

ICSI Institute for Clinical Systems Improvement

Health Care Guideline

Assessment and Management of Chronic Pain

How to cite this document:

Hooten WM, Timming R, Belgrade M, Gaul J, Goertz M, Haake B, Myers C, Noonan MP, Owens J, Saeger L, Schweim K, Shteyman G, Walker N. Institute for Clinical Systems Improvement. [Assessment and Management of Chronic Pain](#). Updated November 2013.

Copies of this ICSI Health Care Guideline may be distributed by any organization to the organization's employees but, except as provided below, may not be distributed outside of the organization without the prior written consent of the Institute for Clinical Systems Improvement, Inc. If the organization is a legally constituted medical group, the ICSI Health Care Guideline may be used by the medical group in any of the following ways:

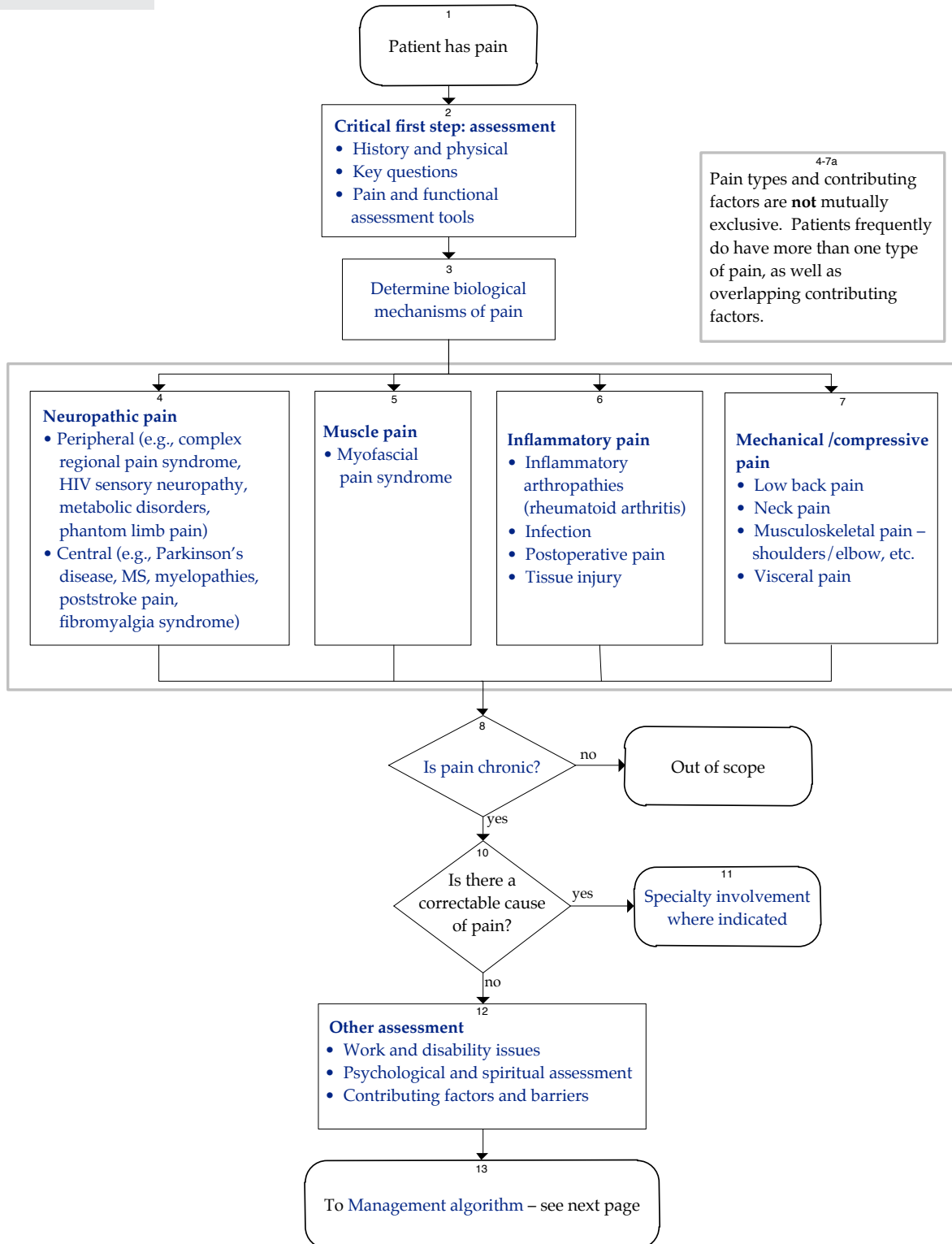
- copies may be provided to anyone involved in the medical group's process for developing and implementing clinical guidelines;
- the ICSI Health Care Guideline may be adopted or adapted for use within the medical group only, provided that ICSI receives appropriate attribution on all written or electronic documents and
- copies may be provided to patients and the clinicians who manage their care, if the ICSI Health Care Guideline is incorporated into the medical group's clinical guideline program.

All other copyright rights in this ICSI Health Care Guideline are reserved by the Institute for Clinical Systems Improvement. The Institute for Clinical Systems Improvement assumes no liability for any adaptations or revisions or modifications made to this ICSI Health Care Guideline.

**Sixth Edition
November 2013**

Assessment Algorithm

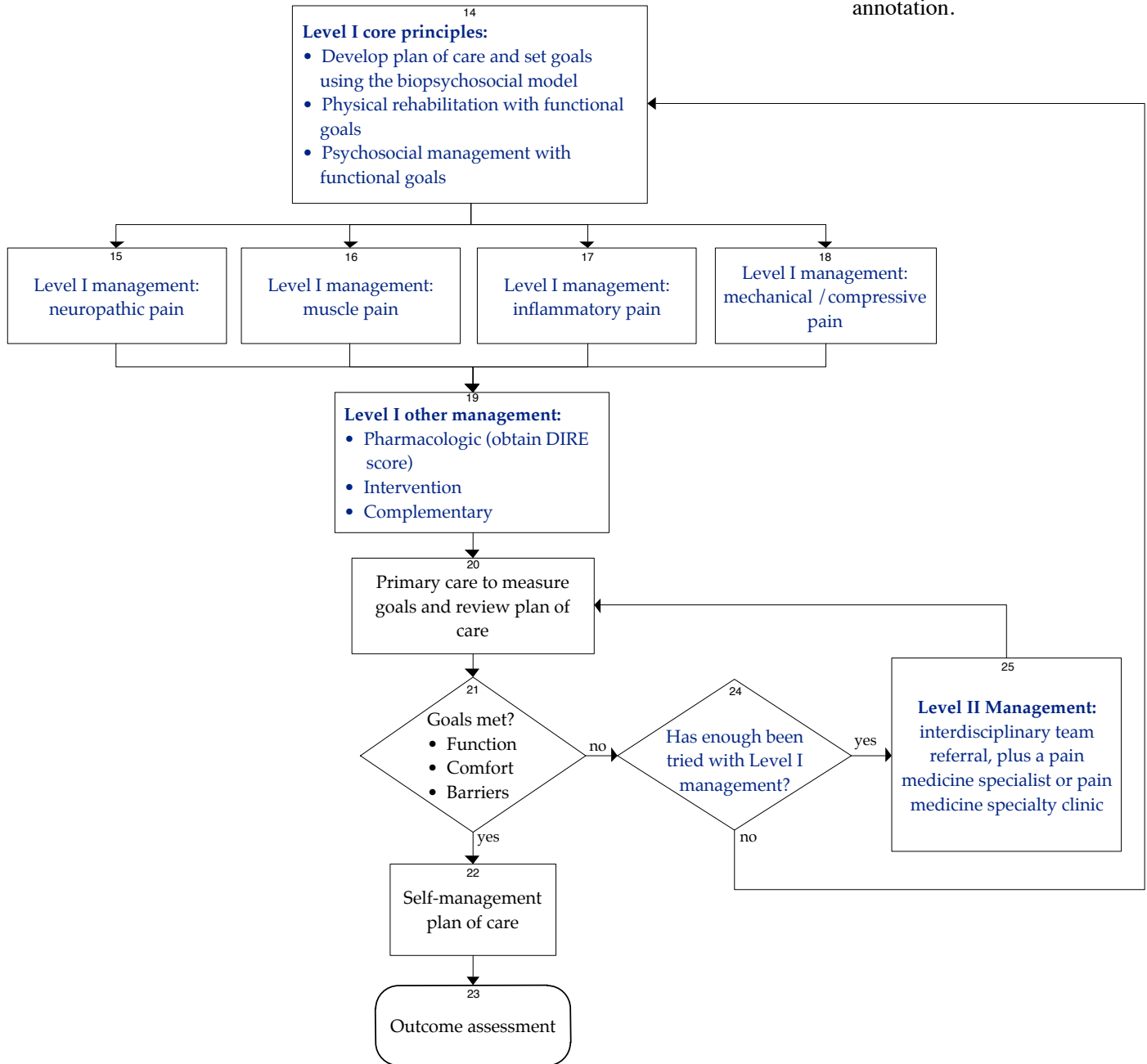
Text in blue in this algorithm indicates a linked corresponding annotation.



^{4-7a}
Pain types and contributing factors are **not** mutually exclusive. Patients frequently do have more than one type of pain, as well as overlapping contributing factors.

Management Algorithm

Text in blue in this algorithm indicates a linked corresponding annotation.



[Return to Table of Contents](#)

Table of Contents

<p>Work Group Co-Leaders W. Michael Hooten, MD <i>Anesthesiology, Mayo Clinic</i> Richard Timming, MD <i>Physical Medicine and Rehabilitation, HealthPartners Medical Group and Regions Hospital</i></p> <p>Work Group Members Fairview Health Services Miles Belgrade, MD <i>Neurology</i> James Gaul, MD <i>Internal Medicine</i> Kelly Schweim, PharmD <i>Pharmacy</i></p> <p>Fairview Range Regional Health Services Neal Walker, RPh <i>Pharmacy</i></p> <p>HealthPartners Medical Group and Regions Hospital Michael Goertz, MD, MPH <i>Occupational Medicine</i> Bret Haake, MD <i>Neurology</i> Mary Pat Noonan, PhD, ABPD <i>Psychology</i></p> <p>Midwest Spine Institute Louis Saeger, MD, FACPM <i>Anesthesiology</i></p> <p>Park Nicollet Health Services Galina Shteyman, PharmD <i>Pharmacy</i></p> <p>ICSI Cassie Myers <i>Clinical Systems Improvement Facilitator</i> Jacob Owens, MPH <i>Project Manager</i></p>	<p>Algorithms and Annotations 1-52</p> <p style="padding-left: 20px;">Algorithm (Assessment).....1</p> <p style="padding-left: 20px;">Algorithm (Management).....2</p> <p style="padding-left: 20px;">Evidence Grading 4-5</p> <p>Foreword</p> <p style="padding-left: 20px;">Introduction.....6</p> <p style="padding-left: 20px;">Scope and Target Population.....7</p> <p style="padding-left: 20px;">Aims7</p> <p style="padding-left: 20px;">Clinical Highlights8</p> <p style="padding-left: 20px;">Implementation Recommendation Highlights 8-9</p> <p style="padding-left: 20px;">Related ICSI Scientific Documents10</p> <p style="padding-left: 20px;">Definitions..... 10-11</p> <p>Annotations 12-52</p> <p style="padding-left: 20px;">Annotations (Assessment)12-22</p> <p style="padding-left: 20px;">Annotations (Management) 23-52</p> <p>Quality Improvement Support..... 53-72</p> <p style="padding-left: 20px;">Aims and Measures 54-55</p> <p style="padding-left: 40px;">Measurement Specifications 56-69</p> <p style="padding-left: 20px;">Implementation Tools and Resources.....70</p> <p style="padding-left: 20px;">Implementation Tools and Resources Table 71-72</p> <p>Supporting Evidence..... 73-98</p> <p>References 74-82</p> <p>Appendices 83-98</p> <p style="padding-left: 20px;">Appendix A – Brief Pain Inventory (Short Form)83-84</p> <p style="padding-left: 20px;">Appendix B – Patient Health Questionnaire (PHQ-9).....85-86</p> <p style="padding-left: 20px;">Appendix C – Physical Functional Ability Questionnaire (FAQ5)87-88</p> <p style="padding-left: 20px;">Appendix D – Personal Care Plan for Chronic Pain..... 89</p> <p style="padding-left: 20px;">Appendix E – DIRE Score: Patient Selection for Chronic Opioid Analgesia90</p> <p style="padding-left: 20px;">Appendix F – Opioid Agreement Form91</p> <p style="padding-left: 20px;">Appendix G – Opioid Analgesics92</p> <p style="padding-left: 20px;">Appendix H – Neuropathic Pain Treatment Diagram.....93</p> <p style="padding-left: 20px;">Appendix I – ICSI Shared Decision-Making Model94-98</p> <p>Disclosure of Potential Conflicts of Interest 99-101</p> <p>Acknowledgements..... 102-103</p> <p>Document History and Development 104-105</p> <p style="padding-left: 20px;">Document History104</p> <p style="padding-left: 20px;">ICSI Document Development and Revision Process105</p>
--	--

Evidence Grading

Literature Search

A consistent and defined process is used for literature search and review for the development and revision of ICSI guidelines. The literature search was divided into two stages to identify systematic reviews, (stage I) and randomized controlled trials, meta-analysis and other literature (stage II).

A literature search on the assessment and management of chronic pain was completed utilizing the PubMed and Cochrane databases, and the following search terms were included: opioids, gabapentin, non-steroidal anti-inflammatory drugs, capsaicin, and pain management in relation to chronic pain and published between August 2011 and August 2013. Non-human data and non-English language publications were excluded.

GRADE Methodology

Following a review of several evidence rating and recommendation writing systems, ICSI has made a decision to transition to the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system.

GRADE has advantages over other systems including the current system used by ICSI. Advantages include:

- developed by a widely representative group of international guideline developers;
- explicit and comprehensive criteria for downgrading and upgrading quality of evidence ratings;
- clear separation between quality of evidence and strength of recommendations that includes a transparent process of moving from evidence evaluation to recommendations;
- clear, pragmatic interpretations of strong versus weak recommendations for clinicians, patients and policy-makers;
- explicit acknowledgement of values and preferences; and
- explicit evaluation of the importance of outcomes of alternative management strategies.

This document is in transition to the GRADE methodology

Transition steps incorporating GRADE methodology for this document include the following:

- Priority placed upon available Systematic Reviews in literature searches.
- All new literature considered by the work group for this revision has been assessed using GRADE methodology.

[Return to Table of Contents](#)

Evidence Grading

Crosswalk between ICSI Evidence Grading System and GRADE

ICSI GRADE System	Previous ICSI System
High , if no limitation	Class A: Randomized, controlled trial
Low	Class B: [observational] Cohort study
Low Low *Low	Class C: [observational] Non-randomized trial with concurrent or historical controls Case-control study Population-based descriptive study Study of sensitivity and specificity of a diagnostic test
* Following individual study review, may be elevated to Moderate or High depending upon study design	
Low	Class D: [observational] Cross-sectional study Case series Case report
Meta-analysis Systematic Review Decision Analysis Cost-Effectiveness Analysis	Class M: Meta-analysis Systematic review Decision analysis Cost-effectiveness analysis
Low Low Low	Class R: Consensus statement Consensus report Narrative review
Guideline	Class R: Guideline
Low	Class X: Medical opinion

Evidence Definitions:

High Quality Evidence = Further research is very unlikely to change our confidence in the estimate of effect.

Moderate Quality Evidence = Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low Quality Evidence = Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate or any estimate of effect is very uncertain.

In addition to evidence that is graded and used to formulate recommendations, additional pieces of literature will be used to inform the reader of other topics of interest. This literature is not given an evidence grade and is instead identified as a **Reference** throughout the document.

[Return to Table of Contents](#)

Foreword

Introduction

This guideline discusses the assessment and management of chronic pain. It is intended for primary care clinicians to help with diagnosis and management of primarily four types of biological markers for pain: neuropathic, muscle, inflammatory and mechanical/compressive. Although opioid use is discussed in this guideline, it is not a comprehensive discussion of the usage of opioids in chronic pain.

The off-label use of medications to treat chronic pain is a common practice, and due to the complexity of chronic pain and the minimal approval sought by drug manufacturers, many of the medications in this guideline have not undergone formal evaluation by the FDA (Food and Drug Administration) for chronic pain treatment. The FDA focuses on market entry for prescription drugs rather than regulating clinicians prescribing practices, thus allowing off-label use of medications for indications beyond those formally evaluated by the manufacturer. Clinicians are to use their best knowledge and judgment, with the inherent responsibility to be well informed and base their prescribing upon scientific rationale and sound medical evidence (*U.S. Food and Drug Administration, 2011 [Reference]*).

Chronic pain affects at least 50 million adults a year. Prevalence in primary care settings range from 5 to 33% and often imposes upon clinicians the responsibility of managing a substantial disability that can be exacerbated by a patient's distress. Due to its prevalence, the cost of chronic pain is substantial; it has been estimated at \$70 billion per year. Chronic pain has the ability to disable and significantly decrease the quality of life for the individual and his or her support systems; the financial and personal cost to those who are affected by chronic pain is significant (*Reid, 2002 [Low Quality Evidence]*; *Olsen, 2002 [Low Quality Evidence]*).

The need to improve the U.S. health care system is recognized. Both the Triple Aim and the national *Choosing Wisely*[®] Campaign, an initiative of the ABIM, offers direction to address human and economic factors in transforming health (*Berwick, 2008 [Reference]*). Through the Triple Aim, Berwick (2008) presents a framework to improve the health of a population, enhance the quality of the patient experience, and promote the affordability of care by decreasing per capita costs. The national *Choosing Wisely* Campaign's goal is to help physicians and patients talk about medical tests and procedures that are often used but may not be necessary, and in some cases cause harm.



An initiative of the ABIM Foundation

The *Choosing Wisely*[®] logo will appear in this document whenever a recommendation from a medical specialty society participating in the *Choosing Wisely* campaign is in alignment with ICSI work group recommendations.

Permission to use the *Choosing Wisely* logo is granted by the ABIM Foundation.

[Return to Table of Contents](#)

Scope and Target Population

The guideline will address the management of chronic pain for adults. It can be applied to pediatric populations where noted. It is not intended for the treatment of migraine headaches, cancer pain, advanced cancer pain, or in the context of palliative care or end-of-life management. Topics of addiction, withdrawal, tapering or methadone are not inclusively addressed within the context of this guideline.

Definitions

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage (International Association for the Study of Pain).

- **Acute pain** states can be brief, lasting moments or hours, or they can be persistent, lasting weeks or several months until the disease or injury heals (*Bonica, 1990 [Low Quality Evidence]*). The condition has a predictable beginning, middle and end.
- **Chronic pain:** The work group has defined chronic pain as "pain without biological value that has persisted beyond the normal time and despite the usual customary efforts to diagnose and treat the original condition and injury." If a patient's pain has persisted for six weeks (or longer than the anticipated healing time), a thorough evaluation for the course of the chronic pain is warranted.
 - **Chronic pain syndrome** – is at the end of the spectrum of chronic pain. The work group defines this as a constellation of behaviors related to persistent pain that represents significant life role disruption.

[Return to Table of Contents](#)

Aims

1. Improve the function of patients age 18 years and older with chronic pain. (*Annotations #2, 14*)
2. Improve the assessment and reassessment of patients age 18 years and older with chronic pain diagnosis utilizing the biopsychosocial model. (*Annotations #2, 3, 12*)
3. Improve the appropriate use of Level I and Level II treatment approaches for patients age 18 years and older with chronic pain. (*Annotations #14, 19, 25*)
4. Improve the effective use of non-opioid medications in the treatment of patients age 18 years and older with chronic pain. (*Annotations #15, 19*)
5. Improve the effective use of opioid medications in the treatment of patients age 18 years and older with chronic pain. (*Annotations #15, 19*)

[Return to Table of Contents](#)

Clinical Highlights

- Chronic pain assessment should include determining the mechanisms of pain through documentation of pain location, intensity, quality and onset/duration; functional ability and goals; and psychological/social factors such as depression or substance abuse. (*Annotations #2, 3, 12; Aim #2*)
- The goal of treatment is an emphasis on improving function through the development of long-term self-management skills including fitness and a healthy lifestyle in the face of pain that may persist. (*Annotation #14; Aim #1*)
- A patient-centered, multifactorial, comprehensive care plan is necessary, one that includes addressing biopsychosocial factors. Addressing spiritual and cultural issues is also important. It is important to have an interdisciplinary team approach coordinated with the primary care physician to lead a team including specialty areas of psychology and physical rehabilitation. (*Annotation #14; Aim #3*)
- Level I treatment approaches should be implemented as first steps toward rehabilitation before Level II treatments are considered. (*Annotation #14; Aim #3*)
- Medications are not the sole focus of treatment in managing pain and should be used when needed to meet overall goals of therapy in conjunction with other treatment modalities. (*Annotations #14, 19; Aims #4, 5*)
- Careful patient selection and close monitoring of all non-malignant pain patients on chronic opioids is necessary to assess the effectiveness and watch for signs of misuse or aberrant behavior. (*Annotation #19; Aim #5*)

[Return to Table of Contents](#)

Implementation Recommendation Highlights

The following system changes were identified by the guideline work group as key strategies for health care systems to incorporate in support of the implementation of this guideline.

- It is important to take both a clinical and an operational approach for successful implementation of this guideline.
- Develop a process that allows patients with chronic pain to see a dedicated care clinician who has an interest or expertise in chronic pain.
- Develop a process to work collaboratively with other care clinicians in prescribing opioids with shared patients (e.g., dentists, specialists).
- Establish a policy for monitoring and maintaining opioid agreements for prescription refills with other clinics, pharmacies, dentists and specialists.
- Develop a process for scheduling follow-up patient visits to deter drug-seeking behaviors with other care clinicians, for instance, support personnel calling patients to schedule follow-up appointments with a dedicated chronic pain physician.
- Develop staff and physician training regarding the organization's process for treating patients with chronic pain that could include process of referrals to chronic pain clinician within the system, follow-up visits, prescription refills and continuity of care.
- Coordinate a chronic pain care team that minimally consists of a physician champion and medical support staff. Suggestions for care clinicians from other disciplines include pharmacy, chemical dependency, neurology, occupational medicine, anesthesiology/pain management, behavioral health, home care, social work, physical medicine and rehabilitation, and physical therapy.

[Return to Table of Contents](#)

Foreword

- Determine population ICD-9/ICD-10 codes for data collection that is unique to patients with chronic pain in your facility. Examples of this would be:
 - Low back pain
 - Headache
 - Neck pain
 - Fibromyalgia
 - Chronic pain
- Identify multidimensional pain assessment, functional assessment, psychological assessment, and opioid assessment tools that meet the needs of the care clinicians and are appropriate for the patient populations.

Examples of pain assessment, functional assessment, and psychological assessment tools are, but are not limited to:

- Brief Pain Inventory (BPI)
- Physical Functional Ability Questionnaire (FAQ5)
- Oswestry Low Back Disability Index (refer to ICSI Adult Low Back Pain guideline)
- PHQ-9
- GAD 7

Examples of opioid and substance abuse assessment tools are, but are not limited to:

- CAGE and CAGE-AID
- Webster's Opioid Risk Tool (ORT)
- DIRE Tool
- Screener and Opioid Assessment for Patients in Pain (SOAPP®)
- Current Opioid Misuse Measure (COMM™)
- Prescription Drug Use Questionnaire (PDUQ)
- Screening Tool for Addiction Risk (STAR)
- Screening Instrument for Substance Abuse Potential (SISAP)
- Pain Medicine Questionnaire (PMQ)
- Audit-C
- Screening, Brief Intervention, Referral to Treatment (SBIRT)

[Return to Table of Contents](#)

Related ICSI Scientific Documents

Guidelines

- [Adult Low Back Pain](#)
- [Diagnosis and Treatment of Headache](#)
- [Major Depression in Adults in Primary Care](#)
- [Palliative Care](#)

Protocol

- [Acute Pain Assessment and Opioid Prescribing Protocol](#)

[Return to Table of Contents](#)

Definitions

✓ **Addiction:** Addiction is a primary, chronic, neurobiologic disease, with genetic, psychosocial and environmental factors influencing its development and manifestations. It is characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving.

Allodynia: Sensitivity to a non-noxious stimulus like light touch or rubbing.

* **Analgesic Tolerance:** Analgesic tolerance is the need to increase the dose of opioid to achieve the same level of analgesia. Analgesic tolerance may or may not be evidenced during opioid treatment and does not equate with addiction.

Biopsychosocial Model: Addressing the whole person in all his/her complexity, including physical and biologic factors, psychological state and beliefs, as well as the family, social and work environment.

Clinician: All health care professionals whose practice is based on interaction with and/or treatment of a patient.

DPNB: Dorsal Penile Nerve Block.

EMLA: Eutectic Mixture of Local Anesthetics.

LET: Anesthetic solution comprising Lidocaine, Epinephrine and Tetracaine.

Neuropathic: A pathological change in the peripheral nervous system.

Noiception: The process of detection and signaling the presence of a noxious stimulus.

Opioid-Induced Hyperalgesia: Opioids may lead to a paradoxical increase in pain despite receiving increasing doses of opioids.

• **Pain Specialist:** Provides care for patients with acute, chronic and/or cancer pain in both inpatient and outpatient settings while coordinating patient care needs with primary care and other specialties.

* **Pain:** An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.

✓ **Physical Dependence:** Physical dependence is a state of adaptation that is manifested by a drug-class-specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug, and/or administration of an antagonist.

[Return to Table of Contents](#)

Foreword

* **Pseudoaddiction:** Pattern of drug-seeking behavior of pain patients who are receiving inadequate pain management that can be mistaken for addiction.

Radicular: Pertaining to a nerve root.

Somatic: Pertaining to the body wall, in contrast to the viscera.

* **Substance Abuse:** Substance abuse is the use of any substance(s) for non-therapeutic purposes, or use of medication for purposes other than those for which it is prescribed.

TAC: Anesthetic solution comprising Tetracaine, Adrenaline (Epinephrine) and Cocaine.

✓ **Tolerance:** Tolerance is a state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug's effects over time.

Visceral: Pertaining to a bodily organ.

* From "Model Policy for the Use of Controlled Substances for the Treatment of Pain" (5/98), Federation of State Medical Boards of the United States.

• Adapted from "American Board of Medical Specialties." 2011. American Board of Anesthesiology, American Board of Physical Medicine and Rehabilitation, and the American Board of Psychiatry and Neurology.

✓ From "Definitions Related to the Use of Opioids for the Treatment of Pain." 2001. American Academy of Pain Medicine, American Pain Society, and the American Society of Addiction Medicine.

[Return to Table of Contents](#)

Algorithm Annotations

Assessment Algorithm Annotations

2. Critical First Step: Assessment

Recommendations:

- A clinician should complete an adequate pain assessment on all patients, that includes documentation of pain location, intensity, quality, onset/duration/variations/rhythms, manner of expressing pain, pain relief, exacerbation triggers, effects of pain and response to previous treatments.
- A clinician should complete a general history and physical, including psychiatric comorbidities.

The history of the chronic pain patient may be very revealing and helpful. Carefully identifying the onset and progression of the problem may help to focus how a problem developed from localized pain to a more generalized or multifocal pain experience for the patient.

All patients have the right to an adequate pain assessment including documentation of pain location, intensity, quality, onset/duration/variations/rhythms, manner of expressing pain, pain relief, exacerbation triggers, effects of pain and response to previous treatment. The plan should include pain assessment tools that are appropriate for the individual, with self-report being the primary source, which includes the facilitation of regular reassessment and follow-up according to criteria developed by the individual organization. Some inquiry of sleep and diet is also helpful.

It is also essential to elicit any history of depression or other psychopathology that may affect the perception of pain (*Carragee, 2005 [High Quality Evidence]; Zautra, 2005 [High Quality Evidence]; Rommel, 2004 [Low Quality Evidence]; Schultz, 2004 [Low Quality Evidence]*). Past or current physical, sexual or emotional abuse is also an important factor. A history of chemical dependency is of interest in this patient population. Also see [Annotation #12, "Other Assessment."](#)

Chronic pain frequently involves the musculoskeletal system and the nervous system, especially the spine and its contents. These areas should be examined more carefully and with attention to possible generators of pain relative to the patient's history.

Musculoskeletal: Observe for obvious deformity or atrophy. If atrophy is suspected, it should be measured. Asymmetry of the iliac crests can be a sign of sacroiliac joint pathology. Although scoliosis may be present, it is usually not a cause of pain.

Cyanosis, or pallor of an extremity, is also useful information, as is asymmetry of limb temperature. Examine posture gait and station. Range of motion of the spine does not correlate well with pathology. It has more significance in peripheral joint pathology. Involved joints should be examined for signs of effusion, instability, ligament or cartilage pathology. Palpation for areas of spasm or tenderness and for identification of trigger points is useful (*Rasmussen, 2004 [Low Quality Evidence]*).

Neurological: Some brief assessment of mental status is appropriate. Patients with significant cognitive or language function impairment will be much more challenging to treat. Much of the identifiable findings in patients with chronic pain will be referable to the peripheral nervous system. Therefore careful evaluation of muscle strength, sensation and muscle stretch reflexes is important. Findings of allodynia (sensitivity to a non-noxious stimulus like light touch or rubbing) and hyperalgesia are useful in any pain syndrome.

Signs and symptoms of upper motor neuron dysfunction will provide clues to the existence of potentially painful conditions such as multiple sclerosis or myelopathy due to cervical spinal stenosis. Patients with hemiplegia or hemiparesis may present with central type pain syndromes.

Diagnostic Testing

There is no diagnostic test for chronic pain. It is important to remember that finding pathology on diagnostic tests does not necessarily prove that the identified pathology is causing the patient's pain. Nevertheless, diagnostic testing is useful in patients with chronic pain for helping to direct treatment and referral.

Plain radiography is helpful in musculoskeletal pain to rule out pathology that might require more immediate attention (e.g., an unrecognized fracture or mass lesion).

