Multimodal Approach to the Treatment of Chronic Pain

SUPPLEMENTARY INFORMATION PACKET

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Target Audience:
Health center providers and support staff

Sponsor:
Community Health Association of Mountain/Plains States (CHAMPS)

Presenter:
Kris Robinson, PhD, FNPbc, RN, Associate Professor, Director of Advanced Practice Nursing Programs, and Assistant Dean Graduate Education, The University of Texas at El Paso School of Nursing

Date/Time:
Wednesday, February 17, 2010
11:30 AM – 1:00 PM Mountain Time

Multimodal Approach to the Treatment of Chronic Pain

Supplementary Information Packet
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LEARNING OBJECTIVES

By the end of the event, participants will:

- Review the epidemiology of chronic pain
- Understand how to implement a multidimensional assessment of chronic pain
- Be able to adapt the latest evidence-based practice guidelines to the treatment of chronic pain within a community health center
- Understand how to implement a multimodal treatment approach that incorporates pharmacologic, non-pharmacologic, and alternative healing
- Identify community resources for persons with chronic pain

This event supports strong program management at Region VIII Community, Migrant, and Homeless Health Centers (CHCs) by ***addressing the following HRSA Health Center Program Requirements:***

- *Services – Required and Additional Services, Quality Improvement Assurance Plan*

CONTINUING MEDICAL EDUCATION (CME) CREDIT

This activity has been reviewed and is acceptable for up to 1.50 Prescribed credits by the American Academy of Family Physicians. The AAFP invites comments on any activity that has been approved for AAFP CME credit. Please forward your comments on the quality of this activity to cmecomment@aafp.org.

BIOGRAPHY OF DR. KRIS ROBINSON

Kris Robinson, PhD, FNPbc, RN, is an Associate Professor, Director of Advanced Practice Nursing Programs, and Assistant Dean of Graduate Education at the University of Texas at El Paso (UTEP) School of Nursing. She received her BSN in Nursing from South Dakota State University in Brookings, her MSN as a Family Nurse Clinician from the University of Utah in Salt Lake City, and her PhD in Family Nursing also from the University of Utah. She is currently engaged in clinical practice at UTEP's Centro de Salud Familiar Le Fe Nurse Managed Clinic, with Care Improvement Plus providing home visits for Medicare patients, and at the Hand and Microsurgery Center of El Paso. Dr. Robinson has an impressive resume of work addressing pain issues. She is the co-founder and co-leader of PainHELP, the Pain Advocacy, Information, and Help in El Paso Support Group; a State Pain Advocate for the Power over Pain Network of the American Pain Foundation; and a member of the American Pain Society. Dr. Robinson was honored with a VNA Excellence in Nursing: Nurse in Academic Setting award in 2008.

DESCRIPTION OF CHAMPS

CHAMPS, the Community Health Association of Mountain/Plains States, is a non-profit organization dedicated to supporting all Region VIII (CO, MT, ND, SD, UT, and WY) federally-funded Community, Migrant, and Homeless Health Centers (CHCs) so they can better serve their patients. Currently, CHAMPS programs and services focus on education and training, collaboration and networking, policy and funding communications, and the collection and dissemination of regional data. For more information about CHAMPS, please visit www.champsonline.org or call (303) 861-5165.

CHAMPS ARCHIVES

This event will be archived online and on CD-ROM. The online version will be available within two weeks of the live event, and the CD will be available within two months. CHAMPS will email all identified participants when these resources are ready for distribution.

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February 17, 2010; 11:30 am – 1:00 pm MT
Sponsored by
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This presentation was supported by Grant Number 5 H68CS00150-20-00 from the Department of Health and Human Services Health Resources and Services Administration (HRSA) Bureau of Primary Health Care (BPHC). Views of the presenter do not necessarily represent the official views of CHAMPS or HRSA/BPHC.

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Objectives

- Review prevalence & epidemiology
- Implement a multidimensional assessment
- Implement multimodal treatment approach
- Adapt latest EBP guidelines to treatment of pain within a CHC
- Identify community resources

Introduction

Prevalence

- Persistent or chronic pain affects over 76 million Americans (~ 1 in 4)
- The estimated cost of chronic pain is $100 billion and escalating
- 35% of Americans experience persistent or chronic pain that impacts ability to work and socialize

(APF, 2008b; Hootman & Helmick, 2006; NCHS, 2006; NIH, 1998; Ortho-McNeil-Janssen Pharmaceuticals, 2008 ; Singh, Patel, & Gallagher, 2009).

Definition

Chronic Pain is pain that lasts long enough or is intense enough to affect a person's normal activities and well-being.

Unlike acute pain, chronic pain has no value or benefit; it is a disease in its own right.

(APF, 2008a)

Epidemiology

Complex perception that differs from person to person (familial, historical, environmental)

Mixture of underlying mechanisms (focus of drug treatment)

Chronic activation of pain pathways

Associated with structural and chemical changes in the brain

(APF, 2008a; Cohen & Fine, 2009)

question

Untreated post-operative pain is a risk factor for chronic pain

a) True

b) False

Failure to treat acute pain promptly and appropriately at the time of injury contributes to the development of chronic pain syndromes.

Yet, persistent or chronic pain goes untreated or undertreated 75% of time.

(APF, 2008a; Cohen & Fine, 2009)

Under-treatment of pain

- Misconceptions about opioid addiction
- Lack of access to care
- Cultural norms and stigma
- Limited education in pain management
- Concerns about prescribing opioids and fears of scrutiny by regulators or law enforcement
- Inadequate funding for pain research

Pre-test

Evidence-based guidelines support long-term opioid therapy as an appropriate option for cancer-related and chronic non-cancer pain

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

e) Strongly disagree

Questions from Brennan, M.J., Passik, S., Portenoy, R., & Kaufman, D. (2009). Persistent and Breakthrough Pain: Multidimensional Assessment & Opioid-Based Multimodal Treatment. http://painclinician.com/education

question

When considering opioid-based therapy, every patient should be stratified for the risk of nonmedical opioid use

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

e) Strongly disagree

question

Patients who experience intolerable side effects from one opioid are unlikely to benefit from an alternative opioid

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

question

Combining an opioid with a nonopioid analgesic can result in additive analgesia and/or reduced side effects

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

question

Most patients who are treated with opioids for longer than 6 months will become addicted to the medication

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

Principles of Pain Care

- Use EBP guidelines, example 2009 from APS & AAPM
- Assess pain systematically
- Identify co-morbid conditions
- Develop an individualized treatment plan
- Treat pain early and diligently
- Use multiple treatment modalities
- Measure improvement in pain control and function **over time**
- Re-enforce positive patient and family involvement
- Know when and how to refer to specialists
- Change or discontinue ineffective treatments

(APS, 2006; Chou et. al, 2009)

Best Practices: Patient-centered, multi-modal, pain management

- Lou, 34 y.o., longshoreman
- Low back pain x 3 weeks after slipped & fell at work
- Self treated with APAP
- Unsuccessful at "working through the pain"

Cases from Brennan, M.J., Passik, S., Portenoy, R., & Kaufman, D. (2009). Persistent and Breakthrough Pain: Multidimensional Assessment & Opioid-Based Multimodal Treatment. http://painclinician.com/education

PCP-focused history

- Pain level 9 (scale 0-10)
- Constant throbbing ache in low back
- Radiates down right buttock & thigh, at times extends to right ankle
- OTC APA 1000mg 4 x day has not helped (max dose; narrow TI)
- Pain reduced with lying down only
- Trouble sleeping
- Frustrated with boss - fall unwitnessed & unreported; may not receive worker's compensation if he needs time for recovery

PCP-focused exam

Pertinent findings

- Positive straight-leg-raise test beyond 30°
- Antalgic gait with splinting (leans away from painful posture)
- No weakness in right leg or foot

Differential Diagnosis: Radiculopathic low back pain (neuropathy with nerve root damage) possibly due to L5/S1 disc herniation

question

Based on recent low back pain guidelines from the American College of Physicians and the American Pain Society (APS), the PCP decides to

a) Wait before sending Lou for neuroimaging evaluation

b) Send Lou for neuroimaging evaluation

Chou, R., et. al (2007). Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. *Annals of Internal Medicine, 147*(7), 478-491.
Jarvis, J.G., & Deyo, R. A. (2002). Diagnostic evaluation of low back pain with emphasis on imaging. *Annals of Internal Medicine, 137*(7), 586-597.

Prescribed treatment

- Naproxen 500 mg twice a day to be taken with food
- Remain active (discuss caveats about exercise and weight)
- Use heating pad with flare-ups
- Refer to PT for home exercises that may improve ambulation

question

The numerical rating scale where the patient rates their pain from no pain (0) to worst ever (10) is a sufficient assessment of pain.

a) True

b) False

Multidimensional Assessment

Brief Pain Inventory (BPI)

Measures

- Intensity (current, usual, worst, least)
- Location
- Degree of pain relief
- Quality of life and function – activity, mood, walking ability, normal work, relationships, sleep, enjoyment of life

Assessment of pain

- Comprehensive & detailed history
  - Baseline persistent pain
  - Breakthrough pain (BTP) – idiopathic, precipitated/incident, end-of-dose failure
  - Co-morbidities & Prior treatment
  - Neuropathic Pain Questionnaire (NPQ) or Leeds Assessment of Neuropathic S/SX (LANSS)
- Physical exam
- Clarify pathophysiology if possible

(APF, 2008a; Cohen & Fine, 2009; ICS 2008)

Follow up 1 month (back to Lou)

H&P
- Little change in pain
- Pain occasionally causes Lou to miss work
- Expresses concern for family, sole wage-earner for wife and 3 young daughters

Diagnostics (no alleviation of s/sx of radiculopathy)
- MRI confirms disc herniation at L5/S1 and L4/L5 (slight)

Informed consent—potential risks and benefits of treatment options

question

Evidence supports injection therapy (e.g. intra-articular or periarticular injections, selective nerve root blocks) with cortisone or local anesthetics in subacute and chronic LBP.

a) True

b) False

Armon, C., Argoff, C. E., Samuels, J., & Backonja, M. M. (2007). Assessment: use of epidural steroid injections to treat radicular lumbosacral pain: report of the American Academy of Neurology. *Neurology, 68*(10), 723-729.

Buenaventura, R.M., Datta, S., Abdi, S., & Smith, H.S. (2009) Systematic review of therapeutic lumbar trans foraminal epidural steroid injections. *Pain Physician, 12*(1), 233-251.

Stuart, J.B., deBie, R.A., deVet, H. C., Hildebrandt, J., & Nelemans, P. (2009). Injection therapy for subacute and chronic low back pain: an updated Cochrane review. *Spine, 34*(1), 49-59.

question

Lumbar discetomy is the most common surgical procedure in the US for patients with back and leg symptoms. This surgical procedure is more efficacious than non-surgical treatment for these symptoms.

a) True

b) False

Weinstein, J.N., et, al (2006). Surgical vs. nonoperative treatment for lumbar disk herniation: the Spine Outcomes Research Trial (SPORT) observational cohort. *JAMA*, 296(20), 2451-2459.

Partnering with Lou

- Lou declines surgery
- Lou shows characteristics that suggest a positive outcome from epidural injections
  - <6 months duration
  - Gainful employment
  - Non-smoking status
- Lou agrees
- Referred to pain specialist for fluoroscopically guided, transforaminal epidural injection (bupivacaine with methylprenisolone)

McLain, R. F., Kapural, L., & Mekhail, N.A. (2005). Epidural steroid therapy for back and leg pain. *Spine Journal, 5*(2), 191-201.

One month f/u with pain specialist

- Epidural injection reduced pain x 2 wks (9/10->3/10)
- Current intensity = original
- Lou expresses concern about family and inability to work
- Has developed "short temper" that he attributes to pain-related stress
- Pain and stress impacting negatively on interpersonal relationships, esp. with spouse

Treatment

- Nortryptyline 50 mg at bedtime, titrate to 100 mg over a month
  - MOA: serotonergic and noradrenergic seem to enhance descending inhibition of nociceptive signaling pathways
- Recommends complementary and alternative medicine modalities (recommended for chronic, not acute)
  - Yoga
  - Exercise therapy
  - Spinal manipulation – may be used for acute or chronic
  - Massage
  - Acupuncture
  - Cognitive behavioral therapy
  - Progressive relaxation

D'Mello, R., & Dickinson, A. H. (2008). Spinal cord mechanism of pain. *British Journal of Anaesthesia (101)*, 8-16.
Chou, R., & Huffmann, L. H. (2007). Nonpharmacologic therapies for acute and chronic low back pain: a review of the evidence for an APS/ACP clinical practice guideline. *Annals of Internal Medicine (147)*7, 492-504.

One month follow-up

- Taking medication as prescribed
- Seeing acupuncturist for weekly treatments
- Pain reduced from 9/10 to 5/10
- Occasionally, requires extended breaks at work
- Frequently, experiences sudden spikes of moderate-to-severe pain during second half of workday

question

The primary goal of **pain** management is

a) Curing the underlying cause
b) Relieving pain
c) Improving function
d) All of the above

PCP & pain specialist partner w/Lou

- Explain use of "universal precautions" paradigm in pain management
- Initiate pain contract
- Stratify Lou's risk for future aberrant opioid-related behaviors using
  - Personal and family history of substance abuse, sexual abuse history, and psychological illness
  - Gender specific
  - Rate patient as low, moderate, or high risk

Partnership: PCP (w/pain specialist) & Lou Universal Precautions in Pain Management

Stratify Lou's risk for future aberrant opioid-related behaviors

- Perform psychological assessment, including risk for addictive disorders
  - Opioid Risk Tool
  - Screener and Opioid Assessment for Patients with Pain-revised version (SOAPP®-R)
  - A Clinical Guide to Urine Drug Testing (establish baseline)
- Obtain informed consent – usually part of agreement
- Obtain a Partnership Agreement

Treatment plan

- UDT and pill counts
- MSO4 15 mg IR prn up to 4x day (baseline pain)
- Continue nortryptyline 100mg at bedtime
- Senna and probiotics to prevent constipation
- May rotate to oxycodone ER 10 mg twice daily to decrease SE if needed (use equianalgesic dosing chart)
- Oxycodone/APAP5mg/325mg for BTP and prophylactically

Every visit

- Nonjudgmental and patient-centered approach
- Assess 4 A's of pain management: analgesia, ADLs, adverse events, and aberrant behaviors
- Multidimensional assessment of pain using Brief Pain Inventory (BPI)
- UDT (beware of medications that can increase or decrease metabolism of medications, example St. John's Wort and induction of CYP3A4 hepatic enzymes)

Minimal requirements for pain management plan

- Is patient centered
- May include long-acting and short-acting analgesics
- Incorporates adjuvant medications such as antidepressants, neuroleptics, and hypnotics
- Provides psycho-social support

EBP: Multi-modal Treatment

- Use patient-centered approach & individualize treatment
- Treat underlying conditions, such as diabetes
- Treat pain – baseline and BTP & use adjuvants
- Provide psycho-social support & address impact on function and quality of life (self-esteem, sleep, ADLs, activity, work, relationships, sex, etc)
- Negotiate lifestyle changes (diet, exercise)
- Diary or journal
- Teach breathing
- Involve loved ones
- Set realistic goals (identify one thing to nourish self)

(APF, 2008a; Cohen & Fine, 2009; ICS 2008)

Treatment con't

- Treat pain
  - Long-acting analgesic (LOA) for baseline
  - Short-acting analgesic (SOA) for BTP
- Use adjuvant therapies
  - Antidepressants (TCA for sleep, SSRI for depression, NSRI for depression or neuropathy)
  - Neuroleptics (pregablin or gabapentin) for neuropathy or co-morbid migraine prevention
  - Hypnotics or low dose benzodiazepines (clonazepam or alprazolam) to help sleep (cannot heal without sleep)

Adapting EBP Guidelines for CHC

- Adequate time
- Use interdisciplinary or team approach
- Identify clinician to be "pain experts"
  - Training – APS, ASPMN
  - Certification
    - American Academy of Pain
    - ANCC (nurses)
- Start support group
- Use APF resources (www.painfoundation.org)
- Review formulary, make sure it is adequate for best pain management practices including LOA, SOA, adjuvants
- Consider group visits for education and support

Your question

How do we take care of ourselves, while providing the best pain management to our hurting clients?

