions to these barriers include the identification and use of change agents at the local level and collaborations between organizations or across health care systems. Familiarity with the motivational factors that affect individual and systems change is important. Approaches should be chosen that enable innovative persons and early adopters of change and avoid placing blame on individuals.

Integrating new knowledge and behaviors into day-to-day pain management practice is a challenging but essential process. Work is needed to learn whether new approaches bring improvements in the quality of pain management. Well-designed observational and experimental studies are needed to further develop and test valid and reliable measures of pain management quality and outcomes. This will necessitate collaboration among clinicians, accrediting bodies, researchers, and policymakers. These efforts are in their infancy; however, the direction is clear.

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REFERENCES