MRI and CT are used very frequently, especially in spine-related pain. MRI is usually preferred for evaluating disc pathology. Some general information about MRI in the spine and pain is important in interpreting these studies. Bulging discs are usually not significant in the absence of spinal stenosis. Disc degeneration and arthritic changes per se are not necessarily painful. The size of a disc protrusion does not correlate with pain level. Most pain physicians like to have this information when evaluating the patient, especially if some anesthesiologic intervention is contemplated for the pain. CT and CT myelography are useful in patients who cannot undergo MRI or who are being considered for surgery. Electromyography and nerve conduction studies are of use in patients suspected of having lower motor neuron dysfunction, nerve or nerve root pathology, or myopathy.

(Wisconsin Medical Society Task Force on Pain Management, 2004 [Low Quality Evidence]; Dworkin, 2003a [Guideline]; VA/DoD, 2003 [Guideline])

Functional/Quality-of-Life Assessment Tools

Many patients with chronic pain have significant losses in ability to perform normal life activities. Baseline functional ability assessment can provide objectively verifiable information about a patient's quality of life and ability to participate in normal life activities. These tools often also include measures of pain perception, psychological status, as well as function.

- Palliative Performance Scale (Kanofsky Scale) (See the ICSI [Palliative Care](#) guideline.)
- Oswestry Low Back Disability Index (See the ICSI [Adult Low Back Pain](#) guideline.)
- SF-36
- U.S. Department of Labor Physical Demand Table
- American Pain Foundation Scale (adapted from Oken, M.M.)
- EQ5D-5L

This information may then be used for:

- identifying significant areas of impairment or disability,
- establishing specific functional outcome goals within a care plan, and
- measuring the effectiveness of the care plan or treatment interventions.

See also [Appendix C](#) for the Physical Functional Ability Questionnaire (FAQ5).

[Return to Algorithm](#)

[Return to Table of Contents](#)

Algorithm Annotations

Pain Assessment Tools

Patient self-report is the "most reliable indicator of the existence and intensity of pain" (National Institutes of Health) and is a key component of chronic pain assessment. Tools to assess chronic pain should:

- be appropriate to the person regardless of age, race, creed, socioeconomic status and psychological or emotional background;
- include a multidimensional scale since chronic pain affects a person's entire being (*Penny, 1999 [Low Quality Evidence]*);
- address location, quality, sensory characteristics, intensity, duration, aggravating and alleviating factors, variability and predictability; and
- be used early in the process of patient evaluation.

Table 1. Multidimensional Assessment Tools

Multidimensional tools rate several aspects of pain (for example, intensity, location, pattern and quality).

Scale	Administration	Validated in	Comments
Brief Pain Inventory (BPI) (<i>Cleeland, 1994 [Low Quality Evidence]</i>)	Written	Cancer, arthritis English, Italian, Japanese	Assesses location, intensity and pattern. Reports meds, pain relief, patient beliefs, and interference in quality of life. See Appendix A, "Brief Pain Inventory (Short Form)."
Chronic Pain Grade (CPG) (<i>Smith, 1997 [Low Quality Evidence]</i>)	Verbal	Changes in chronic pain over time	Valid, reliable, easy to use, relevant to primary care setting.
Neuropathic Pain Scale (NPS) (<i>Galer, 1997 [Low Quality Evidence]</i>)	Verbal	Early study shows discriminative and predictive validity	Specifically addresses neuropathic pain qualities.
Body Outline Marking (<i>Savedra, 1989 [Low Quality Evidence]</i> ; <i>VanCleve, 1993 [Low Quality Evidence]</i>)	Written/drawn	Children ages 4-7	Useful in identifying patient's perception of pain location. May be drawn in color to represent pain intensity.

Table 2: Single-Dimensional Assessment Tools

Single-dimensional tools are those that rate only one aspect.

Scale	Administration	Validated in	Comments
Visual Analog Scale (VAS)	Visual	Chronic pain, rheumatic disease in children > 5	Poor reproducibility with cognitive dysfunction, postop or dementia.
Numeric Rating Scales (NRS)	Verbal or visual	Chronic pain, rheumatic disease, trauma, cancer, illiterate	Detects treatment effects. Decreased reliability at extremes of ages, preverbal, visual, auditory or cognitive dysfunction.
Verbal Descriptive Scales	Verbal or visual	Adults	May be easier for older adults than the VAS or NRS.
Faces Pain Scales (FPS)	Visual	Bieri: adults, children Wong Baker: children	Easier than NRS or VAS, no influence on culture, gender or ethnicity.

For additional information on pain assessment tools, the work group recommends Handbook of Pain Assessment. Edited by Dennis C. Turk and Ronald Melzack, 2nd Edition, 2001. The Guilford Press.

Algorithm Annotations

Patients with barriers to communication that can affect assessment include:

- children
- individuals of advanced age (e.g., greater than 85 years)
- patients with emotional or cognitive dysfunction
- patients who are seriously ill
- patients in whom English is a second language or who are non-English speaking

General approach:

- Use a language interpreter.
- Allow sufficient time for the assessment.
- Give the patient the opportunity to use a rating scale or other tool appropriate for that population.
- Use indicators of pain according to the following hierarchy of importance:
 - Patient self-report
 - Pathological conditions or procedures known to be painful
 - Pain-related behaviors (e.g., grimacing, restlessness, vocalization)
 - Reports of pain by family members or caretakers
 - Physiological measures (vital signs)
 - Reliance on behavioral or objective indicators of pain (e.g., vital signs) only when no suitable alternative exists

(National Pharmaceutical Council, Inc, 2001 [Low Quality Evidence])

General approach to use of pain assessment tools in chronic pain:

- On initial visit, use a multidimensional tool such as the Brief Pain Inventory to obtain a comprehensive picture of the pain experience. The patient should complete this assessment tool before the physician visit.
- With follow-up visits, continue to use a multidimensional pain assessment tool filled out by the patient before seeing the physician.
- Use specific tools such as the Neuropathic Pain Scale (NPS) when appropriate.
- Avoid the use of single-dimensional pain assessment tools in chronic pain except to rate the intensity of specific pain episodes.

(American Pain Society, 2005 [Low Quality Evidence]; Herr, 2004 [Guideline]; Kaiser Permanente Medical Care Program, 2004 [Guideline]; McCaffery, 1999 [Guideline]; Daut, 1983 [Low Quality Evidence])

[Return to Algorithm](#)

[Return to Table of Contents](#)

3. Determine Biological Mechanisms of Pain

There are many ways to classify types of pain. Based on consensus, the work group found it most helpful to classify this guideline by the following four types: neuropathic, inflammatory, muscle and mechanical/compressive.

It is important to determine which of these mechanisms are at work in the chronic pain patient because the treatments depend on the type of pain. A few decades ago, the type of pain was not so important because all

[Return to Algorithm](#)

[Return to Table of Contents](#)

pain was treated in a similar way with a very narrow scope of drugs and therapies – basically non-steroidal anti-inflammatory drugs (NSAIDs), acetaminophen and sometimes opioids. We now have available mechanism-specific treatments for neuropathic pain, inflammatory pain, bone pain and muscle dysfunction.

Remember that patients often will present with pain that has more than one mechanism. The clinician should determine the relative contribution of each mechanism to the total pain condition and devise treatment strategies to address the relevant mechanisms. If there is diagnostic uncertainty, the clinician may refer to or consult a pain specialist.

(Chen, 2004 [Low Quality Evidence]; Koltzenburg, 2000 [Low Quality Evidence]; Dickenson, 1995 [Low Quality Evidence])

[Return to Algorithm](#)

[Return to Table of Contents](#)

4. Neuropathic Pain

Neuropathic pain is pain produced by damage to or dysfunction of the somatosensory system. Examples include sciatica from nerve root compression, diabetic peripheral neuropathy, trigeminal neuralgia, and postherpetic neuralgia. The features that indicate neuropathic pain are the clinical setting, the distribution, the character of the pain and the physical examination findings. The clinical setting is usually the first clue to neuropathic pain. A diabetic who complains of persistent pain is likely to have neuropathic pain since about 50% of diabetics develop neuropathy-related pain. A patient who develops pain after a stroke in the same location is most likely having poststroke neuropathic pain. The character of neuropathic pain is usually described as burning or shooting/stabbing. If the pain follows a nerve distribution (e.g., median nerve for carpal tunnel syndrome), neuropathic pain should be considered. Other examples are stocking-glove distribution for peripheral neuropathy, trigeminal distribution for trigeminal neuralgia and dermatomal distribution for postherpetic neuralgia. The physical findings to look for with neuropathic pain are numbness in the pain territory, sensitivity to a non-noxious stimulus like light touch or rubbing (*allodynia*), or coolness of the skin in the pain territory (sympathetically mediated pain).

Fibromyalgia syndrome is characterized by widespread musculoskeletal aching, stiffness and tenderness. Accumulating research suggest fibromyalgia is a centrally mediated neuropathic pain syndrome and may be considered a special case within neuropathic pain. It is one of the most common pain clinic diagnoses.

The 2010 American College of Rheumatology Criteria Diagnostic Criteria for Fibromyalgia:

- Presentation of widespread pain and symptoms for three months or more
- Widespread pain index that assesses the number of painful body areas (HCP-administered questionnaire)
- Symptom Severity Scale that assesses the severity of fatigue, waking unrefreshed and cognitive symptoms, as well as the extent of other somatic symptoms (HCP-administered questionnaire)

Additional information regarding The American College of Rheumatology Diagnostic Criteria for Fibromyalgia can be found at <http://www.fibroknowledge.com/site/acr-2010.htm>.

(Wolfe, 2010 [Low Quality Evidence])

[Return to Algorithm](#)

[Return to Table of Contents](#)

5. Muscle Pain

Skeletal muscle pain is a common cause of chronic pain. Failure to properly diagnose muscle pain may result in poor treatment outcome, delayed recovery, and ineffective, unnecessary surgery.

Myofascial pain is regional muscle soft tissue pain commonly involving the neck, shoulders, trunk, arms, low back, hips and lower extremities. It is characterized by painful muscle dysfunction in one or several muscles in a region of the body with loss of range of motion; and by tenderness at muscle sites that causes

[Return to Algorithm](#)

[Return to Table of Contents](#)

a referred pain in a typical distribution (trigger points). Commonly, taut bands of muscle are present and sometimes a muscle twitch is elicited with palpation or needling the affected muscle. Myofascial pain is common in patients seen in pain clinics. It usually presents after an injury or with occupational repetitive activity. Treatment consists more in restoring muscle balance and function through physical therapy techniques rather than with medication management. Identifying and managing perpetuating factors (posture, repetitive actions, occupational factors) is a priority in treatment. Trigger point injections or acupuncture can be useful adjunctive treatment that may hasten recovery. Consider myofascial pain when there is regional pain without any findings on imaging studies. Sometimes, persistent myofascial pain may be a muscle response to an underlying structural spine or visceral problem (*Kilkenny, 2008 [Low Quality Evidence]*).

[Return to Algorithm](#)

[Return to Table of Contents](#)

6. Inflammatory Pain

The inflammatory component of pain as seen in arthritis, infection, tissue injury and postoperative pain is also known as *nociceptive pain* because the inflammatory mediators activate primary sensory nerves that carry pain information to the spinal cord. The clinical features include heat, redness and swelling at the pain site and a history of injury or known inflammation. Treatment involves managing the inflammatory process with antibiotic or immune modulating agents and using anti-inflammatory agents like NSAIDs or corticosteroids to manage symptoms and control inflammation.

[Return to Algorithm](#)

[Return to Table of Contents](#)

7. Mechanical/Compressive Pain

Mechanical pain is aggravated by activity and temporarily relieved by rest. Neck and back pain are commonly related to muscle/ligament strain sprain, degeneration of disks or facets, or osteoporosis with compression fractures (*Atlas, 2001 [Low Quality Evidence]*).

Mechanical/compressive pain is also a type of nociceptive pain because mechanical pressure or stretching directly stimulates the pain sensitive neurons. In this setting, the history and radiological findings usually tell the story. Examples include fracture, obstruction, dislocation or compression of tissue by tumor, cyst or bony structure. The treatment may require some sort of decompression or stabilization.

See also the [ICSI Adult Low Back Pain](#) guideline.

[Return to Algorithm](#)

[Return to Table of Contents](#)

8. Is Pain Chronic?

There is variation regarding the definition of chronic pain, including:

- Persistent pain, which can be either continuous or recurrent and of sufficient duration and intensity to adversely affect a patient's well-being, level of function, and quality of life (*Wisconsin Medical Society Task Force on Pain Management, 2004 [Low Quality Evidence]*).
- Pain without apparent biological value that has persisted beyond the normal tissue healing time (usually taken to be three months), per the International Association for the Study of Pain.
- The work group has defined chronic pain as "pain without biological value that has persisted beyond the normal time and despite the usual customary efforts to diagnose and treat the original condition and injury."

If the patient has not been previously evaluated, attempt to differentiate between untreated acute pain and ongoing chronic pain. If a patient's pain has persisted for six weeks (or longer than the anticipated healing time), a thorough evaluation for the cause of the pain is warranted.

[Return to Algorithm](#)

[Return to Table of Contents](#)

11. Specialty Involvement Where Indicated

Possible correctable causes of pain should be evaluated by the appropriate medical/surgical consultant for evaluation and, if indicated, appropriate correctable treatment.

Involvement of a pain specialist in the care of a patient with chronic pain occurs optimally when the specialist assumes a role of consultation. The work group noted that board certification as a pain specialist is available through the American Board of Anesthesiology, the American Board of Physical Medicine and Rehabilitation and the American Board of Psychiatry and Neurology. However, there is extensive variability in the needs of patients with chronic pain, and the work group did not want to limit those who could provide care. It is recommended that the primary care clinician receive regular communications from the pain specialist and continue visits with the patient on a regular schedule, even if the patient is involved in a comprehensive management program at a center for chronic pain. The primary care clinician should not expect that a consulting pain specialist will assume primary care of a patient unless there has been an explicit conversation in that regard between the consultant and the primary care clinician. This is particularly true in regard to the prescribing of opioids: the primary care clinician should expect to continue as the prescribing clinician, and ensure the responsible use of the opioids through contracts, urine toxicology screens, etc. (the exception to this may occur with the admission of the patient into a opioid tracking program). Conversely, the consulting pain specialist should not initiate opioids without the knowledge and consent of the primary care clinician.

Because it is difficult to truly assess a patient's past opioid prescription history, consider consistently querying the Minnesota Prescription Monitoring Program (PMP). Current use of the PMP is growing and can offer a clinician an opportunity to identify concerns about prescription opioids if the patient is a poor historian or is not forthcoming. Non-prescribers can query the PMP as a physician proxy in order to expedite the process.

Additional information on the Minnesota Prescription Monitoring Program (PMP) can be found at <http://pmp.pharmacy.state.mn.us/>.

[Return to Algorithm](#)

[Return to Table of Contents](#)

12. Other Assessment

Recommendations:

- Assessment tools may be utilized to measure, estimate or describe aspects of a patient's level of function, psychological status or quality of life.
- Clinicians should identify and manage comorbid psychological disorders.

Functional/Quality-of-Life Assessment Tools

Patients who experience a loss of ability to perform normal life activities as a result of chronic pain may benefit from having a recurring assessment on a consistent basis for baseline comparison as a patient's treatment progresses. This may allow for continual assessment of the effectiveness of the care plan or treatment interventions.

- Palliative Performance Scale (Karnofsky Scale) (See the ICSI [Palliative Care](#) guideline.)
- Oswestry Low Back Disability Index (See the ICSI [Adult Low Back Pain](#) guideline.)
- SF-36
- U.S. Department of Labor Physical Demand Table
- American Pain Foundation Scale (adapted from Oken, M.M.)
- EQ5D-5L

[Return to Algorithm](#)

[Return to Table of Contents](#)

www.icsi.org

Algorithm Annotations

These tools all have limitations, including difficulties with administration and scoring, disease- or condition-specific design or failure to provide clinically useful information, which have probably contributed to a lack of widespread clinical use.

See also [Appendix C](#) for the Physical Functional Ability Questionnaire (FAQ5).

Psychological Assessment

Determine possible psychiatric contribution to clinical presentation.

Assessment questions to ask the patient:

- Are you depressed or anxious?
- Are you under any psychiatric care?
- Do you have a history of substance abuse?
- Do you have a history of verbal, physical or sexual abuse?

Role of Psychological Assessment

Psychological factors may influence the experience, report and display of pain.

Identification and management of comorbid psychological disorders will facilitate appropriate biopsychosocial care. Unmanaged disorders may interfere with the patient's ability to meaningfully participate in a collaborative plan of care, diminish treatment effectiveness and/or increase suicide risk.

Depression

- Commonly comorbid with persistent pain condition
- Research suggests prevalence of 35-50% of pain patients have depression
- Duration and magnitude may signal need for specialty consultation/referral
- PHQ-9: operationalized DSM-V criteria for major depression (See [Appendix B](#), "Patient Health Questionnaire [PHQ-9]," and the [ICSI Major Depression in Adults in Primary Care](#) guideline.)

Anxiety

- Increased prevalence in chronic pain samples
- May be a risk factor for the development of chronic pain syndrome
- Psychophysiological mechanisms can maintain and/or exacerbate chronic pain
- Associated with fear of pain and fear of movement/reinjury, contributes to avoidant coping pattern
- GAD 7: Self-administered patient questionnaire used as a severity measure for generalized anxiety disorder

Substance abuse and dependence

- Increased prevalence of substance use disorders in chronic pain patient groups
- Attend to historical and current use patterns, history of formal treatment
- CAGE questions provide evidence of problematic alcohol use patterns
- Substance use history needs to be considered in the decision to prescribe medication

[Return to Algorithm](#)

[Return to Table of Contents](#)

Algorithm Annotations

The CAGE questionnaire is a useful tool for brief alcohol screening of the patient (*Ewing, 1984 [High Quality Evidence]*) and can be located at <http://www.psychology-tools.com/cage-alcohol-questionnaire/>.

See also the [Implementation Tools and Resources Table](#) for Substance Abuse and Mental Health Services Administration for the CAGE-AID and other screening tools.

Sleep Disorders

- Disruption of diurnal rhythms/chronobiology
- Lack of restorative sleep perpetuates pain syndrome and reduced function

Personality Disorders

- DSM-V recognizes three clusters of personality disorders
 - Cluster A: Odd or eccentric (Paranoid, Schizoid, Schizotypal)
 - Cluster B: Dramatic, emotional or erratic (Antisocial, Borderline, Histrionic, Narcissistic)
 - Cluster C: Anxious or fearful (Avoidant, Dependent, Obsessive-Compulsive)
- Presence of personality disorder is associated with poorer prognosis
- Characterological vulnerabilities may be magnified by the chronic stress of persistent pain
 - Appropriate treatment may lead to a reduction of stress and a resolution of problematic behavior.

History of Abuse

- A review of the literature shows that abuse in childhood is a strong predictor of depression and physical complaints, both expanded and unexplained, in adulthood (*Arnow, 2004 [Low Quality Evidence]*).
- However, the specific relationship between childhood abuse and the development of chronic pain in adulthood is under question. If a patient presents with chronic pain and a history of abuse that has not been previously treated, referral for appropriate psychotherapy should be considered.

Coping Patterns and Resources

- Passive and avoidant behavioral patterns or lack of active engagement in self-management activities can contribute to diminished activity and perpetuation of chronic pain syndrome.
- Social support resources:
 - Quality and nature of supportive relationships will influence pain-related adjustment
 - Spirituality

Spirituality

Assessment question to ask the patient:

- Is spirituality an important part of your life?

A medical patient with chronic pain who identifies him- or herself as a spiritual being will report the link to divine help as empowering him/her to use strategies to heal himself/herself. The religious patient is more apt to report that healing was a direct result of divine intervention (*Boudreaux, 2002 [Low Quality Evidence]*).

[Return to Algorithm](#)

[Return to Table of Contents](#)

www.icsi.org

Work and Disability Issues

Assessment question to ask the patient:

- Are you working and where?
- If no, why not?

Chronic pain, whether associated with a work or non-work-related condition, can lead to physical impairments that may limit work activity. Physical impairments do not imply that an individual cannot work. An impairment may lead to a job modification. However, in most conditions associated with chronic pain, complete and permanent disability is not necessary. It is frequently a variety of factors such as psychosocial issues that may increase the likelihood of disability, which may be unnecessary if based on the physical impairment alone. Joint and low back symptoms are the first and second most frequent causes of disability in America and have become major public health issues.

Disability systems in the United States include workers compensation, private disability insurance and Social Security disability. Independent health consequences of disability are significant. Those disabled have an increased probability of poor mental and physical health. Mortality is increased. Financial consequences are severe as lifetime earnings may be decreased by as much as half. There is increased generational risk with threats to family and community stability.

Risk factors that increase the likelihood of chronic pain and disability are generally consistent across different conditions. They are similar for neck and jaw pain, joint pain, low back and other sources of pain. Risk is difficult to evaluate early from the onset of pain. In general, healing from many types of injuries occurs within the first four to eight (4-8) weeks after onset. If pain is not improving during this time, risk factors should be evaluated.

In the last 20 years, numerous studies have been performed to identify risk for chronic pain and disability. The majority of these have been done in reference to low back pain. For that reason, most of the references identified refer to this area. Individual Risk Factors with Stronger Predictive Ability (*Chou, 2009 [Guideline]; Heymans, 2010 [Moderate Quality Evidence]; Haydyn, 2009 [Meta-analysis]; Hifiker, 2008 [Low Quality Evidence]; Steenstra, 2005 [Low Quality Evidence]; Pincus, 2002 [Low Quality Evidence]*) include the following:

- Fear avoidance beliefs
- Catastrophizing
- Somatization
- Depressed mood
- Distress and anxiety
- Early disability or decreased function
- High initial pain levels
- Increased age
- Poor general health status
- Non-organic signs
- Compensation dependency

[Return to Algorithm](#)

[Return to Table of Contents](#)

Algorithm Annotations

There are alternative approaches to identifying risk, including the international "The Flags Group" and risk tools such as the STarT Back originating in England. Please see the ICSI [Adult Low Back Pain](#) guideline for further discussion on these.

Secondary gain is considered a significant risk factor for chronic pain and disability. This may be a variety of levels including social, work, family and financial gain. A variety of conditions including pain lend themselves to reporting symptoms to achieve secondary gain. Estimates vary considerably; however, this is not a rare phenomena and should be considered when evaluating an individual for disability or certain treatment approaches including opioids (*Dworkin, 2007 [Moderate Quality Evidence]*).

A job can serve a strongly positive role in the life of an individual living with chronic pain. Possible benefits include ongoing income, health insurance coverage, a reason to get up in the morning and get out of the house, a social support system, a sense of normalcy and a place in useful society, and improved self-esteem. However, chronic pain may limit the ability to perform some normal job activities. In this situation the physician can greatly assist the working patient by accurately assessing physical limitations, including need for time away from the workplace for medical treatments. Physical restrictions and recommendations should be clearly and simply written in order to provide the employer with supportive guidance.

Contributing Factors and Barriers to Treatment

A comprehensive pain assessment begins with a determination of the biological type of pain, followed by a listing of contributing factors and barriers to treatment. *Contributing factors*, like habitually poor head and neck posture in a patient with a whiplash syndrome, are factors that do not cause the pain but amplify it or perpetuate it. *Barriers* to treatment include anything that interferes with a thorough assessment or the success of a treatment such as language barrier, comorbid chemical dependency, financial or legal factors, low motivation and long distance from pain management services. In chronic pain, contributing factors are often the only things that can be modified to improve pain control. Barriers are often difficult or impossible to overcome, so identifying them early in the pain assessment process provides the clinician with a more realistic expectation of what can and cannot be accomplished.

Examples: 1) A patient who is reliant on opioids for chronic pain may always rate his pain at 9 or 10 out of 10, fearing that a lower rating may result in a reduced medication dosage. Thus, the opioid reliance presents as a barrier because it interferes with an accurate assessment of the patient's pain severity. Identifying the barrier and managing it when possible will improve pain outcomes. 2) A patient with postherpetic neuralgia has thoracic neuropathic pain. She has obstructive lung disease and chronic bronchitis from smoking. Whenever she coughs, the pain is unbearable. In this case, the lung disease and cough are *contributing factors* to this patient's postherpetic neuralgia because pain is made worse by coughing even though the cough itself is not the cause of pain. Here, optimal management of chronic bronchitis will improve overall pain control by managing the contributing factor.

Table 3: Common Barriers

Behavioral	Social	Insurance Systems
Passive patient	Language barrier	Formulary restrictions
Low motivation	Cultural barrier	Coverage restrictions
Unrealistic expectations	Health system obstacles	Behavioral health carve-out systems
Poor compliance	Time constraints	Health care provider reimbursement
Chemical dependency	Lack of social support	
Poor communication	Regulatory fears	
	Financial	

[Return to Algorithm](#)

[Return to Table of Contents](#)

Management Algorithm Annotations

14. Level I Core Principles

Recommendations:

- We recommend a written plan of care using the biopsychosocial model for ensuring a comprehensive approach to treatment of a patient with chronic pain.
- All patients with chronic pain should participate in an exercise fitness program to improve function and fitness (*Malmivaara, 2006 [Systematic Review]*).
- Clinicians may consider a cognitive behavioral approach with functional restoration to improve function and help reduce pain. The members of the interdisciplinary team will vary depending on the resources in the community.
- The presence of psychological difficulties should in no way invalidate a patient's complaint of pain, nor should it eliminate the possibility that a general medical condition may also be present that is causing the pain.
- Shared decision-making for treatment of chronic pain needs an understanding of the patient's ethnic and cultural background, age, gender and spirituality in order to work with the patient's chronic pain symptomatology.
- A clinician should choose positive language and imagery.
- Self-management insures active patient participation in the care plan is essential.

Plan of Care Using Biopsychosocial Model

A study to determine family practice clinicians' views on how to improve management of chronic pain in the primary care setting suggests physicians view chronic pain as a chronic illness, and they need to use the chronic care model as an appropriate framework for quality improvement (*Clark, 2007 [Low Quality Evidence]*). A randomized controlled trial of over 400 patients and 42 primary care clinicians adds support to the collaborative care model for chronic pain (*Dobscha, 2009 [Moderate Quality Evidence]*).

The collaborative care model is an approach to health care delivery that includes providing care management and system support (*Katon, 1999 [High Quality Evidence]*). It utilizes a team approach including the patient as a team member and specialty consultation support. Elements of this model include dedicated staff to coordinate, support and educate patients; methods for reliable and systematic patient follow-up; and consistent use of evidence-based treatment practices.

A written plan of care is the essential tool for ensuring a comprehensive approach to treatment of a patient with chronic pain. To maximize the success of treatment, a care plan must address the whole person in all of his/her complexity, including physical and biologic factors, psychological state and beliefs, as well as the family, social and work environment (biopsychosocial model). It is important to have a interdisciplinary team approach coordinated with the primary care physician to lead a team including specialty areas of psychology and physical rehabilitation.

A plan of care for all patients with chronic pain should address all of the following five major elements:

- Set personal goals
- Improve sleep

Algorithm Annotations

- Increase physical activity
- Manage stress
- Decrease pain

Specific and measurable goals and clearly described specific treatment elements give patients a framework for restructuring a life that has often been significantly altered by chronic pain. Failure to improve pain and function when a patient is following the plan of care should lead to changes of the plan. Failure to follow a plan of care should lead to addressing barriers and further evaluation of stressors, psychosocial factors or motivations.

See [Appendix D, "Personal Care Plan for Chronic Pain,"](#) for an example care plan.

"People who take an active role in their treatment tend to have better quality of life, reduce their sense of suffering, and feel more empowered." – Penny Cowen, American Chronic Pain Association. It is important that realistic goals be set with patients early on regarding the potential benefits of treatment.

Patient focus group feedback

In 2005, ICSI conducted a focus group of patients who had received care for chronic pain. The information gained from these discussions was summarized and presented to the work group as part of the guideline development process. Findings were later shared with ICSI member organizations when the guideline became available for use.

Objectives for conducting the focus group were:

- Learn the patient's perspective on living with chronic pain
- Hear what patients do to manage their pain
- Hear the patient's understanding of available options for treating pain
- Determine how chronic pain influences changes in lifestyle and function
- Understand the patient's perspective of the clinician's role

Key points from the patient focus group discussion include:

- Patient experience is that limited education is done early on and patients do a lot of research on their own. Education is critical and includes setting realistic goals, providing education to patients about their disease state, explaining medications and also any interventional procedures. Well-informed patients will be able to take more responsibility for their care.
- Be aware that the term chronic pain may elicit a highly emotional response. Patients may feel discouraged that the pain will never go away despite their hope a cure will be found.
- Although patients would like a quick fix to their pain, frustration occurs when interventions that only provide temporary relief are found or utilized.
- Patients want to be included in the treatment plan. They are often proactive in seeking ways to alleviate or eliminate their pain. They may see several types of physicians and may have also tried to find relief from their pain in additional varieties of ways. **Teamwork and empathetic listening in the development of a treatment plan are critical.**
- When the physician acknowledges that chronic pain affects the whole person and really listens, patients are more likely to be open to learning how to live by managing their pain versus curing their pain.

[Return to Algorithm](#)

[Return to Table of Contents](#)

www.icsi.org

- Most patients want to return to a normal routine of completing activities of daily living (e.g., playing with children/grandchildren, going for a walk, and working within their limitations). The focus should be on improving function.
- Many patients have utilized a variety of interventions including medications and complementary therapies.

Level I Versus Level II Management

The treatment approaches described in this algorithm for the management of chronic pain are divided into two levels. Level I treatment encompasses the standard approaches to the treatment of chronic pain including pharmacologic management, intervention management, non-pharmacologic management and complementary medicine management. These treatment approaches should be implemented as first steps towards rehabilitation before Level II treatments are considered. Level II treatment includes referral for interdisciplinary pain rehabilitation or surgery for placement of a spinal cord stimulator or intrathecal pump. Level II treatments may be effective interventions for patients with chronic pain who have failed more conservative treatment options. Level II treatments are designed for the most complex and challenging patients with chronic pain. The treatment options included in Level II are expensive and require a significant investment on the part of the patient to be effective with either level of management. This should ideally be coordinated with the primary care clinician.