See previous slide for Universal Precautions in Pain Management

Precautions (con't)

- Perform a pre- and post-intervention assessment of pain and level of function (BPI)
- Initiate an appropriate trial of opioid therapy with adjunctive medication
- Reassess pain and function
- Regularly assess 4 As (analgesia, ADLs, adverse events, aberrant drug-taking behavior)
- Periodically review pain diagnosis and co-morbid conditions
- Document

(Cohen & Fine, 2009, p. 9)

Your question

How do we treat people with legitimate chronic pain who have documented addiction issues?

- Refer or consult
- Individuals with addictions also experience pain

Refer to pain or other specialist

- Uncontrolled severe pain (e.g., pain not responsive to escalating doses of medication)
- Significant, ongoing disruption of physical or psychological functioning (e.g. deteriorating coping skills, excessive disability)
- Co-morbid disorder (e.g. substance abuse, severe mood disorder)
- Referral for diagnostic evaluation for unknown etiology or complex pain syndromes to determine whether source is somatic, visceral, or neuropathic

Refer (con't)

- The need to validate a diagnosis and treatment plan or to interpret a diagnostic evaluation
- Consultation for treatment recommendations (e.g., PT, acupuncture, surgery)
- Need for treatment modalities that the PCP cannot directly provide (e.g. invasive procedures incl. epidural injections or pump placement)
- Inability to establish mutually agreeable treatment goals (e.g. poor adherence [to reasonable treatment], persistent demands for new tests or treatments)

(APS, 2006)

Your question

At what point does a provider refuse to rx. pain med for pt. who refuses physical therapy or counseling for what they consider pain?

Goal: Improved function
Approach: Patient centered
Treatment:

- Physical therapy
- Counseling
  - Effective for altering mood outcomes
  - Weak effect in improving pain
  - Minimal effect for improving disability
  - Six months

(Eccleston, Williams, & Morley, 2009)

Your question

The use of opiates in chronic pain is confusing to me. What are your thoughts about the pros/cons of using opiates long-term?

- Many individuals may require long-term opioid treatment.
- Use patient-centered, multi-modal approach.
- Monitor potential endocrine dysfunction and hypogonadism

Unless a patient has a past or current history of substance abuse, the potential for addiction is **low** when opioid medications are prescribed by a doctor and taken as directed. Those patients who suffer with chronic pain and addictive disease deserve the same quality of pain treatment as others, but may require greater resources in their care.

Risk factors for opioid misuse

- Personal or family history of prescription drug or alcohol abuse
- Cigarette smoking
- History of motor vehicle accidents
- Substance use disorder
- Major psychiatric disorder (e.g., bipolar disorder, major depression, personality disorder)
- Poor family support
- History of preadolescent sexual abuse

Chronic Pain and Opioid Treatment

Resources

APF publication *Chronic Pain and Opioid Treatment*

ASPI publication *Responsible Opioid Prescribing: A Physician's Guide*

Opioid conversion tips

Dosing and conversion chart

Your question

Should primary care FNPs manage chronic pain for patients who are on chronic narcotics, or would you recommend these patients be managed by a pain clinic/specialist?

- With knowledge and skills, FNPs are capable of managing individuals with chronic pain that require opioids
- Caveat: narcotics is a legal term & replete with stigma

Your question

I am always challenged by patients with fibromyalgia. How do I wean patients off narcotics that have been prescribed by previous prescribers?

question

Opioids can provide clinically important pain relief for patients suffering from neuropathic pain, including fibromyalgia.

a) True

b) False

c) Eisenberg, E. McNicol, E. D., & Carr O. B. (2005). Efficacy and safety of opioid agonists in the treatment of neuropathic pain of nonmalignant origin: systematic review and meta-analysis of randomized controlled trials. *JAMA, 293*(24), 3024-3052.

Finnerup, N.B., Otto, NM., McQuay, H.J., Jensen, T. S., & Sindrup, S. H. (2005). Algorithm for neuropathic pain treatment an evidence-based proposal.

- Make sure weaning is in the best interest of the patient and not because of personal comfort
- Include duloxetine and pregablin in treatment plan (or NSRI and gabapentin)
  - Introduce slowly
  - Decrease opioids as appropriate (see below)
- Lifestyle changes, sleep, nutrition, exercise
- Water therapy (water aerobics, hot baths or showers, whirlpool)
- Beware of state laws re: weaning (some states require addiction medicine to do this)
- Safely Tapering Opioids

(Lunn, Hughes, & Wiffin, 2009; Moore, et. al, 2009)

Your question

How do you suggest dealing with requests for medical marijuana for chronic pain?

- Cannabinoids have wide ranging therapeutic potential that goes beyond pain relief alone, and extends to multiple symptom management such as
  - Neuropathy
  - Spasticity
  - Insomnia
  - Appetite stimulation and N/V

- Pain syndromes studied with respect to medical cannabis and cannabinoids
  - predominantly syndromes where the pain is believed to be neuropathic in nature
  - peripheral neuropathy
  - central neuropathic pain, e. g. multiple sclerosis
  - disorders of central pain processing, e.g. fibromyalgia
  - cancer pain
- Cannabinoids
  - Induce analgesia
  - reduce the unpleasantness associated with chronic pain
  - separate pain from unpleasant memories associated with the pain
  - increase a feeling of wellness in spite of persistent pain.

- Cannabinoid receptors are located in brain, nerves, gut, heart, skin, and immune system (and maybe other tissues)
- Cannabinoid receptors in the brain are widely distributed and are involved in the complex behaviors and symptoms associated with chronic pain.
- Cannabinoids
  - bind to specific receptors in the brain, spinal cord and peripheral nervous system
  - alter nerve activity
  - protect nerves from damage and may normalize the function of these nerves where they have been disrupted by disease activity (animal models)

(APF, 2009)

question

Acupuncture is supported by scientific research as a reliable pain management technique

a) True

b) False

Your questions

What are some holistic approaches to managing chronic pain?

- There is evidence that acupuncture is more effective than placebo for chronic pain

How does energy medicine treatment such as healing touch, relate to chronic pain?

- There is no evidence that energy treatments are effective

Caveat: Complementary or alternative modalities may be a viable option depending on patient values and beliefs

Post-test

Evidence-based guidelines support long-term opioid therapy as an appropriate option for cancer-related and chronic non-cancer pain

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

Questions from Brennan, M.J., Passik, S., Portenoy, R., & Kaufman, D. (2009). Persistent and Breakthrough Pain: Multidimensional Assessment & Opioid-Based Multimodal Treatment. http://painclinician.com/education

question

When considering opioid-based therapy, every patient should be stratified for the risk of nonmedical opioid use

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

question

Patients who experience intolerable side effects from one opioid are unlikely to benefit from an alternative opioid

a) Strongly agree
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e) Strongly disagree

question

Combining an opioid with a nonopioid analgesic can result in additive analgesia and/or reduced side effects

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

question

Most patients who are treated with opioids for longer than 6 months will become addicted to the medication

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

Resources

- American Alliance of Cancer Pain Initiatives (ASPI)
- American Pain Foundation (APF) (free resources from professionals and patients)
- American Pain Society (APS)
- American Society for Pain Management Nurses (ASPMN)
- Emerging Solutions in Pain (ESP) (free membership)
- International Association for the Study of Pain (IASP)
- National Guideline Clearinghouse (NGC) (free)
- PAINClinician.com (free)

References

American Pain Foundation[APF]. (2009). Cannabinoids for pain management. *Pain Research & Practice Update*, Summer, p. 3. http://www.painfoundation.org/learn/publications/files/research-summer-2009.pdf

American Pain Foundation. (2008a). *Primer on pain and its management.* http://www.painfoundation.org/page.asp?file=Newsroom/PainFacts.htm

American Pain Foundation. (2008b). *Pain facts and figures.* http://www.painfoundation.org/page.asp?file=Newsroom/PainFacts.htm

American Pain Society [APS]. (2006). Pain control in the primary care setting. http://www.ampainsoc.org/pub/pdf/ProductBrochure.pdf

Berry, P. H., Covington, E. C., Dahl, J. L., Katz, J. A., & Miaskowski, C. A. (2006). *Pain: Current understanding of assessment, management, and treatments.* Glenview, IL: American Pain Society. Website http://www.ampainsoc.org/ce/enduring.htm

****Chou, R., et. Al. (2009). Clinical guidelines for the use of chronic opioid therapy in chronic noncancer pain. *Journal of Pain, 10*(2), 113-130. Electronic copy free to members of APS.**

Cohen, S. & Fine, P. G. (2009). Teaching Series: Persistent and Breakthrough Pain. New York: McMahon Group.

Eccleston, C., Williamson, A., & Morley, S. (2009). Psychological therapies for the management of chronic pain (excluding headache) in adults *Cochrane Database of Systematic Reviews*, Issue 4. DOI: 10.1002/14651858.CD007407.pub2

References, continued

Hootman, J. M., & Helmick, C. G. (2006). Projections of US prevalence of arthritis and associated activity limitations. *Arthritis & Rheumatism, 54*(1), 226-229.

Institute for Clinical Systems Improvement (ICSI). (2008). Assessment and management of chronic pain. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI). http://ngc.gov/summary/summary.aspx?doc_id=12998&nbr=006693&string=pain#s23

Lunn, M., Hughes, R., & Wiffin, P.J. (2009). Duloxetine for treating painful neuropathy or chronic pain. *Cochrane Database of Systematic Reviews*, Issue 4. DOI: 10.1002/14651858.CD007115.pub2.

Moore, R. A., et. al (2009). Pregabalin for acute and chronic pain in adults. *Cochrane Database of Systematic Reviews*, Issue 4. DOI: 10.1002/14651858.

National Center for Health Statistics. (2006). Special feature on pain. In *Health, United States, 2006 with chartbook on trends in the Health of Americans,* pp 68-71. Hyattsville, MD: US Department of Health and Human Services. Website http://www.cdc.gov/nchs/data/hus/hus06.pdf

National Institutes of Health (NIH). (1998). NIH guide: new directions in pain research I. Accessed August 12, 2009 http://grants.nih.gov/grants/guide/pa-files/PA-98-102.html.

Ortho-McNeil-Janssen Pharmaceuticals. (2008). *Pain in the Workplace: A 10-year update of Ortho-NcNeil's survey on impact of pain on the workplace.* Accessed August 10, 2009 http://www.painandwork.com/painandwork/pages/index.jsp

Singh, M. K., Patel, J., & Gallagher, R. M. (updated June 29, 2009). Chronic pain syndrome. *eMedicine from WebMD*. Website http://emedicine.medscape.com/article/310834-overview

Brainstorm

Additional Questions?

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STUDY ID# _____ HOSPITAL # _____

DO NOT WRITE ABOVE THIS LINE

Brief Pain Inventory (Short Form)

Date: _____/_____ /_____ Time: _____

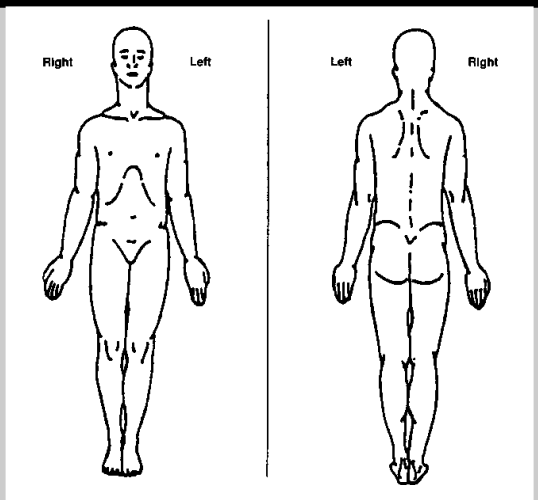
Name: _____ _____ _____

Last First Middlle 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 every-day 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 nuimber 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

The Brief Pain Inventory

PROTOCOL # _____ INSTITUTION _____

PATIENT SEQUENCE # _____ HOSPITAL CHART # _____

DO NOT WRITE ABOVE THIS LINE

Brief Pain Inventory

Date: ___/___/___

Name: _____ _____ _____
Last First Middle Initial

Phone: (___) _____ Sex: ☐ Female ☐ Male

Date of Birth: ___/___/___

1) Marital Status (at present)

1. ☐ Single
2. ☐ Married
3. ☐ Widowed
4. ☐ Separated/Divorced

2) Education (Circle only the highest grade or degree completed)

Grade	0	1	2	3	4	5	6	7	8	9
	10	11	12	13	14	15	16	M.A./M.S.		

Professional degree (please specify) _____

3) Current occupation _____
(specify titles; if you are not working, tell us your previous occupation)

4) Spouse's occupation _____

5) Which of the following best describes your current job status?

1. ☐ Employed outside the home, full-time
2. ☐ Employed outside the home, part-time
3. ☐ Homemaker
4. ☐ Retired
5. ☐ Unemployed
6. ☐ Other

6) How long has it been since you first learned your diagnosis? _____ months

7) Have you ever had pain due to your present disease?

1. ☐ Yes 2. ☐ No 3. ☐ Uncertain

8) When you first received your diagnosis, was pain one of your symptoms?

1. ☐ Yes 2. ☐ No 3. ☐ Uncertain

9) Have you had surgery in the past month? 1. ☐ Yes 2. ☐ No

If YES, what kind? _____

10) Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, toothaches). Have you had pain other than these everyday kinds of pain during the last week?

1. ☐ Yes 2. ☐ No

10a) Did you take pain medications in the last 7 days?

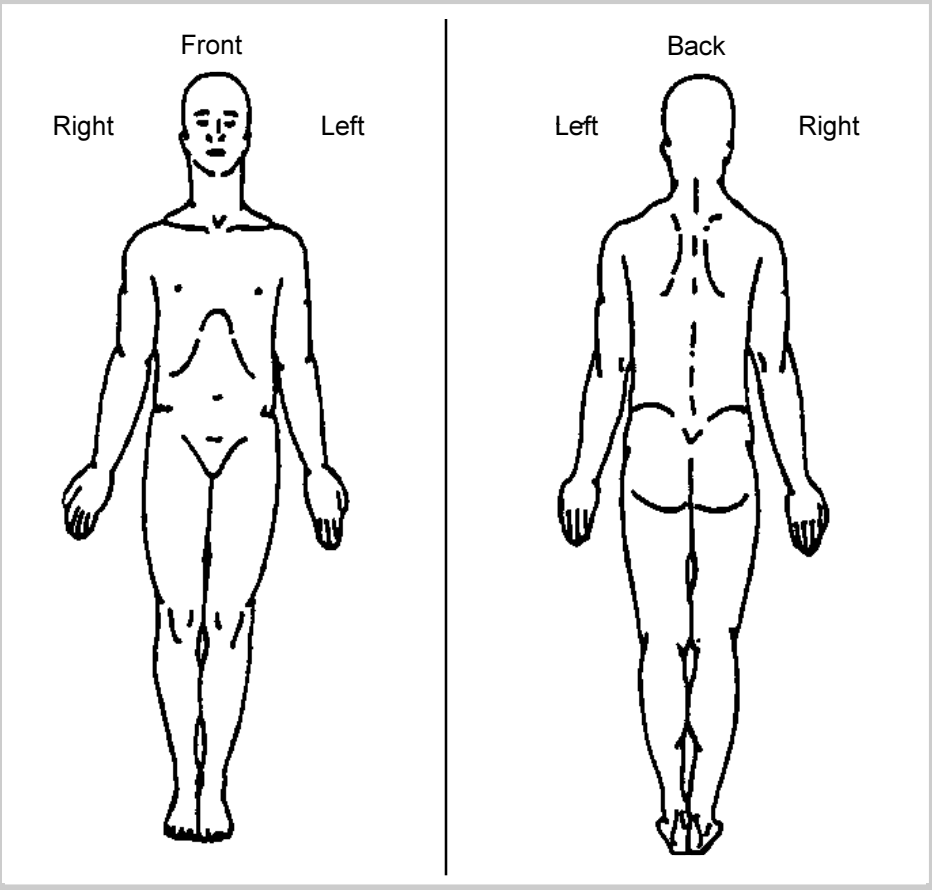
1. ☐ Yes 2. ☐ No

10b) I feel I have some form of pain now that requires medication each and every day.

1. ☐ Yes 2. ☐ No

IF YOUR ANSWERS TO 10, 10a, AND 10b WERE ALL NO, PLEASE STOP HERE AND GO TO THE LAST PAGE OF THE QUESTIONNAIRE AND SIGN WHERE INDICATED ON THE BOTTOM OF THE PAGE.
IF ANY OF YOUR ANSWERS TO 10, 10a, AND 10b WERE YES, PLEASE CONTINUE.

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



12) Please rate your pain by circling the one number that best describes your pain at its worst in the last week.

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

13) Please rate your pain by circling the one number that best describes your pain at its least in the last week.

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

14) 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

15) 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

16) What kinds of things make your pain feel better (for example, heat, medicine, rest)?

_____

_____

17) What kinds of things make your pain worse (for example, walking, standing, lifting)?

_____

_____

18) What treatments or medications are you receiving for pain?

_____

_____

19) In the last week, 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

20) If you take pain medication, how many hours does it take before the pain returns?

1. ☐ Pain medication doesn't help at all
2. ☐ One hour
3. ☐ Two hours
4. ☐ Three hours
5. ☐ Four hours
6. ☐ Five to twelve hours
7. ☐ More than twelve hours
8. ☐ I do not take pain medication

21) Check the appropriate answer for each item.
I believe my pain is due to:

☐ Yes ☐ No 1. The effects of treatment (for example, medication, surgery, radiation, prosthetic device).
☐ Yes ☐ No 2. My primary disease (meaning the disease currently being treated and evaluated).
☐ Yes ☐ No 3. A medical condition unrelated to my primary disease (for example, arthritis).
Please describe condition: _____

22) For each of the following words, check Yes or No if that adjective applies to your pain.

Aching	☐ Yes	☐ No
Throbbing	☐ Yes	☐ No
Shooting	☐ Yes	☐ No
Stabbing	☐ Yes	☐ No
Gnawing	☐ Yes	☐ No
Sharp	☐ Yes	☐ No
Tender	☐ Yes	☐ No
Burning	☐ Yes	☐ No
Exhausting	☐ Yes	☐ No
Tiring	☐ Yes	☐ No
Penetrating	☐ Yes	☐ No
Nagging	☐ Yes	☐ No
Numb	☐ Yes	☐ No
Miserable	☐ Yes	☐ No
Unbearable	☐ Yes	☐ No

23) Circle the one number that describes how, during the past week, 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

24) I prefer to take my pain medicine:

1. ☐ On a regular basis
2. ☐ Only when necessary
3. ☐ Do not take pain medicine

25) I take my pain medicine (in a 24 hour period):

1. ☐ Not every day
2. ☐ 1 to 2 times per day
3. ☐ 3 to 4 times per day
4. ☐ 5 to 6 times per day
5. ☐ More than 6 times per day

26) Do you feel you need a stronger type of pain medication?

1. ☐ Yes 2. ☐ No 3. ☐ Uncertain

27) Do you feel you need to take more of the pain medication than your doctor has prescribed?

1. ☐ Yes 2. ☐ No 3. ☐ Uncertain

28) Are you concerned that you use too much pain medication?

1. ☐ Yes 2. ☐ No 3. ☐ Uncertain

If Yes, why? _____

_____

29) Are you having problems with side effects from your pain medication?

1. ☐ Yes 2. ☐ No

Which side effects? _____

30) Do you feel you need to receive further information about your pain medication?

1. ☐ Yes 2. ☐ No

31) Other methods I use to relieve my pain include: (Please check all that apply)

Warm compresses ☐ Cold compresses ☐ Relaxation techniques ☐

Distraction ☐ Biofeedback ☐ Hypnosis ☐

Other ☐ Please specify _____

32) Medications not prescribed by my doctor that I take for pain are:

_____

_____

Please sign the back of this questionnaire.

Patient's Signature

Thank you for your participation.

Neuropathic Pain Diagnostic Questionnaire

Please complete this questionnaire by checking one answer for each item in the four questions below.

INTERVIEW OF THE PATIENT

Question 1: Does the pain have one or more of the following characteristics?

	YES	NO
1 - Burning	○	◉
2 - Painful cold	○	◉
3 - Electric shocks	○	◉

Question 2: Is the pain associated with one or more of the following symptoms in the same area?

	YES	NO
4 - Tingling	○	◉
5 - Pins and Needles	○	◉
6 - Numbness	○	◉
7 - Itching	○	◉

EXAMINATION OF THE PATIENT

Question 3: Is the pain located in an area where the physical examination may reveal one or more of the following characteristics?

	YES	NO
8 - Touch Hypoaesthesia	○	◉
9 - Pricking Hypoaesthesia	○	◉

Question 4: In the painful area, can the pain be caused or increased by?

	YES	NO
10 - Brushing (for example: using a Von Frey hair brush)	○	◉

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D. Bouhassira *et al.* **Pain. 2005 Mar 114(1-2): 29-36.**

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Results

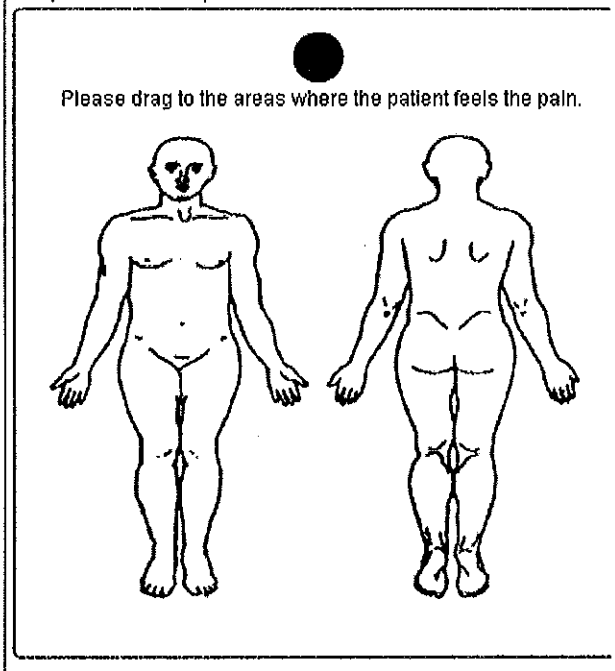
Your score was **0/10**

You are unlikely to have neuropathic pain. Howe if you are concerned, or pain persists, go see yo doctor.

You answered:

Use the following questions to help assess your pair

On the diagram below, please indicate the areas wl the patient feels pain.



How did the pain develop?

Pain pattern: are there specific times of the day or r when the pain is most intense?

What level of interference does the pain present?

	0	1	2	3	4	5	6	7	8	
General activity	○	○	○	○	○	○	○	○	○	(
Mood	○	○	○	○	○	○	○	○	○	(

This information will be collected for educational purposes, however it will remain anonymous.

Normal work	○	○	○	○	○	○	○	○	○	(
Relationship	○	○	○	○	○	○	○	○	○	(
Sleep	○	○	○	○	○	○	○	○	○	(
Enjoyment of life	○	○	○	○	○	○	○	○	○	(

0 = Does not interfere *10 = Compl interferes*

What kind of things help ease the pain?

What medication or treatment is the patient currentl receiving?

How much relief has this treatment provided?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	1
○	○	○	○	○	○	○	○	○	○	

0% = No relief *100% = Complete*

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from The Hartford Institute for Geriatric Nursing, New York University, College of Nursing, and The American Society for Pain Management Nursing

Issue Number SP1, 2009

Series Editor: Marie Boltz, PhD, GNP-BC
Series Co-Editor: Sherry A. Greenberg, MSN, GNP-BC
New York University, College of Nursing

Assessment of Nociceptive versus Neuropathic Pain in Older Adults

By: Paul Arnstein, PhD, RN, ACNS-BC, FNP-C
Clinical Nurse Specialist for Pain Relief, Massachusetts General Hospital
Past President, American Society for Pain Management Nursing

WHY: Many older adults have severe or ongoing pain. Distinguishing whether the pain is nociceptive or neuropathic has important implications for diagnostic, lifestyle and treatment decisions. Nociceptive pain is caused by an active illness, injury and/or inflammatory process associated with actual or potential tissue damage. Recognition of nociceptive pain can help identify an acute condition (e.g. angina, temporal arteritis, thrombosis, torn ligament) demanding prompt treatment, or a chronic condition (e.g. arthritis, osteoporosis) guiding treatment to halt tissue damage. Neuropathic pain results from a lesion or a malfunction within the nervous system. High intensity neuropathic pain interferes with daily living and has been linked to a loss of muscle, bone and brain mass. Older adults are at greater risk for developing neuropathic pain because of fewer inhibitory nerves, lower endorphin levels and a slowed capacity to reverse processes that sensitize nerves. For example, postherpetic neuralgia develops in half of those over age 70, compared to 3% under 60 years old.

BEST TOOLS: Several tools are available to distinguish nociceptive from neuropathic pain. Tools that combine self-report and physical examination are more precise than self-report alone. Validation of the following three tools has included some, but not large numbers, of older adults. The Leeds Assessment of Neuropathic Symptoms and Signs (LANSS) was the first of the tools to be developed. The Douleur Neuropathique en 4 questions (DN4) was developed in French and translated into English (called the Neuropathic Pain Diagnostic Questionnaire or DN4). The DN4 is easiest to score and, hence, possibly the best tool to use. The Neuropathic Pain Questionnaire (NPQ) asks about pain, but does not include physical examination measures and is, therefore, not as highly recommended.

TARGET POPULATION: Older adults with pain from an uncertain source or with persistent pain despite treatment attempts.

VALIDITY AND RELIABILITY: The three tools described have demonstrated good validity (face, discriminant, content, construct) and reliability (internal consistency, test-retest, interrater). The LANSS Pain Scale has seven items (5 symptoms and 2 physical exam findings) to determine if pain is nociceptive or neuropathic. After its original validation with 100 patients, it has been tested and used on thousands of people, including a validated self-completed epidemiological tool believed accurate in 75-80% of cases (sensitivity 85%, specificity 80%). The DN4 was validated in French and translated into English using appropriate procedures. It is comprised of 10 items (7 symptoms and 3 clinical examinations) and is easy to score with each item equally weighted with a score of 4 or more classifying the pain as neuropathic. The DN4 has a higher sensitivity (83%) and specificity (90%) than the other tools described. The NPQ rates its 12 items (10 sensations and 2 emotions) on a scale of 0-100. It asks about the degree to which pain is unpleasant or overwhelming, questions not addressed by the other tools described. Although it correctly classifies patients with neuropathic pain 70% of the time (sensitivity 66%, specificity 74%) a subset of 3 items (numbness, tingling and allodynia) accounts for most of its accuracy. Because this tool is long, with complex math involved, it is not shown here. However, knowing the importance of numb, tingling and allodynia findings on assessment make it worthy of mention.

STRENGTHS AND LIMITATIONS: Although the three tools described distinguish nociceptive from neuropathic pain, the LANSS and DN4 are preferred because of their brevity and the integration of self-reported symptoms and physical examination.

FOLLOW-UP:
These tools are generally used once and are repeated periodically (e.g. annually) to screen for, and help differentiate types of pain. Nurses should discuss their findings with interdisciplinary team members to help guide therapy that is more likely to respond to the patient's specific type of pain. Distinguishing pain types by linking signs, symptoms and responses remains an active area of research. As underlying mechanisms of pain are better understood, targeted therapies are being developed to minimize treatment failures and expedite relief, especially for those with neuropathic pain.

MORE ON THE TOPIC:

Best practice information on care of older adults: www.ConsultGeriRN.org.

Bennett, M.I. (2001). The LANSS Pain Scale: The Leeds assessment of neuropathic symptoms and signs. *Pain, 92*(1-2), 147–157.

Bennett, M.I., Attal, N., Backonja, M.M., et al. (2007). Using screening tools to identify neuropathic pain. *Pain, 127*, 199-203.

Bennett, M.I., Smith, B.H., Torrance, N., & Potter, J. (2005). The S-LANSS score for identifying pain of predominantly neuropathic origin: Validation for use in clinical and postal research. *The Journal of Pain, 6*(3), 149–158.

Bouhassira, D., Attal, N., Alchaar, H., et al. (2005). Comparison of pain syndromes associated with nervous or somatic lesions and development of a new neuropathic pain diagnostic questionnaire (DN4). *Pain, 114*(1-2), 29-36.

Cruccu, G., & Truini, A. (2009). Tools for assessing neuropathic pain. *PLoS Medicine, 6*(4) e1000045. Retrieved August 11, 2009 from http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.1000045.

Gilron, I., Watson, C.P.N., Cahill, C.M., & Moulin, D.E. (2006). Neuropathic pain: A practical guide for the clinician. *Canadian Medical Association Journal, 175*(3), 265-275.

Hadjistavropoulos, T., Herr, K., Turk, D.C., et al. (2007, Jan). An interdisciplinary expert consensus statement on assessment of pain in older persons. *The Clinical Journal of Pain, 23*(1 Suppl), S1-S43.

Krause, S.J., & Backonja, M.M. (2003). Development of a Neuropathic Pain Questionnaire. *The Clinical Journal of Pain, 19*(5), 306–314.

LANSS Pain Scale

Symptom / Sign	Score for "yes"
Does the pain feel like strange unpleasant sensations? (e.g. pricking, tingling, pins/needles)	5
Do painful areas look different? (e.g. mottled, more red/pink than usual)	5
Is the area abnormally sensitive to touch? (e.g. lightly stroked, tight clothes)	3
Do you have sudden unexplained bursts of pain? (e.g. electric shocks, 'jumping')	2
Does the skin temperature in the painful area feel abnormal? (e.g. hot, burning)	1
Exam: Does stroking the affected area of skin with cotton produce pain?	5
Exam: Does a pinprick (23 GA) at the affected area feel sharper or duller when compared to an area of normal skin?	3
0 - 12 = likely nociceptive, Score > 12 likely neuropathic	Total:

Adapted from: Bennett, M.I. (2001). The LANSS Pain Scale: The Leeds assessment of neuropathic symptoms and signs. *Pain*, 92(1-2), 147–157. Appendices A and B, pp. 156-157.
Note: This is a smaller sample of the actual scale. For further instructions on the correct use of the scale please contact the International Association for the Study of Pain ®; iaspdesk@iasp-pain.org.

DN4 Questionnaire

Symptom / Sign		No = 0 Yes = 1
Does the pain have the following characteristic?	Burning?	
Does the pain have the following characteristic?	Painful cold?	
Does the pain have the following characteristic?	Electric shocks?	
Does the area of pain also have the following?	Tingling?	
Does the area of pain also have the following?	Pins & needles?	
Does the area of pain also have the following?	Numbness?	
Does the area of pain also have the following?	Itching?	
Exam: Decrease in touch sensation (soft brush)?		
Exam: Decrease in prick sensation (von Frey hair #13)?		
Exam: Does movement of a soft brush in the area cause or increase pain?		
0 – 3 = likely nociceptive pain ≥4 = likely neuropathic pain		Total:

Adapted from: Bouhassira, D., Attal, N., Alchaar, H., et al. (2005). Comparison of pain syndromes associated with nervous or somatic lesions and development of a new neuropathic pain diagnostic questionnaire (DN4). *Pain*, 114(1-2), 29-36. Appendix B, p. 36.
Note: This is a smaller sample of the actual questionnaire. For further instructions on the correct use of the questionnaire please contact the International Association for the Study of Pain ®; iaspdesk@iasp-pain.org.