Physical Rehabilitation with Functional Goals

Exercise therapy is commonly recommended and used in managing patients with chronic pain. Hayden, et al. used the Cochrane Central Register of Controlled Trials to do an assessment of randomized controlled trials evaluating exercise therapy for adult nonspecific low back pain, and measuring pain, function, return to work/absenteeism and/or global improvement outcomes. Sixty-one randomized controlled trials involving 6,390 participants were assessed. The authors concluded that exercise therapy is effective in reducing pain and functional limitations in the treatment of chronic low back pain. There were limitations in the quality of the studies, and improvements were small but significant over other conservative treatment options. There was also some evidence of the effectiveness of a graded exercise program in subacute low back pain primarily in reducing work absenteeism (*Hayden, 2005 [Meta-analysis]*).

Clinical guidelines for managing patients with low back pain are available from at least 11 countries. Four countries included advice for chronic pain, and all guidelines recommend exercise therapy as useful (*Koes, 2001 [Guideline]; van Tulder, 1997 [Systematic Review]*). The American Pain Society published an evidence-based clinical practice guideline recommending consideration of an intensive interdisciplinary rehabilitation program for patients with non-radicular low back pain who did not improve with the usual conservative program (*Chou, 2009b [Guideline]*).

No one type of exercise has shown to be more effective than another. Studies have shown benefit of flexion exercises, extension exercises (Mckenzie), isokinetic intensive machine muscle strengthening, and group aerobic low-impact exercises. There is a strong need for high-quality studies to determine which type, and how much, of an exercise is necessary and effective. Cost effectiveness needs to be considered (*Faas, 1996 [Low Quality Evidence]*). Mannion found no significant difference in outcome comparing relatively inexpensive group aerobics/stretching to more traditional physical therapy and muscle conditioning, suggesting low cost alternatives may be effective (*Mannion, 1999 [High Quality Evidence]*).

Most patients with chronic pain are physically deconditioned from inactivity. The International Paris Task Force on Back Pain has recommended activity, both recreational as well as formal exercise, for patients with chronic low back pain (*Abenhaim, 2000 [Low Quality Evidence]*).

For patients with subacute low back pain, a graded, gradually progressive, exercise program has been shown to be effective in reducing work absenteeism (*Lindstrom, 1992 [Moderate Quality Evidence]*). Doing a

Algorithm Annotations

baseline of the patient's present capacity to do exercise, and then using a graded, gradually progressive, program to improve fitness makes sense for all patients with pain.

Geriatric patients also can benefit from a physical rehabilitation program. The American Geriatric Society Panel of Exercise and Osteoarthritis encourages light to moderate intensity physical activity for both prevention and possibly restoration of health and functional capacity in patients with chronic disease (Exercise Prescription for Older Adults with Osteoarthritis Pain: Consensus practice recommendations (*American Geriatric Society, 2001 [Meta-analysis]*)).

Passive modalities (TENS, ultrasound, corset, traction) have limited evidence of effectiveness and should be used only with an active exercise program (*Chou, 2007 [Systematic Review]*). Patient should be taught self-management techniques to help manage their pain including use of ice, heat and massage relaxation (*Atlas, 2001 [Low Quality Evidence]*).

Randomized controlled trials support massage therapy for certain types of pain. Reduced pain scores were found for patients receiving massage who had low back pain (*Hsieh, 2006 [Moderate Quality Evidence]*; *Cherkin, 2001 [High Quality Evidence]*), osteoarthritis of the knee (*Perlman, 2006 [Moderate Quality Evidence]*), juvenile rheumatoid arthritis (*Field, 1997 [Moderate Quality Evidence]*) and fibromyalgia (*Brattberg, 1999 [Moderate Quality Evidence]*). It remains to be determined what is the optimal amount of sessions and duration.

Regular physical activity and exercise are important parts of a healthy lifestyle. In addition to playing a role in reducing pain and improving function in patients with chronic pain, physical fitness benefits people with arthritis, heart disease and diabetes. It helps with managing high blood pressure, balance problems and difficulty walking. A recent prospective cohort study, involving 416,175 individuals followed for an average of eight years, proposed that 15 minutes a day of moderate intensity exercise might be of benefit in improving quality of life and longer life expectancy (*Wen, 2011 [Moderate Quality Evidence]*).

Patients can choose to be active or passive participants in their rehabilitation program. Chronic pain patients who actively participate in the rehabilitation program are more likely to benefit. Jordan, et al. published the article "Interventions to Improve Adherence to Exercise for Chronic Muscle Skeletal Pain in Adults." Forty-two clinical trials were assessed, with 8,243 participants, mainly with osteoarthritis and spine pain. They concluded that intervention such as supervised or individualized exercise, and self-management techniques may improve exercise adherence. However, it was felt that high-quality, long-term follow-up randomized trials were necessary (*Jordan, 2010 [Systematic Review]*).

Physical rehabilitation is one of the basic level I core principles for managing patients with chronic pain. Goals are to provide the patient with tools for managing pain and restore function. It is important to use a multidimensional pain inventory as well as a functional activities tool. A patient-centered approach encourages the patient to be an active participant in the treatment program.

Psychosocial Management with Functional Goals

Chronic pain is frequently associated with psychological problems and even comorbid psychiatric diagnoses. The presence of psychological difficulties should in no way invalidate a patient's complaint of pain, nor should it eliminate the possibility that a general medical condition may also be present that is causing the pain. If psychological difficulties or psychiatric comorbidities are found, the patient's treatment plan should include specific steps to address them.

Depression

A high percentage of patients with chronic pain have co-existing depression. In 2004, data were examined from primary care centers worldwide by the World Health Organization. They found that 22% of all primary care patients suffer from chronic debilitating pain. Further, they found that patients with chronic pain were

[Return to Algorithm](#)

[Return to Table of Contents](#)

www.icsi.org

Algorithm Annotations

four times more likely to have comorbid depressive disorder than pain-free primary care patients (*Lépine, 2004 [Low Quality Evidence]*). The findings also showed that the more diffuse the pain complaints, the greater the risk of depression and the bigger the impact on quality of life.

If depression in a chronic pain patient is severe or comorbid major depressive disorder is present in a patient with chronic pain (see ICSI Major Depression in Adults in Primary Care guideline), it is important to note that such patients are at increased risk of suicide (*Magni, 1998 [Low Quality Evidence]*; *Breslau, 1991 [Low Quality Evidence]*). Specifically assess if patient has considered harming him/herself or made plans to kill him/herself. If suicidal thoughts are present, assess whether patient has a concrete plan for self-harm; assess if he/she has the means to carry out the plan, and assess lethality of the plan. Suicidal risk is higher in individuals who are struggling with substance use/abuse, because judgment can be impaired. Past suicide attempt(s) increase risk of future attempts.

See also [Annotation #12, "Other Assessment,"](#) and [Annotation #19, "Level I Other Management,"](#) for more information on substance use/abuse.

If suicidality and/or major depressive disorder is present in the context of chronic pain, get psychiatric consultation immediately, because of risk of suicide. Also, management of chronic pain and work towards rehabilitation goals are not possible when severe depression is present. If comorbid major depressive disorder is diagnosed concurrently with chronic pain, depressive symptoms should be the primary focus of treatment. In those patients with either pain or depressive symptoms, assess both domains. Depression may be more than a facet of chronic pain when significant depression symptoms are present. If comorbidity is found between chronic pain and **mild to moderate** major depression, treat both conditions for optimal outcomes (*Bair, 2003 [Systematic Review]*). If comorbid **severe** major depressive disorder is diagnosed concurrently with chronic pain, depressive symptoms should be the primary focus of treatment.

Some symptoms of depression including feelings of helplessness, dysphoria and frustration are generally expected in patients suffering from chronic pain, given the impact pain often has on ability to function and enjoy life. If targeted intervention can improve level of physical functioning and quality of life, mild depressive symptoms will likely improve without specific intervention.

Cognitive-behavior therapy

Cognitive-behavioral approaches to the rehabilitation of patients with persistent and unremitting chronic pain are considered to be among the most helpful available. Patients may be referred to a cognitive-behavioral therapist, counselor, social worker or psychologist for treatment. However, there are initial cognitive-behavioral steps that can be implemented by primary care physicians within the busy structure of their practice to assist their patients towards rehabilitation (*Waters, 2004 [Guideline]*). Depending on resources, components of this may be organized in a community setting.

Patients live in environments that exert powerful reinforcement for certain behaviors. Physicians, by their very role as health care clinicians, are powerful reinforcers of behavior. By changing the contingencies of reinforcement, patients can make gains toward significant rehabilitation goals with the help of their physicians. The goals of cognitive-behavioral strategies in the management of chronic pain are to improve physical functioning, assist patients in returning to work, reduce disability, reduce pain-related fear/avoidance, and reduce psychological distress and depression (*Eccleston, 2003 [Low Quality Evidence]*).

Cognitive-behavioral therapy has been used in the treatment of chronic pain for over 30 years. A specific technique is rarely used in isolation; rather, cognitive-behavioral components are most often combined in an interdisciplinary structure. Significant literature exists that supports positive outcomes for cognitive-behavioral approaches, and these strategies are considered to be among the most effective for the treatment of chronic pain. Specific outcomes have been noted in randomized controlled trials and other treatment

[Return to Algorithm](#)

[Return to Table of Contents](#)

evaluation studies and include evidence for the efficacy of cognitive-behavioral treatment in improving function and mood, and in reducing pain and disability-related behavior, particularly in low back pain (*Guzmán, 2002 [Systematic Review]; Morley, 1999 [Meta-analysis]*).

Cognitive-Behavioral Strategies for Primary Care Physicians

There are a number of cognitive-behavioral strategies that primary care clinicians can utilize to help their patients manage chronic pain.

- Tell the patient that chronic pain is a complicated problem, and for successful rehabilitation, a team of health care clinicians is needed. Chronic pain can affect sleep, mood, levels of strength and fitness, ability to work, family members, and many other aspects of a person's life. Treatment often includes components of stress management, physical exercise, relaxation therapy and more to help them regain function and improve the quality of their lives.
- Let the patient know you believe that the pain is real and is not in his/her head. Let the patient know that the focus of your work together will be the management of his/her pain. ICSI Patient Focus Group feedback included patient concerns that their clinicians did not believe them/their child when they reported pain.
- Ask the patient to take an active role in the management of his/her pain. Research shows that patients who take an active role in their treatment experience less pain-related disability (*French, 2000 [Low Quality Evidence]*).
- Avoid telling patients to "let pain be their guide," whether it is stopping activity because of pain or taking medications or rest in response to pain.
- Prescribe time-contingent pain medications, not pain medications "as needed." Time-contingent medications allow a disruption in the associations between pain behavior and pain medication. The powerfully reinforcing properties of pain medicines are then not contingent upon high levels of pain and pain behavior.
- Schedule return visits on a regular schedule, and don't let the appointments be driven by increasing levels of pain. Physicians are powerful reinforcers, too.
- Reinforce wellness behaviors such as increased activity or participation in an exercise program.
- Enlist the family and other supports to reinforce gains made toward improved functioning, too.
- Have the patient get involved in an exercise program or structured physical therapy.
- Assist the patient in returning to work. Do this in a stepwise fashion that is not dependent on level of pain.
- Fear of movement or fear of pain due to movement is a significant concern for many patients with chronic pain. Inactivity or avoidance of movement leads to physical deconditioning and disability. Try not to rely on sedative or hypnotic medications to treat the fear many chronic patients show of activity or fear of increased pain. When patients with chronic pain expose themselves to the activities that they fear, which simply means when they do the things they have been afraid of and avoiding, significant reductions are observed in fear, anxiety and even pain level (*Vlaeyen, 2002 [Moderate Quality Evidence]*). If patient's fears are excessive, relaxation strategies may be helpful or referral for more formal and intensive cognitive-behavioral therapy may be necessary.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Cognitive-Behavioral Interventions

Relaxation therapies

Relaxation therapies include a number of strategies aimed toward lowering general arousal and promoting a state of relaxation, and include biofeedback, imagery, diaphragmatic breathing, autogenic training, and progressive muscle relaxation training. It is believed that relaxation reduces levels of anxiety in patients with chronic pain, which enhances pain tolerance and decreases reports of pain. Further, relaxation techniques place greater responsibility on patients to expand their repertoire of coping strategies for managing their pain.

Biofeedback

Biofeedback has been defined as a process in which a person learns to reliably influence physiological responses of two kinds: either responses that are not ordinarily under voluntary control or responses that ordinarily are easily regulated but for which regulation has broken down due to trauma or disease. Biofeedback-assisted relaxation is commonly used in the treatment of various pain conditions. Biofeedback has also been used in a specific way to attempt to directly modify the physiological parameters thought to underlie a pain condition, such as frontalis muscle tension in headache sufferers.

Biofeedback has been found to be effective in headache management (*Haddock, 1997 [Meta-analysis]*), temporomandibular disorders (*Crider, 1999 [Meta-analysis]*), and other recurrent pain conditions (*National Institutes of Health, 1997 [Low Quality Evidence]*).

Mindfulness-based stress reduction (MBSR)

MBSR is a structured program teaching greater present-moment awareness and self-acceptance by means of formal and informal meditative practices. Training in mindfulness meditation, in the context of MBSR, has been shown to be effective in the regulation of chronic pain. Jon Kabat-Zinn reported 60% moderate to great improvement in pain states four years after completing the MBSR program (*Kabat-Zinn, 1986 [Low Quality Evidence]*). One study demonstrated significant improvement with fibromyalgia patients utilizing mindfulness meditation and yoga (*Kaplan, 1993 [Low Quality Evidence]*).

Mindfulness meditation encourages acceptance of the pain experience, rather than distraction. This helps separate the specific pain sensations from the patient's suffering (emotional reaction and worry), leading to improved coping and acceptance. Mindfulness is becoming a mainstream practice in assisting patients in pain programs.

Imagery

Imagery is a simple procedure designed to promote general relaxation. This technique involves imagining a pleasant or relaxing scene such as lying in the sun listening to the waves on a beach. With practice, imagery can be used to reduce autonomic arousal and be used as an effective attention diversion strategy.

Diaphragmatic breathing

Diaphragmatic breathing or breathing retraining, as it is sometimes called, is a deceptively simple strategy that is easily under the patient's control. The goal is to teach patients correct diaphragmatic breathing, which incorporates both slowed breathing (five to eight breaths per minute) and even breathing with the same rate for exhaling and inhaling.

Autogenic training

Autogenic training is another relaxation procedure that focuses attention to different desired somatic responses such as sensations of warmth and heaviness in the extremities. These responses are believed to facilitate increased blood flow to the extremities and thus promote peripheral warming and a reduction in sympathetic nervous system arousal.

Progressive muscle relaxation training

In this relaxation strategy, attention is focused on 14 different muscle groups throughout the body. With this strategy, patients learn to discriminate various forms of muscle tension and with this focus are able to achieve a state of deep relaxation with practice.

Hypnosis

Hypnosis has been used in the treatment of pain and other medical conditions in one form or another since the 1700s (*Stewart, 2005 [Low Quality Evidence]*). Hypnosis is believed to involve both muscle relaxation and perceptual alteration. All hypnotic techniques share the common goal of shifting the focus to accepting pain rather than fearing pain. Hypnosis strives to create distance from the pain in an effort to lessen the impact of the pain or transform the experience of pain into something that is more bearable.

Hypnosis has been found to be effective in patients with chronic pain and compared favorably to alternative treatment procedures (*Montgomery, 2000 [Meta-analysis]*).

Cognitive techniques

Cognitive therapy techniques are based on the notion that a person's cognitions or how one thinks about oneself, others and the future can have a major impact on his/her mood, behavior and physiology. The use of cognitive therapy in pain is focused upon helping patients notice and modify the negative thought patterns that increase the experience of pain, increase distress, and increase pain behavior and the avoidance of activity.

Cognitive restructuring

This technique involves several steps that help to modify the way in which a patient with chronic pain views pain and his/her ability to cope with pain. The identification of automatic thoughts that lead to negative emotions is targeted in this approach. The negative thoughts are challenged and coping strategies are substituted.

Problem-solving

A four-step approach to problem-solving is used in this technique. The goal of problem-solving is to assist patients with chronic pain in seeing alternative solutions to their life difficulties. Identification of the problem, generation of possible solutions to the problem, prioritizing the solutions, and implementing a single strategy that is then evaluated for effectiveness are the steps in a problem-solving approach. Having patients experiment with different ways of tackling problems can be an effective way of changing habits or beliefs.

Culture and Chronic Pain

People use different coping strategies or styles when dealing with chronic pain that show cultural influences. Human responses to pain are quite variable, but they have never been associated with biological mechanisms; rather, they appear to reflect cultural expectations and psychological predisposition.

The demographic differences involving health care utilization, access and attitudes have shown a variation among cultures. Medical decisions for the treatment of chronic pain requires an understanding of the patient's ethnic and cultural background. This understanding allows medical clinicians to work with the patient's chronic pain symptomatology.

Age and Chronic Pain

Age has been determined a predictor of chronic pain status and subsequent treatment strategies. Despite the large number of predisposing factors, pain is not a physiological result of the aging process. There

[Return to Algorithm](#)

[Return to Table of Contents](#)

have been important age differences in clinical presentation of patients with chronic pain, and this reflects cohort differences and/or physiological or psychological adjustment processes in the distinct chronic pain presentation.

Gender and Chronic Pain

Chronic pain conditions have been reported more frequently in women as compared to men. Gender differences in pain perception may have an important implication for pain management, and it is crucial that the relationship between pain, gender and anxiety be examined.

Gender differences do play a role in the evaluation and treatment modalities for chronic pain and need to be considered when making a comprehensive chronic pain program.

Spirituality and Chronic Pain

The mechanisms of action of spirituality and chronic pain include relaxation, sense of control and an increased positive affect (*Ledbetter, 2001 [Low Quality Evidence]*).

Spiritual concerns and questions often have no clear answers or solutions, yet they can significantly affect the quality of a patient's suffering. Spirituality with adjuvant care may help to modify the treatment modalities and develop a comprehensive pain management plan.

Findings suggest that spirituality may not have a specific effect on chronic pain over nonspecific factors, but there has been evidence that concludes patients with serious medical illness commonly use spiritual methods to manage and deal with their illnesses (*Boudreaux, 2002 [Low Quality Evidence]*).

[Return to Algorithm](#)

[Return to Table of Contents](#)

15. Level I Management: Neuropathic Pain

The first principle guiding any therapy is to eliminate the underlying causes of pain to the greatest possible extent with disease-specific measures (*Belgrade, 2003 [Guideline]*). For example, better diabetes management should minimize the complications of diabetes, including pain. Chemotherapy or surgery that reduces tumor bulk will decrease pain caused by a tumor that is compressing nerve roots.

Symptomatic pain control can take the form of local or regional interventions, including nerve blocks, topical agents, or physical rehabilitative measures. In addition, systemic therapies can be applied, such as drug therapies or behavioral techniques that reduce pain (*Baron, 2010 [High Quality Evidence]*).

Fibromyalgia may be considered a special case within neuropathic pain due to mechanisms that are less well defined and a distribution that is widespread. Treatments proven effective include graded aerobic exercise, behavioral therapies such as relaxation, interdisciplinary management and acupuncture (*Karjalainen, 2008 [Systematic Review]*; *Martin, 2006 [High Quality Evidence]*). Pharmacological therapy with FDA indication for fibromyalgia includes pregabalin, duloxetine and milnacipran. Other agents that have been shown to be effective in controlled trials include gabapentin, cyclobenzaprine, tramadol, and tricyclic antidepressants (*Nishishinya, 2008 [Low Quality Evidence]*).

Pharmacotherapy

- Tricyclic antidepressants (amitriptyline) have been shown to have a modest benefit in patients with fibromyalgia in reducing pain short-term and reducing insomnia.
- Cyclobenzaprine also has modest benefit in patients with fibromyalgia and is used as a standard therapy for muscle pain.

See Appendix H, "Neuropathic Pain Treatment Diagram."

[Return to Algorithm](#)

[Return to Table of Contents](#)

Local or Regional Therapies

Topical therapies can be applied to localized peripheral tissues to reduce pain without significant systemic effects. Topical capsaicin applied three or four times per day can deactivate local C-polymodal nociceptors at the vanilloid receptor and reduce pathological pain. It has been studied in diabetic neuropathy (*The Capsaicin Study Group, 1991 [High Quality Evidence]*) and postherpetic neuralgia (*Fusco, 1997 [Low Quality Evidence]*). Preparations of topical lidocaine in the form of a cream or a patch have also been used for relief of localized neuropathic pain syndromes (*Rowbotham, 1995 [Moderate Quality Evidence]*). Transcutaneous electrical nerve stimulation and other stimulation-based therapies can provide temporary relief in some cases of neuropathic pain caused by nerve root or plexus lesions, but such therapies may also be irritating, particularly when allodynia is present. In such cases, application of the stimulating electrode in adjacent, uninvolved dermatomes may be effective and better tolerated.

Drug Therapies for Neuropathic Pain

See also [Annotation #19, "Level I Other Management."](#)

Gabapentin and pregabalin

Among the many drugs used to manage neuropathic pain, gabapentin and pregabalin have growing acceptance among pain specialists and neurologists as first-choice treatments. Gabapentin provides a high level of pain relief in up to one-third of the people who take it for neuropathic pain, and both gabapentin and pregabalin have proved effective in postherpetic neuralgia and diabetic neuropathy in multicenter controlled trials (*Moore, 2011 [Systematic Review]*; *Lesser, 2004 [High Quality Evidence]*; *Dworkin, 2003b [Moderate Quality Evidence]*; *Backonja, 1998 [Moderate Quality Evidence]*; *Rowbotham, 1998 [High Quality Evidence]*). Their favorable side effect profile and paucity of adverse interactions with other drugs contribute to its widespread use in neuropathic pain. Since excretion of the drug is virtually 100% renal, the dose and frequency of administration are reduced in patients with renal insufficiency. Pregabalin, like gabapentin modulates the alpha2delta subunit of the N-type voltage-gated calcium channels, and thus regulates the influx of calcium into the nerve and reduces the outflow of excitatory neurotransmitters that transmit pain. Pregabalin is indicated for treatment of diabetic neuropathy, postherpetic neuralgia and fibromyalgia, as well as for partial onset seizures. Gabapentin has an indication for diabetic neuropathy pain, postherpetic neuralgia, fibromyalgia, and partial onset seizures. Several studies have also shown that pregabalin for neuropathic pain associated with spinal cord injuries was efficacious and that the risk for adverse events was comparable to other pharmacologic therapies (*Snedecor, 2013 [Systematic Review]*).

Other anticonvulsants

Other anticonvulsants have been utilized in neuropathic pain with variable success. Carbamazepine is still considered a good initial choice for idiopathic trigeminal neuralgia, but there is a lack of evidence of consistent success in other pain states. Oxcarbazepine is chemically similar to carbamazepine and may have benefits in the treatment of neuropathic pain, including trigeminal neuralgia.

Newer anticonvulsants are beginning to be investigated for their neuromodulating effects on various non-epileptic conditions such as mood, behavior and pain. Among these drugs are topiramate, lamotrigine, oxcarbazepine and tiagabine. Some preliminary studies have indicated a possible role for lamotrigine in trigeminal neuralgia (*Zakrzewska, 1997 [Low Quality Evidence]*), painful HIV-associated neuropathy (*Simpson, 2000 [Low Quality Evidence]*), and complex regional pain syndrome type I (*McCleane, 2000 [Low Quality Evidence]*).

Tricyclic antidepressants

Tricyclic antidepressants (amitriptyline, nortriptyline, desipramine, imipramine and others) continue to hold a place in the management of a broad range of pain disorders, including neuropathic pain. Their mechanism of action is believed to involve potentiation of descending inhibitory pathways, especially at the level of

[Return to Algorithm](#)

[Return to Table of Contents](#)

www.icsi.org

the lower brainstem. Among the large number of controlled and uncontrolled studies, superior efficacy for amitriptyline or desipramine over fluoxetine or lorazepam was demonstrated in diabetic neuropathy (*Max, 1992 [Low Quality Evidence]*). This trial showed that the effect of the tricyclic antidepressant on pain was independent of its effect on depression. A screening electrocardiogram is recommended for elderly patients and others at risk of the conduction delay that these drugs can cause. Duloxetine and venlafaxine also have been shown to be effective in certain neuropathic states such as painful diabetic neuropathy and fibromyalgia (*Arnold, 2004 [High Quality Evidence]*; *Sindrup, 2003 [Low Quality Evidence]*). For more information see [Annotation #19, "Level I Other Management," "Pharmacologic Management"](#) section.

Opioids

Although most opioids are not known to work through antineuropathic mechanisms, they are nevertheless potent analgesics. They have a role in reliable patients when other measures fail. Careful patient selection is critical to success with long-term opioid therapy. Two opioids, methadone and tramadol, may be more effective than others in neuropathic pain. Due to the complexity of dosing and potential for cardiac adverse effects, the use of methadone should be reserved for experienced practitioners. FDA-required information in the product labeling for methadone states, "Methadone has been associated with QTc interval prolongation and other cardiac adverse effects including hypotension and other cardiac dysrhythmias. Patients should have a baseline ECG prior to initiation of methadone, which is repeated after 30 days and then annually. More frequent ECG monitoring should be done when methadone doses exceed 100 mg per day." See [Appendix G, "Opioid Analgesics,"](#) for more information. Additionally, methadone possesses inhibitory properties at the N-methyl D-aspartate (NMDA) receptor in the spinal cord. The NMDA receptor is involved in central sensitization, windup, neurogenic hyperalgesia, and development of opioid tolerance. Thus, agents that block the NMDA receptor (such as methadone and dextromethorphan) may have antineuropathic pain properties. Tramadol is a weak opioid analgesic that also causes serotonin reuptake inhibition similar to that seen with the tricyclic antidepressants. This dual mechanism may make it advantageous for management of neuropathic pain or mixed pain disorders. Tapentadol, a newer opioid analgesic with norepinephrine reuptake inhibition properties is available in both immediate-release (IR) and extended-release (ER) oral dosage forms. It is indicated for treatment of neuropathic pain including diabetic peripheral neuropathy. Tapentadol should be avoided in patients with convulsive disorders and in those with severe renal or hepatic impairment.

[Return to Algorithm](#)

[Return to Table of Contents](#)

16. Level I Management: Muscle Pain

- Currently, scientific evidence of the effectiveness of treatment is for muscle pain, such as diffuse non-specific myalgias, is lacking. Well-designed randomized controlled trials with long-term follow-up are necessary. The American Pain Society notes that "there is insufficient evidence to adequately evaluate benefit of local injections, botulinum toxin injection..." (*Chou, 2009b [Guideline]*). In the absence of evidence, the following assessments and treatment will support patient care.
- Screen for serious medical pathology, and for psychological and social factors that may delay recovery.
- Use a numeric pain rating and functional scale to determine severity of pain disability.
- Use a biopsychosocial interdisciplinary team approach with a cognitive-behavioral component encouraging exercise and active participation of the patient in the plan of care (*Wisconsin Medical Society Task Force on Pain Management, 2004 [Low Quality Evidence]*).
- A graded exercise program starting within baseline and gradually increasing in a time-contingent manner works best.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Algorithm Annotations

- Use the biopsychosocial interdisciplinary team approach with cognitive-behavioral component encouraging exercise and active participation of the patient in the plan of care:

Physical Rehabilitation

- fitness program
 - gentle graded strength
 - cardiovascular
 - flexibility
 - balance
- body mechanics
- modalities
 - ice/heat
 - massage
 - self management
- aquatic therapy

Behavioral Management

- depression/stress
- relaxation techniques
- cognitive behavioral
- chemical dependency
- anger management
- biofeedback

Drug Therapy

- pain and sleep
 - tricyclic antidepressants (nortriptyline low dose)
 - cyclobenzaprine
- depression and pain
- **opioids rarely needed**
(Rome, 2004 [Low Quality Evidence])

Additional considerations

For patients with fibromyalgia chronic pain, physical rehabilitation is the mainstay of management.

Determine the patient's baseline fitness, and then use a graded exercise program.

Psychosocial rehabilitation including cognitive behavioral therapy (management of depression, stress, anger, fear avoidance, chemical dependency and non-restorative sleep) is helpful. A biopsychosocial interdisciplinary team approach is most effective.

Invasive procedures lack evidence of efficacy.

Self-management insures active patient participation in managing pain and achieving reasonable functional goals.

Teach self-management and measure outcome using pain rating and a function tool.

[Return to Algorithm](#)

[Return to Table of Contents](#)

17. Level I Management: Inflammatory Pain

Arthritis, tendonitis and chronic infections are common examples of chronic inflammatory pain. They are associated with swelling and warmth of tissue and sometimes redness of the skin. This type of pain occurs through activation of nociceptors by inflammatory mediators like prostaglandins and can also become chronic through a process of sensitization. Treatment should start with efforts to control the inflammation and its causes when possible. NSAIDs, corticosteroids are the main anti-inflammatory agents. Consider a rheumatology consult if clinically indicated.

[Return to Algorithm](#)

[Return to Table of Contents](#)

18. Level I Management: Mechanical/Compressive Pain

Mechanical/compressive pain refers to tumors or cysts that may compress pain sensitive structures. Dislocations, instabilities, fractures, etc., may also cause a strain on pain sensitive structures. These causes of persistent pain may be effectively treated with surgical decompression or stabilization, splinting, strengthening and use of assistive devices can all address mechanical pain. Medications play a less prominent role and tend to be less effective when dealing with mechanical or compressive causes of persistent pain. Opioids may be used to manage the symptoms while other measures are being taken.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Manipulative Therapy and Chronic Pain

A growing body of evidence supports the integration of manipulative therapy, within the context of interdisciplinary treatment, to be an efficient and efficacious treatment in improving pain and function. As such, manual therapy and treatment should be considered as a viable option in the management of chronic pain, especially when integrated with other interdisciplinary treatments (*Degenhardt, 2007 [Low Quality Evidence]*; *Licciardone, 2004 [Low Quality Evidence]*; *Licciardone, 2003 [Low Quality Evidence]*; *Gamber, 2002 [High Quality Evidence]*; *Knebl, 2002 [Low Quality Evidence]*).