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PAIN

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Topical review

Using screening tools to identify neuropathic pain

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1. Introduction

It is widely accepted that the unique painful and non-painful sensations in neuropathic pain are the result of particular mechanisms, and that specific management strategies for neuropathic pain should be applied to tackle them. Ideally, the treatment of chronic pain should be directed at eliminating the cause of pain, but in reality this is rarely possible. The management of chronic pain is therefore often limited to reducing the intensity of such pain and associated symptoms.

Pain is essentially a subjective phenomenon described with patient-specific symptoms and expressed with a certain intensity. It therefore makes sense to examine the value of verbal descriptors and pain qualities as a basis for distinguishing neuropathic pain from other types of chronic pain. Work by Dubuisson and Melzack (1976) and later by Boureau et al. (1990) supported anecdotal opinion that key words might be discriminatory for neuropathic pain. In the last 5 years, much research has been undertaken to develop screening tools for this purpose. These tools are based on verbal pain description with, or without, limited bedside testing. This paper reviews the strengths and weaknesses of such tools.

2. Current screening tools for neuropathic pain

2.1. Leeds Assessment of Neuropathic Symptoms and Signs (LANSS)

The LANSS was the first tool to be developed and contains 5 symptom items and 2 clinical examination items, and is easy to score within clinical settings (Bennett, 2001). It has recently been validated as a self-report tool, the S-LANSS (Bennett et al., 2005). The original LANSS was developed in a sample of 60 patients with chronic nociceptive or neuropathic pain and validated in a further sample of 40 patients. Sensitivity and specificity in the latter group were 85% and 80%, respectively, compared to clinical diagnosis.

The LANSS has subsequently been tested and validated in several settings (e.g. Potter et al., 2003; Yucel et al., 2004; Kaki et al., 2005) with sensitivity

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and specificity ranging from 82% to 91% and 80% to 94% respectively, compared to clinical diagnosis. Although the LANSS was not designed as a measurement tool, it has also shown sensitivity to treatment effects (Khedr et al., 2005). Positive scores on the LANSS or S-LANSS identify patients with pain of predominantly neuropathic origin (POPNO) i.e., pain that is dominated by neuropathic mechanisms.

2.2. Neuropathic Pain Questionnaire (NPQ)

The NPQ consists of 12 items that include 10 related to sensations or sensory responses, and 2 related to affect (Krause and Backonja, 2003). It was developed in 382 patients with a broad range of chronic pain diagnoses. The discriminant function was initially calculated on a random sample of 75% of the patients, and then cross-validated in the remaining 25%. The NPQ demonstrated 66% sensitivity and 74% specificity compared to clinical diagnosis in the validation sample. The short form of the NPQ maintained similar discriminative properties with only 3 items (numbness, tingling and pain increase in response to touch) (Backonja and Krause, 2003).

2.3. Douleur Neuropathique en 4 questions (DN4)

The DN4 was developed in 160 patients with either neuropathic or nociceptive pain and consists of 7 items related to symptoms and 3 related to clinical examination (Bouhassira et al., 2005). The DN4 is easy to score and a total score of 4 out of 10 or more suggests neuropathic pain. The DN4 showed 83% sensitivity and 90% specificity when compared to clinical diagnosis in the development study. The 7 sensory descriptors can be used as a self-report questionnaire with similar results (Bouhassira et al., 2005). The tool was developed and validated in French and is being translated into other languages.

2.4. painDETECT

pain*DETECT* was developed and validated in German (Freynhagen et al., 2005, 2006) and incorporates an easy to use patient-based (self-report) questionnaire with 9 items that do not require a clinical examination. There are 7 weighted sensory descriptor items (never to very strongly) and 2 items relating to the spatial (radiating) and temporal characteristics of the individual pain pattern. This questionnaire was validated in a multicentre study of 392 patients with either neuropathic ($n = 167$) or nociceptive pain ($n = 225$), as well as a population of patients with low back pain. The tool correctly classified 83% of patients to their diagnostic group with a sensitivity of 85% and a specificity of 80%. It is also available in English.

2.5. ID-Pain

ID-Pain consists of 5 sensory descriptor items and 1 item relating to whether pain is located in the joints (used to identify nociceptive pain); it also does not require a clinical examination (Portenoy, 2006). The tool was developed in 586 patients with chronic pain of nociceptive, mixed or neuropathic etiology, and validated in 308 patients with similar pain classification. The tool

Table 1
Comparison of items within five neuropathic pain screening tools (*shaded boxes highlight features shared by two or more tools*)

	LANSS[a]	DN4[a]	NPQ	pain*DETECT*	ID Pain
Symptoms					
Pricking, tingling, pins and needles	•	•	•	•	•
Electric shocks or shooting	•	•	•	•	•
Hot or burning	•	•	•	•	•
Numbness		•	•	•	•
Pain evoked by light touching	•		•	•	•
Painful cold or freezing pain		•	•		
Pain evoked by mild pressure				•	
Pain evoked by heat or cold				•	
Pain evoked by changes in weather			•		
Pain limited to joints[b]					○
Itching		•			
Temporal patterns				•	
Radiation of pain				•	
Autonomic changes	•				
Clinical examination					
Brush allodynia	•	•			
Raised soft touch threshold		•			
Raised pin prick threshold	•	•			

[a] Tools that involve clinical examination.
[b] Used to identify non-neuropathic pain.

was designed to screen for the likely presence of a neuropathic component to the patient's pain. In the validation study, 22% of the nociceptive group, 39% of the mixed group, and 58% of the neuropathic group scored above 3 points, the recommended cut-off score.

2.6. Screening tool content

Despite the differences in development of these tools, all five make use of similar language to discriminate patients with neuropathic pain from those with other types of chronic pain with up to 80% sensitivity and specificity (see Table 1). This is powerful evidence for the reliability and validity of this approach, though further validation of these standardized tools is needed across cultures and languages. Their use by other clinicians and researchers is needed to reach consensus on which tool is most suited for a particular context or task.

3. Limitations

3.1. Independent validation

The conceptual basis of these tools is that they standardize distinguishing features associated with neuropathic pain and attempt to reduce a comprehensive clinical evaluation to few key criteria in order to make this process more reproducible. The inevitable overlap with the gold standard clinical assessment introduces a bias that restricts the evaluation of a tool's validity and is probably a limitation of their use. However, studies which used demonstrable nerve lesion as a gold standard ended with questionnaires with similar content to those that did not (Bennett et al., 2005; Bouhassira et al., 2005).

3.2. Complex relationship between symptoms and pain mechanisms

A complex relationship exists between disease etiology and pain mechanisms, such that any symptoms or signs that indicate the presence of neuropathic pain do not readily translate into particular pain mechanisms (Scholz and Woolf, 2002; Jensen and Baron, 2003; Backonja and Argoff, 2005; Baron, 2006). This is illustrated by a recent study that compared the results of detailed sensory testing and verbal pain description using the short form McGill Pain Questionnaire (Rasmussen et al., 2004a). The authors proposed clinical criteria for neuropathic pain-based on pain etiology and presence of sensory loss, and labeled patients as having 'unlikely', 'possible' and 'definite' neuropathic pain. The authors found no differences in verbal description across the groups, and demonstrated considerable variation in sensory abnormalities (e.g. 57% of the 'unlikely' neuropathic pain group had sensory abnormalities).

4. Role of screening tools in clinical practice and research

4.1. Bridging the gap between definition and diagnosis

The International Association for the Study of Pain (IASP) defines neuropathic pain as 'pain initiated or caused by a primary lesion or dysfunction in the nervous system' (Merskey and Bogduk, 1994). This definition appears simple to use in clinical practice, but in fact it describes two broad categories of potential underlying pain mechanisms and not how to recognize them. Patients typically present with symptoms rather than easily recognizable neurological lesions. Clinicians then have to work through these verbal descriptions without a reference standard for what is a symptom of neuropathic pain because none were included in the IASP definition.

In most cases of chronic pain, it is difficult to establish the presence or absence of nerve dysfunction, regardless of symptoms (Aggarwal et al., 2006). Many clinicians that manage patients with chronic pain, in both primary and secondary care, do not have adequate skill or time for a thorough neurological examination. Neither do they have easy access to quantitative sensory testing and so treatment decisions are supported by basic clinical evidence alone.

Until consensus is agreed on a diagnostic approach to neuropathic pain, screening tools will serve to identify potential patients with neuropathic pain, particularly by non-specialists and this is probably their chief clinical strength. Their ease of use by professionals and patients alike, in clinic or via telephone or internet, makes these screening tools attractive because they provide immediately available information. Clinicians should then be alerted to undertake further assessment, which may subsequently influence management decisions. Screening tools fail to identify about 10–20% of patients with clinician diagnosed neuropathic pain indicating that they may offer guidance for further diagnostic evaluation and pain management but clearly, they do not replace clinical judgment.

4.2. Standardizing identification of patients in research studies

The lack of clinical criteria that result from the IASP definition is likely to result in significant variance between clinicians when recruiting patients to research studies and makes study populations difficult to compare. Commonly, authors of research studies either focus on single disease groups or present lists of etiologies to support their classification of neuropathic pain. Although this approach offers some face validity, it does not allow for standardized comparisons regarding the impact of any specific intervention on pain qualities.

Screening tools can be used as standardized case identification tools in epidemiological studies, and this

is probably their chief research strength. The lack of reliable epidemiological data has hampered progress in understanding the clinical impact of neuropathic pain and associated features. Studies using the S-LANSS (Torrance et al., 2006) and pain*DETECT* (Freynhagen et al., 2006) indicate that standardized tools improve the quality of epidemiological data, and similar ongoing studies using DN4 will report soon. Standardized screening tools for neuropathic pain may also be useful in future trials of new therapies because they might help assess treatment efficacy for a specific symptom, or symptom combination, rather than to a disease entity (Jensen, 2005).

4.3. Improving sensitivity in clinical measurement

An important challenge facing clinical research is to reduce the gap between the rapid progress made by basic science, which has revealed a multitude of underlying mechanisms, and the slow progress in clinical practice, where standardizing measurement approaches has been difficult.

Without specific neuropathic pain screening tools, it may be difficult to separate patients into categories of diagnostic certainty (Rasmussen et al., 2004a). One study compared responses to the S-LANSS and the Neuropathic Pain Scale (a measurement tool rather than a screening tool (Galer and Jensen, 1997) with clinician ratings of certainty in 200 chronic pain patients and illustrates the need for a standardized approach (Bennett et al., 2006). In this study, three groups of 'unlikely', 'possible' and 'definite' neuropathic pain were formed and significant differences in S-LANSS and Neuropathic Pain Scale scores were found between the groups. Using more sensitive tools for verbal description, a spectrum phenomenon was demonstrated for chronic pain, with various expressions of neuropathic features. The concept that chronic pain may be more or less neuropathic is novel, and relatively untested, but seems to have construct validity (Backonja, 2003; Attal and Bouhassira, 2004; Bennett et al., 2006) and fits well with basic science opinion regarding chronic pain mechanisms (Bennett, 2006).

4.4. Screening tools in further research

Despite the widespread acceptance of the need to identify patients with neuropathic pain, what evidence exists to support this approach? One study demonstrated that clinical examination did not predict the outcome of therapy with imipramine or gabapentin in patients with suspected neuropathic pain. (Rasmussen et al., 2004b). A critical analysis of previous clinical trials concluded that despite the logic of a mechanism-based approach to therapy, evidence supporting its success remains inconclusive (Finnerup and Jensen, 2006). An intriguing research question is therefore 'do patients that score positively on these screening tools respond differentially to therapy from those that do not, regardless of exact pathological mechanism?'

Meanwhile, it is likely that neuropathic pain screening tools will gain increasing acceptance and their common features may indeed form the basis of forthcoming clinical diagnostic criteria.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.pain.2006.10.034.

References

Aggarwal VR, McBeth J, Zakrzewska JM, Lunt M, Macfarlane GJ. The epidemiology of chronic syndromes that are frequently unexplained: do they have common associated factors? Int J Epidemiol 2006;35:468–76.

Attal N, Bouhassira D. Can pain be more or less neuropathic? (Editorial). Pain 2004;110:510–1.

Backonja MM. Defining neuropathic pain. Anesth Analg 2003;97:785–90.

Backonja MM, Krause SJ. Neuropathic Pain Questionnaire – short form. Clin J Pain 2003;19:315–6.

Backonja MM, Argoff CE. Neuropathic pain: definition and implications for research and therapy. Journal of Neuropathic Pain and Symptom Palliation 2005;1:11–7.

Baron R. Mechanisms of disease: neuropathic pain – a clinical perspective. Nat Clin Pract Neurol 2006;2:95–106.

Bennett G. Can we distinguish between inflammatory and neuropathic pain? Pain Res Manag 2006;11:11A–5A.

Bennett MI. The LANSS Pain Scale: the Leeds assessment of neuropathic symptoms and signs. Pain 2001;92:147–57.

Bennett MI, Smith BH, Torrance N, Potter J. The S-LANSS score for identifying pain of predominantly neuropathic origin: validation for use in clinical and postal research. J Pain 2005;6:149–58.

Bennett MI, Smith BH, Torrance N, Lee AJ. Can pain be more or less neuropathic? Comparison of symptom assessment tools with ratings of certainty by clinicians. Pain 2006;122:289–94.

Bouhassira D, Attal N, Alchaar H, Boureau F, Bruxelle J, Cunin G, et al. Comparison of pain syndromes associated with nervous or somatic lesions and development of a new neuropathic pain diagnostic questionnaire (DN4). Pain 2005;114:29–36.

Boureau F, Doubrere JF, Luu M. Study of verbal description in neuropathic pain. Pain 1990;42:145–52.

Dubuisson D, Melzack R. Classification of clinical pain descriptions by multiple group discriminant analysis. Exp Neurol 1976;51:480–7.

Finnerup NB, Jensen TS. Mechanisms of disease: mechanism-based classification of neuropathic pain – a critical analysis. Nat Clin Pract Neurol 2006;2:107–15.

Freynhagen R, Tölle TR, Baron R. painDETECT – ein Palmtop-basiertes Verfahren für Versorgungsforschung, Qualitätsmanagement und Screening bei chronischen Schmerzen. Akt. Neurol 2005;34:641.

Freynhagen R, Baron R, Gockel U, Tolle T. painDetect: a new screeing questionnaire to detect neuropathic components in patients with back pain. Curr Med Res Opin 2006;22: 1911–20.

Galer BS, Jensen MP. Development and preliminary validation of a pain measure specific to neuropathic pain: the Neuropathic Pain Scale. Neurology 1997;48:332–8.

Jensen MP. Using pain quality assessment measures for selecting analgesic agents. Clin J Pain 2005;22:S9–S13.

Jensen TS, Baron R. Translation of symptoms and signs into mechanisms in neuropathic pain. Pain 2003;102:1–8.

Kaki AM, El-Yaski AZ, Youseif E. Identifying neuropathic pain among patients with chronic low-back pain: use of the Leeds Assessment of Neuropathic Symptoms and Signs pain scale. Reg Anesth Pain Med 2005;30:422–8.

Khedr EM, Kotb H, Kamel NF, Ahmed MA, Sadek R, Rothwell JC. Long lasting antalgic effects of daily sessions of repetitive transcranial magnetic stimulation in central and peripheral neuropathic pain. J Neurol Neurosurg Psychiatry 2005;76: 833–8.

Krause SJ, Backonja MM. Development of a Neuropathic Pain Questionnaire. Clin J Pain 2003;19:306–14.

Merskey H, Bogduk N. Classification of chronic pain. Seattle: IASP Press; 1994.

Portenoy R. for the ID Pain Steering Committee. Development and testing of a neuropathic pain screening questionnaire: ID Pain. Curr Med Res Opin 2006;22:1555–65.

Potter J, Higginson IJ, Scadding JW, Quigley CW. Identifying neuropathic pain in patients with head and neck cancer: use of the Leeds Assessment of Neuropathic Symptoms and Signs Scale. J R Soc Med. 2003;96:379–83.

Rasmussen PV, Sindrup SH, Jensen TS, Bach FW. Symptoms and signs in patients with suspected neuropathic pain. Pain 2004a;110:461–9.

Rasmussen PV, Sindrup SH, Jensen TS, Bach FW. Therapeutic outcome in neuropathic pain: relationship to evidence of nervous system lesion. Eur J Neurol 2004b;11:545–53.

Scholz J, Woolf CJ. Can we conquer pain? Nat Neurosci 2002;5:1062–7.

Torrance N, Smith BH, Bennett MI, Lee AJ. The epidemiology of chronic pain of predominantly neuropathic origin. Results from a general population survey. J Pain 2006;7:281–9.

Yucel A, Senocak M, Kocasoy Orhan E, Cimen A, Ertas M. Results of the Leeds assessment of neuropathic symptoms and signs pain scale in Turkey: a validation study. J Pain 2004;5:427–32.

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COMMENTARY

Universal Precautions in Pain Medicine: A Rational Approach to the Treatment of Chronic Pain

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ABSTRACT

The heightened interest in pain management is making the need for appropriate boundary setting within the clinician–patient relationship even more apparent. Unfortunately, it is impossible to determine before hand, with any degree of certainty, who will become problematic users of prescription medications. With this in mind, a parallel is drawn between the chronic pain management paradigm and our past experience with problems identifying the "at-risk" individuals from an infectious disease model.

By recognizing the need to carefully assess all patients, in a biopsychosocial model, including past and present aberrant behaviors when they exist, and by applying careful and reasonably set limits in the clinician–patient relationship, it is possible to triage chronic pain patients into three categories according to risk.

This article describes a "universal precautions" approach to the assessment and ongoing management of the chronic pain patient and offers a triage scheme for estimating risk that includes recommendations for management and referral. By taking a thorough and respectful approach to patient assessment and management within chronic pain treatment, stigma can be reduced, patient care improved, and overall risk contained.

Key Words. Pain; Addiction; Universal Precautions; Prescription; Abuse; Misuse; Urine Drug Testing

Introduction

The term "universal precautions" as it applies to infectious disease came out of the realization that it was impossible for a health care professional to reliably assess risk of infectivity during an initial assessment of a patient [1,2]. Lifestyle, past history, and even aberrant behavior defined as noncompliance with an agreed upon treatment plan were unreliable indicators that led to patient stigmatization and increased health care professional risk. It was only after research into the prevalence of such diseases as hepatitis B, hepatitis C, and HIV that we realized that the safest and most reasonable approach to take was to apply an appropriate minimum level of precaution to *all* patients to reduce the risk of transmission of potentially life-threatening infectious disease to health care professionals. Fear was replaced by

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knowledge, and with knowledge came the practice we know as universal precautions in infectious disease.

Because the fear of addiction is one of the barriers to opioid pain management, the result can be under- or nontreatment of moderate to severe pain [3]. Unfortunately, there are no signs pathognomonic of substance use disorders. Addiction is a "brain disease" [4] in which the diagnosis is most often made prospectively over time by monitoring the patient's behavior and the ability to stay within a mutually agreed upon treatment plan. In view of the fact there is no definite test or physical sign that will predict which patient will do well on a therapeutic trial of opioids for pain, it makes sense to take a universal precautions approach to all pain patients, especially those who are considered for a therapeutic trial of opioids, to improve their quality of life. In order to assist health care professionals to meet the challenge of chronic pain management, we propose adopting a minimum level of care applicable to all patients presenting with chronic pain.

Pain is a common complaint presenting to the clinicians office and is an enormous public health problem [5,6]. Approximately 50–70 million people in the United States are undertreated or not treated for painful conditions [7]. Currently available data suggest that 3–16% of the American population have addictive disorders [8]. Therefore, based on these statistics, as many as 5–7 million patients with the disease of addiction also have pain. In fact, when studying pain in certain subsets of the general population, the incidence may be considerably greater as has been found in the Methadone Maintenance Treatment population [9]. The goal of pain treatment is to decrease pain and improve function while monitoring for any adverse side effects [10]. If this goal is not achieved by non-opioid and adjunctive analgesics, opioids may be indicated.

However, drug addiction is a chronic relapsing disorder that involves multiple factors. The most common triggers for relapse are states of stress; drug availability; and re-exposure to environmental cues (sight, sounds, smells) previously associated with taking drugs [11]. Inadequate treatment or no treatment of pain is a powerful stressor and consequently may trigger relapse to addiction. It stands to reason that if the patient is in recovery and the pain is undertreated or not treated at all, they may turn to the street for licit or illicit drugs, or may use legal drugs such as alcohol to numb the pain.

Pain and Addiction Continuum

Emerging research is helping to place pain and addictive disorders on a continuum rather than on the traditional dichotomy of recent years [12–15]. It is clear to a growing number of clinicians that pain patients can, and sometimes do have concurrent addictive disorders that decidedly complicate the management of an already challenging patient population [16–19]. It is possible for pain and addiction to exist as comorbid conditions such as the case of the alcoholic with peripheral neuropathic pain. However, the chronic pain patient who suffers from the disease of opioid addiction may be somewhat different. In this situation, the opioids used to treat the chronic pain may be identified as either "the problem," "the solution," or a mix of both depending upon the frame of reference used (Addiction Medicine, Pain Management, or Pain and Chemical Dependency Specialties).

For example, with careful monitoring and tightly set limits, the patient recovering from the disease of opioid addiction may, quite appropriately, be prescribed an opioid class of medication for the treatment of either acute or even chronic pain [20,21]. As long as this therapeutic regimen is "doing more for the patient than to the patient," that is, improving rather than worsening their quality of life, one can say that the balance between pain and addiction is positive. In this context, a continuum rather than a comorbid model may be more appropriate.

There is no evidence to suggest that the presence of pain is protective against the expression of an underlying addictive disorder. Similarly, there is no evidence that addiction prevents the development of chronic pain. Part of this confusion comes from the difficulty the clinician has in screening patients for having, or being at risk of having addictive disorders. Several issues contribute to this problem. First, there is inadequate undergraduate training in addiction medicine or pain management [22–24]. Health care professionals cannot diagnose illnesses of which they have little or no understanding. Second, there is often a personal bias that makes it difficult for practitioners to explore issues around their patient's use of drugs including alcohol. Stereotyping leads to suboptimal care both in those incorrectly identified as likely or unlikely to have substance use disorders. By continuing to approach pain and addiction as a dichotomy, both the practitioner and the often complex

patient population that they serve will be disadvantaged.

Substance Use Assessment in the Pain Patient

Beyond the expected inquiry into the presenting complaint of pain, every patient should be asked about their present and past use of both licit and illicit drugs, including alcohol and over-the-counter preparations [25]. While there is no simple relationship between past drug use problems and aberrant behavior in chronic pain management, the possibility of such risk should be discussed with the patient in advance of initiation of therapy especially with medications that may lead to physical dependency and possible misuse. It is important to reassure patients that these questions should not be interpreted as an attempt to diminish their complaints of pain. When it is clear to the patient that answering these questions honestly will lead to an improvement in, rather than a denial of care, a respectful inquiry into past and present drug and alcohol use will not be met with objection. To the contrary, persons with problematic use of drugs including alcohol may be aware of the extent of their problem and be looking for a solution. In this context, the application of a universal precautions approach to all patient assessments allows for the formulation of individualized treatment plans based on mutual trust and honesty. By consistently applying this basic set of principles, patient care is improved, stigma is reduced, and overall risk is contained.

Questions related to illicit drug use can pose problems for patients if the perception is that disclosing previous use will result in denial of care. A history of illicit drug use is a potentially complicating factor in chronic pain management; it is not a contraindication [25]. However, active untreated addiction may be an absolute contraindication to the ongoing prescription of controlled substances including opioids. While acute pain can be treated in a patient with an underlying active addictive disorder, in the authors' opinion, the successful treatment of a complaint of chronic pain in the face of an active untreated addiction is unlikely. In order to satisfactorily treat either condition, the patient must be willing to accept assessment and treatment of both. Thus, the diagnosis of a concurrent addictive disorder, where it exists, is vital to the successful treatment of chronic pain.

An unwillingness to follow through with recommended specialist referrals, preference for immediate release opioids where alternatives exist, or a "philosophical" opposition to urine drug testing should be considered as red flags requiring further investigation before initiation or continuation of prescription of medications with high misuse liability. In the current medicolegal climate, both the prescriber and patient must accept the reality that initiation or continuation of controlled substances in the face of illicit drug use is contraindicated. Failure to inquire into, or document illicit drug use or problematic use of licit drugs is not consistent with optimal pain management. Beyond this point, the question remains whether to continue prescribing opioids in the face of social drinking.

Drinking no more than two standard drinks, defined as 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of 80 proof liquor [26] in 24 hours to a maximum of 14 drinks per week for men and nine drinks per week for women, has been termed "low-risk." However, this recommendation can vary in the context of patients' other coexisting medical conditions such as with the use of prescription drugs including "pain killers" [26]. Thus it is left to the treating health care professional and patient to determine the role that social drinking may play in the context of their individual chronic pain management regimen. Clearly, the safest level of alcohol use, especially within the context of concurrent prescription drug use, is zero. The issue of continued prescription of controlled substances in the context of the use of prescribed benzodiazepines obtained from another prescriber is also worth examining. In some cases, the concurrent use of opioids and sedatives may be quite appropriate while in other cases, this is clearly problematic. Risk can often be reduced by clear and documented communication with all prescribing health care professionals. Otherwise, the very real possibility exists for loss of control of prescription monitoring by multiple prescribers, increasing the risk of adverse drug–drug interactions.

Universal Precautions in Pain Medicine

The following universal precautions are recommended as a guide to start a discussion within the pain management and addictions communities. They are not proposed as complete but rather as a good starting point for those treating chronic pain. As with universal precautions in infectious diseases [1], by applying the following recommendations, patient care is improved, stigma is reduced, and overall risk is contained.

The Ten Steps of Universal Precautions in Pain Medicine

1. Make a Diagnosis with Appropriate Differential

Treatable causes for pain should be identified, where they exist, and therapy directed to the pain generator. In the absence of specific objective findings, the symptoms can, and should be treated. Any comorbid conditions, including substance use disorders and other psychiatric illness, must also be addressed.

2. Psychological Assessment Including Risk of Addictive Disorders

A complete inquiry into past personal and family history of substance misuse is essential to adequately assess any patient. A sensitive and respectful assessment of risk should not be seen in any way as diminishing a patient's complaint of pain. Patient-centered urine drug testing (UDT) should be discussed with all patients regardless of what medications they are currently taking. In those patients where an opioid trial is considered, where the response to therapy is inadequate, and periodically while on chronic opioids, UDT can be an effective tool to assist in therapeutic decision making [10,25]. Those found to be using illicit or unprescribed licit drugs should be offered further assessment for possible substance use disorders. Those refusing such assessment should be considered unsuitable for pain management using controlled substances.

3. Informed Consent

The health care professional must discuss with, and answer any questions, the patient may have about the proposed treatment plan including anticipated benefits and foreseeable risks. The specific issues of addiction, physical dependence, and tolerance should be explored at a level appropriate to the patient's level of understanding [2].

4. Treatment Agreement

Whether in writing or verbally agreed, expectations and obligations of both the patient and the treating practitioner need to be clearly understood. The treatment agreement, combined with informed consent, forms the basis of the therapeutic trial. A carefully worded treatment agreement will help to clarify appropriately set boundary limits, making possible early identification and intervention around aberrant behavior [27,28].

5. Pre- and Post-Intervention Assessment of Pain Level and Function

It must be emphasized that any treatment plan begins with a trial of therapy. This is particularly true when controlled substances are contemplated or are used. Without a documented assessment of pre-intervention pain scores and level of function, it will be difficult to assess success in any medication trial. The ongoing assessment and documentation of successfully met clinical goals will support the continuation of any mode of therapy. Failure to meet these goals will necessitate reevaluation and possible change in the treatment plan.

6. Appropriate Trial of Opioid Therapy +/– Adjunctive Medication

Although opioids should not routinely be thought of as treatment of first choice, they must also not be considered as agents of last resort. Pharmacologic regimens must be individualized based on subjective, as well as objective, clinical findings. The appropriate combination of agents, including opioids and adjunctive medications, may be seen as "Rational Pharmacotherapy" and provide a stable therapeutic platform from which to base treatment changes.

7. Reassessment of Pain Score and Level of Function

Regular reassessment of the patient, combined with corroborative support from family or other knowledgeable third parties, will help document the rationale to continue or modify the current therapeutic trial.

8. Regularly Assess the "Four A's" of Pain Medicine

Routine assessment of analgesia, activity, adverse effects, and aberrant behavior will help to direct therapy and support pharmacologic options taken [29]. It may also be useful to document a fifth "A": affect [30].

9. Periodically Review Pain Diagnosis and Comorbid Conditions, Including Addictive Disorders

Underlying illnesses evolve. Diagnostic tests change with time. In the pain and addiction continuum, it is not uncommon for a patient to move from a dominance of one disorder to the other. As a result, treatment focus may need to change over the course of time. If an addictive disorder predominates, aggressive treatment of an underlying pain problem will likely fail if not coordinated with treatment for the concurrent addictive disorder.

10. Documentation

Careful and complete recording of the initial evaluation and at each follow up is both medicolegally indicated and in the best interest of all parties. Thorough documentation, combined with an

appropriate doctor–patient relationship, will reduce medicolegal exposure and risk of regulatory sanction. Remember, if you do not document it, it did not happen.

Patient Triage

One of the goals in the initial assessment of a pain patient is to obtain a reasonable assessment of risk of a concurrent substance use disorder or psychopathology. In this context, patients can be stratified into three basic groups. The following text will offer the reader a practical framework to help determine which patients they may safely manage in the primary care setting, those which should be comanaged with specialist support, and those that should be referred on for management of their chronic pain condition in a specialist setting.

Group I—Primary Care Patients

This group has no past or current history of substance use disorders. They have a noncontributory family history with respect to substance use disorders and lack major or untreated psychopathology. This group clearly represents the majority of patients who will present to the primary care practitioner.

Group II—Primary Care Patients with Specialist Support

In this group, there may be a past history of a treated substance use disorder or a significant family history of problematic drug use. They may also have a past or concurrent psychiatric disorder. These patients, however, are not actively addicted but do represent increased risk which may be managed in consultation with appropriate specialist support. This consultation may be formal and ongoing (comanaged) or simply with the option for referral back for reassessment should the need arise.

Group III—Specialty Pain Management

This group of patients represents the most complex cases to manage because of an active substance use disorder or major, untreated psychopathology. These patients are actively addicted and pose significant risk to both themselves and to the practitioners, who often lack the resources or experience to manage them.

It is important to remember that Groups II and III can be dynamic; Group II can become Group III with relapse to active addiction, while Group III patients can move to Group II with appropriate treatment. In some cases, as more information becomes available to the practitioner, the patient who was originally thought to be low risk (Group I) may become Group II or even Group III. It is important to continually reassess risk over time.

Conclusion

By adopting a universal precautions approach to the management of all chronic pain patients, regardless of pharmacologic status, stigma is reduced, patient care is improved, and overall risk is contained. Careful application of this approach will greatly assist in the identification and interpretation of aberrant behavior and, where they exist, the diagnosis of underlying addictive disorders. In those found to have, or be at risk of having complicating addictive disorders, treatment plans can be adjusted on a patient-by-patient basis. Adopting a universal precautions approach to the management of chronic pain will be an important step in raising the standard of care in this often complex patient population.