[Return to Algorithm](#)

[Return to Table of Contents](#)

19. Level I Other Management

Pharmacologic Management

Recommendations:

- NSAIDs should be used for periodic flare-ups of mild to moderate inflammatory or non-neuropathic pain.
- Clinicians should define the goals of therapy before prescribing medications, and tailor medications to meet the individual goals of each patient.
- Clinicians should identify and treat specific source(s) of pain.
- Clinicians should educate patients about the risks and benefits of all drugs, and watch for and manage side effects.
- For opioid therapy, clinicians should:
 - Assure the benefit clearly outweighs the risk when prescribing opioids.
 - Use caution before starting a patient on long-term opioid therapy.
 - Follow the 4 A's (Analgesia, Adverse drug reactions, Activity, Adherence) (*Passik, 2000 [Guideline]*).
 - The work group recommends the use of a written opioid agreement for patients anticipated to be on long-term therapy. See [Appendix F](#) for an example of an opioid agreement form.

Medications are not the sole focus of treatment in managing pain. They should be used when needed to meet overall goals of therapy in conjunction with other treatment modalities: psychosocial and spiritual management, rehab and functional management, non-pharmacologic and complementary medicine, and intervention management. Pharmacotherapy may include agents to treat specific types of pain, such as neuropathic pain, or adjunctive therapies to treat other comorbidities such as depression and anxiety. Use of medications, therefore, should be directed not just toward pain relief, but for increasing function and restoring overall quality of life.

The off-label use of medications to treat chronic pain is a common practice, and due to the complexity of chronic pain and the minimal approval sought by drug manufacturers, many of the medications in this guideline have not undergone formal evaluation by the FDA (Food and Drug Administration) for chronic pain treatment. The FDA focuses on market entry for prescription drugs rather than regulating clinicians prescribing practices, thus allowing off-label use of medications for indications beyond those formally evaluated by the manufacturer. Clinicians are to use their best knowledge and judgment, with the inherent

[Return to Algorithm](#)

[Return to Table of Contents](#)

responsibility to be well informed and base their prescribing upon scientific rationale and sound medical evidence (*U.S. Food and Drug Administration, 2011 [Reference]*).

The basic elements to include anytime opioids are used are a diagnosis, a care plan, regular visits with the physician, follow-up and documentation. See the Federation of State Medical Boards at <http://www.fsmb.org> for complete information.

General Principles for Pharmacologic Management (*Wisconsin Medical Society Task Force on Pain Management, 2004 [Low Quality Evidence]*)

- A thorough medication history is critical to the development of an effective treatment plan.
 - Include use of over-the-counter drugs and herbals and other supplements.
 - Look for drug-related fears and misconceptions, as they may lead to poor compliance with a therapeutic regimen. Differentiate between tolerance, physical dependence and addiction. See "Definitions" earlier in this guideline.
- Define the goals of therapy before prescribing, and tailor medications to meet the individual goals of each patient.
- Identify and treat specific source(s) of pain, and base the initial choice of medication(s) on the severity and type of pain.
 - Types include neuropathic, muscular, inflammatory, and mechanical/ compressive pain. See [Annotations #15-18](#).
 - Give drugs an adequate therapeutic trial. When treating inflammatory or neuropathic pain, benefits may take weeks or longer to appear.
- Patients need to know that whether prescribed or non-prescribed, all drugs have risks and benefits. Watch for and manage side effects.
- Select an appropriate drug based on:
 - Characteristics of the agent (onset, duration, available routes of administration, dosing intervals, side effects). The least invasive route of administration is preferred; it's generally oral.
 - Patient factors (age, co-existing diseases, other medications, and response to previous treatments).
- Establish a pain management plan that may include the addition of other drugs: non-opioid, plus opioid, plus adjuvant analgesics when indicated.
 - Rational poly-pharmacy may include the use of two or more drugs with complementary mechanisms of action that may provide greater pain relief with less toxicity and lower doses of each drug.
 - Avoid prescribing two drugs in the same class at the same time.
 - Be alert for possible interactions with other medication the patient is taking or additive side effects.
- Titrate doses to achieve optimal balance between analgesic benefit, side effects and functional improvement.
 - Some medications require gradual upward titration to achieve optimal analgesia and to minimize adverse effects.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Algorithm Annotations

- Optimize administration of analgesics. Generally, better pain control is obtained with regularly scheduled doses and supplemented with as-needed doses for breakthrough pain.
- Taper and discontinue drugs that don't meet treatment goals. If a drug does not produce the desired therapeutic outcome, there is no need to continue it. This practice helps to prevent expensive and potentially dangerous poly-pharmacy.

Non-Opioid Analgesics

Non-opioid analgesics to consider for use in the treatment of chronic pain include acetaminophen and non-steroidal anti-inflammatory drugs (NSAIDs).

Acetaminophen is an analgesic that may be used initially for the treatment of mild chronic pain or to supplement other agents in treating mild to moderate pain. It lacks anti-inflammatory effects but is generally well tolerated at therapeutic doses. It does not damage the gastric mucosa but may have chronic renal or hepatic adverse effects (*American Pain Society, 2005 [Low Quality Evidence]*). Dosage should be restricted to a maximum of 3 grams per 24 hours, including acetaminophen contained in combination opioid products such as hydrocodone with acetaminophen. Acetaminophen should be used cautiously or avoided in patients with liver impairment.

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

NSAIDs are indicated for the treatment of mild to moderate inflammatory or non-neuropathic pain. In general, NSAIDs should be used for periodic flare-ups rather than for long-term chronic use. All NSAIDs inhibit the enzyme cyclooxygenase (COX), inhibiting prostaglandin synthesis. The COX-2 inhibitor celecoxib appears to have fewer gastrointestinal side effects.

However, high-dose, long-term use of COX-2 agents has a higher rate of cardiovascular adverse effects. Recent reports indicate that cardiovascular adverse effects are not limited to the COX-2 agents alone (*U.S. Food and Drug Administration, 2004 [Not Assignable]*).

- All NSAIDs have GI risks of gastritis and possible bleeding. Risk benefits should be weighed, especially when treating elderly patients or those at higher risk for GI adverse effects. Consider using in combination with the gastroprotective agent misoprostol or a proton pump inhibitor.
- Use with caution in patients with coagulopathies or thrombocytopenia and those at risk for bleeding. At recommended doses, celecoxib does not appear to affect platelet counts, prothrombin time, partial thromboplastin time, or platelet aggregation. Celecoxib, at doses 2 to 4 times the maximum doses for rheumatoid arthritis (RA) and osteoarthritis (OA) (400 mg twice a day), respectively, was associated with a decreased incidence of anemia when compared with patients receiving NSAIDs (diclofenac and ibuprofen) at accepted RA and OA doses (2% versus 4.4%, respectively; p value less than or equal to 0.05) (*Silverstein, 2000 [High Quality Evidence]*).
- Ketorolac should not be used for longer than five days and therefore is not an appropriate choice of NSAID in the treatment of chronic pain.
- NSAIDs have significant opioid dose-sparing properties and in turn may reduce opioid-related side effects.
- Monitor all NSAID use including patient use of non-prescription drugs, to prevent duplication of therapy and adverse effects.

[Return to Algorithm](#)

[Return to Table of Contents](#)



An initiative of the ABIM Foundation

- The use of NSAIDs should be avoided in individuals with hypertension, heart failure, or chronic kidney disease (CKD) of all causes, including diabetes for musculoskeletal pain due to increased renal insufficiency.*

* This is in alignment with the recommendations made by the American Society of Nephrology as part of the *Choosing Wisely*[®] campaign, and additional information can be found at <http://www.asn-online.org/choosingwisely>.

Opioids

When is it appropriate to use opioids?

Prior to consideration of opioid use for the patient with chronic pain, a thorough evaluation as recommended in this document should have been completed. If the ethical imperative to relieve pain requires opioid therapy prior to such a thorough evaluation, proceed using good clinical judgement.

It is appropriate to consider opioid therapy for patients with persistent moderate to severe pain in the following circumstances:

- Clinical evidence suggests opioids are likely to be effective in neuropathic pain that is not responsive to initial therapies (TCAs or gabapentin).
- Opioids are rarely beneficial in the treatment of inflammatory or mechanical/compressive pain and are not indicated for chronic use in treatment of headache (see ICSI [Diagnosis and Treatment of Headache](#) guideline).
- Opioids have an equal or better therapeutic index than alternative therapies.
- The medical risk of opioid therapy is relatively low.
- The patient is likely to be responsible in using the drug.
- Opioid therapy is considered part of the overall management for the pain syndrome.

The Four A's

The goal of opioid therapy is to provide partial analgesia, and maintain or improve function with acceptable side effects. (Four A's: Analgesia, Adverse drug effects, Activity, Adherence) (*Passik, 2000 [Guideline]*).

At each patient visit, the assessment should specifically address these goals (with clear documentation of the four A's in the patient's medical record):

- Comfort (degree of analgesia)
- Opioid-related side effects
- Functional status (physical and psychosocial)
- Existence of aberrant drug-related behaviors

Opioid management

Opioids have the potential to alleviate pain but also the potential for aberrant drug-related behavior, drug abuse or misuse. Therefore, a single physician/clinician should prescribe and supervise opioids used for chronic non-cancer pain. Often the primary care clinician is best suited to do so based on knowledge of the whole person (*Chou, 2009a [Guideline]*). Physicians should not feel compelled to prescribe opioids or any drug if it is against their honest judgment or if they feel uncomfortable prescribing the drug. Additionally, those who prescribe opioid pain medication should be aware of current federal and state laws and regulations related to the use of chronic opioid therapy (*Chou, 2009a [Guideline]*).

Before prescribing an opioid and other potentially addictive medications, or medications of potential abuse or misuse, the work group recommends completion of a comprehensive biopsychosocial assessment. This should include pain history/examination plus administration of an opioid assessment tool to recognize potential risks of addiction, abuse or misuse. Prior medical records, particularly pertaining to pain medications, should be reviewed before deciding to start chronic opioid pain medications.

DIRE tool

Opioid assessment tools, such as the DIRE tool, determine a patient's appropriateness for long-term opioid management (see [Appendix E, "DIRE Score: Patient Selection for Chronic Opioid Analgesia"](#)). In a reliability and validity study, higher scores (14 or higher) predicted a more successful prescribing process with respect to patient compliance and efficacy of treatment (*Belgrade, 2006 [High Quality Evidence]*).

Screening, Brief Intervention, Referral to Treatment (SBIRT) model for substance use

For those patients who have a positive screen for misuse of drugs or alcohol, SBIRT is a comprehensive and integrated approach to the delivery of early intervention and treatment services. SBIRT reduces alcohol consumption and alcohol-related harm when done in the outpatient or emergency department settings.

Additional information can be obtained at [ICSI SBIRT Model and Implementation](#).

Other opioid assessment tools include:

- Webster's Opioid Risk Tool (ORT)
- Screener and Opioid Assessment for Patients in Pain (SOAPP®)
- Current Opioid Misuse Measure (COMM™)
- Prescription Drug Use Questionnaire (PDUQ)
- Screening Tool for Addiction Risk (STAR)
- Screening Instrument for Substance Abuse Potential (SISAP)
- Pain Medicine Questionnaire (PMQ)

Patients should give informed consent before the start of opioid therapy, and the consent discussion should be documented in the medical record. This discussion should include the necessity of adherence to prescribed dosing, the potential for cognitive impairment when taking the drug alone and/or in combination with sedative/hypnotics, and the likelihood that physical dependence will occur (*Portenoy, 2004 [Guideline]*). Chronic use of opioids has many other potential hazards. These hazards include the potential for addiction, tolerance, hyperalgesia and hyperkatifeia. Rates of overdose and associated deaths are increasing. This is in the context that chronic use of opioids may be effective in pain control in only 30% (*Noble, 2010 [Systematic Review]*) of those with chronic pain. Aberrant use of opioids is common occurring in up to 24 % of this population (*Martell, 2007 [Systematic Review]*). In general, use of opioids may delay recovery (*Sjøgren, 2010 [Low Quality Evidence]*) from chronic pain and have not been shown to increase function. They may decrease sexual and immune function as well as increase overall mortality rate (*Crofford, 2010 [Reference]*).

General opioid management principles: (*Chou, 2009a [Guideline]*)

- If the physician is not the initial prescribing clinician, it is important to be aware that he/she is not under any obligation to assume responsibility for prescribing without adequate communication and hand-off. Nor is it appropriate to prescribe chronic opioid medications when not aware of the patient's past medical history.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Algorithm Annotations

- Most patients with acute exacerbation of chronic pain don't require opioid pain medications, but if the primary care physician feels a short trial of opioid pain medication is necessary, consider writing a two-week supply of a short-acting medication. If the patient is not improving from a functional point of view, consider getting a consult from a pain specialist before writing a second prescription.
- Most pain specialists do not feel it appropriate to prescribe opioid pain medications at the first visit. The prescribing clinician should not expect or assume the pain specialist will take over the care of the patient or management of opioid pain medications.
- Patients with aberrant drug-related behaviors or drug abuse/misuse should be tapered off the opioid pain medication. A referral to a chemical dependency program may be necessary.
- Patients who don't meet functional goals should be tapered off chronic opioid pain medications.

For additional information, please refer to the ICSI [Acute Pain Assessment and Opioid Prescribing](#) protocol.

Substance abuse

Patients should be carefully screened for risk of diversion or abuse. The following behaviors suggest relative contraindications to opioid use. With these patients, referral to pain or addiction specialist is advisable (*VA/DoD, 2003 [Guideline]*):

- History of substance abuse or prior prescription drug misuse
- Unsanctioned dose escalations on several occasions
- Non-adherence to other recommendations for pain therapy
- Unwillingness or inability to comply with treatment plan
- Social instability
- Unwillingness to adjust at-risk activities resulting in serious reinjury requiring additional opioid prescriptions

Random drug screens are one tool to monitor compliance with the opioid regimen. Random urine drug screens are used (1) to check for diversion, seeking evidence the patient is taking the medication being prescribed; (2) to check for drugs of abuse; and (3) to test for the presence of the prescribed drug. Any evidence of street drug use indicates non-compliance with the opioid contract. The patient's opioids are tapered, and he/she is referred to a chemical dependence specialist or treatment program. Primary care physicians need to be aware of the limits of a drug screen. Other useful tools include periodic pill counts or consultation with an addiction medicine specialist, or use of a centralized database to identify and monitor usage (<http://www.pmp.pharmacy.state.mn.us/>).

Evidence of aberrant drug-related behaviors must be carefully assessed. In some cases tapering and discontinuation of opioid therapy will be necessary. Other patients may appropriately continue therapy if the structure for monitoring are tightened. Consideration should be given to consultation with an addiction medicine specialist.

There is not enough evidence to permit generalizable conclusions regarding the abuse of opioids in chronic non-malignant pain. However, careful patient selection and close monitoring of all non-malignant pain patients on chronic opioids are necessary to assess effectiveness and watch for signs of abuse.

When there is non-compliance, escalation of opioid use, or increasing pain not responding to increasing opioids, consider whether this represents a response to inadequate pain control (pseudoaddiction, tolerance or opioid-induced hyperalgesia) or a behavioral problem indicating the patient is not a candidate for opioid therapy (*Angst, 2006 [Systematic Review]*; *Carroll, 2004 [Low Quality Evidence]*; *Mao, 2002 [Low Quality Evidence]*).

[Return to Algorithm](#)

[Return to Table of Contents](#)

www.icsi.org

Opioid-independent pain

Morphine and other strong opioids have been considered the gold standard analgesics for all types of pain. However, advances in our understanding of chronic pain reveal a heterogeneous group of mechanisms. Many of these mechanisms operate outside the influence of the opioid system; thus, chronic pain may be relatively resistant to opioid analgesia. Neuropathic pain may respond to opioids, but many believe the response is limited and may require higher doses with intolerable side effects before pain relief is achieved.

Opioid-induced hyperalgesia

Recent evidence has shown that opioids, in higher doses or over a prolonged period, can produce a state of hyperalgesia, i.e., amplified pain response. More and more clinicians, when faced with increasing pain in spite of increasing opioid doses, are recognizing this phenomenon as opioid-induced hyperalgesia and treating it with opioid reduction or withdrawal.

Opioids and function

The goals of treatment for chronic pain include improvement in physical functioning and restoration of life roles like work, relationships and school. Opioids have never been proven to improve function. A Danish epidemiologic study of people with chronic pain showed that those taking opioids had more pain, greater health care utilization, poorer health-related quality of life, and poorer function than the population with chronic pain who were not taking opioids (*Eriksen, 2006 [Low Quality Evidence]*).

Clinicians must bear in mind that opioids are not required for everyone with chronic pain. The decision to use or continue opioids depends on many factors including type of pain, patient response and social factors. Clinicians must have the fortitude to say no to opioids when they are not indicated, and to discontinue them when they are not working.

Table 4: Considerations for Initiating and Discontinuing Opioid Therapy

The following chart is intended to provide guidelines for initiation and use of opioids when there is clinical evidence that opioids may be effective, for example, neuropathic pain that is not responsive to initial therapies. It is not intended to be a recommendation to initiate opioids for any chronic pain unresponsive to non-opioid analgesics.

Observation	Consideration	Endpoint/Goal	Strategy When Goal Is Not Met
Pain unrelieved by non-opioid analgesics	Pain too severe for NSAIDs, acetaminophen or other analgesics	Pain relief of at least 40% of baseline measurement(s)	Ensure realistic expectations of therapy Add potent opioid in low initial dose
Pain unrelieved despite use of opioids	Patient does not respond adequately to opioid selection and/or dose	Pain relief of at least 40% of baseline	Adjust dose if tolerated Consider alternate opioid
Pain unrelieved despite use of opioids and multiple side effects	Pain syndrome not responsive to opioid alone and requires different therapy (e.g., neuropathic pain)	Pain relief of at least 40% of baseline Decreased side effects	Reduce opioid to a dose that produces manageable side effects Add an adjunct or non-opioid analgesic
Patient insists on rapid escalation of opioid dose	Patient does not respond adequately to opioid and requires different therapy	Sufficient analgesia from prescribed medications for a sustained period of time, i.e., months to years	Consider behavioral evaluation for untreated anxiety or affective disorder Informed consent for continued use of opioids
Patient engages in unsanctioned abuse behaviors with opioids	Patient may have an underlying substance disorder	Adequate pain relief from prescribed regimen Lack of aberrant behaviors in obtaining opioids	Consult with addiction medicine specialist if repeated attempts to manage pain with opioids fail

Source: Pain Research & Management 2003;8:189-94.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Algorithm Annotations

Various dosage forms are available including oral rapid and sustained-release products, injectable opioids, transdermal fentanyl, and suppositories.

There are numerous short-acting and long-acting opioids available. While analgesic efficacy and side effects are similar, long-acting agents aid in compliance and help patients sleep through the night. Short-acting opioids may be used to titrate pain relief until patients are on a stable dose of a long-acting dosage form, and then for acute pain exacerbations. Long-acting products are not recommended for use on an as-needed (PRN) basis. Clinicians should use caution when prescribing opioids for a patient with a history of substance abuse.

Opioid doses should be titrated up until there is adequate pain relief, but generally not exceeding doses equivalent to morphine 100 mg/day. Rapid escalation of dose or use of higher doses may be a marker for a substance abuse disorder, and high doses are more likely to induce hyperalgesia and possibly immunosuppression (*Chou, 2009a [Guideline]*). Among patients receiving opioids for non-malignant pain, the daily dose is strongly associated with opioid-related mortality, particularly at doses exceeding this threshold. An average dose of 200 mg or more morphine (or equivalent) was associated with a nearly ninefold increase in the risk of overdose relative to low doses (< 20 mg of morphine or equivalent). Significant but attenuated increases in overdose were also seen with intermediate doses of opioids: 50-99 mg/day of morphine had nearly fourfold increase in overdoses (*Dunn, 2010 [Low Quality Evidence]*). Adequate analgesia should be balanced against side effects, which are common in opioid users. Many side effects are reduced in time due to tolerance. All patients should be on prophylactic bowel regimen including a stimulant laxative and stool softener such as senna and docusate.

For additional information on adverse effects, please refer to the ICSI [Acute Pain Assessment and Opioid Prescribing](#) protocol.

If a patient does not receive adequate pain relief from one opioid, or side effects are not tolerable, a trial with an alternative opioid may be considered. When switching from one opioid to another or an alternative route, it is generally recommended to decrease the equi-analgesic dose by 30% due to incomplete cross tolerance (*Kaiser Permanente Medical Care Program, 2004 [Guideline]*). The new opioid dose can then be titrated up until adequate analgesia is obtained.

Discontinuing of opioids is recommended when it is felt they are not contributing significantly to improving pain control or functionality, despite adequate dose titration. It is recommended that the primary care physician discontinue when there is evidence of substance abuse or diversion. In these cases, consider referral to substance abuse counseling. It is recommended not to abruptly discontinue but to titrate off by decreasing dose approximately 10-25% per week. When a patient is unable to taper as an outpatient, a clonidine patch or tablets is one potential option, or referral to a detox facility.

Clearance and Metabolism of Opioids

Many common opioids require renal clearance of active metabolites. Morphine and meperidine are toxic in renal insufficiency (GFR < 60). For patients with severely decreased renal function (GFR < 30), hydrocodone and oxycodone will have delayed elimination. Before prescribing opioids, consider whether the patient may be at risk of renal insufficiency, and check the medical record for a recent serum creatinine.

Hepatic impairment, if severe, can affect the metabolism of many opioids. A dosage adjustment or change of dosing interval may be necessary for morphine, hydrocodone and oxycodone, and additional monitoring of the patient is necessary.

Additional information regarding opioids can be found in the ICSI [Acute Pain Assessment and Opioid Prescribing](#) protocol.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Specific Opioid Characteristics

Butrans

Buprenorphine (Butrans) transdermal patch is specifically indicated for use in moderate to severe chronic pain. The patch requires a weekly change and could be used in patients requiring a continuous around-the-clock analgesic for long-term use.

Codeine

Codeine often has dose-limiting GI side effects and is therefore not a good choice for chronic use. Patients with multiple CYP2D6 gene copies metabolize codeine to morphine more rapidly (ultra-rapid metabolism), whereas patients who lack functional CYP2D6 genes do not metabolize codeine to morphine and do not experience analgesic effects. For more information, refer to <http://www.micromedex.com>.

A recent FDA advisory has identified that infants of nursing mothers taking codeine may have an increased risk of morphine overdose if the mother is an ultra-rapid metabolizer of codeine. When prescribing codeine to nursing mothers, physicians should choose their lowest dose for the shortest period of time and should closely monitor mother-infant pairs. For more information, refer to <http://www.fda.gov/Drugs/DrugSafety/PublicHealthAdvisories/ucm054717.htm>.

Fentanyl

Fentanyl is available in injectable, transdermal patches and transmucosal (lollipop) formulations. The topical patch is dosed every 72 hours, or every 48 hours if end-of-dose failure is seen at higher doses. It may be beneficial for use in a patient not compliant with more frequent oral-dosing regimens, and it gives more control over the supply of opioid and lessens abuse potential in a high-risk patient. Transdermal fentanyl serum levels rise gradually over 12-24 hours. When removed, the half-life of the drug is 17 hours, and the patient should be monitored for opioid adverse effects for at least 24 hours. Patients should have alternative analgesics for initial pain control until fentanyl reaches steady-state levels.

Despite an FDA-issued Public Health Advisory in July 2005 regarding the appropriate and safe use of the transdermal system, death and life-threatening adverse events related to fentanyl overdose have occurred when the fentanyl patch was used to treat pain in opioid-naïve patients and when opioid-tolerant patients have applied more patches than prescribed, changed the patch too frequently, or exposed the patch to a heat source. The fentanyl patch is indicated only for use in patients with persistent moderate to severe chronic pain who have been taking a regular, daily, around-the-clock narcotic pain medicine for longer than a week and are considered to be opioid tolerant.

Patients must avoid exposing the patch to excessive heat as this promotes the release of fentanyl from the patch and increases the absorption of fentanyl through the skin, which can result in fatal overdose. Directions for prescribing and using the fentanyl patch must be followed exactly to prevent death or other serious side effects from fentanyl overdose.

The FDA has received reports of serious side effects including death in patients who have taken the fentanyl buccal tablets. These reports describe prescribing to non-opioid tolerant patients, misunderstanding of dosing instructions, or inappropriate substitution of fentanyl for oral transmucosal fentanyl citrate by pharmacists and prescribers. The directions for using fentanyl must be followed exactly to prevent death or other severe side effects from overdosing fentanyl. To see the full alert, refer to the FDA alert (9/2007) addressing fentanyl buccal tablets information at <http://www.fda.gov/Drugs/DrugSafety/PostmarketDrugSafetyInformationforPatientsandProviders/ucm113690.htm>.

Hydrocodone

Hydrocodone is available only in combination with acetaminophen, and doses should be monitored to not exceed 3 grams acetaminophen per day.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Hydromorphone

Hydromorphone is available in injectable, suppository and both rapid-release and once-a-day extended-release (ER) oral dosage forms.

Meperidine

Meperidine is metabolized to an active metabolite normeperidine, which has neurotoxic side effects. It is not an appropriate choice for chronic use.

Morphine

Morphine is available in rapid-acting and long-acting oral, injectable and rectal dosage forms. There are 12-hour sustained-release and 24-hour sustained-release dosage forms of morphine available.

Methadone

Methadone has a long half-life, initially 12-16 hours but may be 90-120 hours after one week of therapy. Due to the complexity of dosing and potential for cardiac adverse effects, the use of this opiate should be reserved for experienced practitioners. Methadone has been associated with QTc interval prolongation and other cardiac adverse effects including hypotension and other cardiac dysrhythmias. Patients should have a baseline ECG prior to initiation of methadone, which is repeated after 30 days and then annually. More frequent ECG monitoring should be done when methadone doses exceed 100 mg per day (*Krantz, 2009 [Low Quality Evidence]*).

Oxycodone

Oxycodone is available in short-acting and long-acting dosage forms. A recent FDA warning stated that the concomitant use of oxycodone hydrochloride controlled-release tablets with all CYP3A4 inhibitors such as macrolide antibiotics (e.g., erythromycin), azole-antifungal agents (e.g., ketoconazole) and protease inhibitors (e.g., ritonavir) may result in an increase in oxycodone plasma concentrations and may cause potentially fatal respiratory depression. Patients receiving oxycodone controlled-release tablets and a CYP3A4 inhibitors should be carefully monitored for an extended period of time, and dose adjustment should be made if warranted.

Oxymorphone

Oxymorphone is available in intramuscular (IM) and subcutaneous (SQ) injections, IV use, as well as oral 12 hour extended-release (ER) dosage forms. It is indicated for use in moderate to severe chronic pain. The extended release dosage form is designed to prevent abuse, as it is more difficult to crush and inject or inhale these formulations.

Tramadol

Tramadol is a weak mu-opioid agonist and also is a serotonin and norepinephrine reuptake inhibitor. Doses should not exceed 400 mg daily. Serotonin syndrome, while rare, may occur when using serotonin-enhancing medications including anti-migraine, and anti-migraine and cyclobenzaprine.

See [Appendix G, "Opioid Analgesics."](#)

Tricyclic Antidepressants (TCAs)

Tricyclic antidepressants have a role in the treatment of neuropathic pain, especially if the patient has co-existing insomnia, anxiety or depression (*Collins, 2000 [Systematic Review]*; *Sindrup, 2000 [Low Quality Evidence]*; *Sindrup, 1999 [Low Quality Evidence]*; *McQuay, 1996 [Systematic Review]*). TCAs are categorized as secondary amines (nortriptyline or desipramine) or tertiary amines (amitriptyline and

[Return to Algorithm](#)

[Return to Table of Contents](#)

imipramine). Both classes are effective in the treatment of neuropathic pain, but the tertiary amines have more anticholinergic side effects and generally should be avoided in the elderly.

- Analgesic effects of TCAs are independent of their antidepressant effect, and analgesia may be seen with lower doses.
- Start low and increase doses gradually over several weeks to months. Maximum analgesic effect may take several weeks or longer to be seen.
- Baseline ECG is indicated in patients at risk for cardiac adverse effects.
- Common side effects include sedation, dry mouth, constipation and urinary retention. Use caution in patients with conditions that may be aggravated by TCAs, including heart disease, symptomatic prostatic hypertrophy, neurogenic bladder, dementia and narrow-angle glaucoma.

Other Antidepressants – SSRIs and SNRIs

Tricyclic drugs are often used first line for fibromyalgia, but other antidepressants could be used concurrently or to replace tricyclics in patients who do not have adequate response or cannot tolerate side effects.

The selective serotonin reuptake inhibitor class of antidepressants has reduced adverse effects compared with TCAs, but efficacy in the treatment of neuropathic pain is generally not as good as that shown with TCAs. Bupropion (*Semenchuk, 2001 [Moderate Quality Evidence]*), venlafaxine (*Sindrup, 2003 [Low Quality Evidence]*) and duloxetine (*Arnold, 2004 [High Quality Evidence]*) have also shown efficacy in the treatment of neuropathic pain. Duloxetine has been shown to improve pain and global measures of fibromyalgia, compared with placebo (*Arnold, 2004 [High Quality Evidence]*). Duloxetine dosed 60 mg twice daily is indicated in the treatment of fibromyalgia.

Dual reuptake inhibitors increase norepinephrine and serotonin without producing the cardiac adverse effects associated with the tricyclics. In addition to duloxetine, milnacipran is indicated in the treatment of fibromyalgia. Milnacipran is initiated at a dose of 12.5 mg once daily and titrated over seven days to a target dose of 50-100 mg two times per day.

Anticonvulsant or Antiepileptic Drugs

The first-generation anticonvulsants carbamazepine and phenytoin are effective in the treatment of neuropathic pain but may have unwanted CNS side effects. Carbamazepine is approved for the treatment of trigeminal neuralgia, and benefits are well established (*McQuay, 1995 [Systematic Review]*).

Pregabalin is indicated for treatment of diabetic neuropathy, postherpetic neuralgia and fibromyalgia.

Oxcarbazepine is chemically similar to carbamazepine and may have benefits in the treatment of neuropathic pain, including trigeminal neuralgia and diabetic neuropathy.