References

1 Mason JO. Recommendations for prevention of HIV transmission in health-care settings. Morbidity and Mortality Weekly Report 1987;37(32):1–16.
2 Heit HA. Addiction, physical dependence, and tolerance: Precise definitions to help clinicians evaluate and treat chronic pain patients. J Pain Palliat Care Pharmacother 2003;17(1):15–29.
3 Choiniere M, Melzack R, Girard N, Rondeau J, Paquin MJ. Comparisons between patients' and nurses' assessment of pain and medication efficacy in severe burn injuries. Pain 1990;40(2):143–52.
4 Leshner AI. Addiction is a brain disease, and it matters. Science 1997;278(5335):45–7.
5 Glajchen M. Chronic pain: Treatment barriers and strategies for clinical practice. J Am Board Fam Pract 2001;14(3):211–18.
6 Good PM, Joranson DE, Orloff Kaplan K, et al. Prescription Pain Medications: Frequently Asked Questoins (FAQ) and Answers for Health Care Professionals and Law Enforcement Personnel: The Drug Enforcement Administration (DEA), Last Acts Partnership, and Pain & Policy Study Group; 2004 August 2004. Available at: http://www.stoppain.org/faq.pdf. Accessed September 11, 2004.
7 Krames ES, Olson K. Clinical realities and economic considerations: Patient selection in intrathecal therapy. J Pain Symptom Manage 1997;14(3 suppl):S3–13.
8 Savage SR. Long-term opioid therapy: Assessment of consequences and risks. J Pain Symptom Manage 1996;11(5):274–86.

9 Rosenblum A, Joseph H, Fong C, et al. Prevalence and characteristics of chronic pain among chemically dependent patients in methadone maintenance and residential treatment facilities. JAMA 2003;289(18):2370–8.
10 Urine Drug Testing in Primary Care: Dispelling the myths & designing stratagies. Pharmacom Grp, 2002. Available at: http://www.familydocs.org/UDT.pdf. Accessed September 11, 2004.
11 Koob GF, Le Moal M. Drug addiction, dysregulation of reward, and allostasis. Neuropsychopharmacology 2001;24(2):97–129.
12 Yu LC, Han JS. Involvement of arcuate nucleus of hypothalamus in the descending pathway from nucleus accumbens to periaqueductal grey subserving an antinociceptive effect. Int J Neurosci 1989;48(1–2):71–8.
13 Vaccarino AL, Couret LC Jr. Formalin-induced pain antagonizes the development of opiate dependence in the rat. Neurosci Lett 1993;161(2):195–8.
14 Mayer DJ, Mao J, Price DD. The association of neuropathic pain, morphine tolerance and dependence, and the translocation of protein kinase C. NIDA Res Monogr 1995;147:269–98.
15 Gear RW, Aley KO, Levine JD. Pain-induced analgesia mediated by mesolimbic reward circuits. J Neurosci 1999;19(16):7175–81.
16 Black RG. The chronic pain syndrome. Surg Clin North Am 1975;55(4):999–1011.
17 Fishbain DA, Rosomoff HL, Rosomoff RS. Drug abuse, dependence, and addiction in chronic pain patients. Clin J Pain 1992;8(2):77–85.
18 Halpern L. Substitution-detoxification and its role in the management of chronic benign pain. J Clin Psychiatry 1982;43(8 Part 2):10–14.
19 Savage SR. Assessment for addiction in pain-treatment settings. Clin J Pain 2002;18(4 suppl): S28–38.
20 Weaver M, Schnoll S. Abuse liability in opioid therapy for pain treatment in patients with an addiction history. Clin J Pain 2002;18(4 suppl):S61–9.
21 Heit HA. The truth about pain management: The difference between a pain patient and an addicted patient. Eur J Pain 2001;5(suppl A):27–9.
22 Sloan PA, Montgomery C, Musick D. Medical student knowledge of morphine for the management of cancer pain. J Pain Symptom Manage 1998;15(6):359–64.
23 Weinstein SM, Laux LF, Thornby JI, et al. Medical students' attitudes toward pain and the use of opioid analgesics: Implications for changing medical school curriculum. South Med J 2000;93(5):472–8.
24 Miller NS, Sheppard LM, Colenda CC, Magen J. Why physicians are unprepared to treat patients who have alcohol- and drug-related disorders. Acad Med 2001;76(5):410–18.
25 Heit HA, Gourlay DL. Urine drug testing in pain medicine. J Pain Symptom Manage 2004;27(3):260–7.
26 Bondy SJ, Rehm J, Ashley MJ, et al. Low-risk drinking guidelines: The scientific evidence. Can J Public Health 1999;90(4):264–70.
27 Model Policy for the Use of Controlled Substances for the Treatment of Pain. Policy Statement: Federation of State Medical Boards of the United States, Inc.; 2004 May, 2004. Available at: http://www.ama-assn.org/ama1/pub/upload/mm/455/fsmbguidelines.pdf. Accessed September 11, 2004.
28 Heit H. Creating implementing opioid agreements. Dis Manage Digest 2003;7(1):2–3.
29 Passik SD, Weinreb HJ. Managing chronic nonmalignant pain: Overcoming obstacles to the use of opioids. Adv Ther 2000;17(2):70–83.
30 Lawful Opioid Prescribing and Prevention of Diversion. Dannemiller Education Foundation, 2001. CD ROM October 2001.

THE OPIOID RISK TOOL (ORT)

Factor		Score	
		Female	Male
1. Family History of Substance Abuse	Alcohol	☐ [1]	☐ [3]
	Illegal Drugs	☐ [2]	☐ [3]
	Prescription Drugs	☐ [4]	☐ [4]
2. Personal History of Substance Abuse	Alcohol	☐ [3]	☐ [3]
	Illicit Drugs	☐ [4]	☐ [4]
	Prescription Drugs	☐ [5]	☐ [5]
3. Age (If between 16 to 45)		☐ [1]	☐ [1]
4. History of Preadolescent Sexual Abuse		☐ [3]	☐ [0]
5. Psychological Disease	ADD, OCD, Bipolar, Schizophrenia	☐ [2]	☐ [2]
	Depression	☐ [1]	☐ [1]
	TOTAL Score		
Low Score = 0 to 3			
Moderate Score = 4 to 7			
High Score = ≥8			

NOTES

- A score of <3 indicates low risk
- A moderate risk score is 4 to 7
- High risk scores are ≥8
- The main drawback of the ORT is its susceptibility to deception.

Please Note: The **Screener and Opioid Assessment for Patients with Pain - Revised (SOAPP®-R)** resource was licensed for use only for the live version of this event. Viewers of the archived webcast can access this resource at http://www.inflexxion.com/SOAPP/.

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A Clinical Guide to
Urine Drug Testing
CME Certified Monograph
AUGMENTING PAIN MANAGEMENT
& ENHANCING PATIENT CARE
Pages
Attachments
Comments
2 (2 of 27)
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Getting the Best Result from Opioid Pain Medication: A Partnership Agreement

The greatest success in chronic pain management comes when there is a partnership based on mutual respect between patient and health care provider.

As patient and health care provider, we respect each other's rights and accept our individual responsibilities.

The health care provider understands that it is important for patients with pain to know that the provider will:

- Listen and try to understand the patient's experience living with pain.
- Accept the patient's reports of pain and response to treatment.
- Thoroughly assess the patient's pain and explore all appropriate treatment options, including those suggested by the patient.
- Explain what is known and unknown about the causes of the patient's pain.
- Explain the meaning of test results or specialty visits/consultations, and what can be expected in the future.
- Explain the risks, benefits, side effects and limits of any proposed treatment.
- Respect the patient's right to participate in making pain management decisions, including the right to refuse some types of treatment.
- Make sure that the patient has access to acute care, even when the provider is not personally available.
- Not allow the patient to be treated disrespectfully by other providers or staff because of the patient's use of opioids for pain.

The patient understands that it is equally important for providers that their patients on opioid pain medications will:

- Take medication only at the dose and time/frequency prescribed.
- Make no changes to the dose or how the medication is taken without first talking to the provider.
- Not ask for pain medications or controlled substances from other providers. The patients will also tell every provider all medications they are taking.
- Arrange for refills only through the provider's clinic during regular office hours. Not ask for refills earlier than agreed upon.

continued on back

- Protect their prescriptions and medications, keeping all medicines away from children.
- Keep medications only for their own use and not share them with others.
- Be willing to be involved in programs that can help improve social, physical, or psychological functioning as well as daily or work activities.
- Be willing to learn new ways to manage their pain by attempting step-by-step behavior and lifestyle changes in their daily life.

We agree that the provider may stop prescribing the medication or the patient may decide to stop taking the medication if there is no improvement in pain or activity, there is loss of improvement from the medication, or there are significant side effects from the medication.

We both realize and have discussed that there can be limitations to opioid therapy. It may not be helpful or only partially helpful and that it is only one part of the treatment of chronic pain.

We agree to work together in an active partnership, learning from both successes and failures, to find the most effective ways to control pain and improve functioning.

Patient: _____ Date: _____

Provider: _____ Date: _____

Chronic Pain and the Relaxation Response

Chronic pain can lead to a chronic stress response in your body. The Stress Response floods your body with chemicals made to prepare you for "fight or flight". The Stress Response is helpful in true emergencies, but can wear your body down if it is constantly turned on.

The *Relaxation Response* is a state of rest that is the opposite of the stress response. **When you have chronic pain, you need to create the Relaxation Response often.** The National Institutes of Health (NIH) recognizes the relaxation response as having great benefits for reduction of pain and better sleep.

Problem		Solution
Pain		
Muscle Tension	⇒	**Relaxation Response**
Fatigue		
Sleep Disorders		
Stress		
High Blood Pressure		
Low Energy		
Anxiety		

Starting a Relaxation Response Practice

1. Set aside 10 to 20 minutes once or twice each day to practice the Relaxation Response.

2. Try to find a quiet place where you can sit or lie down alone to practice.

3. Pick one of the following methods to use. You may need to try a few to see which one you like the best, or you can alternate them. Each of these can create deep relaxation:

- Deep Breathing
- Guided or Visual Imagery
- Tense & Relax (Progressive Muscle Relaxation)
- Mindful Meditation

Deep Breathing Method

Deep Breathing can help with chronic pain, stress, muscle tension, anxiety, sleep disorders, and other conditions like high blood pressure. It can help to bring on the Relaxation Response.

1. Find a quiet place to sit or lie down.

2. If you are sitting, try to sit erect and not slouch. If you are lying down, place a pillow under your head if you need to. Your face should be parallel to the ceiling and not tilted up or down.

3. Close your eyes.

4. Feel your breath as it comes in through your nostrils and fills your lungs and then goes back out.

5. Put one hand on your belly. Be sure your arm is relaxed and your elbow is resting on the floor or a pillow.

6. As you breathe in (inhale) slowly:
   - let your belly expand like you have a balloon in your belly that expands forward, sideways, backward, upward and downward
   - as your belly expands, feel your lungs fill with air
   - breathe in slowly like this for 4 to 8 counts.

7. As you breathe out (exhale) let your belly relax. Gently let all the air in your lungs come out. This should take at least 4 to 10 counts.

9. As you breathe like this, don't think about other things. Just think about your breathing. If you have other thoughts come up, just gently send them away.

9. Continue to breathe in and out as described in steps 6 and 7 for at least 10 to 20 minutes.

10. You can do the Tense & Relax method after this Deep Breathing for deeper relaxation.

Guided Imagery

Guided Imagery is the use of relaxation, mental visualization, and imagination to improve physical well-being, health, and mood. It can be self-directed or it can be done with a therapist, CD or video.

As Dr. Martin Rossman says in his article about Guided Imagery, "you can worry your self sick or think yourself well". Guided Imagery is a two-part process as follows:

1. Find a quiet place to sit or lie down and become relaxed. You can use the Deep Breathing or Tense & Relax methods to become more relaxed.

2. Clear all thoughts out of your mind and begin to imagine something. You can imagine any of the following, or come up with your own image:

- Imagine your favorite place (real or imaginary) or a place you would like to go to, like a peaceful lake, a sunny beach, or a beautiful mountain stream.
- Imagine that your pain or discomfort is an electric current and you can turn it off by turning off the switch.
- Imagine any pain you have can dissolve into a cloud and it can float away.
- Imagine having a conversation with your pain or disease; pretend your pain or disease can talk and imagine what it would say and what you could say back.

- Imagine you can feel clean water flowing though you cleansing out all the pain and discomfort.
- Imagine you are a flower or a sun and you can feel your petals or rays flowing in the air.
- Imagine you find a key and then a door that enters a room where you can leave all your pain and discomfort.

Whatever you imagine, try to imagine it with all your senses. How warm or cold is it? What do you smell in your image? If you could imagine touching something, how would it feel? What sounds do you hear in your image? What colors do you see?

Don't worry, there is no right or wrong way to do this. Just relax and use your imagination for at least 10 to 20 minutes.

Mindful Meditation

In Mindful Meditation, you are learning to achieve a calm, focused, harmonious mind and state of being. In this calmness or harmony is a more natural way of being that can help to reduce pain and discomfort.

1. It is important to create the right environment for Mindful Meditation. If possible find a place in your home that is quiet, where you will not be disturbed; a place that can be your healing place.

2. Sit or lie down with your back straight but not stiff. If you're lying down, put something under your head if you need it so your head is not tilted up or down.

3. You can start this process by first doing the Deep Breathing Method, or become aware of your breathing.
Feel the breath come it and out.
Let your belly expand as you breathe in.

4. Become aware of your thoughts.
Watch as they come and go. Observe your thoughts as if you were an outside observer.
Notice the speed of your thoughts.

5. Start to let your thoughts float away. Don't ignore them, judge them, or try to stop them, but each time a thought comes up just let it go, as if it could just float away.

6. As you let each of your thoughts float away, let you mind peaceful and empty of thoughts. Just feel your breathing.

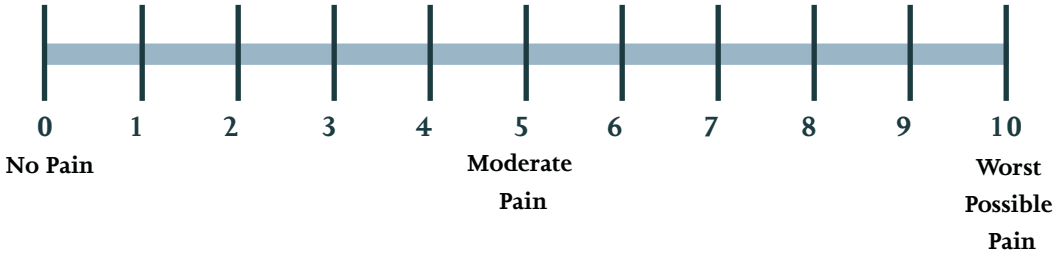
7. Don't worry that thoughts keep coming into your mind, this will happen. Just gently, lovingly send them away.

8. Allow yourself to remain calm like this for at least 10 to 20 minutes. If this process is difficult for you, you can start with fewer minutes and build up.

Daily Pain Diary

Date

_____



Use this diary to record your pain and what you did to treat it. This will help your health care provider to understand your pain better. Fill in the information and bring the journal with you to your next appointment. If your pain is not relieved by your treatment, call your health care provider.

Time	Where is the pain? Rate the pain (0-10), or list the word from the scale that describes your pain.	What were you doing when the pain started or increased?	Did you take medicine? What did you take? How much?	What other treatments did you use?	After an hour, what is your pain rating?	Other problems or side effects? Comments.

Time	Where is the pain? Rate the pain (0-10), or list the word from the scale that describes your pain.	What were you doing when the pain started or increased?	Did you take medicine? What did you take? How much?	What other treatments did you use?	After an hour, what is your pain rating?	Other problems or side effects? Comments.

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Source: AGS Panel on Persistent Pain in Older Persons. The Management of Persistent Pain in Older Persons. American Geriatrics Society. J Am Geriatr Soc 2002; 50: June supplement.

Many things can affect your pain. These can include stress, sleep, money worries, and even the weather. When you and your doctor both understand what makes your pain worse, you can begin to work together on ways to reduce or deal with your pain "triggers."

On this page, mark the number that most closely matches your experience with each item over the last several weeks.

Live Better with Pain Log

Date _____

Name _____

Pain Level

No Pain — Worst Pain

1 2 3 4 5 6 7 8 9 10

Stress

No stress — Very Stressed

1 2 3 4 5 6 7 8 9 10

Exercise

Exercise daily — No exercise

1 2 3 4 5 6 7 8 9 10

Activity

Normally active — No activity

1 2 3 4 5 6 7 8 9 10

Sleep

Fully rested — Poor-quality sleep

1 2 3 4 5 6 7 8 9 10

Appetite

Normal appetite — No appetite

1 2 3 4 5 6 7 8 9 10

Mood

Cheerful & calm — Depressed, anxious

1 2 3 4 5 6 7 8 9 10

Interaction/isolation

Lots of interaction with family & friends — Always alone

1 2 3 4 5 6 7 8 9 10

Alcohol Use (drinks each day)

None — 1 or 2 — 3 or 4 — 5 or 6 — 7 or more

1 2 3 4 5 6 7 8 9 10

Finances

No money worries — Serious money worries

1 2 3 4 5 6 7 8 9 10

Topic Brief

CHRONIC PAIN AND OPIOID TREATMENT

Effective management of chronic pain often requires a step-wise trial of different treatment options, a team of healthcare providers and social support from family and friends. Healthcare providers may start with behavioral and non-pharmacological interventions (e.g., hot/cold therapy, physical therapy, relaxation techniques) when devising pain treatment plans. However, pain relievers, including prescription pain medicines (opioid analgesics), are often prescribed to help alleviate pain and improve function.

Key Issues

- More than 76.5 million Americans suffer with pain.[1] The consequences of unmanaged chronic pain are devastating for patients. It is not uncommon for patients with intractable, debilitating pain—many of whom are often made to feel that the pain is "just in their heads"—to want to give up rather than living one more day in excruciating pain.
- For many patients, opioids are an integral part of a comprehensive pain management plan to help relieve pain, restore functioning and improve quality of life.[2,3]
- Unfortunately, patient access to these medications may be hindered by unbalanced state policies, persisting social stigma surrounding their use, as well as therapeutic switching and/or step therapies imposed by insurance companies.
- Unless a patient has a past or current personal or family history of substance abuse, the likelihood of addiction is low when opioids are taken as prescribed and under the guidance of a physician; however, they have the potential for misuse, abuse and diversion.
- Rising rates of prescription drug abuse and emergency room admissions related to prescription drug abuse, as well as an increase in the theft and illegal resale of prescription drugs, indicate that drug diversion is a growing problem nationwide.[4] The main source of drug diversion is unlikely the prescriber as was once assumed, but rather from theft by family, friends and workers in the home or from the sharing and selling of medications though often with good intentions.[5]
- Diverse players (e.g., lawmakers, educators, healthcare providers, the pharmaceutical industry, caregivers) must come together to address the dual public health crises of the undertreatment of pain and rising prescription drug abuse.[6]
- Alleviating pain remains a medical imperative—one that must be balanced with measures to address rising non-medical use of prescription drugs and to protect the public health.[6]

Opioids 101

Opioids include morphine, oxycodone, oxymorphone, hydrocodone, hydromorphone, methadone, codeine and fentanyl. Opioids are classified in several ways, most commonly based on their origin and duration of effects.[7]

Common classifications for opioids[7,8]

SOURCE	**Natural or semisynthetic:** Contained in or slightly modified (semisynthetic) from chemicals found in poppy resin	Synthetic: Synthesized in the laboratory
DURATION OF RESPONSE	**Short-acting:** Provide quick-acting pain relief and are used primarily as "rescue medication," as in acute pain	Long-acting: Provide longer duration of pain relief and are most often used for stable, chronic pain

One of the advantages of opioids is that they can be given in so many different ways. For example, they can be administered by mouth, rectal suppository, intravenous injection (IV), subcutaneously (under the skin), transdermally (in the form of a patch) or into a region around the spinal cord. Patches, IV injections and infusions are very important for patients who cannot swallow, or whose GI tracts are not working normally.[9]

Opioids are believed to work by binding to specific proteins (opioid receptors), which are found in specialized pain-controlling regions of the brain and spinal cord. When these compounds attach to certain opioid receptors, the electrical and chemical signals in these regions are altered, ultimately reducing pain.[7]

Because of their long history of use, the clinical profile of opioids has been very well characterized. Multiple clinical studies have shown that long-acting opioids, in particular, are effective in improving:

- Daily function
- Psychological health
- Overall health-related quality of life for patients with chronic pain[10]

However, some types of pain, such as pain caused by nerve compression or destruction, do not appear to be relieved by opioids.[8]

Adverse Effects

Side effects of opioids result primarily from activation of opioid receptors outside and within the nervous system. Activation of opioid receptors in the gut, for example, may cause constipation, nausea and vomiting, and other gastrointestinal effects. Tolerance to nausea and vomiting usually develops within the first few days or weeks of therapy, but some patients are intolerant to opioids and experience severe adverse side effects.[8] Other side effects include drowsiness, mental clouding and, in some people, euphoria.[7] Recent research shows that genetic variations may influence opioid metabolism.

Depending on the amount taken, opioids can depress breathing. The risk of sedation and respiratory depression is heightened when opioids are taken with other sedating medications (e.g., antihistamines, benzodiazepines), reinforcing the need to carefully monitor patients. However, this effect is usually is not present after a patient has taken opioids regularly.

Careful Monitoring of and Open Communication with Patients

Patients taking opioids must be carefully selected and monitored, and should speak openly with their healthcare provider about noticeable improvements in functioning, as well as side effects and other concerns (e.g., constipation, fears of addiction).

The Four "A's"

Analgesia – Is the pain relief clinically significant? Is there a reduction in the pain score (0-10)?

Activity levels – What is the patient's level of physical and psychosocial functioning? Has treatment made an improvement?

Adverse effects – Is the patient experiencing side effects from pain relievers? If so, are they tolerable?

Aberrant behaviors – Are there any behaviors of concern such as early refills or lost medication? Does the patient show signs of misuse, abuse or addiction? What is the plan of action?

Source: Passik & Weinreb, 1998; Passik & Portenoy, 1998

The American Pain Foundation's *Target Chronic Pain* materials help facilitate open dialogue between patients and their healthcare team, and give prescribers tools for selecting, monitoring and following patients. To access these resources, visit www.painfoundation.org and click on the Publications tab.

Dual Public Health Crises: Balancing Medical Imperative to Relieve Suffering and Protect Public Safety

Pain affects more Americans than diabetes, heart disease and cancer combined, and it is one of the leading causes of disability in the United States. Recognition of pain as a growing public health crisis has led to the establishment of specialized pain clinics, treatment guidelines for certain types of pain, as well as greater use of treatment strategies to effectively alleviate pain and improve functioning, including prescription pain medicines.

As the therapeutic use of opioids has increased to appropriately address pain, there has been a simultaneous and dramatic rise in non-medical use of prescription drugs.[11] When abused—that is, taken by someone other than the patient for whom the medication was prescribed, or taken in a manner or dosage other than what was prescribed—prescription medications can produce serious adverse health effects and can lead to addiction, overdose and even death.

People who abuse opioids typically do so for the euphoric effects (e.g., the "high"); however, most abusers are ***not*** patients who take opioids to manage pain.[12] Rather, they are often people within the social network of the patient. In fact, 71% of people abusing prescription pain relievers received them from a friend or family member without a prescription.[5] Prescription pain relievers are usually stolen from medicine cabinets, purchased or shared in schools, or simply given away.

Picture of Prescription Drug Abuse in America

- An estimated 2.2 million Americans abused pain medications for the first time in 2006.[12] The rate of new abuse of opioids has risen most dramatically among teenagers.
- Between 1992 and 2002, reported abuse by teenagers increased by 542%.[13]
- From 1999 to 2004, unintentional poisoning deaths associated with opioids and hallucinogens rose by 55%, and the increase has been attributable primarily to prescription pain relievers.[14]
- According to 2005 and 2006 National Surveys on Drug Use and Health, an annual national average of 6.2% of persons aged 12 or older had used a prescription psychotherapeutic drug non-medically in the 12 months leading up to the survey; an average of 9.1% of youths aged 12 to 17 were past year non-medical users of any prescription psychotherapeutic drug.[12]
- Nearly 600,000 emergency department visits involved non-medical use of prescription or over-the-counter (OTC) pharmaceuticals or dietary supplements. Opiates/opioid analgesics accounted for 33% of the non-medical visits. Anti-anxiety agents (sedatives and hypnotics) accounted for 34% of the non-medical visits.[4]

The growing prevalence of prescription drug abuse not only threatens the lives of abusers; concerns about misuse, abuse and diversion may also jeopardize effective pain management by impeding patient access to opioids. Fear of scrutiny by regulators or law enforcement, and specific action by some agencies, has had a "chilling effect" on the willingness of some doctors, nurse practitioners and physician assistants to prescribe opioids.[6,15]

Moreover, high profile reports of drug abuse, diversion and addiction, or of legal actions taken against prescribers have helped perpetuate a negative—and sometimes false—picture of chronic pain management.[6] Over time, these reports overshadow untold stories of people with pain—those whose lives have been shattered by unrelenting pain—who get needed pain relief from these medications. Understanding the difference between tolerance, physical dependence, abuse and addiction is also critical to telling the story (See page 31-32 for definitions). According to medical experts, use of the term "narcotic" in news reports may further reinforce the myths and misconceptions of this class of drugs, given the negative connotation.[6]

"…[T]he attitude toward opioids has ranged from complete avoidance to widespread therapeutic use with minimal caution. These extremes have been driven by insufficient appreciation of risks by those at one end of the spectrum, and excessive fear of punitive regulatory scrutiny or exaggerated perceptions of addictive risk by those at the other. When opioids are prescribed for pain control in adequately evaluated, selected, and monitored patients, addiction is rare."

— Perry Fine, Topics in Pain Management

Strategies to Address Twin Public Health Crises

Systematic and targeted approaches are essential to address the growing prevalence and complexity of prescription drug abuse, while simultaneously ensuring that people with legitimate medical needs receive effective treatment.

These approaches can generally be categorized as follows:

- Legislative strategies to create balanced and consistent regulation and improve state-based prescription drug monitoring programs.
- Educational efforts to raise awareness about prescription drug abuse and its dangers among schools, families, healthcare providers, patients and potential abusers.
- Medical strategies to help identify and monitor patients who require opioid management, to include the incorporation of risk management into the treatment plan (e.g., treatment agreements, urine testing and monitoring, transition planning, collaborative practice with addiction medicine and behavioral health specialists).
- Pharmaceutical industry strategies to help prevent misuse, abuse and diversion by developing new tamper resistant packaging and/or formulations (e.g., tamper-resistant bottles, electromagnetic chips to track medication, new formulations that could resist or deter common methods of opioid abuse).

For additional recommendations, see the American Pain Foundation's report outlining critical barriers to appropriate opioid prescribing for pain management, *Provider Prescribing Patterns and Perceptions: Identifying Solutions to Build Consensus on Opioid Use in Pain Management.* This 16-page report calls for a more balanced perspective of the risks and benefits of these medications in practice and policy and summarizes key challenges and actionable solutions discussed by leading pain experts at a roundtable meeting hosted by APF.

Making the Grade: Evaluation of State Policies

The Pain & Policy Studies Group (PPSG) report "Achieving Balance in State Pain Policy: A Progress Report" graded states on quality of its policies affecting pain treatment and centered on the balance between preventing abuse, trafficking and diversion of controlled substances and simultaneously ensuring the availability of these medications for legitimate medical purposes. PPSG researchers evaluated whether state pain policies and regulations enhance or impede pain management and assigned each state a grade from 'A' to 'F.'

State Grades for 2008

State	2008 Grade	State	2008 Grade
Alabama	B+	Montana	C+
Alaska	C+	Nebraska	B+
Arizona	B+	Nevada	C
Arkansas	B	New Hampshire	B
California	B	New Jersey	C+
Colorado	B	New Mexico	B+
Connecticut	B	New York	C
Delaware	C+	North Carolina	B
District of Columbia	C+	North Dakota	B
Florida	B	Ohio	B
Georgia	B	Oklahoma	C+
Hawaii	B	Oregon	A
Idaho	B	Pennsylvania	C+
Illinois	C	Rhode Island	B+
Indiana	C+	South Carolina	C+
Iowa	B	South Dakota	B
Kansas	A	Tennessee	C
Kentucky	B	Texas	C
Louisiana	C	Utah	B+
Maine	B+	Vermont	B+
Maryland	B	Virginia	A
Massachusetts	B+	Washington	B+
Michigan	A	West Virginia	B
Minnesota	B+	Wisconsin	A
Mississippi	C+	Wyoming	C+
Missouri	C+		

Source: The Pain & Policy Studies Group, http://www.painpolicy.wisc.edu/Achieving_Balance/PRC2008.pdf.

At a Glance: Differentiating physical dependence, tolerance, abuse and addiction

Unfortunately, confusion between normal physiological responses to opioids (physical dependence and tolerance) and pathological phenomena such as addiction or abuse persist. Such misunderstandings not only reinforce the stigma surrounding legitimate medical use of these medicines, they also fuel fears of addiction and, in turn, may impinge on patient access to these medications. Although the use of opioids carries some risk of addiction, clinical studies have shown that the potential for addiction is low for the vast majority of patients using opioids for the long-term management of chronic pain.[17] As with any medication, there are risks, but these risks can be managed.

"Universal agreement on definitions of addiction, physical dependence and tolerance is critical to the optimization of pain treatment and the management of addictive disorders."

— Consensus document from the American Academy of Pain Medicine, the American Pain Society and the American Society of Addiction Medicine

Physical dependence is characterized by biological changes that lead to withdrawal symptoms (e.g., sweating, rapid heart rate, nausea, diarrhea, goosebumps, anxiety) when a medication is discontinued, and is not related to addiction. Physical dependence differs from psychological dependence, or the cravings for the euphoria caused by opioid abuse. Symptoms of physical dependence can often be ameliorated by gradually decreasing the dose of medication during discontinuation.[7]

Tolerance is a biological process in which a patient requires increasing amounts of a medication to achieve the same amount of pain relief. Dose escalations of opioid therapies are sometimes necessary and reflect a biological adaptation to the medication. Although the exact mechanisms are unclear, current research indicates that tolerance to opioid therapy develops from changes in opioid receptors on the surface of cells.[7] Thus, the need for higher doses of medication is not necessarily indicative of addiction.[3]

Addiction is a disease characterized by preoccupation with and compulsive use of a substance, despite physical or psychological harm to the person or others.[3] Behaviors suggestive of addiction may include: taking multiple doses together, frequent reports of lost or stolen prescriptions, and/or altering oral formulations of opioids.

Abuse is the intentional self-administration of a medication for a non-medical purpose, such as to obtain a high.[3] Both the intended patient and others have the potential to abuse prescription drugs; in fact, the majority of people who abuse opioids do not suffer from chronic pain.[12]

Pseudo-addiction describes patient behaviors that may occur when pain is undertreated. Patients with unrelieved pain may become focused on obtaining medications and may otherwise seem inappropriately "drug seeking," which may be misidentified as addiction by the patient's physician. Pseudo-addiction can be distinguished from true adduction in that this behavior ceases when pain is effectively treated.[3]

MISUSE VS. ABUSE?

- **Medical Misuse**: Legitimate use of a valid personal prescription but using differently from provider's instruction, such as taking more frequently or higher than the recommended doses. Use may be unintentional and considered an educational issue.
- **Medical Abuse**: Valid personal prescription by using for reasons other than its intent, such as to alleviate emotional stress, sleep restoration/prevention, performance improvement, etc. Use may be unintentional and considered an educational issue.
- **Prescription Drug Misuse**: Intentional use of someone else's prescription medication for the purpose of alleviating symptoms that may be related to a health problem. The use may be appropriate to treat the problem but access to obtain this drug may be difficult/untimely or may have been provided from a well-intentioned family member or friend.
- **Prescription Drug Abuse**: Intentional use of a scheduled prescription medication to experiment, to get high or to create an altered state. Access to the source may be diversion from family, friends or obtained on the street. Inappropriate or alteration of drug delivery system, used in combination of other drugs or used to prevent withdrawal from other substances that are being abused are included in this definition.