The second-generation agent gabapentin is approved for the treatment of postherpetic neuralgia but has been shown to have analgesic effects in many cases of neuropathic pain syndromes (*Backonja, 1998 [Moderate Quality Evidence]*; *Bone, 2002 [Moderate Quality Evidence]*; *Pandey, 2002 [High Quality Evidence]*; *Serpell, 2002 [High Quality Evidence]*; *Tai, 2002 [Moderate Quality Evidence]*; *Rice, 2001 [High Quality Evidence]*; *Rowbotham, 1998 [High Quality Evidence]*). To decrease the incidence of adverse effects, which are primarily somnolence and dizziness, start at low doses and titrate up gradually.

Lamotrigine has efficacy in trigeminal neuralgia, neuropathies associated with human immunodeficiency virus infection, and poststroke pain.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Topical Agents

Topical NSAIDs can provide acceptable levels of pain relief in knee and hand osteoarthritis, and are available through a diclofenac 0.3% topical patch and 1% topical gel. Topical formulations provide more localized pain relief with efficacy comparable to oral products. They generally have a lower incidence of GI adverse effects compared with oral NSAIDs. Topical NSAID GI adverse effects did not differ from placebo but were less frequent than with oral NSAIDs (*Derry, 2012 [Systematic Review]*).

Topical lidocaine 5% patches are FDA approved for postherpetic neuralgia and have shown efficacy in other neuropathic pain syndromes. Systemic absorption of lidocaine is minimal, and the patch has a clean safety profile with the correct dosage schedule.

Capsaicin, the active ingredient in the herbal product cayenne, is used topically to deplete the pain mediator substance-P from afferent nociceptive neurons. Topical creams and solutions have been used in treating both neuropathic pain and arthritic pain. Capsaicin should be applied for at least six weeks to see full benefits. The side effect of local burning is common, and most patients become tolerant after a few days.

(*Mason, 2004 [Systematic Review]*; *Galer, 2002 [High Quality Evidence]*; *Devers, 2000 [Low Quality Evidence]*)

Muscle Relaxants and Antispasmodics

Skeletal muscle relaxant may be useful along with analgesics for short-term management of muscle spasms and pain. There is mixed evidence supporting the use of these drugs for long-term use. Some drugs including benzodiazepines and Carisoprodol are centrally acting and carry the risk of physical dependence. Muscle relaxants are more beneficial for acute short-term use and are not recommended for chronic use.

Cyclobenzaprine, which is structurally a tricyclic muscle relaxant, has shown benefits in the treatment of fibromyalgia at doses of 10 to 40 mg daily (*Tofferi, 2004 [Meta-analysis]*). It is structurally a tricyclic amine and has side effects similar to the tricyclic antidepressants, including drowsiness/dizziness, dry mouth and an increased risk for arrhythmias. Concurrent use of cyclobenzaprine with tricyclic antidepressants is not contraindicated, but patients should be monitored for the potential increase in these related adverse effects.

Tizanidine is a muscle relaxant that may be used for longer periods of time due to its mechanism of action (alpha-2 sympathomimetic), so it may cause hypotension. It may provide benefits as an adjunct in the treatment of fibromyalgia.

Baclofen may have benefits in the treatment of lancinating, paroxysmal neuropathic pain.

(*Borenstein, 1999 [Low Quality Evidence]*; *Cherkin, 1998 [Low Quality Evidence]*)

Anxiolytics

Benzodiazepines are beneficial for treatment of acute anxiety and muscle spasms associated with acute pain but have minimal benefits in treating chronic pain. Benzodiazepine side effects of sedation and respiratory depression may limit the amount of opioids that can be used safely. They also result in physical dependence when used long term.

SSRIs or SNRIs are generally the drugs of choice for treatment of anxiety. Onset of effect is slow and may take several weeks for maximum benefits.

Bupirone is an anxiolytic that is relatively low sedating. It may take several weeks to see maximum benefits.

(*King, 1990 [Low Quality Evidence]*)

[Return to Algorithm](#)

[Return to Table of Contents](#)

Drugs for Insomnia

Insomnia may improve along with adequate pain relief. Sleep disorders such as sleep apnea should be ruled out. Other measures should include minimizing caffeine use and establishing regular sleep habits.

Tricyclic antidepressants are a good choice in the treatment of insomnia, especially if the patient has anxiety or depression (*Collins, 2000 [Systematic Review]; Sindrup, 2000 [Low Quality Evidence]; Sindrup, 1999 [Low Quality Evidence]; McQuay, 1996 [Systematic Review]*). OTC antihistamines such as diphenhydramine may be beneficial but have mixed efficacy. The sedative antidepressant trazodone may be effective in treating insomnia associated with chronic pain. Benzodiazepines generally should be limited to short-term management of insomnia. Common agents include temazepam, triazolam and the benzodiazepine receptor agonists zolpidem and zaleplon.

Intervention Management

Recommendations:

- Therapeutic procedures are used to alleviate or reduce chronic pain and should be used in conjunction with a comprehensive treatment plan developed by a chronic pain specialist.
- Interventional techniques should be performed in conjunction with a comprehensive treatment plan that includes pharmacologic, rehabilitative and psychological interventions.
- Many of the Level I procedures provide both diagnostic and therapeutic benefits, while Level II are reserved for patients who have failed conventional treatment.
- Diagnostic procedures are used to identify neural or musculoskeletal structures that are the source of the patient's pain symptoms.
- The role of intervention modalities is different for chronic pain than acute and should be carefully evaluated by a pain specialist.

Interventional techniques refer to procedures including spinal injections, nerve blocks, spinal cord stimulators and implantable intrathecal drug delivery systems that are performed in an attempt to diagnose and treat chronic pain. If used alone, the evidence is limited in its success. These procedures should be performed in conjunction with a comprehensive treatment plan that includes pharmacologic, rehabilitative and psychological interventions. Commonly performed interventional procedures will be categorized as Level I (diagnostic and therapeutic) and Level II (palliative). Many of the Level I procedures provide both diagnostic and therapeutic benefits, while Level II interventions are reserved for patients who have failed conventional treatment.

The role of intervention modalities is different for chronic pain than acute and should be carefully evaluated by a pain specialist.

See also [Annotation #25, "Level II Management: Interdisciplinary Team Referral, Plus a Pain Medicine Specialist or Pain Medicine Specialty Clinic."](#)

Level I Diagnostic Procedures

Diagnostic procedures are used to identify neural or musculoskeletal structures that are the source of the patient's pain symptoms. Most diagnostic procedures are associated with a significant placebo response, and either comparative or controlled blocks should be used to improve the diagnostic accuracy of the intervention. Additionally, the response to a diagnostic block should be interpreted in association with relevant

[Return to Algorithm](#)

[Return to Table of Contents](#)

physical examination findings and disease specific symptomatology. Examples of commonly performed diagnostic procedures include the following.

Sacroiliac joint injection

The sacroiliac joint is a widely recognized source of low back and buttock pain. Associated symptoms included lower extremity pain. Diagnostic blocks performed with fluoroscopic guidance using local anesthetic can confirm this structure as a source of low back and leg pain.

Transforaminal epidural injection

Transforaminal epidural injections can be used to determine the spinal level that is the source of radicular pain. The risks of cervical transforaminal epidural steroid injections have been well documented in case reports (*Beckman, 2006 [Low Quality Evidence]*; *Tiso, 2004 [Low Quality Evidence]*; *Furman, 2003 [Low Quality Evidence]*). Specifically, cervical and some upper lumbar transforaminal epidural steroid injections have been associated with spinal cord and brain injuries resulting in permanent neurological deficits and/or death. These adverse events are most likely related to penetration of radicular arteries or the vertebral artery followed by administration of particulate corticosteroids, which results in embolization and severe vasospasm. When this particular procedure is under consideration, it should be performed only by an experienced pain medicine physician with access to and knowledge of the use of appropriate imaging equipment and patient monitoring facilities (*Bogduk, 2008 [Low Quality Evidence]*). Furthermore, non-particulate corticosteroids should be utilized, and this procedure should be performed only in the context of a longitudinal care plan, as directed and coordinated by a pain medicine physician (*Tiso, 2004 [Low Quality Evidence]*).

Discography

Discography is used to determine if a disk is intrinsically painful. The procedure is generally performed prior to spinal fusion or in preparation for a percutaneous disk procedure. This procedure does not diagnose disk herniation. Discography is strictly a diagnostic procedure, and there are no direct therapeutic benefits (*Bogduk, 1996 [Guideline]*; *Walsh, 1990 [Low Quality Evidence]*).

Level I Therapeutic Procedures

Therapeutic procedures are used to alleviate or reduce pain and should be used in conjunction with a comprehensive treatment plan. Ideally, choice of procedure should be done in consultation between the primary care clinician and pain specialist. Examples of commonly used therapeutic procedures are as follows.

Facet joint injection

Facet joints are an important source of spinal pain in the cervical and lumbar regions. These joints can be reliably anesthetized by way of fluoroscopically guided joint injections. Generally, a depot corticosteroid is administered concomitantly, which may provide short-term benefit for a subset of patients. However, clinical trials have failed to demonstrate any sustained therapeutic benefits following facet joint corticosteroid injections (*Nelemans, 2005 [Systematic Review]*).

Percutaneous radiofrequency neurotomy

Percutaneous radiofrequency (RF) neurotomy (sometimes erroneously referred to as facet rhizotomy) is a treatment for neck or back pain generated by facet joints. Properly selected candidates for this procedure should experience complete or nearly complete relief of their pain following fluoroscopically guided, low-volume local anesthetic blocks of the medial branch nerves that innervate the pain-generating joint(s). To minimize false-positive results, an equivalent degree of relief of appropriate pharmacologic duration should be carefully documented on two separate occasions, using two different types of local anesthetic. The radiofrequency procedure is performed by placing an insulated needle electrode with

an exposed tip adjacent to and in parallel with the medial branch nerves that supply the target joint(s). Radiofrequency current applied to the electrode then heats the adjacent tissues and coagulates the nerve supply to the joint. For the procedure to be effective, multiple lesions must be performed at each nerve location, using electrodes of sufficient diameter. The nerves do regenerate over time, so pain relief is not permanent, but the procedure can be repeated.

Radiofrequency neurotomy can provide pain relief for carefully selected patients, but this procedure should be performed only by an experienced pain medicine physician in the context of a longitudinal and comprehensive care plan. Proper patient selection and appropriate technique in positioning the radiofrequency electrodes are absolutely essential to the success of the procedure (*Bogduk, 2008 [Low Quality Evidence]; Nath, 2008 [Moderate Quality Evidence]; Hooten, 2005 [Guideline]*). Controversy in the literature regarding the efficacy of lumbar radiofrequency neurotomy has arisen from fundamentally flawed clinical trials that have used inappropriate patient selection criteria, and improper procedural technique.

Epidural corticosteroid injections

Epidural corticosteroid injections are one of the most commonly performed interventions for treatment of spinal pain with a radicular component. All epidural injections should be performed by an experienced physician, under fluoroscopic guidance, using contrast injection to detect vascular uptake and to demonstrate the injectate spread pattern. There are three approaches to the epidural space, including a transforaminal, intralaminar and a caudal technique. Limited evidence was found to support the efficacy of this procedure (*Riew, 2000 [High Quality Evidence]; Carette, 1997 [High Quality Evidence]; Dilke, 1973 [High Quality Evidence]*).

Transforaminal epidural injection

Transforaminal epidural injections can be used to determine the spinal level that is the source of radicular pain. The risks of cervical transforaminal epidural steroid injections have been well documented in case reports (*Beckman, 2006 [Low Quality Evidence]; Tiso, 2004 [Low Quality Evidence]; Furman, 2003 [Low Quality Evidence]*). Specifically, cervical transforaminal epidural steroid injections have been associated with spinal cord and brain injuries resulting in permanent neurological deficits and/or death. These adverse events have been caused by uptake of particulate corticosteroids into radicular or vertebral arteries, producing embolization, severe vasospasm, and either brain or spinal cord infarction. For cervical procedures, it is recommended that only non-particulate corticosteroids be utilized. These procedures should be performed only by an experienced pain medicine physician with access to and knowledge of the use of appropriate imaging equipment and patient monitoring facilities, and should be performed only in the context of a longitudinal care plan, as directed and coordinated by a pain medicine physician (*Bogduk, 2008 [Low Quality Evidence]; Tiso, 2004 [Low Quality Evidence]*).

Sacroiliac joint injection

The sacroiliac joint is a widely recognized source of low back and buttock pain. Associated symptoms can include lower extremity pain. Diagnostic blocks using local anesthetic can confirm this structure as a source of low back and leg pain. Pain can potentially be generated by the joint capsule, the overlying ligamentous complex, or both. Injection of the sacroiliac joint can be technically challenging and must be performed by an experienced physician with fluoroscopic guidance, and using contrast to monitor for vascular uptake and to document intra-articular delivery of the injectate. Corticosteroids may be incorporated for potential therapeutic effect, which can benefit a subset of patients. Currently, there is an evolving clinical practice of using ultrasound as a means to provide imaging for both diagnostic blocks and injections. Further review is needed before a benefit-to-risk ratio can be calculated.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Complementary Management

Acupuncture

Clinical research with randomized, placebo-controlled trials supports the use of acupuncture for certain chronic pain conditions such as fibromyalgia (*Martin, 2006 [High Quality Evidence]; Berman, 1999 [Low Quality Evidence]*), headache (*Vickers, 2004 [Low Quality Evidence]; Wonderling, 2004 [Low Quality Evidence]*), back pain (*Meng, 2003 [Low Quality Evidence]*), neck pain (*White, 2004 [Low Quality Evidence]*) and osteoarthritis of the knee (*Scharf, 2006 [Low Quality Evidence]; Vas, 2004 [Low Quality Evidence]*).

Acupuncture is one of the oldest healing practices in existence. The popularity of alternative medicine in the United States has drawn increasing attention to acupuncture and increased scrutiny of its value as a therapeutic tool (*Eisenberg, 1998 [Low Quality Evidence]*). Acupuncture involves stimulation of tissue with fine needles at specific sites called acupuncture points. Acupuncture points lie along channels or meridians. Traditional Chinese medicine postulates that a life force or energy flows along these meridians, maintaining health. Acupuncture reestablishes the normal flow of energy when it is blocked or disturbed by disease. Common complications of acupuncture include fainting, discomfort and bruising. Infrequent complications include infection, pneumothorax and nerve injury. The NIH consensus statement on acupuncture is very supportive of it for both primary therapy and adjunctive therapy in a variety of common problems such as nausea, pain, addiction and stroke rehabilitation (*National Institutes of Health, 1997 [Low Quality Evidence]*). Basic scientific research has begun to elucidate the mechanisms of acupuncture analgesia, including the role of endorphins, serotonin and other neurochemicals (*Tavola, 1992 [Moderate Quality Evidence]; Mayer, 1977 [Low Quality Evidence]*).

Herbal products used for pain

Herbal products are widely used, and it is important to question patients about their use when taking a medication history. Since many herbal products are not standardized, the content of the ingredients can vary substantially from the label and between lots of the same product (*Gurley, 2000 [Low Quality Evidence]*). Patients are often misinformed and believe that since herbals are natural products, they are safer than prescription medications. Patients who use herbal preparations should be cautioned about adverse effects, drug interactions and the potential impurities of these products (*Miller, 1998 [Guideline]; Winslow, 1998 [Guideline]*).

There is limited evidence of efficacy for many of these agents. Some have known toxicities and significant drug interactions, and their use should be discouraged. While there are many herbal products used for pain, the following have some supporting data for use in the treatment of pain but may still have significant potential for drug interactions and adverse effects. Dimethylsulfoxide is mentioned due to the frequency of use, despite evidence of toxicity and lack of documented efficacy.

Devil's Claw has conflicting evidence about efficacy as an anti-inflammatory or analgesic agent. There are wide variations in chemical components of products. It may have benefits in the treatment of lower back pain. Devil's Claw may increase gastric acid secretion and antagonize the effects of H₂ antagonists, and it also has anticoagulant effects (*Gagnier, 2007 [Systematic Review]*).

Dimethylsulfoxide (DMSO) is a commonly used chemical solvent. It is often used topically as an analgesic due to purported anti-inflammatory effects. There is inadequate evidence of efficacy and potential toxicity of this agent, and its use should be discouraged (*Kingery, 1997 [Systematic Review]*).

Feverfew is used for treatment of migraine headaches, and there is some evidence it helps to reduce the frequency of migraine attacks. The active ingredient, parthenolide, has anti-inflammatory properties (*Diener, 2005 [Low Quality Evidence]*).

[Return to Algorithm](#)

[Return to Table of Contents](#)

Glucosamine and Chondroitin are usually used together and have anti-inflammatory properties. They are used in the treatment of osteoarthritis and articular disease. Efficacy in knee and hip pain is conflicting, with no evidence of efficacy when used for back pain. Glucosamine may affect blood glucose and should be avoided or used cautiously in diabetics (*McAlindon, 2000 [Systematic Review]*).

Willow Bark contains the active ingredient salicylic acid, the precursor of aspirin. Products should be standardized to 60-120 mg salicylic acid per day. Patients allergic to aspirin or NSAIDs may be allergic to Willow Bark. Adverse effects are similar to aspirin therapy. Willow Bark may be useful in the treatment of low back pain (*Gagnier, 2007 [Systematic Review]*).

See also the "[Topical Agents](#)" section previously in this annotation.

Healing touch

Healing touch (HT), Therapeutic Touch (TT) and Reiki may have a modest effect in pain in adults.

Research on other complementary therapies is underway at the National Institutes of Health. For more information, visit <http://www.nccam.nih.gov>.

[Return to Algorithm](#)

[Return to Table of Contents](#)

24. Has Enough Been Tried with Level I Management?

Failing to achieve improvement in chronic pain management using Level I management strategies, the primary care physician should consider a consultation and/or referral to a pain medicine specialist or pain medicine specialty clinic.

Reasons for consultation may include:

- diagnostic assistance,
- advice on availability of current care plan and treatment strategies,
- advice on optimal pharmacotherapy, and
- help with treatment planning for long-term pain management.

Referral to a comprehensive pain management program may be considered as early as four to eight (4-8) weeks after the onset of acute pain and should be strongly considered when a patient needs an intensive comprehensive evaluation by a pain management team (physician, psychologist, physical therapist, pharmacist, etc.). The team should have extensive training and experience in pain management, and each professional should be working as part of an interdisciplinary team to meet the patient's needs.

The team works as part of a structured, integrated long-term program where the goal is effective, stabilization of the patient's pain, development of a pain management care plan, and return of the patient to be a functioning member of society.

[Return to Algorithm](#)

[Return to Table of Contents](#)

25. Level II Management: Interdisciplinary Team Referral, Plus a Pain Medicine Specialist or Pain Medicine Specialty Clinic

Recommendations:

- The Level II interdisciplinary team should do a thorough biopsychosocial assessment of the patient with chronic pain, and a comprehensive plan of care should be developed with active input from the patient and primary care clinician.

[Return to Algorithm](#)

[Return to Table of Contents](#)

Algorithm Annotations

Level II management of patients with chronic pain is indicated when the patient has had a thorough trial of Level I management (see [Annotations #14-24](#)), yet has not met the goals of comfort/pain control and function. Level II management should include an interdisciplinary team including the primary care clinician, a medical pain specialist, a behavioral health pain specialist, and a physical therapist trained in a biopsychosocial approach to chronic pain. If possible, this management should be provided in the patient's community. If an interdisciplinary Level II pain team is not available in the community, it may be necessary to obtain these services outside the community. As with Level I management, Level II management should continue to be coordinated by the primary care clinician.

Level II interdisciplinary chronic pain team assessment should be obtained in a timely manner, sometimes as early as four to eight (4-8) weeks after the onset of acute pain. The goal is to prevent or effectively manage chronic pain syndrome (disability in work or personal function related to pain).

The Level II interdisciplinary team should do a thorough biopsychosocial assessment of the patient with chronic pain. A comprehensive plan of care should be developed with active input from the patient and primary care clinician. The plan of care should focus on objective functional goals and pain management. Elective surgery and invasive procedures should be done after the Level II interdisciplinary team assessment. Specific goals to integrate the patient back into the community and to usual activities should be a part of the plan of care.

[Return to Algorithm](#)

[Return to Table of Contents](#)

The Aims and Measures section is intended to provide protocol users with a menu of measures for multiple purposes that may include the following:

- population health improvement measures,
- quality improvement measures for delivery systems,
- measures from regulatory organizations such as Joint Commission,
- measures that are currently required for public reporting,
- measures that are part of Center for Medicare Services Physician Quality Reporting initiative, and
- other measures from local and national organizations aimed at measuring population health and improvement of care delivery.

This section provides resources, strategies and measurement for use in closing the gap between current clinical practice and the recommendations set forth in the guideline.

The subdivisions of this section are:

- Aims and Measures
- Implementation Recommendations
- Implementation Tools and Resources
- Implementation Tools and Resources Table

Aims and Measures

1. Improve the function of patients age 18 years and older with chronic pain. (*Annotations #2, 14*)

Measures for accomplishing this aim:

- a. Percentage of patients diagnosed with chronic pain with functional outcome goals documented in medical record.
- b. Percentage of patients diagnosed with chronic pain with referral to physical rehabilitation and/or behavioral management therapy.
- c. Percentage of patients diagnosed with chronic pain with documentation of receiving education regarding their diagnosis of chronic pain, medications, importance of physical activity, and/or any interventional procedures in medical record.

2. Improve the assessment and reassessment of patients age 18 years and older with chronic pain diagnosis utilizing the biopsychosocial model. (*Annotations #2, 3, 12*)

Measures for accomplishing this aim:

- a. Percentage of patients with chronic pain diagnosis with documentation of a pain assessment completed at initial visit using a standardized tool that addresses pain intensity, location, pattern, mechanism of pain, current functional status and follow-up plan.
- b. Percentage of patients diagnosed with chronic pain with documentation of reassessment of pain at follow-up visits using a standardized tool that addresses pain intensity, location, pattern and current functional status.
- c. Percentage of patients diagnosed with chronic pain with documentation of screening for major depression and chemical dependency.

3. Improve the appropriate use of Level I and Level II treatment approaches for patients age 18 years years and older with chronic pain. (*Annotations #14, 19, 25*)

Measures for accomplishing this aim:

- a. Percentage of patients diagnosed with chronic pain who have documentation of a plan of care that addresses personal goals, sleep, physical activity, stress management, and pain reduction in medical record and identifies potential barriers to patient follow-up on plan of care.
- b. Percentage of chronic pain patients who are referred to diagnostic and/or therapeutic procedures if the goals for pain control or functional status have not been met.
- c. Percentage of patients diagnosed with chronic pain who have not met pain control or functional status goals who are referred to pain specialist or interdisciplinary pain team.

4. Improve the effective use of non-opioid medications in the treatment of patients age 18 years and older with chronic pain. (*Annotations #15, 19*)

Measure for accomplishing this aim:

- a. Percentage of patients diagnosed with chronic pain with a diagnosis of neuropathic pain who are prescribed a sedative analgesic OR anticonvulsant prior to use of opioids.

[Return to Table of Contents](#)

Aims and Measures

5. Improve the effective use of opioid medications in the treatment of patients age 18 years and older with chronic pain. (*Annotations #15, 19*)

Measures for accomplishing this aim:

- a. Percentage of patients diagnosed with chronic pain who are receiving opioids who have documentation of the four A's assessment: 1) the degree of analgesia, 2) current opioid-related side effects, 3) current functional status, and 4) existence of aberrant drug-related behaviors documented at each visit.
- b. Percentage of patients diagnosed with chronic pain who are prescribed an opioid who have an opioid agreement form and urine toxicology screen documented in the medical record.
- c. Percentage of patients diagnosed with chronic pain who are screened for chemical dependency before being prescribed opioid medication.
- d. Percentage of patients diagnosed with chronic pain who are prescribed an opioid at a dose less than 100 mg per day of morphine.

[Return to Table of Contents](#)

Measurement Specifications

Measurement #1a

Percentage of patients diagnosed with chronic pain with functional outcome goals documented in medical record.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

$$\frac{\text{\# of patients with functional outcome goals documented in medical record}}{\text{\# of patients with chronic pain diagnosis}}$$

Numerator/Denominator Definitions

Numerator: Number of patients with functional outcome goals documented in medical record.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients who have functional outcome goals documented in the medical record.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is an outcome measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #1b

Percentage of patients diagnosed with chronic pain with referral to physical rehabilitation and/or behavioral management therapy.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

$$\frac{\text{\# of patients with referral to physical rehabilitation and/or behavioral management therapy}}{\text{\# of patients with chronic pain diagnosis}}$$

Numerator/Denominator Definitions

Numerator: Number of patients with referral to physical rehabilitation and/or behavioral management therapy.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients who have functional outcome goals documented in the medical record.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #1c

Percentage of patients diagnosed with chronic pain with documentation of receiving education regarding their diagnosis of chronic pain, medications, importance of physical activity and/or any interventional procedures in medical record.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients with documentation of receiving education regarding their diagnosis of chronic pain, medications, importance of physical activity and/or any interventional procedures in medical record

of patients with chronic pain diagnosis

Numerator/Denominator Definitions

Numerator: Number of patients with documentation of receiving education regarding their diagnosis of chronic pain, medications, importance of physical activity, and/or any interventional procedures in medical record.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients with documentation of receiving education regarding their diagnosis of chronic pain, medications, importance of physical activity, and/or any interventional procedures in medical record.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Measurement #2a

Percentage of patients with chronic pain diagnosis with documentation of a pain assessment completed at initial visit using a standardized tool that addresses pain intensity, location, pattern, mechanism of pain, current functional status and follow-up plan.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients with pain assessment completed at initial visit using a standardized tool that addresses pain intensity, location, pattern, mechanism of pain, current functional status and follow-up plan

of patients with chronic pain diagnosis

Numerator/Denominator Definitions

Numerator: Number of patients with documentation of a pain assessment completed at initial visit using a standardized tool that addresses pain intensity, location, pattern, mechanism of pain, current functional status and follow-up plan.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients with documentation of a pain assessment completed at initial visit using a standardized tool that addresses pain intensity, location, pattern, mechanism of pain, current functional status and follow-up plan.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #2b

Percentage of patients diagnosed with chronic pain with documentation of reassessment of pain at follow-up visits using a standardized tool that addresses pain intensity, location, pattern and current functional status.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients with documentation of reassessment of pain at follow-up visits using a standardized tool that addresses pain intensity, location, pattern and current functional status

of patients with chronic pain diagnosis who had initial assessment for pain

Numerator/Denominator Definitions

Numerator: Number of patients with documentation of reassessment of pain at follow-up visits using a standardized tool that addresses pain intensity, location, pattern and current functional status.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain and initial assessment for pain.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients with documentation of a pain reassessment completed at the follow-up visit using a standardized tool that addresses pain intensity, location, pattern, mechanism of pain and current functional status.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #2c

Percentage of patients diagnosed with chronic pain with documentation of screening for major depression and chemical dependency.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

$$\frac{\text{\# of patients with documentation of screening for major depression and chemical dependency}}{\text{\# of patients with chronic pain diagnosis}}$$

Numerator/Denominator Definitions

Numerator: Number of patients with with documentation of screening for major depression and chemical dependency.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients with documentation of screening for major depression and chemical dependency.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #3a

Percentage of patients diagnosed with chronic pain who have documentation of a plan of care that addresses personal goals, sleep, physical activity, stress management and pain reduction in medical record and identifies potential barriers to patient follow-up on plan of care.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients who have documentation of a plan of care that addresses personal goals, sleep, physical activity, stress management and pain reduction in medical record and identifies potential barriers to patient follow-up on plan of care

of patients with chronic pain diagnosis

Numerator/Denominator Definitions

Numerator: Number of patients diagnosed with chronic pain who have documentation of a plan of care that addresses personal goals, sleep, physical activity, stress management and pain reduction in medical record and identifies potential barriers to patient follow-up on plan of care.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients who have documentation of a plan of care that addresses personal goals, sleep, physical activity, stress management and pain reduction in medical record and identifies potential barriers to patient follow-up on plan of care.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #3b

Percentage of chronic pain patients who are referred to diagnostic and/or therapeutic procedures if the goals for pain control or functional status have not been met.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients who are referred to diagnostic and/or therapeutic procedures if the goals for pain control or functional status have not been met

of patients with chronic pain diagnosis and whose pain control and functional status goals have not been met

Numerator/Denominator Definitions

Numerator: Number of patients who are referred to diagnostic and/or therapeutic procedures if the goals for pain control or functional status have not been met.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain and whose pain control and functional status goals have not been met.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients who are referred to diagnostic and/or therapeutic procedures if the goals for pain control or functional status have not been met.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #3c

Percentage of patients diagnosed with chronic pain who have not met pain control or functional status goals who are referred to pain specialist or interdisciplinary pain team.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients who have not met pain control or functional status goals who are referred to pain specialist or interdisciplinary pain team

of patients with chronic pain diagnosis and whose pain control and functional status goals have not been met

Numerator/Denominator Definitions

Numerator: Number of patients who have not met pain control or functional status goals who are referred to pain specialist or interdisciplinary pain team.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain and whose pain control and functional status goals have not been met.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients who have not met pain control or functional status goals who are referred to pain specialist or interdisciplinary pain team.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #4a

Percentage of patients diagnosed with chronic pain with a diagnosis of neuropathic pain who are prescribed a sedative analgesic OR anticonvulsant prior to use of opioids.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients with a diagnosis of neuropathic pain who are prescribed a sedative analgesic
OR anticonvulsant prior to use of opioids

of patients with neuropathic pain diagnosis and prescribed a sedative analgesic OR
anticonvulsant or opioids

Numerator/Denominator Definitions

Numerator: Number of patients with a diagnosis and prescribed a sedative analgesic OR anticonvulsant prior to use of opioids.

Denominator: Number of patients age 18 years and older diagnosed with neuropathic pain diagnosis and prescribed a sedative analgesic OR anticonvulsant or opioids.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients with a diagnosis of neuropathic pain who are prescribed a sedative analgesic OR anticonvulsant prior to use of opioids.

Time Frame Pertaining to Data Collection

Monthly.

Notes

This is an overuse process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #5a

Percentage of patients diagnosed with chronic pain who are receiving opioids who have documentation of the four A's assessment: 1) the degree of analgesia, 2) current opioid-related side effects, 3) current functional status and 4) existence of aberrant drug-related behaviors documented at each visit.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients who are receiving opioids who have documentation of the four A's assessment: 1) the degree of analgesia, 2) current opioid-related side effects, 3) current functional status and 4) existence of aberrant drug-related behaviors documented at each visit

of patients with chronic pain diagnosis and prescribed opioids

Numerator/Denominator Definitions

Numerator: Number of patients who are receiving opioids who have documentation of the four A's assessment: 1) the degree of analgesia, 2) current opioid-related side effects, 3) current functional status and 4) existence of aberrant drug-related behaviors documented at each visit.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain and diagnosis and prescribed opioids.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients who are receiving opioids who have documentation of the four A's assessment: 1) the degree of analgesia, 2) current opioid-related side effects, 3) current functional status and 4) existence of aberrant drug-related behaviors documented at each visit.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #5b

Percentage of patients diagnosed with chronic pain who are prescribed an opioid who have an opioid agreement form and urine toxicology screen documented in the medical record.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients who are prescribed an opioid who have an opioid agreement form and urine toxicology screen documented in the medical record

of patients with chronic pain diagnosis and prescribed opioids

Numerator/Denominator Definitions

Numerator: Number of patients who are prescribed an opioid who have an opioid agreement form and urine toxicology screen documented in the medical record.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain diagnosis and prescribed opioids.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients who are prescribed an opioid who have an opioid agreement form and urine toxicology screen documented in the medical record.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #5c

Percentage of patients diagnosed with chronic pain who are screened for chemical dependency before being prescribed opioid medication.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients diagnosed with chronic pain who are screened for chemical dependency before being prescribed opioid medication

of patients with chronic pain diagnosis and prescribed opioids

Numerator/Denominator Definitions

Numerator: Number of patients diagnosed with chronic pain who are screened for chemical dependency before being prescribed opioid medication.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain and prescribed opioids.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients who are screened for chemical dependency before being prescribed opioid medication.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is a process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Aims and Measures

Measurement #5d

Percentage of patients diagnosed with chronic pain who are prescribed an opioid at a dose less than 100 mg per day of morphine.

Population Definition

Patients age 18 years and older diagnosed with chronic pain.

Data of Interest

of patients diagnosed with chronic pain who are prescribed an opioid at a dose less than 100 mg per day of morphine

of patients with chronic pain diagnosis and prescribed an opioid

Numerator/Denominator Definitions

Numerator: Number of patients diagnosed with chronic pain who are prescribed an opioid at a dose less than 100 mg per day of morphine.

Denominator: Number of patients age 18 years and older diagnosed with chronic pain and prescribed an opioid.

Method/Source of Data Collection

Identify patients from EMR who meet the denominator criteria. Of those patients, determine the number of patients who are prescribed an opioid at a dose less than 100 mg per day of morphine.

Time Frame Pertaining to Data Collection

Monthly.

Notes

Diagnoses that may be related to chronic pain include cervical and lumbar pain, headache, myalgia and myositis, low back pain, neck pain and fibromyalgia. Please refer to the [Implementation Recommendation Highlights](#) section for suggestions on identifying other ICD-9/ICD-10 codes.

This is an overuse process measure, and improvement is noted as an increase in the rate.

[Return to Table of Contents](#)

Implementation Tools and Resources

Criteria for Selecting Resources

The following tools and resources specific to the topic of the guideline were selected by the work group. Each item was reviewed thoroughly by at least one work group member. It is expected that users of these tools will establish the proper copyright prior to their use. The types of criteria the work group used are:

- The content supports the clinical and the implementation recommendations.
- Where possible, the content is supported by evidence-based research.
- The author, source and revision dates for the content are included where possible.
- The content is clear about potential biases and when appropriate conflicts of interests and/or disclaimers are noted where appropriate.

[Return to Table of Contents](#)

Implementation Tools and Resources Table

Author/Organization	Title/Description	Audience	Web Sites/Order Information
American Academy of Pain Medicine	Founded in 1983 and has become the primary organization for physicians practicing the specialty of pain medicine in the U.S.	Health Care Providers	http://www.painmed.org
American Chronic Pain Association	To facilitate peer support and education for individuals with chronic pain and their families so that these individuals may live more fully in spite of their pain. To raise awareness among the health care community, policy makers, and the public at large about issues of living with chronic pain.	Patients and Families; Health Care Providers	http://www.theacpa.org
American Society for Pain Management Nurses	To advance and promote optimal nursing care for people affected by pain. Position statement on treating pain for patients with addictive disease.	Health Care Providers	http://www.aspmn.org/
American Society of Regional Anesthesia and Pain Medicine	The mission of the American Society of Regional Anesthesia and Pain Medicine is to associate physicians and scientists who are engaged in regional anesthesia for surgery, obstetrics and pain medicine; to encourage education and to publish the highest quality scientific information on these subjects. The site provides information for patients and members that address education and research regarding pain medicine.	Health Care Providers; Patients and Families	http://www.asra.com
Beth Israel Medical Center Web site	Dedicated to providing comprehensive care of the highest quality in pain management and palliative care for physicians, nurses and pharmacists.	Health Care Providers	http://www.stoppain.org

[Return to Table of Contents](#)

Implementation Tools and Resources Table

Author/Organization	Title/Description	Audience	Web Sites/Order Information
Margaret Caudill	"Managing Pain Before It Manages You"; workbook for patients providing education on pharmacological and non-pharmacological management of pain, as well as effective coping and communication skills, problem-solving strategies, and guidance on setting realistic goals. Also includes excellent information on mind-body techniques.	Patients and Families	Guilford Press; http://www.guilford.com
International Association for the Study of Pain (IASP)	The preeminent organization for science, practice and education in the field of pain. This site provides publications for clinicians that include a peer-reviewed journal and clinical updates.	Health Care Providers	http:// www.iasp-pain.org
Minnesota Prescription Monitoring Program	Collects prescription data on all controlled substances and provides a database of patients to improve patient care and to reduce the misuse of controlled substances.	Qualified Prescribers, Licensed Pharmacists, Agents or Employees Delegates of the above	http://www.pmp.pharmacy.state.mn.us/
PainKnowledge	An interactive educational resource on pain management, sponsored by Professional Postgraduate Services and in part by an educational grant from Endo Pharmaceuticals. Features of PainKnowledge.org include a comprehensive pain management slide library; pain CME activities, including pain newsletters and interactive case studies; physician tools; pain resources; patient handouts; and more.	Health Care Providers	http://www.PainKnowledge.org
Substance Abuse and Mental Health Services Administration (SAMHSA)	Information on programs and publications for improving the quality and availability of substance abuse prevention, alcohol and drug addiction treatment, and mental health services. Includes information on the CAGE-AID screening tool.	Health Care Professionals	http://www.samhsa.gov

[Return to Table of Contents](#)

The subdivisions of this section are:

- References
- Appendices

References

Links are provided for those new references added to this edition (author name is highlighted in blue).

Abenhaim L, Rossignol M, Valat J, et al. The role of activity in the therapeutic management of back pain: report of the International Paris Task Force on Back Pain. *Spine* 2000;25:1s-33s. (Low Quality Evidence)

[American Geriatrics Society Panel on Exercise and Osteoarthritis](#). Exercise prescription for older adults with osteoarthritis pain: consensus practice recommendations: a supplement to the AGS clinical practice guidelines on the management of chronic pain in older adults. *J Am Geriatr Soc* 2001;49:808-23. (Meta-analysis)

American Pain Society. Pediatric chronic pain: a position statement from the American Pain Society. Available at <http://www.ampainsoc.org/cgi-bin/print/print.pl>. Accessed on February 10, 2005. (Low Quality Evidence)

American Pain Society. Principles of analgesic use in the treatment of acute pain and cancer pain. 5th Edition. *Acetaminophen* 2003:Page 8. (Low Quality Evidence)

Angst MS, Clark JD. Opioid-induced hyperalgesia: a qualitative systematic review. *Anesthesiology* 2006;104:570-87. (Systematic Review)

Arnold LM, Lu Y, Crofford LJ, et al. A double-blind, multicenter trial comparing duloxetine with placebo in the treatment of fibromyalgia patients with or without major depressive disorder. *Arthritis Rheum* 2004;50:2974-84. (High Quality Evidence)

Arnow BA. Relationships between childhood maltreatment, adult health and psychiatric outcomes, and medical utilization. *J Clin Psychiatry* 2004;65:10-15. (Low Quality Evidence)

Atlas S, Deyo RJ. Evaluating and managing acute low back pain in the primary care setting. *J Gen Intern Med* 2001;16:120-31. (Low Quality Evidence)

Backonja M, Beydoun A, Edwards KR, et al for the Gabapentin Diabetic Neuropathy Study Group. Gabapentin for the symptomatic treatment of painful neuropathy in patients with diabetes mellitus: a randomized controlled trial. *JAMA* 1998;280:1831-36. (Moderate Quality Evidence)

Bair MJ, Robinson RL, Katon W, Kroenke K. Depression and pain comorbidity: a literature review. *Arch Intern Med* 2003;163:2433-45. (Systematic Review)

Baron R, Binider A, Wasner G. Neuropathic pain: diagnosis, pathophysiological mechanisms, and treatment. *Lancet Neurol* 2010;9:807-19. (High Quality Evidence)

Beckman WA, Mendez RJ, Paine GF, Mazzilli MA. Cerebellar herniation after cervical transforaminal epidural injection. *Reg Anesth Pain Med* 2006;31:282-85. (Low Quality Evidence)

Belgrade MJ. Radicular limb pain. In [Neurological Therapeutics: Principles and Practice](#). 2003; Volume 1: Chapter 18. (Guideline)

Belgrade MJ, Schamber CD, Lindgren BR. The DIRE score: predicting outcomes of opioid prescribing for chronic pain. *J Pain* 2006;7:671-81. (High Quality Evidence)

Berman BM, Ezzo J, Hadhazy V, Swyers JP. Is acupuncture effective in the treatment of fibromyalgia? *J Fam Pract* 1999;48:213-18. (Low Quality Evidence)

[Berwick DM](#), [Nolan TW](#), [Whittington J](#). The triple aim: care, health, and cost. *Health Aff* 2008;27:759-69. (Reference)

Bogduk N. Lumbar discography. *Spine* 1996;21:402-03. (Guideline)

[Return to Table of Contents](#)

References

- Bogduk N, Dreyfuss P, Baker R, et al. Complications of spinal diagnostic and treatment procedures. *Am Acad Pain Med* 2008;9:S11-S34. (Low Quality Evidence)
- Bone M, Critchley P, Buggy DJ. Gabapentin in postamputation phantom limb pain: a randomized, double-blind, placebo-controlled, cross-over study. *Reg Anesth Pain Med* 2002;27:481-86. (Moderate Quality Evidence)
- Bonica JJ. Anatomic and physiologic basis of nociception and pain. Chapter 3. *In The Management of Pain*. Volume 1, 2nd Edition. 1990. (Low Quality Evidence)
- Borenstein DG. Epidemiology, etiology, diagnostic evaluation, and treatment of low back pain. *Opin Rheumatol* 1999;11:151-57. (Low Quality Evidence)
- Boudreaux ED, O'Hea E, Chasuk R. Spiritual role in healing, an alternative way of thinking. *Prim Care Clin Office Pract* 2002;29:439-54. (Low Quality Evidence)
- Brattberg G. Connective tissue massage in the treatment of fibromyalgia. *Eur J Pain* 1999;3:235-45. (Moderate Quality Evidence)
- Breslau N, Davis GC, Andreski P. Migraine, psychiatric disorders, and suicide attempts: an epidemiologic study of young adults. *Psychiatry Res* 1991;37:11-23. (Low Quality Evidence)
- Capsaicin Study Group, The. Treatment of painful diabetic neuropathy with topical capsaicin: a multi-center, double-blind, vehicle-controlled study. *Arch Intern Med* 1991;151:2225-29. (High Quality Evidence)
- Carette S, Leclaire R, Marcoux S, et al. Epidural corticosteroid injections for sciatica due to herniated nucleus pulposus. *N Engl J Med* 1997;336:1634-40. (High Quality Evidence)
- Carragee EJ, Alamin TF, Miller JL, Carragee JM. Discographic, MRI and psychosocial determinants of low back pain disability and remission: a prospective study in subjects with benign persistent back pain. *Spine J* 2005;5:24-35. (Low Quality Evidence)
- Carroll IR, Angst MS, Clark JD. Management of perioperative pain in patients chronically consuming opioids. *Reg Anesth Pain Med* 2004;29:576-91. (Low Quality Evidence)
- Chen H, Lamer TJ, Rho R, et al. Contemporary management of neuropathic pain for the primary care physician. *Mayo Clin Proc* 2004;79:1533-45. (Low Quality Evidence)
- Cherkin DC, Eisenberg D, Sherman KJ, et al. Randomized trial comparing traditional Chinese medical acupuncture, therapeutic massage, and self-care education for chronic low back pain. *Arch Intern Med* 2001;161:1081-88. (High Quality Evidence)
- Cherkin DC, Wheeler KJ, Barlow W, Deyo RA. Medication use for low back pain in primary care. *Spine* 1998;23:607-14. (Class M)
- Chou R, Fanciullo GJ, Fine PG, et al. Clinical guidelines for the use of chronic opioid therapy in chronic noncancer pain. *J of Pain* 2009a;10:113-30. (Guideline)
- Chou R, Huffman LH. Nonpharmacologic therapies for acute and chronic low back pain: a review of the evidence for an American pain society/American college of physicians clinical practice guideline. *Ann Intern Med* 2007;147:492-504. (Systematic Review)
- Chou R, Loeser JD, Owens DK, et al. Interventional therapies, surgery, and interdisciplinary rehabilitation for low back pain: an evidence-based clinical practice guideline from the American pain society. *Spine* 2009b;34:1066-77. (Guideline)
- Clark LG, Upshur CC. Family medicine physicians' view of how to improve chronic pain management. *J Am Board Fam Med* 2007;20:479-82. (Low Quality Evidence)

[Return to Table of Contents](#)

References

- Cleeland CS, Ryan KM. Pain assessment: global use of the brief pain inventory. *Ann Acad Med Singapore* 1994;23:129-38. (Low Quality Evidence)
- Collins SL, Moore RA, McQuay HJ, et al. Antidepressants and anticonvulsants for diabetic neuropathy and postherpetic neuralgia: a quantitative systemic review. *J Pain Symptom Manage* 2000;20:449-58. (Systematic Review)
- Crider AB, Glaros AG. A meta-analysis of EMG biofeedback treatment of temporomandibular disorders. *J Orofac Pain* 1999;13:29-37. (Meta-analysis)
- Crofford LJ. Adverse effects of chronic opioid therapy for chronic musculoskeletal pain. *Nat Rev Rheumatol* 2010;6:191-97. (Reference)
- Daut RL, Cleeland CS, Flanery RC. Development of the Wisconsin brief pain questionnaire to assess pain in cancer and other diseases. *Pain* 1983;17:197-210. (Low Quality Evidence)
- Degenhardt BF, Darmani NA, Johnson JC, et al. Role of osteopathic manipulative treatment in altering pain biomarkers: a pilot study. *J Am Osteopath Assoc* 2007;107:387-400. (Low Quality Evidence)
- Derby S, Chin J, Portenoy RK. Systematic opioid therapy for chronic cancer pain: practical guidelines for converting drugs and routes of administration. *CNS Drugs* 1998;9:99-109. (Guideline)
- Derry S, Moore RA, Rabbie R. Topical NSAIDs for chronic musculoskeletal pain in adults. *Cochrane Database Syst Rev* 2012;9:CD007400. (Systematic Review)
- Devers A, Galer BS. Topical lidocaine patch relieves a variety of neuropathic pain conditions: an open-label study. *Clin J Pain* 2000;16:205-08. (Low Quality Evidence)
- Dickenson AH. Central acute pain mechanisms. *Ann Med* 1995; 27:223-27. (Low Quality Evidence)
- Diener HC, Pfaffenrath V, Schnitker J, et al. Efficacy and safety of 6.25 mg t.i.d. feverfew CO₂-extract (MIG-99) in migraine prevention – a randomized, double-blind, multicentre, placebo-controlled study. *Cephalalgia* 2005;25:1031-41. (Low Quality Evidence)
- Dilke TFW, Burry HC, Grahame R. Extradural corticosteroid injection in management of lumbar nerve root compression. *Br Med J* 1973;2:635-37. (High Quality Evidence)
- Dobscha SK, Corson K, Perrin NA, et al. Collaborative care for chronic pain in primary care: a cluster randomized trial. *JAMA* 2009;301:1242-52. (Moderate Quality Evidence)
- Dunn KM, Saunders KW, Rutter CM, et al. Opioid prescriptions for chronic pain and overdose: a cohort study. *Ann Intern Med* 2010;152:85-92. (Low Quality Evidence)
- Dworkin RH, Backonja M, Rowbotham MC, et al. Advances in neuropathic pain: diagnosis, mechanisms, and treatment recommendations. *Arch Neurol* 2003a;60:1524-34. (Guideline)
- Dworkin RH, Corbin AE, Young Jr JP, et al. Pregabalin for the treatment of postherpetic neuralgia: a randomized, placebo-controlled trial. *Neurology* 2003b;60:1274-83. (Moderate Quality Evidence)
- Dworkin RH, Turk DC, Wyrwich KW, et al. Interpreting the clinical importance of treatment outcomes in chronic pain clinical trials: IMMPACT recommendations. *J Pain* 2008;9:105-21. (Moderate Quality Evidence)
- Eccleston C, Malleson PN, Clinch J, et al. Chronic pain in adolescents: evaluation of a programme of interdisciplinary cognitive behaviour therapy. *Arch Dis Child* 2003;88:881-85. (Low Quality Evidence)
- Eisenberg DM, Davis RB, Ettner SL, et al. Trends in alternative medicine use in the United States, 1990-1997: results of a follow-up national survey. *JAMA* 1998;280:1569-75. (Low Quality Evidence)
- Eriksen J, Sjøgren P, Bruera E, et al. Critical issues on opioids in chronic non-cancer pain: an epidemiological study. *Pain* 2006;125:172-79. (Low Quality Evidence)

[Return to Table of Contents](#)

References

- Ewing JA. Detecting alcoholism. *JAMA* 1984;252:1905-07. (High Quality Evidence)
- Faas A. Exercises: which ones are worth trying, for which patients, and when? *Spine* 1996;21:2874-78. (Low Quality Evidence)
- Field T, Hernandez-Reif M, Seligman S, et al. Juvenile rheumatoid arthritis: benefits from massage therapy. *J Pediatr Psychol* 1997;22:607-17. (Moderate Quality Evidence)
- French DJ, Holroyd KA, Pinell C, et al. Perceived self-efficacy and headache-related disability. *Headache* 2000;40:647-56. (Low Quality Evidence)
- Furman MB, Giovanniello MT, O'Brien EM. Incidence of intravascular penetration in transforaminal cervical epidural steroid infections. *Spine* 2003;28:21-25. (Low Quality Evidence)
- Fusco BM, Giacobozzo M. Peppers and pain: the promise of capsaicin. *Drugs* 1997;53:909-14. (Low Quality Evidence)
- Gagnier JJ, van Tulder MW, Berman B, Bombardier C. Herbal medicine for low back pain: a cochrane review. *Spine* 2007;32:82-92. (Systematic Review)
- Galer BS, Jensen MP. Development and preliminary validation of a pain measure specific to neuropathic pain: the neuropathic pain scale. *Neurology* 1997;48:332-38. (Low Quality Evidence)
- Galer BS, Jensen MP, Ma T, et al. The lidocaine patch 5% effectively treats all neuropathic pain qualities: results of a randomized, double-blind, vehicle-controlled, 3-week efficacy study with use of the neuropathic pain scale. *Clin J Pain* 2002;18:297-301. (High Quality Evidence)
- Gamber RG, Shores JH, Russo BA, et al. Osteopathic manipulative treatment in conjunction with medication relieves pain associated with fibromyalgia syndrome: results of a randomized clinical pilot project. *JAOA* 2002;102:321-25. (High Quality Evidence)
- Gurley BJ, Gardner SF, Hubbard MA. Content versus label claims in ephedra-containing dietary supplements. *Am J Health-Syst Pharm* 2000;57:963-99. (Low Quality Evidence)
- Guzmán J, Esmail R, Karjalainen K, et al. Multidisciplinary bio-psycho-social rehabilitation for chronic low back pain: systematic review. *Cochrane Database Syst Rev* 2002;(1):CD000963. (Systematic Review)
- Haddock CK, Rowan AB, Andrasik F, et al. Home-based behavioral treatments for chronic benign headache: a meta-analysis of controlled trials. *Cephalalgia* 1997;17:113-18. (Meta-analysis)
- Hardouin P, Fayada P, Lecllet H, Chopin D. Kyphoplasty. *Joint Bone Spine* 2002;69:256-61. (Guideline)
- Hayden JA, van Tulder MW, Malmivaara AV, Koes BW. Meta-analysis: exercise therapy for nonspecific low back pain. *Ann Intern Med* 2005;142:765-75. (Moderate Quality Evidence)
- Herr K. Neuropathic pain: a guide to comprehensive assessment. *Pain Manag Nurs* 2004;5:9-18. (Guideline)
- Hooten WM, Martin DP, Huntoon MA. Radiofrequency neurotomy for low back pain: evidence-based procedural guidelines. *Pain Med* 2005;6:129-38. (Guideline)
- Hsieh LL, Kuo CH, Lee LH, et al. Treatment of low back pain by acupuncture and physical therapy: randomised controlled trial. *BMJ* 2006;332:696-700. (Moderate Quality Evidence)
- Jordan JL, Holden MA, Mason EEJ, Foster NE. Interventions to improve adherence to exercise for chronic musculoskeletal pain in adults. *Cochrane Database Syst Rev* 2010(1):CD005956. (Systematic Review)
- Kabat-Zinn J, Lipworth L, Burney R, Sellers W. Four-year follow-up of a meditation-based program for the self-regulation of chronic pain: treatment outcomes and compliance. *Clin J Pain* 1986;2:159-73. (Low Quality Evidence)

[Return to Table of Contents](#)

References

- Kaiser Permanente Medical Care Program, Chronic Pain Guidelines. Care Management Institute, 2004. (Guideline)
- Kaplan KH, Goldenberg DL, Galvin-Nadeau M. The impact of a meditation-based stress reduction program on fibromyalgia. *Gen Hosp Psychiatry* 1993;15:284-89. (Low Quality Evidence)
- Karjalainen K, Malmivaara A, van Tulder M, et al. Multidisciplinary biopsychosocial rehabilitation for neck and shoulder pain among working age adults. *The Cochrane Database of Systematic Reviews* 2003, Issue 2 CD002194. (Systematic Review)
- Katon W, Von Korff M, Lin E, et al. Stepped collaborative care for primary care patients with persistent symptoms of depression: a randomized trial. *Arch Gen Psychiatry* 1999;56:1109-15. (High Quality Evidence)
- Kilkenny MB, Deane K, Smith KA, Eyre S. Non-invasive physical treatments of myofascial pain. *The Cochrane Library* 2008, Issue 1. (Low Quality Evidence)
- King SA, Strain JJ. Benzodiazepine use by chronic pain patients. *Clin J Pain* 1990;6:143-47. (Low Quality Evidence)
- Kingery WS. A critical review of controlled clinical trials for peripheral neuropathic pain and complex regional pain syndromes. *Pain* 1997;73:123-39. (Systematic Review)
- Knebl JA, Shores JH, Gamber RG, et al. Improving functional ability in the elderly via the Spencer technique, an osteopathic manipulative treatment: a randomized, controlled trial. *J Am Osteopath Assoc* 2002;102:387-96. (Low Quality Evidence)
- Koes BW, van Tulder M, Ostelo R, et al. Clinical guidelines for the management of low back pain in primary care: an international comparison. *Spine* 2001;26:2504-14. (Guideline)
- Koltzenburg M. Neural mechanisms of cutaneous nociceptive pain. *Clin J Pain* 2000;16:S131-S38. (Low Quality Evidence)
- Krantz MJ, Martin J, Stimmel B, et al. QTc interval screening in methadone treatment. *Ann Intern Med* 2009;150:387-95. (Low Quality Evidence)
- Ledbetter M. A pastoral perspective on pain management. *J Pastoral Care* 2001;55:379-87. (Low Quality Evidence)
- Lépine JP, Briley M. The epidemiology of pain in depression. *Hum Psychopharmacol* 2004;19:S3-7. (Low Quality Evidence)
- Lesser H, Sharma U, LaMoreaux L, et al. Pregabalin relieves symptoms of painful diabetic neuropathy: a randomized controlled trial. *Neurology* 2004;63:2104-10. (High Quality Evidence)
- Licciardone JC. The unique role of osteopathic physicians in treating patients with low back pain. *JAOA* 2004;104:13-18. (Low Quality Evidence)
- Licciardone JC, Stoll ST, Fulda KG, et al. Osteopathic manipulative treatment for chronic low back pain: a randomized controlled trial. *Spine* 2003;28:1355-62. (Low Quality Evidence)
- Lindström I, Ohlund C, Eek C, et al. The effect of graded activity on patients with subacute low back pain: a randomized prospective clinical study with an operant-conditioning behavioral approach. *Phys Ther* 1992;72:279-90. (Moderate Quality Evidence)
- Magni G, Rigatti-Luchini S, Fracca F, Merskey H. Suicidality in chronic abdominal pain: an analysis of the Hispanic Health and Nutrition Examination Survey (HHANES). *Pain* 1998;76:137-44. (Low Quality Evidence)

[Return to Table of Contents](#)

References

- Malmivaara A, Koes BW, Bouter LM, van Tulder MW. Applicability and clinical relevance of results in randomized controlled trials: the Cochrane review on exercise therapy for low back pain as an example. *Spine* 2006;31:1405-09. (Systematic Review)
- Mannion AF, Müntener M, Taimela S, Dvorak J. 1999 Volvo award winner in clinical studies: a randomized clinical trial of three active therapies for chronic low back pain. *Spine* 1999;24:2435-48. (High Quality Evidence)
- Mao J. Opioid-induced abnormal pain sensitivity: implications in clinical opioid therapy. *Pain* 2002;100:213-17. (Low Quality Evidence)
- Martell BA, O'Connor PG, Kerns RD, et al. Systematic review: opioid treatment for chronic back pain: prevalence, efficacy, and association with addiction. *Ann Intern Med* 2007;146:116-27. (Systematic Review)
- Martin DP, Sletten CD, Williams BA, Berger IH. Improvement in fibromyalgia symptoms with acupuncture: results of a randomized controlled trial. *Mayo Clin Proc* 2006;81:749-57. (High Quality Evidence)
- Mason L, Moore RA, Derry S, et al. Systematic review of topical capsaicin for the treatment of chronic pain. *BMJ* 2004;328:991. (Systematic Review)
- Max MB, Lynch SA, Muir J, et al. Effects of desipramine, amitriptyline, and fluoxetine on pain in diabetic neuropathy. *N Engl J Med* 1992;326:1250-56. (Low Quality Evidence)
- Mayer DJ, Price DD, Rafii A. Antagonism of acupuncture analgesia in man by the narcotic antagonist naloxone. *Brain Res* 1977;121:368-72. (Low Quality Evidence)
- McAlindon TE, LaValley MP, Gulin JP, Felson DT. Glucosamine and chondroitin for treatment of osteoarthritis: a systematic quality assessment and meta-analysis. *JAMA* 2000;283:1469-75. (Systematic Review)
- McCaffery M, Pasero C. *In Pain Clinical Manual*. 2nd ed. St. Louis, London, Philadelphia, Sydney, Toronto, Mosby, 1999. (Guideline)
- McCleane GJ. The symptoms of complex regional pain syndrome type I alleviated with lamotrogine: a report of 8 cases. *J Pain* 2000;1:171-73. (Low Quality Evidence)
- McQuay HJ, Carroll D, Jadad AR, Wiffen R. Anticonvulsant drugs for management of pain: a systemic review. *BMJ* 1995;311:1047-52. (Systematic Review)
- McQuay HJ, Tramér M, Nye BA, et al. A systemic review of antidepressants in neuropathic pain. *Pain* 1996;68:217-27. (Systematic Review)
- Meng CF, Wang D, Ngeow J, et al. Acupuncture for chronic low back pain in older patients: a randomized, controlled trial. *Rheumatology* 2003;42:1508-17. (Low Quality Evidence)
- Miller LG. Herbal medicinals: selected clinical considerations focusing on known or potential drug-herb interactions. *Arch Intern Med* 1998;158:2200-11. (Guideline)
- Montgomery GH, DuHamel KN, Redd WH. A meta-analysis of hypnotically induced analgesia: how effective is hypnosis? *Int J Clin Exp Hypn* 2000;48:138-53. (Meta-analysis)
- Moore RA, Wiffen PJ, Derry S, McQuay HJ. Gabapentin for chronic neuropathic pain and fibromyalgia in adults. *Cochrane Database Syst Rev* 2011;(3):CD007938. (Systematic Review)
- Morley S, Eccleston C, Williams A. Systematic review and meta-analysis of randomized controlled trials of cognitive behavior therapy and behaviour therapy for chronic pain in adults, excluding headache. *Pain* 1999;80:1-13. (Low Quality Evidence)

[Return to Table of Contents](#)

References

- Nath S, Nath CA, Pettersson K. Percutaneous lumbar zygapophysial (facet) joint neurotomy using radiofrequency current, in the management of chronic low back pain: a randomized double-blind trial. *Spine* 2008;33:1291-97. (Moderate Quality Evidence)
- National Institutes of Health. Acupuncture. NIH Consensus Statement Online. 1997;1-34. Available at: <http://consensus.nih.gov>. (Low Quality Evidence)
- National Pharmaceutical Council, Inc. Pain: current understanding of assessment, management, and treatments. *JCAHO* December, 2001. (Low Quality Evidence)
- Nelemans PJ, de Bie RA, de Vet HCW, Sturmans F. Injection therapy for subacute and chronic benign low-back pain. *Cochrane Database of Systemic Rev* Available at: <http://gateway.ut.ovid.com/gw/ovidweb.cgi>. Accessed on April 21, 2005. (Systematic Review)
- Nishishinya B, Walitt B, Urrutia G, et al. Anti-depressants and centrally active agents for fibromyalgia syndrome. *The Cochrane Library* 2008, Issue 1. (Low Quality Evidence)
- Noble M, Treadwell JR, Tregar SJ, et al. Long-term opioid management for chronic noncancer pain. *Cochrane Database Syst Rev* 2010;(1):CD006605. (Systematic Review)
- Olsen Y, Daumit GL. Chronic pain and narcotics: a dilemma for primary care. *J Gen Intern Med* 2002;17:238-40. (Low Quality Evidence)
- Pandey CK, Bose N, Garg G, et al. Gabapentin for the treatment of pain in Guillain-Barré syndrome: a double-blinded, placebo-controlled, crossover study. *Anesth Analg* 2002;95:1719-23. (High Quality Evidence)
- Passik SD, Weinreb HJ. Managing chronic nonmalignant pain: overcoming obstacles to the use of opioids. *Adv Ther* 2000;17:70-83. (Guideline)
- Penny KI, Purves AM, Smith BH, et al. Relationship between the chronic pain grade and measures of physical, social and psychological well-being. *Pain* 1999;79:275-79. (Low Quality Evidence)
- Perlman AI, Sabina A, Williams AL, et al. Massage therapy for osteoarthritis of the knee: a randomized controlled trial. *Arch Intern Med* 2006;166:2533-38. (Moderate Quality Evidence)
- Portenoy RK, Payne R, Passik SD. Acute and chronic pain. In *Comprehensive Textbook of Substance Abuse*. 2004. Fourth Edition. Baltimore:Williams and Wilkins. (Guideline)
- Rasmussen PV, Sindrup SH, Jensen TS, Bach FW. Symptoms and signs in patients with suspected neuropathic pain. *Pain* 2004;110:461-69. (Low Quality Evidence)
- Reid MC, Engles-Horton LL, Weber MB, et al. Use of opioid medications for chronic noncancer pain syndromes in primary care. *J Gen Intern Med* 2002;17:173-79. (Low Quality Evidence)
- Rice ASC, Maton S, Postherpetic Neuralgia Study Group. Gabapentin in postherpetic neuralgia: a randomised, double blind, placebo controlled study. *Pain* 2001;94:215-24. (High Quality Evidence)
- Riew KD, Yin Y, Gilula L, et al. The effect of nerve-root injections on the need for operative treatment of lumbar radicular pain: a prospective, randomized, controlled, double-blind study. *J Bone Joint Surg Am* 2000;82-A:1589-93. (High Quality Evidence)
- Rome JD, Townsend CO, Bruce BK, et al. Chronic noncancer pain rehabilitation with opioid withdrawal: comparison of treatment outcomes based on opioid use status at admission. *Mayo Clin Proc* 2004;79:759-68. (Low Quality Evidence)
- Rommel O, Willweber-Strumpf A, Wagner P, et al. Psychological abnormalities in patients with complex regional pain syndrome (CRPS). *Schmerz.*; [Epub ahead of print] German. PMID: 15243794. (Low Quality Evidence)

[Return to Table of Contents](#)

References

- Rowbotham MC, Davies PS, Fields HL. Topical lidocaine gel relieves postherpetic neuralgia. *Ann Neurol* 1995;37:246-53. (Moderate Quality Evidence)
- Rowbotham M, Harden N, Stacey B, et al. Gabapentin for the treatment of postherpetic neuralgia: a randomized controlled trial. *JAMA* 1998;280:1837-42. (High Quality Evidence)
- Savedra MC, Tesler MD, Holzemer WL, et al. Pain location: validity and reliability of body outline markings by hospitalized children and adolescents. *Res Nurs Health* 1989;12:307-14. (Low Quality Evidence)
- Scharf HP, Mansmann U, Streitberger K, et al. Acupuncture and knee osteoarthritis: a three-armed randomized trial. *Ann Intern Med* 2006;145:12-20. (Low Quality Evidence)
- Schultz IZ, Crook J, Meloche GR, et al. Psychosocial factors predictive of occupational low back disability: towards development of a return-to-work model. *Pain* 2004;107:77-85. (Low Quality Evidence)
- Semenchuk MR, Sherman S, Davis B. Double-blind, randomized trial of bupropion SR for the treatment of neuropathic pain. *Neurology* 2001;57:1583-88. (Moderate Quality Evidence)
- Serpell MG; Neuropathic pain study group. Gabapentin in neuropathic pain syndromes: a randomised, double-blind, placebo-controlled trial. *Pain* 2002;99:557-66. (High Quality Evidence)
- Silverstein FE, Faich G, Goldstein JL, et al. Gastrointestinal toxicity with celecoxib vs nonsteroidal anti-inflammatory drugs for osteoarthritis and rheumatoid arthritis: the CLASS study: a randomized controlled trial. *JAMA* 2000;284:1247-55. (High Quality Evidence)
- Simpson DM, Olney R, McArthur JC, et al. A placebo-controlled trial of lamotrigine for painful HIV-associated neuropathy. *Neurology* 2000;54:2115-19. (Low Quality Evidence)
- Sindrup SH, Bach FW, Madsen C, et al. Venlafaxine versus imipramine in painful polyneuropathy: a randomized, controlled trial. *Neurology* 2003;60:1284-89. (Low Quality Evidence)
- Sindrup SH, Jensen TS. Efficacy of pharmacological treatments of neuropathic pain: an update and effect related to mechanism of drug action. *Pain* 1999;83:389-400. (Low Quality Evidence)
- Sindrup SH, Jensen TS. Pharmacologic treatment of pain in polyneuropathy. *Neurology* 2000;55:915-20. (Low Quality Evidence)
- Sjøgren P, Grønbaek M, Peuckmann V, Ekholm O. A population-based cohort study on chronic pain: the role of opioids. *Clin J Pain* 2010;26:763-69. (Low Quality Evidence)
- Smith BH, Penny KI, Purves AM, et al. The chronic pain grade questionnaire: validation and reliability in postal research. *Pain* 1997;71:141-47. (Low Quality Evidence)
- Snedecor SJ, Sudharshan L, Cappelleri JC, et al. Systematic review and comparison of pharmacologic therapies for neuropathic pain associated with spinal cord injury. *J Pain Res* 2013;6:539-47. (Systematic Review)
- Steenstra IA, Verbeek JH, Heymans MW, Bongers PM. Prognostic factors for duration of sick leave in patients sick listed with acute low back pain: a systematic review of the literature. *Occup Environ Med* 2005;62:851-60. (Low Quality Evidence)
- Stewart JH. Hypnosis in contemporary medicine. *Mayo Clin Proc* 2005;80:511-24. (Class R)
- Tai Q, Kirshblum S, Chen B, et al. Gabapentin in the treatment of neuropathic pain after spinal cord injury: a prospective, randomized, double-blind, crossover trial. *J Spinal Cord Med* 2002;25:100-05. (Moderate Quality Evidence)
- Tavola T, Gala C, Conte G, Invernizzi G. Traditional Chinese acupuncture in tension-type headache: a controlled study. *Pain* 1992;48:325-29. (Moderate Quality Evidence)
- Tiso RL, Cutler T, Catania JA, Whalen K. Adverse central nervous system sequelae after selective transforaminal block: the role of corticosteroids. *Spine Journal* 2004;4:468-74. (Low Quality Evidence)

[Return to Table of Contents](#)

References

- Tofferi JK, Jackson JL, O'Malley PG. Treatment of fibromyalgia with cyclobenzaprine: a meta-analysis. *Arthritis Rheum* 2004;51:9-13. (Meta-analysis)
- U.S. Food and Drug Administration. FDA talk paper T04-61. Available at www.fda.gov. December 23, 2004. (Class Not Assignable)
- U.S. Food and Drug Administration. "Off-label" and investigational use of marketed drugs, biologics, and medical devices – information sheet. Available at: <http://www.fda.gov/regulatoryinformation/guidances/ucm126486.htm>. Accessed October 22, 2013. (Reference)
- Van Cleve LJ, Savedra MC. Pain location: validity and reliability of body outline markings by 4 to 7-year-old children who are hospitalized. *Ped Nurs* 1993;19:217-20. (Low Quality Evidence)
- van Tulder M, Koes B, Bouter LM. Conservative treatment of acute and chronic nonspecific low back pain: a systematic review of randomized controlled trials of the most common interventions. *Spine* 1997; 22:2128-56. (Systematic Review)
- VA/DoD Clinical Practice Guideline for the management of Opioid Therapy for Chronic Pain. Available at: <http://www.oqd.med.va.gov/cpg/cpg.htm>. June 2003. (Guideline)
- Vas J, Méndez C, Perea-Milla E, et al. Acupuncture as a complementary therapy to the pharmacological treatment of osteoarthritis of the knee: randomised controlled trial. *BMJ* 2004;329:1216. (Low Quality Evidence)
- Vickers AJ, Rees RW, Zollman CE, et al. Acupuncture for chronic headache in primary care: large, pragmatic, randomised trial. *BMJ* 2004;328:744. (Low Quality Evidence)
- Vlaeyen JWS, de Jong J, Geilen M, et al. The treatment of fear of movement/(re)injury in chronic low back pain: further evidence on the effectiveness of exposure in vivo. *Clin J Pain* 2002;18:251-61. (Moderate Quality Evidence)
- Walsh TR, Weinstein JN, Spratt KF, et al. Lumbar discography in normal subjects: a controlled, prospective study. *J Bone Joint Surg Am* 1990;72:1081-88. (Low Quality Evidence)
- Waters SJ, Campbell LC, Keefe FJ, Carson JW. The essence of cognitive-behavioral pain management. *In Psychosocial Aspects of Pain: A Handbook for Health Care Providers*. Seattle. 2004. (Guideline)
- Wen CP, Wai JP, Tsai MK, et al. Minimum amount of physical activity for reduced mortality and extended life expectancy: a prospective cohort study. *Lancet* 2011;378:1244-53. (Moderate Quality Evidence)
- White P, Lewith G, Prescott P, Conway J. Acupuncture versus placebo for the treatment of chronic mechanical neck pain: a randomized, controlled trial. *Ann Intern Med* 2004;141:911-19. (Low Quality Evidence)
- Winslow LC, Kroll DJ. Herbs as medicines. *Arch Intern Med* 1998;158:2192-99. (Guideline)
- Wisconsin Medical Society Task Force on Pain Management. Guidelines for the assessment and management of chronic pain. *BMJ* 2004;103:15-43. (Guideline)
- Wolff F, Clauw DJ, Fitzcharles MA, et al. The American college of rheumatology preliminary diagnostic criteria for fibromyalgia and measurement of symptom severity. *Arthritis Care Res* 2010;62:600-10. (Low Quality Evidence)
- Wonderling D, Vickers AJ, Grieve R, McCarney R. Cost effectiveness analysis of a randomised trial of acupuncture for chronic headache in primary care. *BMJ* 2004;328:747. (Low Quality Evidence)
- Zakrzewska JM, Chaudry Z, Nurmikko TJ, et al. Lamotrigine (Lamictal) in refractory trigeminal neuralgia: results from a double-blind placebo-controlled cross-over trial. *Pain* 1997;73:223-30. (Low Quality Evidence)
- Zautra AJ, Fasman R, Reich JW, et al. Fibromyalgia: evidence for deficits in positive affect regulation. *Psychosom Med* 2005;67:147-55. (High Quality Evidence)

[Return to Table of Contents](#)

www.icsi.org

Appendix A – Brief Pain Inventory (Short Form)

STUDY ID# _____

HOSPITAL # _____

DO NOT WRITE ABOVE THIS LINE

Brief Pain Inventory (Short Form)

Date: ____/____/____

Time: _____

Name: _____

Last

First

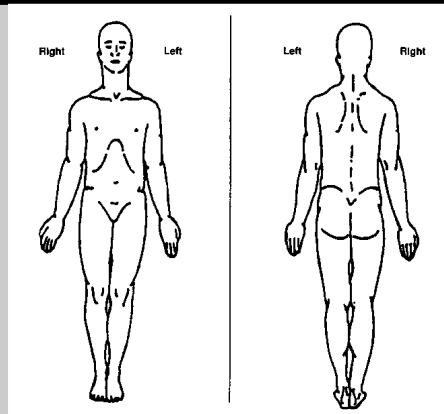
Middle Initial

1. Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain today?

1. Yes

2. No

2. On the diagram, shade in the areas where you feel pain. Put an X on the area that hurts the most.



3. Please rate your pain by circling the one number that best describes your pain at its **worst** in the last 24 hours.

0 1 2 3 4 5 6 7 8 9 10
No Pain Pain as bad as you can imagine

4. Please rate your pain by circling the one number that best describes your pain at its **least** in the last 24 hours.

0 1 2 3 4 5 6 7 8 9 10
No Pain Pain as bad as you can imagine

5. Please rate your pain by circling the one number that best describes your pain on the **average**.

0 1 2 3 4 5 6 7 8 9 10
No Pain Pain as bad as you can imagine

6. Please rate your pain by circling the one number that tells how much pain you have **right now**.

0 1 2 3 4 5 6 7 8 9 10
No Pain Pain as bad as you can imagine

7. What treatments or medications are you receiving for your pain?

8. In the last 24 hours, how much relief have pain treatments or medications provided? Please circle the one percentage that most shows how much relief you have received.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
No Relief										Complete Relief

9. Circle the one number that describes how, during the past 24 hours, pain has interfered with your:

A. General Activity

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

B. Mood

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

C. Walking Ability

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

D. Normal Work (includes both work outside the home and housework)

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

E. Relations with other people

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

F. Sleep

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

G. Enjoyment of life

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

Copyright 1991 Charles S. Cleeland, PhD
Pain Research Group
All rights reserved.
Used by permission.

Appendix B – Patient Health Questionnaire (PHQ-9)

Patient Name: _____

Date: _____

Over the *last 2 weeks*, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly every day
	0	1	2	3
1. Little interest or pleasure in doing things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Feeling down, depressed, or hopeless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Trouble falling/staying asleep, sleeping too much.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Feeling tired or having little energy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Poor appetite or overeating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Trouble concentrating on things, such as reading the newspaper or watching television.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Thoughts that you would be better off dead or of hurting yourself in some way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

© 2005 Pfizer Inc. All rights reserved. Reproduced with permission.

[Return to Table of Contents](#)

For initial diagnosis:

If there are at least four ✓s in the two right columns (including Questions #1 and #2), consider a depressive disorder. Add score to determine severity.

Consider Major Depressive Disorder

- if there are at least five ✓s in the two right columns (one of which corresponds to Question #1 or #2).

Consider Other Depressive Disorder

- if there are two to four ✓s in the two right columns (one of which corresponds to Question #1 or #2).

Note: Since the questionnaire relies on patient self-report, all responses should be verified by the clinician, and a definitive diagnosis is made on clinical grounds, taking into account how well the patient understood the questionnaire, as well as other relevant information from the patient. Diagnoses of Major Depressive Disorder or Other Depressive Disorder also require impairment of social, occupational or other important areas of functioning and ruling out normal bereavement, a history of a Manic Episode (Bipolar Disorder), and a physical disorder, medication or other drug as the biological cause of the depressive symptoms.

To monitor severity over time for newly diagnosed patients or patients in current treatment for depression:

PHQ-9 SCORING CARD FOR SEVERITY DETERMINATION

for healthcare professional use only

Scoring—add up all checked boxes on PHQ-9

For every ✓: Not at all = 0; Several days = 1;
More than half the days = 2; Nearly every day = 3

Interpretation of Total Score

Total Score	Depression Severity
0-4	None
5-9	Mild
10-14	Moderate
15-19	Moderately severe
20-27	Severe

© 2005 Pfizer Inc. All rights reserved. Reproduced with permission.

[Return to Table of Contents](#)

BACK

Appendix C – Physical Functional Ability Questionnaire (FAQ5)

This tool has not been validated for research; however, work group consensus was to include it as an example due to the lack of other validated and easy-to-use functional assessment tools for chronic pain.

Name: _____
Date: _____
Date of Birth: _____
MR #: _____

Instructions: Circle the number (1-4) in each of the groups that best summarizes your ability.

Add the numbers and multiply by 5 for total score out of 100.

_____ **Self-care ability assessment**

1. Require total care: for bathing, toilet, dressing, moving and eating
2. Require frequent assistance
3. Require occasional assistance
4. Independent with self-care

_____ **Family and social ability assessment**

1. Unable to perform any: chores, hobbies, driving, sex and social activities
2. Able to perform some
3. Able to perform many
4. Able to perform all

_____ **Movement ability assessment**

1. Able to get up and walk with assistance, unable to climb stairs
2. Able to get up and walk independently, able to climb one flight of stairs
3. Able to walk short distances and climb more than one flight of stairs
4. Able to walk long distances and climb stairs without difficulty

_____ **Lifting ability assessment**

1. Able to lift up to 10 lbs. occasionally
2. Able to lift up to 20 lbs. occasionally
3. Able to lift up to 50 lbs. occasionally
4. Able to lift over 50 lbs. occasionally

_____ **Work ability assessment**

1. Unable to do any work
2. Able to work part-time **and** with physical limitations
3. Able to work part-time **or** with physical limitations
4. Able to perform normal work

_____ **Physical Functional Ability (FAQ5) Score**

© 2005 Peter S. Marshall, MD. Permission for use granted.

[Return to Table of Contents](#)

Physical Functional Ability Questionnaire (FAQ5) Information Sheet

The Physical Functional Ability Questionnaire (FAQ5) was developed as a clinical assessment tool for patients with chronic pain and disability issues. This tool can provide a "snapshot" of the patient's self-perception of his or her physical functional ability at one point in time, without reference to pain perception. The tool was developed for ease of use in a busy clinical practice. The time for a patient, or family member, to complete the questionnaire is usually one to two minutes, and scoring is easily completed within seconds. This tool is adaptable to electronic medical records (EMR) to allow tracking over time, and total and/or subset numerical scores may be entered into the EMR by support staff, medical clinician or patient.

All references to pain perception have been excluded, and all elements of physical function referenced by this questionnaire are directly observable or measurable, except for Work Ability. Self-Care Ability is the equivalent of Activities of Daily Living (ADLs), and Family and Social Ability is the equivalent of Instrumental Activities of Daily Living (IADLs). Movement Ability is easily observed indirectly by clinicians, and Lifting Ability could be simply tested by observing the patient lifting one or more reams of copy paper (each 500 sheet ream weighs about five pounds). Lifting Ability weight levels correlate with U.S. Department of Labor and Industry physical demand work levels and energy requirements: Sedentary – 10 pounds occasional/1.5 to 2.1 METs; Light – 20 pounds occasional/2.2 to 3.5 METs; Medium – 20-50 pounds occasional/3.6 to 6.3 METs; Heavy – 50 to 100 pounds occasional/6.4 to 7.5 METs.

Because this tool measures an individual's self-perception of physical function, it is not by itself a measure of impairment (any loss or abnormality of anatomical or physiological structure or function, permanent or temporary) or disability (inability to perform a major life activity, including work, because of an impairment). Disability is usually defined by an insurance company or governmental agency, such as the Veterans Administration or Social Security Administration.

The utility of the FAQ5 is greatest in several areas:

1. Establishing a simple baseline measure of physical function from which to begin a physical rehabilitation program.
2. Establishing a simple physical functional goal toward which to aim a physical rehabilitation program.
3. A periodic measure of progress (or lack of progress) toward a functional rehabilitation program goal.
4. Establishing a subjective baseline and framework against which objective findings of physical dysfunction may be compared during a clinical evaluation or assessment of patients claiming disability benefits.

Use of the FAQ5 global score (25-100) provides a simple numerical score for comparison of past or current perceptions with future goals. Most patients with chronic pain or those seeking disability benefits have initial scores in the range of 40 to 60. In patients with chronic pain and those seeking disability benefits, discordance is common between elements within the FAQ5, or between the FAQ5 and observed physical function. Discordances may provide clues to psychosocial risk factors, which can contribute to perpetuation of chronic pain and disability behaviors, that need to be addressed as part of a treatment and rehabilitation program. For example, discordance between the patient's perception of physically observable elements (ADLs, IADLs, movement and lifting) and self-perceived work capacity may indicate some degree of reluctance to return to work.

© 2008 Peter S. Marshall, MD. Permission for use granted.

[*Return to Table of Contents*](#)

Appendix D – Personal Care Plan for Chronic Pain

This tool has not been validated for research; however, work group consensus was to include it as an example of a patient tool for establishing a plan of care.

1. Set Personal Goals

- Improve Functional Ability Score by ____ points by: Date _____
- Return to specific activities, tasks, hobbies, sports...by: Date _____
 1. _____
 2. _____
 3. _____
- Return to limited work/or normal work by: Date _____

2. Improve Sleep (Goal: ____ hours/night, Current: ____ hours/night)

- Follow basic sleep plan
 1. Eliminate caffeine and naps, relaxation before bed, go to bed at target bedtime _____
- Take nighttime medications
 1. _____
 2. _____
 3. _____

3. Increase Physical Activity

- Attend physical therapy (days/week _____)
- Complete daily stretching (____ times/day, for ____ minutes)
- Complete aerobic exercise/endurance exercise
 1. Walking (____ times/day, for ____ minutes) or pedometer (____ steps/day)
 2. Treadmill, bike, rower, elliptical trainer (____ times/week, for ____ minutes)
 3. Target heart rate goal with exercise _____ bpm
- Strengthening
 1. Elastic, hand weights, weight machines (____ minutes/day, ____ days/week)

4. Manage Stress – list main stressors _____

- Formal interventions (counseling or classes, support group or therapy group)
 1. _____
- Daily practice of relaxation techniques, meditation, yoga, creative activity, service activity, etc.
 1. _____
 2. _____
- Medications
 1. _____
 2. _____

5. Decrease Pain (best pain level in past week: ____ / 10, worst pain level in past week: ____ / 10)

- Non-medication treatments
 1. Ice/heat _____
 2. _____
- Medication
 1. _____
 2. _____
 3. _____
 4. _____
- Other treatments _____

Physician name: _____ Date: _____

Appendix E – DIRE Score: Patient Selection for Chronic Opioid Analgesia

The DIRE Score is a clinician rating used to predict patient suitability for long-term opioid analgesic treatment for chronic non-cancer pain. It consists of four factors that are rated separately and then added up to form the DIRE score: Diagnosis, Intractability, Risk and Efficacy. The Risk factor is further broken down into four subcategories that are individually rated and added together to arrive at the Risk score. The Risk subcategories are Psychological Health, Chemical Health, Reliability and Social Support. Each factor is rated on a numerical scale from 1 to 3, with 1 corresponding to the least compelling or least favorable case for opioid prescribing, and 3 denoting the most compelling or favorable case for opioid prescribing. The total score is used to determine whether or not a patient is a suitable candidate for opioid maintenance analgesia. Scores may range from 7 at the lowest (patient receives all 1s) to 21 at the highest (patient receives all 3s). In a reliability and validity study, higher scores (14 or higher) predicted a more successful prescribing process with respect to patient compliance and efficacy of treatment (*Belgrade, 2006 [High Quality Evidence]*).

For each factor, rate the patient's score from 1 to 3 based on the explanations in the right-hand column.

Score	Factor	Explanation
	Diagnosis	1 = Benign chronic condition with minimal objective findings or no definite medical diagnosis. Examples: fibromyalgia, migraine headaches, non-specific back pain. 2 = Slowly progressive condition concordant with moderate pain, or fixed condition with moderate objective findings. Examples: failed back surgery syndrome, back pain with moderate degenerative changes, neuropathic pain. 3 = Advanced condition concordant with severe pain with objective findings. Examples: severe ischemic vascular disease, advanced neuropathy, severe spinal stenosis.
	Intractability	1 = Few therapies have been tried and the patient takes a passive role in his/her pain management process. 2 = Most customary treatments have been tried but the patient is not fully engaged in the pain management process, or barriers prevent (insurance, transportation, medical illness). 3 = Patient fully engaged in a spectrum of appropriate treatments but with inadequate response.
	Risk	(R= Total of P+C+R+S below)
	Psychological:	1 = Serious personality dysfunction or mental illness interfering with care. Example: personality disorder, severe affective disorder, significant personality issues. 2 = Personality or mental health interferes moderately. Example: depression or anxiety disorder. 3 = Good communication with clinic. No significant personality dysfunction or mental illness.
	Chemical Health:	1 = Active or very recent use of illicit drugs, excessive alcohol, or prescription drug abuse. 2 = Chemical coper (uses medications to cope with stress) or history of CD in remission. 3 = No CD history. Not drug focused or chemically reliant.
	Reliability:	1 = History of numerous problems: medication misuse, missed appointments, rarely follows through. 2 = Occasional difficulties with compliance, but generally reliable. 3 = Highly reliable patient with meds, appointments & treatment.
	Social Support:	1 = Life in chaos. Little family support and few close relationships. Loss of most normal life roles. 2 = Reduction in some relationships and life roles. 3 = Supportive family/close relationships. Involved in work or school and no social isolation.
	Efficacy score	1 = Poor function or minimal pain relief despite moderate to high doses. 2 = Moderate benefit with function improved in a number of ways (or insufficient info – hasn't tried opioid yet or very low doses or too short of a trial). 3 = Good improvement in pain and function and quality of life with stable doses over time.

_____ Total score = D + I + R + E

Score 7-13: Not a suitable candidate for long-term opioid analgesia

Score 14-21: May be a good candidate for long-term opioid analgesia

Used with permission by Miles J. Belgrade, M.D. Fairview Pain & Palliative Care Center © 2005.

[Return to Table of Contents](#)

BACK

www.icsi.org

Appendix F – Opioid Agreement Form

I understand that Dr. _____ is prescribing opioid medication to assist me in managing chronic pain that has not responded to other treatments and must assist me to function better. If my activity level or general function gets worse, the medication will be changed or discontinued. The risks, side effects and benefits have been explained to me and I agree to the following conditions of opioid treatment. Failure to adhere to these conditions will result in discontinuing the medication.

1. I will participate in **other treatments** that _____ recommends and will be ready to taper or discontinue the opioid medication as other effective treatments become available.
2. I will take my medications exactly **as prescribed** and will not change the medication dosage or schedule without _____ approval.
3. I will keep **regular appointments** at the clinic.
4. All opioid and other controlled drugs for pain must be prescribed only by _____.
5. If I have **another condition** that requires the prescription of a controlled drug (like narcotics, tranquilizers, barbituates or stimulants), or if I am **hospitalized** for any reason, I will inform the clinic within **one business day**.
6. I will designate **one pharmacy** where all of my prescriptions will be filled.

Pharmacy Name: _____

Phone Number: _____

Fax Number: _____

Address: _____

7. I understand that lost or stolen prescriptions will **not be replaced**, and I will not request early refills.
8. I agree to **abstain from all illegal and recreational drugs (including alcohol)** and will provide urine or blood specimens at the doctor's request to monitor my compliance.
9. I am responsible for keeping track of the medication left and plan ahead for arranging refills in a timely manners so that I will not run out of medication.
 - Refills will be made only during regular office hours, which are _____. Refills will not be made at night, on Fridays, weekends or during holidays.
 - Prescriptions will be mailed to my pharmacy. I must plan ahead for mailed prescriptions; it will take at least five days for a prescription to reach my pharmacy after my phone call.

I authorize _____ physicians and/or staff to discuss my care and treatment while undergoing opioid therapy with my primary care/referring physician and any other medical facilities involved in my care.

Patient Name (print): _____ Patient Signature: _____

Date: _____

Provider Signature: _____ Date: _____

Source: Adapted with permission from Pain Management Center, Fairview Health Services 2005

[Return to Table of Contents](#)

[BACK](#)

www.icsi.org

Appendix G – Opioid Analgesics

If a patient does not receive adequate pain relief from one opioid, or side effects are not tolerable, a trial with an alternative opioid may be considered. When switching from one opioid to another or an alternative route, it is generally recommended to decrease the equi-analgesic dose by 30% due to incomplete cross tolerance (*Kaiser Permanente Medical Care Program, 2004 [Guideline]*). The new opioid dose can then be titrated up until adequate analgesia is obtained.

Drug	Equianalgesic Potency*		Comments
	Oral	Parenteral	
Morphine	30 mg	10 mg	Long-acting forms may be given orally every 8 to 12 hours. Some long-acting dosage forms may be given rectally. Metabolites may cause myoclonus in patients with renal failure.
Hydromorphone	7.5 mg	1.5 mg	Potent opioid. Good agent for patients with renal dysfunction.
Oxycodone	20 mg	–	Long-acting form may be given orally/rectally every 8 to 12 hours.
Methadone	5 mg	**	Half-life > 24 hrs, so dosing adjustments should be made cautiously. Given every 6 to 8 hrs for pain management. May have role in management of neuropathic pain. Equi-analgesic ratios change with oral morphine doses > 100 mg/day – consult a specialist. Some N-methyl-D-aspartate (NMDA) antagonist activity. For the experienced practitioner only. Pharmacokinetics are highly variable and there is non-dose related cardiotoxicity. ECG monitoring is recommended prior to initiation of methadone, at 30 days, and annually due to the possibility of QTc interval prolongation and other cardiac dysrhythmias.
Levorphanol	4 mg	2 mg	Potent opioid with some NMDA antagonist activity.
Meperidine	300 mg	75 mg	Metabolized to normeperidine, a CNS stimulant, which may cause seizures in patients with renal failure.
Fentanyl***	–	100 mcg	Available as transdermal patch (see conversion below) and buccal products.
Codeine	200 mg	130 mg	5-10% of Caucasians lack the enzyme to metabolize codeine to morphine. May cause more nausea and constipation than other opioids. Profound narcosis has occurred in chronic renal failure patients.
Hydrocodone	30 mg	–	Often combined with non-opioid analgesics, which limits the total dose per day.
Oxymorphone	10 mg	1 mg	Oral administration with food or alcohol may result in excessive sedation.
Nalbuphine	–	10 mg	May precipitate withdrawal in opioid-dependent patients.
Butorphanol	–	2 mg	Available as nasal spray.
Pentazocine	50 mg	30 mg	Mixed agonist/antagonist. May precipitate withdrawal in opioid-dependent patients.
Buprenorphine	–	0.4 mg	Mixed agonist/antagonist. May precipitate withdrawal in opioid-dependent patients.
Tapentadol	No equianalgesic dosing recommendations		Synthetic opioid with some inhibition of norepinephrine reuptake. Only extended-release formulation is FDA approved for chronic pain.

(Derby, 1998 [Guideline]; American Pain Society, 2003 [Low Quality Evidence]; Krantz, 2009 [Low Quality Evidence])

* This table reflects equianalgesic potencies, not recommended doses.

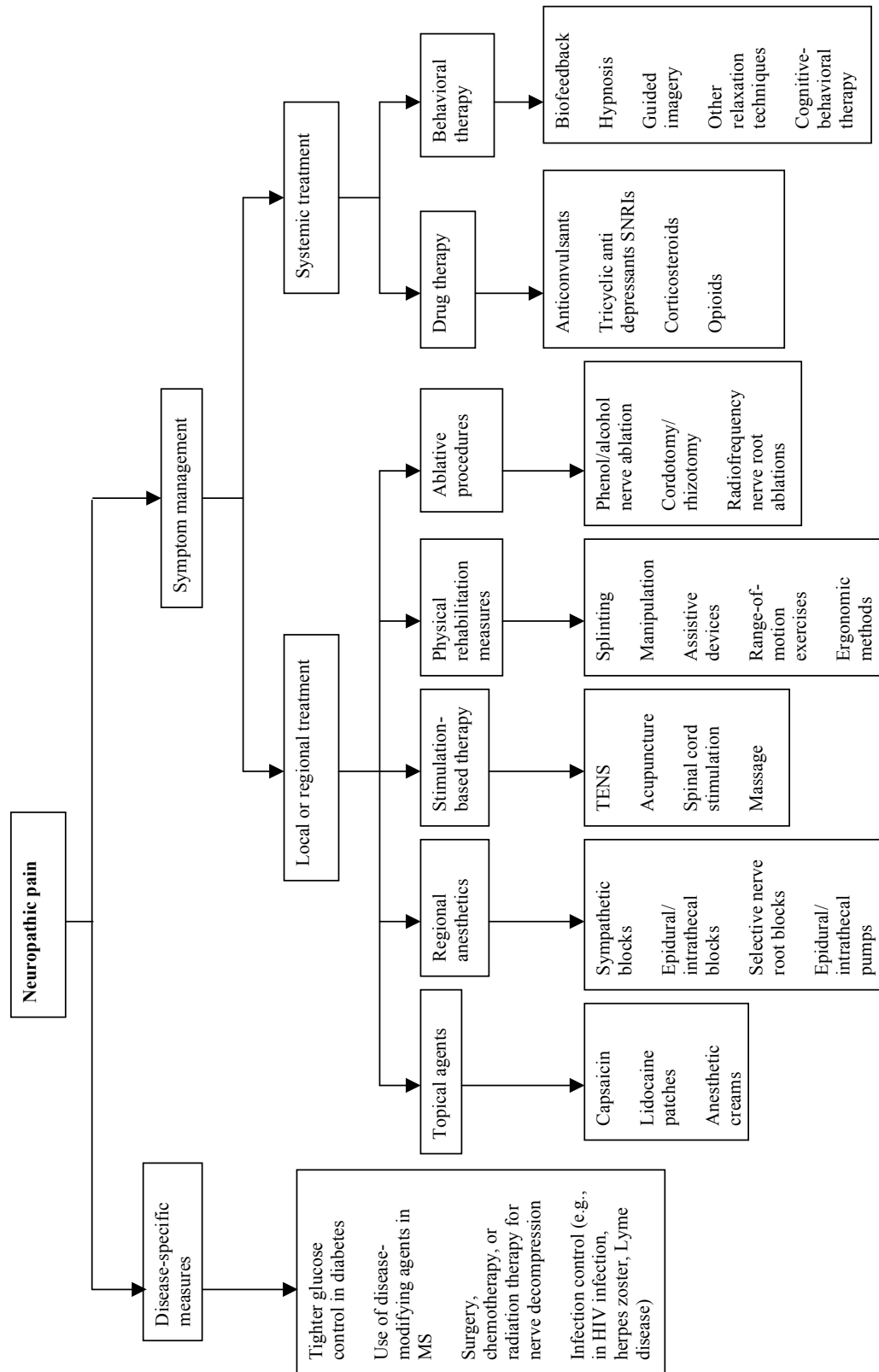
** **Methadone: Confer with pain specialist before use.**

*****Note:** Despite an FDA-issued Public Health Advisory in July 2005 regarding the appropriate and safe use of the transdermal system, death and life-threatening adverse events related to fentanyl overdose have occurred when the fentanyl patch was used to treat pain in opioid-naïve patients and when opioid-tolerant patients have applied more patches than prescribed, changed the patch too frequently, and exposed the patch to a heat source. The fentanyl patch is only indicated for use in patients with persistent moderate to severe chronic pain who have been taking a regular, daily, around-the-clock narcotic pain medicine for longer than a week and are considered to be opioid tolerant.

Patients must avoid exposing the patch to excessive heat as this promotes the release of fentanyl from the patch and increases the absorption of fentanyl through the skin, which can result in fatal overdose. Directions for prescribing and using the fentanyl patch must be followed exactly to prevent death or other serious side effects from fentanyl overdose.

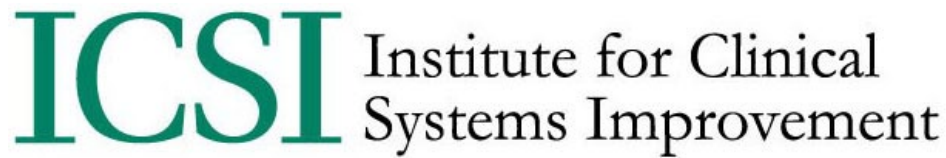
[Return to Table of Contents](#)

Appendix H – Neuropathic Pain Treatment Diagram



Source: Belgrade, MJ. Following the clues to neuropathic pain. PostGraduate Medicine, 106(6), November 1999.

Appendix I – ICSI Shared Decision-Making Model



The technical aspects of Shared Decision-Making are widely discussed and understood.

- **Decisional conflict** occurs when a patient is presented with options where no single option satisfies all the patient’s objectives, where there is an inherent difficulty in making a decision, or where external influencers act to make the choice more difficult.
- **Decision support** clarifies the decision that needs to be made, clarifies the patient’s values and preferences, provides facts and probabilities, guides the deliberation and communication and monitors the progress.
- **Decision aids** are evidence-based tools that outline the benefits, harms, probabilities and scientific uncertainties of specific health care options available to the patient.

However, before decision support and decision aids can be most advantageously utilized, a Collaborative Conversation™ should be undertaken between the provider and the patient to provide a supportive framework for Shared Decision-Making.

Collaborative Conversation™

A collaborative approach toward decision-making is a fundamental tenet of Shared Decision-Making (SDM). The Collaborative Conversation™ is an inter-professional approach that nurtures relationships, enhances patients’ knowledge, skills and confidence as vital participants in their health, and encourages them to manage their health care.

Within a Collaborative Conversation™, the perspective is that both the patient and the provider play key roles in the decision-making process. The patient knows which course of action is most consistent with his/her values and preferences, and the provider contributes knowledge of medical evidence and best practices. Use of Collaborative Conversation™ elements and tools is even more necessary to support patient, care provider and team relationships when patients and families are dealing with high stakes or highly charged issues, such as diagnosis of a life-limiting illness.

The overall framework for the Collaborative Conversation™ approach is to create an environment in which the patient, family and care team work collaboratively to reach and carry out a decision that is consistent with the patient’s values and preferences. A rote script or a completed form or checklist does not constitute this approach. Rather it is a set of skills employed appropriately for the specific situation. These skills need to be used artfully to address all aspects involved in making a decision: cognitive, affective, social and spiritual.

Key communication skills help build the Collaborative Conversation™ approach. These skills include many elements, but in this appendix only the questioning skills will be described. (For complete instruction, see O’Connor, Jacobsen “Decisional Conflict: Supporting People Experiencing Uncertainty about Options Affecting Their Health” [2007], and Bunn H, O’Connor AM, Jacobsen MJ “Analyzing decision support and related communication” [1998, 2003].)

1. Listening skills:

Encourage patient to talk by providing prompts to continue such as “*go on, and then?, uh huh,*” or by repeating the last thing a person said, “*It’s confusing.*”

[Return to Table of Contents](#)

Paraphrase content of messages shared by patient to promote exploration, clarify content and to communicate that the person’s unique perspective has been heard. The provider should use his/her own words rather than just parroting what he/she heard.

Reflection of feelings usually can be done effectively once trust has been established. Until the provider feels that trust has been established, short reflections at the same level of intensity expressed by the patient without omitting any of the message’s meaning are appropriate. Reflection in this manner communicates that the provider understands the patient’s feelings and may work as a catalyst for further problem solving. For example, the provider identifies what the person is feeling and responds back in his/her own words like this: *“So, you’re unsure which choice is the best for you.”*

Summarize the person’s key comments and reflect them back to the patient. The provider should condense several key comments made by the patient and provide a summary of the situation. This assists the patient in gaining a broader understanding of the situations rather than getting mired down in the details. The most effective times to do this are midway through and at the end of the conversation. An example of this is, *“You and your family have read the information together, discussed the pros and cons, but are having a hard time making a decision because of the risks.”*

Perception checks ensure that the provider accurately understands a patient or family member, and may be used as a summary or reflection. They are used to verify that the provider is interpreting the message correctly. The provider can say *“So you are saying that you’re not ready to make a decision at this time. Am I understanding you correctly?”*

2. Questioning Skills

Open and closed questions are both used, with the emphasis on open questions. Open questions ask for clarification or elaboration and cannot have a yes or no answer. An example would be *“What else would influence you to choose this?”* Closed questions are appropriate if specific information is required such as *“Does your daughter support your decision?”*

Other skills such as summarizing, paraphrasing and reflection of feeling can be used in the questioning process so that the patient doesn’t feel pressured by questions.

Verbal tracking, referring back to a topic the patient mentioned earlier, is an important foundational skill (Ivey & Bradford-Ivey). An example of this is the provider saying, *“You mentioned earlier...”*

3. Information-Giving Skills

Providing information and **providing feedback** are two methods of information giving. The distinction between providing information and giving advice is important. Information giving allows a provider to supplement the patient’s knowledge and helps to keep the conversation patient centered. Giving advice, on the other hand, takes the attention away from the patient’s unique goals and values, and places it on those of the provider.

Providing information can be sharing facts or responding to questions. An example is *“If we look at the evidence, the risk is...”* Providing feedback gives the patient the provider’s view of the patient’s reaction. For instance, the provider can say, *“You seem to understand the facts and value your daughter’s advice.”*

Additional Communication Components

Other elements that can impact the effectiveness of a Collaborative Conversation™ include:

- Eye contact
- Body language consistent with message
- Respect

[Return to Table of Contents](#)

Appendix I – ICSI Shared Decision-Making Model

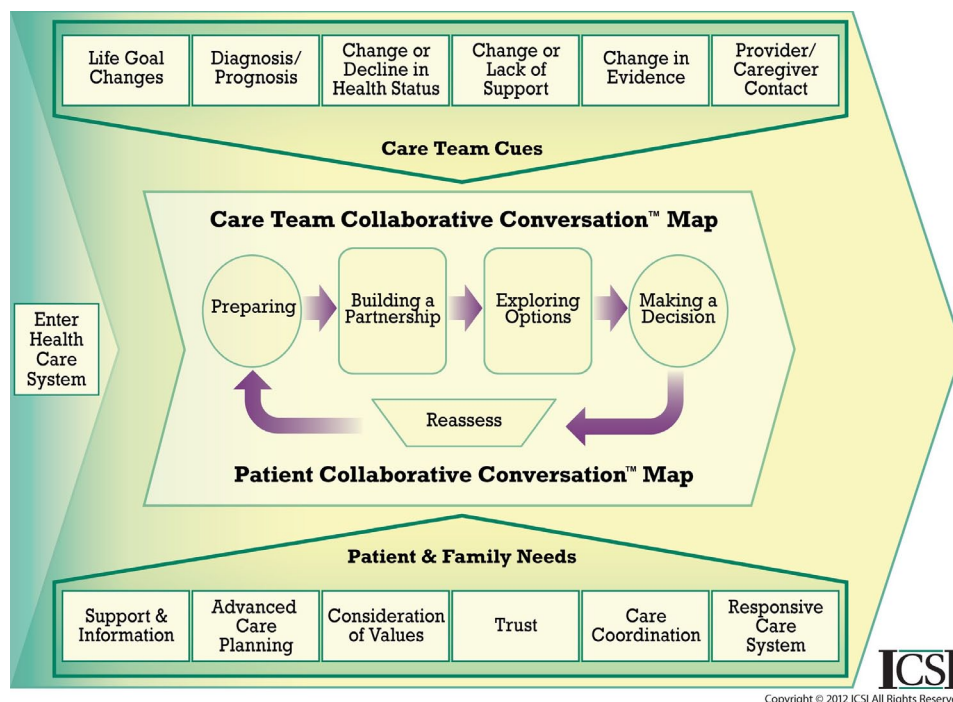
- Empathy
- Partnerships

Self-examination by the provider involved in the Collaborative Conversation™ can be instructive. Some questions to ask oneself include:

- Do I have a clear understanding of the likely outcomes?
- Do I fully understand the patient’s values?
- Have I framed the options in comprehensible ways?
- Have I helped the decision-makers recognize that preferences may change over time?
- Am I willing and able to assist the patient in reaching a decision based on his/her values, even when his/her values and ultimate decision may differ from my values and decisions in similar circumstances?

When to Initiate a Collaborative Conversation™

A Collaborative Conversation™ can support decisions that vary widely in complexity. It can range from a straightforward discussion concerning routine immunizations to the morass of navigating care for a life-limiting illness. Table 1 represents one health care event. This event can be simple like a 12 year-old coming to the clinic for routine immunizations, or something much more complex like an individual receiving a diagnosis of congestive heart failure. In either case, the event is the catalyst that starts the process represented in this table. There are cues for providers and patient needs that exert influence on this process. They are described below. The heart of the process is the Collaborative Conversation™. The time the patient spends within this health care event will vary according to the decision complexity and the patient’s readiness to make a decision.



Regardless of the decision complexity there are cues applicable to all situations that indicate an opportune time for a Collaborative Conversation™. These cues can occur singularly or in conjunction with other cues.

[Return to Table of Contents](#)

www.icsi.org

Cues for the Care Team to Initiate a Collaborative Conversation™

- **Life goal changes:** Patient’s priorities change related to things the patient values such as activities, relationships, possessions, goals and hopes, or things that contribute to the patient’s emotional and spiritual well-being.
- **Diagnosis/prognosis changes:** Additional diagnoses, improved or worsening prognosis.
- **Change or decline in health status:** Improving or worsening symptoms, change in performance status or psychological distress.
- **Change or lack of support:** Increase or decrease in caregiver support, change in caregiver, or caregiver status, change in financial standing, difference between patient and family wishes.
- **Change in medical evidence or interpretation of medical evidence:** Providers can clarify the change and help the patient understand its impact.
- **Provider/caregiver contact:** Each contact between the provider/caregiver and the patient presents an opportunity to reaffirm with the patient that his/her care plan and the care the patient is receiving are consistent with his/her values.

Patients and families have a role to play as decision-making partners, as well. The needs and influencers brought to the process by patients and families impact the decision-making process. These are described below.

Patient and Family Needs within a Collaborative Conversation™

- **Request for support and information:** Decisional conflict is indicated by, among other things, the patient verbalizing uncertainty or concern about undesired outcomes, expressing concern about choice consistency with personal values and/or exhibiting behavior such as wavering, delay, preoccupation, distress or tension. Generational and cultural influencers may act to inhibit the patient from actively participating in care discussions, often patients need to be given “permission” to participate as partners in making decisions about his/her care.

Support resources may include health care professionals, family, friends, support groups, clergy and social workers. When the patient expresses a need for information regarding options and his/her potential outcomes, the patient should understand the key facts about options, risks and benefits, and have realistic expectations. The method and pace with which this information is provided to the patient should be appropriate for the patient’s capacity at that moment.

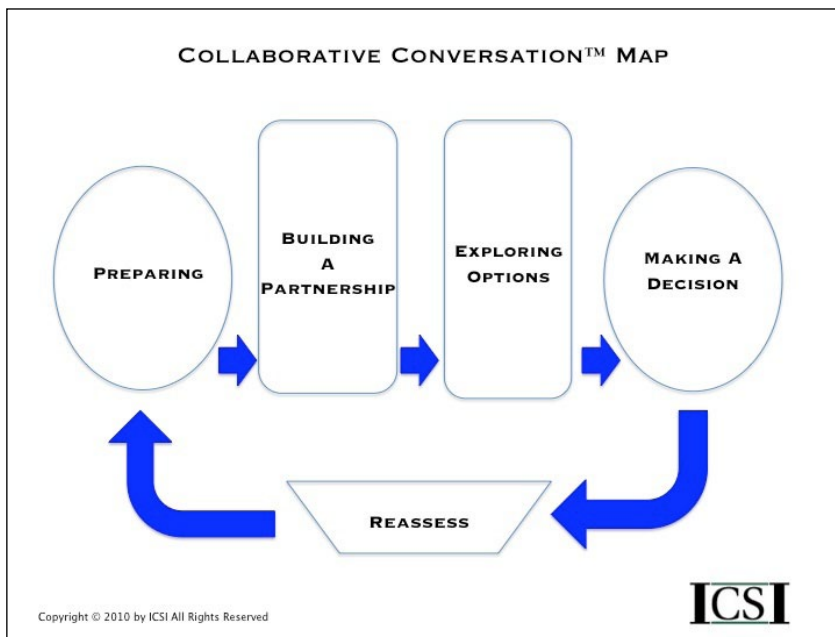
- **Advance Care Planning:** With the diagnosis of a life-limiting illness, conversations around advance care planning open up. This is an opportune time to expand the scope of the conversation to other types of decisions that will need to be made as a consequence of the diagnosis.
- **Consideration of Values:** The personal importance a patient assigns potential outcomes must be respected. If the patient is unclear how to prioritize the preferences, value clarification can be achieved through a Collaborative Conversation™ and by the use of decision aids that detail the benefits and harms of potential outcomes in terms the patient can understand.
- **Trust:** The patient must feel confident that his/her preferences will be communicated and respected by all caregivers.
- **Care Coordination:** Should the patient require care coordination, this is an opportune time to discuss the other types of care-related decisions that need to be made. These decisions will most likely need to be revisited often. Furthermore, the care delivery system must be able to provide coordinated care throughout the continuum of care.

[Return to Table of Contents](#)

Appendix I – ICSI Shared Decision-Making Model

- **Responsive Care System:** The care system needs to support the components of patient- and family-centered care so the patient’s values and preferences are incorporated into the care he/she receives throughout the care continuum.

The Collaborative Conversation™ Map is the heart of this process. The Collaborative Conversation™ Map can be used as a stand-alone tool that is equally applicable to providers and patients as shown in Table 2. Providers use the map as a clinical workflow. It helps get the Shared Decision-Making process initiated and provides navigation for the process. Care teams can use the Collaborative Conversation™ to document team best practices and to formalize a common lexicon. Organizations can build fields from the Collaborative Conversation™ Map in electronic medical records to encourage process normalization. Patients use the map to prepare for decision-making, to help guide them through the process and to share critical information with their loved ones.



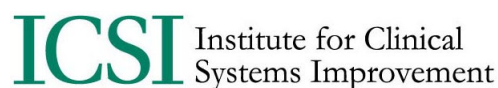
Evaluating the Decision Quality

Adapted from O’Connor, Jacobsen “Decisional Conflict: Supporting People Experiencing Uncertainty about Options Affecting Their Health” [2007].

When the patient and family understand the key facts about the condition and his/her options, a good decision can be made. Additionally, the patient should have realistic expectations about the probable benefits and harms. A good indicator of the decision quality is whether or not the patient follows through with his/her chosen option. There may be implications of the decision on patient’s emotional state such as regret or blame, and there may be utilization consequences.

Decision quality can be determined by the extent to which the patient’s chosen option best matches his/her values and preferences as revealed through the Collaborative Conversation™ process.

Support for this project was provided in part by a grant from the Robert Wood Johnson Foundation.



8009 34th Ave. South, Suite 1200 • Bloomington, MN 55425 • Phone: 952-814-7060 • www.icsi.org

© 2012 Institute for Clinical Systems Improvement. All rights reserved.

Return to Table of Contents

www.icsi.org

ICSI has long had a policy of transparency in declaring potential conflicting and competing interests of all individuals who participate in the development, revision and approval of ICSI guidelines and protocols.

In 2010, the ICSI Conflict of Interest Review Committee was established by the Board of Directors to review all disclosures and make recommendations to the board when steps should be taken to mitigate potential conflicts of interest, including recommendations regarding removal of work group members. This committee has adopted the Institute of Medicine Conflict of Interest standards as outlined in the report, *Clinical Practice Guidelines We Can Trust* (2011).

Where there are work group members with identified potential conflicts, these are disclosed and discussed at the initial work group meeting. These members are expected to recuse themselves from related discussions or authorship of related recommendations, as directed by the Conflict of Interest committee or requested by the work group.

The complete ICSI policy regarding Conflicts of Interest is available at <http://bit.ly/ICSICOI>.

Funding Source

The Institute for Clinical Systems Improvement provided the funding for this guideline revision. ICSI is a not-for-profit, quality improvement organization based in Bloomington, Minnesota. ICSI's work is funded by the annual dues of the member medical groups and five sponsoring health plans in Minnesota and Wisconsin. Individuals on the work group are not paid by ICSI but are supported by their medical group for this work.

ICSI facilitates and coordinates the guideline development and revision process. ICSI, member medical groups and sponsoring health plans review and provide feedback but do not have editorial control over the work group. All recommendations are based on the work group's independent evaluation of the evidence.

[Return to Table of Contents](#)

Disclosure of Potential Conflicts of Interest

Miles Belgrade, MD (Work Group Member)

Medical Director, Neurology, Fairview Health Services
National, Regional, Local Committee Affiliations: None
Guideline Related Activities: Mayo Clinic Diabetic Neuropathy Pain guideline
Research Grants: Money paid directly to institution from Rummmler Foundation
Financial/Non-Financial Conflicts of Interest: Money paid previously by Purdue Pharma directly to work group member

James Gaul, MD (Work Group Member)

Physician, Internal Medicine/Pediatrics, Fairview Health Services
National, Regional, Local Committee Affiliations: None
Guideline Related Activities: None
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

Michael Goertz, MD, MPH (Work Group Member)

Physician, Occupational Medicine, HealthPartners Medical Group and Regions Hospital
National, Regional, Local Committee Affiliations: None
Guideline Related Activities: ICSI Low Back Pain guideline work group member, Mayo Clinic Diabetic Neuropathy Pain guideline work group member
Research Grants: Rummmler Hope Foundation money paid to institution for opioid addiction awareness
Financial/Non-Financial Conflicts of Interest: Purdue Pharma money paid to work group member and institution

Bret Haake, MD (Work Group Member)

Assistant Medical Director, Neurology, HealthPartners Medical Group and Regions Hospital
National, Regional, Local Committee Affiliations: None
Guideline Related Activities: ICSI Low Back Pain guideline work group member, ICSI Acute Pain Assessment and Opioid Prescribing protocol work group member
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

W. Michael Hooten, MD (Work Group Co-Leader)

Anaesthesiology, Mayo Clinic
National, Regional, Local Committee Affiliations: None
Guideline Related Activities: ICSI Opioid Protocol work group member
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

Mary Pat Noonan, PhD, ABPD (Work Group Member)

Clinical Psychologist, Clinical Psychology, HealthPartners Medical Group and Regions Hospital
National, Regional, Local Committee Affiliations: None
Guideline Related Activities: ICSI Acute Pain Assessment and Opioid Prescribing protocol work group member
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

[Return to Table of Contents](#)

Disclosure and Potential Conflicts of Interest

Louis Saeger, MD, FACPM (Work Group Member)

Interventional Pain Management, Midwest Spine Institute

National, Regional, Local Committee Affiliations: Minnesota Society of Interventional Pain Physicians
board member

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Kelly Schweim, PharmD (Work Group Member)

Medical Therapy Provider, Medical Therapy Management, Fairview Health Services

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Galina Shteyman, PharmD (Work Group Member)

Pharmacist, Pharmacy, Park Nicollet Health Services

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Richard Timming, MD (Work Group Co-Leader)

Physical Medicine and Rehabilitation, HealthPartners Medical Group and Regions Hospital

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: ICSI Low Back Pain guideline work group member

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Neal Walker, RPh (Work Group Member)

Pharmacy Manager, Pharmacy, Fairview Range Regional Health Services

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

[*Return to Table of Contents*](#)

All ICSI documents are available for review during the revision process by member medical groups and sponsors. In addition, all members commit to reviewing specific documents each year. This comprehensive review provides information to the work group for such issues as content update, improving clarity of recommendations, implementation suggestions and more. The specific reviewer comments and the work group responses are available to ICSI members at <http://www.ChronicPain>.

[Return to Table of Contents](#)

Acknowledgements

Invited Reviewers

During this revision, the following groups reviewed this document. The work group would like to thank them for their comments and feedback.

HealthPartners Medical Group and Regions Hospital, Minneapolis and St. Paul, MN

Hudson Physicians, Hudson, WI

MAPS Medical Pain Clinics, Edina, MN

Medica, Minnetonka, MN

[Return to Table of Contents](#)

Document Drafted Jan – May 2005
Critical Review June 2005
First Edition Dec 2005
Second Edition Apr 2007
Third Edition Aug 2008
Fourth Edition Dec 2009
Fifth Edition Dec 2011
Sixth Edition Begins Dec 2013

Document History

- Converted to GRADE methodology for reviewing evidence
- Supporting specific initiative
- Added Choosing Wisely

← The next revision will be no later than December 2018.

Original Work Group Members

Miles Belgrade, MD <i>Neurology</i> Fairview Health Services	Beth Green, MBA, RRT <i>Measurement/Implementation</i> <i>Advisor</i> ICSI	Patrick Rivard, RN <i>Nursing</i> Gillette Children's Specialty Healthcare
Darlene Bjorklund, MA, APRN, BC <i>Nursing</i> North Memorial Medical Center	W. Michael Hooten, MD <i>Anesthesiology</i> Mayo Clinic	James Smith, MD <i>Internal Medicine</i> HealthPartners Medical Group
Brian Bonte, DO <i>Family Medicine</i> Hutchinson Medical Center	Peter Marshall, MD <i>Occupational Medicine</i> HealthPartners Medical Group	Richard Timming, MD <i>Work Group Leader, Physical Medicine and Rehabilitation</i> HealthPartners Medical Group
Barbara Bruce, PhD <i>Psychology</i> Mayo Clinic	Brent Metfessel, MD, MPH <i>Evidence Analyst</i> ICSI	David von Weiss, MD <i>Family Medicine</i> Park Nicollet Health Services
Steven Daniels, MD <i>Anesthesiology</i> MeritCare	John Mullen, PhD, LP <i>Psychology</i> Fairview Health Services	Neal Walker, RPh <i>Pharmacy</i> Fairview Range Regional Health Care
Michael Gonzales, MD <i>Physical Medicine and Rehabilitation</i> MeritCare	Pam Pietruszewski, MA <i>Facilitator</i> ICSI	

[Return to Table of Contents](#)

Contact ICSI at:

8009 34th Avenue South, Suite 1200; Bloomington, MN 55425; (952) 814-7060; (952) 858-9675 (fax)
Online at <http://www.ICSI.org>

ICSI Document Development and Revision Process

Overview

Since 1993, the Institute for Clinical Systems Improvement (ICSI) has developed more than 60 evidence-based health care documents that support best practices for the prevention, diagnosis, treatment or management of a given symptom, disease or condition for patients.

Audience and Intended Use

The information contained in this ICSI Health Care Guideline is intended primarily for health professionals and other expert audiences.

This ICSI Health Care Guideline should not be construed as medical advice or medical opinion related to any specific facts or circumstances. Patients and families are urged to consult a health care professional regarding their own situation and any specific medical questions they may have. In addition, they should seek assistance from a health care professional in interpreting this ICSI Health Care Guideline and applying it in their individual case.

This ICSI Health Care Guideline is designed to assist clinicians by providing an analytical framework for the evaluation and treatment of patients, and is not intended either to replace a clinician's judgment or to establish a protocol for all patients with a particular condition.

Document Development and Revision Process

The development process is based on a number of long-proven approaches and is continually being revised based on changing community standards. The ICSI staff, in consultation with the work group and a medical librarian, conduct a literature search to identify systematic reviews, randomized clinical trials, meta-analysis, other guidelines, regulatory statements and other pertinent literature. This literature is evaluated based on the GRADE methodology by work group members. When needed, an outside methodologist is consulted.

The work group uses this information to develop or revise clinical flows and algorithms, write recommendations, and identify gaps in the literature. The work group gives consideration to the importance of many issues as they develop the guideline. These considerations include the systems of care in our community and how resources vary, the balance between benefits and harms of interventions, patient and community values, the autonomy of clinicians and patients and more. All decisions made by the work group are done using a consensus process.

ICSI's medical group members and sponsors review each guideline as part of the revision process. They provide comment on the scientific content, recommendations, implementation strategies and barriers to implementation. This feedback is used by and responded to by the work group as part of their revision work. Final review and approval of the guideline is done by ICSI's Committee on Evidence-Based Practice. This committee is made up of practicing clinicians and nurses, drawn from ICSI member medical groups.

Implementation Recommendations and Measures

These are provided to assist medical groups and others to implement the recommendations in the guidelines. Where possible, implementation strategies are included that have been formally evaluated and tested. Measures are included that may be used for quality improvement as well as for outcome reporting. When available, regulatory or publicly reported measures are included.

Document Revision Cycle

Scientific documents are revised every 12-24 months as indicated by changes in clinical practice and literature. ICSI staff monitors major peer-reviewed journals every month for the guidelines for which they are responsible. Work group members are also asked to provide any pertinent literature through check-ins with the work group midcycle and annually to determine if there have been changes in the evidence significant enough to warrant document revision earlier than scheduled. This process complements the exhaustive literature search that is done on the subject prior to development of the first version of a guideline.

[Return to Table of Contents](#)