Source: Carol J. Boyd PhD, MSN, RN; Director: Institute for Research on Women and Gender, Substance Abuse Research Center, University of Michigan

Risk factors for opioid misuse include, but are not limited to:[2,3,19]

- Personal or family history of prescription drug or alcohol abuse
- Cigarette smoking
- History of motor vehicle accidents
- Substance use disorder
- Major psychiatric disorder (e.g., bipolar disorder, major depression, personality disorder)
- Poor family support
- History of preadolescent sexual abuse

NOTE: Unless a patient has a past or current history of substance abuse, the potential for addiction is low when opioid medications are prescribed by a doctor and taken as directed. Those patients who suffer with chronic pain and addictive disease deserve the same quality of pain treatment as others, but may require greater resources in their care.

WEB RESOURCES

Opioid RX
http://pain-topics.org/opioid_rx/#RiskManage

Tufts Health Care Institute Program on Opioid Risk Management
http://www.thci.org/opioid/

Opioid Risk Management PainEDU
http://www.painedu.org/soap.asp

Emerging Solutions
http://www.emergingsolutionsinpain.com/index.php?option=com_frontpage&Itemid=1

REFERENCES

1. National Center for Health Statistics. Health, United States, 2006 With Chartbook on Trends in the Health of Americans. Hyattsville, MD. Available at http://www.cdc.gov/nchs/data/hus/hus06.pdf.
2. Fine, PG. Opioid Therapy as a Component of Chronic Pain Management: Pain Experts Weigh In on Key Principles to Optimize Treatment. *Topics in Pain Management.* May 2008;23(10):1-8.
3. Katz NP, Adams EF, Chilcoat H, Colucci RD, et al. Challenges in the development of prescription opioid abuse-deterrent formulations. *Clin J Pain*. 2007;23:648-660.
4. Substance Abuse and Mental Health Services Administration, Office of Applied Studies. Drug Abuse Warning Network, 2005: National Estimates of Drug-Related Emergency Department Visits. DAWN Series D-29, DHHS Publication No. (SMA) 07-4256, Rockville, MD, 2007. Available at http://dawninfo.samhsa.gov/files/DAWN-ED-2005-Web.pdf.
5. Substance Abuse and Mental Health Services Administration. (2008). *Results from the 2007 National Survey on Drug Use and Health: National Findings* (Office of Applied Studies, NSDUH Series H-34, DHHS Publication No. SMA 08-4343). Rockville, MD. See http://oas.samhsa.gov/nsduh/2k7nsduh/2k7Results.pdf.
6. American Pain Foundation. Provider Prescribing Patterns and Perceptions: Identifying Solutions to Build Consensus on Opioid Use in Pain Management—A Roundtable Discussion. April 2008. Available at www.painfoundation.org.
7. Schumacher MA, Basbaum AI, Way WL. Opioid analgesics & antagonists. In: Katzung, ed. Basic and clinical pharmacology. 10th ed. New York, NY: McGraw Hill, 2007;489-502.
8. McQuay H. Opioids in pain management. *The Lancet.* 1999;353:2229-2232.
9. American Pain Foundation. Treatment Options: A Guide for People Living with Pain. 2007. Available at www.painfoundation.org.
10. Furlan AD, Sandoval JA, Mailis-Gagnon AM, Tunks E. Opioids for chronic noncancer pain: a meta-analysis of effectiveness and side effects. *CMAJ.* 2006;11:1589-1594.
11. Kuehn BM. Opioid prescriptions soar: increase in legitimate use as well as abuse. *JAMA.* 2007;297:249-250.
12. Substance Abuse and Mental Health Services Administration. (2007). Results from the 2006 National Survey on Drug Use and Health: National Findings (Office of Applied Studies, NSDUH Series H-32, DHHS Publication No. SMA 07-4293). Rockville, MD.
13. Bollinger LC, Bush C, Califano JA, et al. Under the counter: the diversion and abuse of controlled prescription drugs in the U.S. The National Center on Addiction and Substance Abuse at Columbia University (CASA), July 2005.
14. Centers for Disease Control. Unintentional poisoning deaths – United States, 1999-2004. *MMWR.* February 9, 2007;56(05):93-96.
15. Lin JJ, Afandre D, Moore C. Physician attitudes toward opioid prescribing for patients with persistent noncancer pain. *Clin J Pain.* 2007;23:799-803.
16. Fine PG, Portenoy RK: Clinical Guide to Opioid Analgesia, 2nd Edition. New York: Vendome, 2007
17. Sinatra R. Opioid analgesics in primary care: challenges and new advances in the management 0f noncancer pain. *J Am Board Fam Med.* 2006;19:165-77.
18. Boyd C. Presentation at the NIDA/AMA Joint Meeting, Pain, Opioids, and Addiction: An Urgent Problem for Doctors and Patients, NIH, Bethesda, Maryland, March 5, 2007.

Publication date: November 2008


Responsible Opioid Prescribing CME Activity: Alliance of State Pain Initiatives - Windows Internet Explorer
http://aspi.wisc.edu/rop.html
ASPI Responsible Opiod Prescribing
Responsible Opioid Prescribing CME Activity: Alliance ...
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Make a Gift
Responsible Opioid Prescribing CME Activity
Responsible Opioid Prescribing
A PHYSICIAN'S GUIDE
Scott M. Fishman, MD
Opioid analgesics are the drugs of choice for the management of moderate to severe pain due to surgery, trauma, and cancer and may be essential in the treatment of persons with chronic non-cancer pain. Yet in spite of their documented effectiveness, they are often underutilized or used inappropriately. There is confusion about the risks associated with the use of these drugs, particularly about addiction. There is also evidence that physicians' decisions about opioid prescribing have been influenced by their lack of knowledge about the laws and regulations that govern the prescribing of these drugs and their resultant fears of regulatory scrutiny.
This CME activity is designed to improve the knowledge of practicing physicians about the laws and regulations that govern the prescribing of opioid analgesics for pain control. It is specifically aimed at helping physicians learn the steps they can take to protect their practices from both unwarranted regulatory scrutiny and persons seeking opioids for non-medical purposes.
Want to purchase the book? Click Here to Purchase. You should return to this page to register for the CME activity once you have completed the book.
Internet
100%

Opioid conversion tips

Calculating the rescue dose

1. Calculate 10% of the provided total daily opioid dose as an immediate-release formulation.

Opioid adjustments

1. Calculate the total oral 24-hour opioid taken by adding the amount of the sustained-release and immediate-release rescue doses.
2. Divide total daily dose into appropriate intermittent doses based upon the specific opioid dosing intervals found in the "Dosing and Conversion Chart for Opioid Analgesics."

Changing to another oral opioid

1. Calculate the total daily dose of current opioid (add the long-acting and rescue doses).
2. Use the "Dosing and Conversion Chart for Opioid Analgesics" to calculate the equivalent total daily oral dose of the alternative opioid.
3. Divide total daily dose of the alternative opioid into appropriate intermittent doses based upon the specific opioid dosing intervals found in the "Dosing and Conversion Chart for Opioid Analgesics."
4. Modify by reducing dose by 25%-50% for incomplete cross-tolerance

Changing an oral opioid to its IV/SQ route

1. Calculate the total amount of oral opioid taken per 24 hours (add long-acting and rescue doses).
2. Use the "Dosing and Conversion Chart for Opioid Analgesics" to calculate the equivalent total daily parenteral dose.
3. Divide the dose by 24 to get the hourly drip rate.

Changing an oral or IV opioid to transdermal fentanyl

1. Calculate the total opioid dose.
2. Use the "Dosing and Conversion Chart for Opioid Analgesics" to calculate the equivalent total daily morphine dose.
3. Use the "Morphine to Fentanyl Equivalents" chart to determine the equianalgesic dose of transdermal fentanyl.

Changing an opioid agent and route (oral to IV)

1. Calculate the total daily dose of the original opioid (add long-acting and rescue doses).
2. Use the "Dosing and Conversion Chart for Opioid Analgesics" to convert from an oral to IV dose.
3. Use the "Dosing and Conversion Chart for Opioid Analgesics" to convert original opioid to an alternative, equivalent IV dose.
4. Adjust the dose for incomplete cross tolerance by reducing dose by 25%-50%.
5. Divide adjusted dose by 24 to obtain hourly opioid infusion rate.

Changing to another oral opioid

Question:

A patient is taking sustained-release oxycodone, 100 mg every 12 hours, but has developed intolerable sedation. She would like to try an immediate-release opioid agent, hydromorphone. What is the equivalent dose of hydromorphone?

Answer:

The "Dosing and Conversion Chart for Opioid Analgesics" will help you calculate the equivalent dose of the new opioid, but you must allow for the incomplete nature of cross tolerance to opioid side effects.

After patients take the same opioid dose for a week or two, they become tolerant of the opioid's sedative and respiratory depressive effects. When another opioid is substituted for the original opioid, patients will not be completely tolerant to the new opioid's side effects, which can lead to over-sedation or confusion. You must calculate the equianalgesic dose of the new opioid, and then reduce the dose by 25%-50%.

The single exception to this rule is when prescribing fentanyl. The equianalgesic tables for fentanyl have been adjusted, so you can use the doses given in the "Conversion to Transdermal Fentanyl (Duragesic)" fentanyl/morphine conversion tables without further adjustment.

Calculate the total daily dose of oxycodone:

100 mg x 2 = 200 mg

Use the "Dosing and Conversion Chart for Opioid Analgesics" to calculate the equivalent oral hydromorphone dose (the conversion ratio of oxycodone to hydromorphone is 20:7.5, or 2.6:1):

200 mg oxycodone / 2.6 = 77 mg oral hydromorphone (round off to 75 mg)

Adjust the total 24-hour oral hydromorphone dose downward by 25%-50%:

75 mg x 2/3 = 50 mg

Divide the total daily dose of hydromorphone into appropriate intermittent doses based upon the "Dosing and Conversion Chart for Opioid Analgesics":

50 mg / 6 doses per day = 8 mg every 4 hours

Dosing and Conversion Chart for Opioid Analgesics

Drug	Route	Equianalgesic Dose (mg)	Duration (h)	Plasma Half-Life (h)
Morphine	IM	10	4	2-3.5
Morphine	PO	30	4	4
Codeine	IM	130	4	3
Codeine	PO	300	4	
Oxycodone	IM	-		
Oxycodone	PO	30	3-4	4
Hydromorphone (Dilaudid)	IM	1.5	4	2-3
Hydromorphone (Dilaudid)	PO	7.5	4	
Meperidine	IM	75	3-4	2
Meperidine	PO	300	3-4	normeperidine
Methadone	IM	10*	6-8†	12-24
Methadone	PO	20*	6-8†	20-200
Fentanyl	IV	0.1		
Hydrocodone	IM	-		
Hydrocodone	PO	30	3-4	4

Adapted from Foley KM. The treatment of cancer pain. N Engl J Med. 1985;313:84-95. (PMID: 2582259)

**The equianalgesic dose of methadone compared to other opioids is extremely variable with chronic dosing. Conversion from oral morphine to oral methadone may range from 4 to 14:1.*
† Risk of CNS depression with repeated use; accumulation in elderly or persons with impaired renal function with regular dosing. Monitor for patient variability in duration of efficacy.

When is it addiction?

How can you tell if your patient is truly addicted to opioids? The following definitions are jointly from The American Academy of Pain Medicine, the American Pain Society, and the American Society of Addiction Medicine:

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.

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.

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.

National Guideline Clearinghouse
www.guideline.gov

Brief Summary

GUIDELINE TITLE

Fibromyalgia treatment guideline.

BIBLIOGRAPHIC SOURCE(S)

University of Texas, School of Nursing, Family Nurse Practitioner Program. Fibromyalgia treatment guideline. Austin (TX): University of Texas, School of Nursing; 2005 May. 13 p. [18 references]

GUIDELINE STATUS

This is the current release of the guideline.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- December 16, 2008 - Antiepileptic drugs: The U.S. Food and Drug Administration (FDA) has completed its analysis of reports of suicidality (suicidal behavior or ideation [thoughts]) from placebo-controlled clinical trials of drugs used to treat epilepsy, psychiatric disorders, and other conditions. Based on the outcome of this review, FDA is requiring that all manufacturers of drugs in this class include a Warning in their labeling and develop a Medication Guide to be provided to patients prescribed these drugs to inform them of the risks of suicidal thoughts or actions. FDA expects that the increased risk of suicidality is shared by all antiepileptic drugs and anticipates that the class labeling change will be applied broadly.

BRIEF SUMMARY CONTENT

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Levels of evidence (I, II-1, II-2, and III) and recommendation grades (A-C) are defined at the end of the "Major Recommendations" field.

Subjective Assessment

History

1. Assessment of nature of pain, intensity, location, onset, aggravating and relieving factors
2. Assessment of functionality
3. Assessment of sleep disturbances and persistent fatigue
4. Trauma history
5. Gynecological history
6. Assessment of comorbid conditions such as:

- Migraine or tension headaches
- Dysmenorrhea
- Irritable bowel syndrome
- Restless leg syndrome
- Depression
- Anxiety
- Sicca syndrome (Sjogren's syndrome)
- Cognitive or memory impairment
- Female urethral syndrome

Symptoms

1. Musculoskeletal symptoms:
    - Widespread pain at multiple sites
    - Stiffness
    - Sensation of hurting all over
    - Diffuse soft tissue swelling
2. Non-musculoskeletal symptoms:
    - Fatigue
    - Morning fatigue
    - Sleep difficulties
    - Paresthesias

Past Medical History

1. Note hospitalizations, surgeries, and/or procedures

Medication History

1. Current prescription medications
2. Any and all over-the-counter medications, including alternative medicines or herbal treatments
3. Ascertain previous fibromyalgia treatment (i.e., sleeping pills, selective serotonin reuptake inhibitors [SSRIs], tricyclic antidepressants [TCAs], pain medications, including narcotics) and note response.

Family History

1. Rheumatoid arthritis
2. Systemic lupus erythematosus
3. Osteoarthritis
4. Hypothyroidism
5. Psychological disorders (i.e., depression, psychosis, anxiety)
6. Raynaud's phenomena/disease
7. Irritable bowel syndrome
8. Migraine headaches

Psychosocial History

1. Evaluate pain and coping skills using appropriate screening tools such as the Chronic Pain Coping Inventory (CPCI) (Nielson & Jensen, 2004).
2. Evaluate availability of support systems (i.e., financial support, insurance, Social Security Disability Insurance [SSDI], Medical or disability).
3. Elicit occurrence of any traumatic or stressful life events and the possible relation of symptoms to these events.
4. Assessment of lifestyle choices (i.e. exercise, alcohol, caffeine, tobacco, illicit drug use)
5. Impact of symptoms on the patient's family, interpersonal relationships, work, school, and activities of daily living
6. Psychosocial history including depression and suicidal ideation evaluation

Objective Assessment

Physical Examination

1. Measure vital signs.
2. Observe general appearance.
3. Assess neck for thyromegaly.
4. Perform bilateral digital palpitation using a force of about 4 kg, which is approximately equal to pressing finger on bathroom scale until it registers 10 pounds, or until the nail bed just begins to blanch; to meet criteria of a positive tender point, patient must label the palpation as "painful", not just tender (Wolfe et al., 1990).
5. Perform a complete musculoskeletal examination, assessing each joint separately.
6. Neurologic assessment
7. Assess mental status and perform a mental health assessment.
8. Fibromyalgia Impact Questionnaire (FIQ) - see www.myalgia.com/FIQ/fiq.pdf

Diagnostic Procedures

1. Laboratory tests: comprehensive metabolic panel (CMP), complete blood count (CBC), thyroid-stimulating hormone (TSH), triiodothyronine (T3), thyroxine (T4), sedimentation rate, liver panel, creatinine phosphokinase
2. Psychological analysis: depression scale, suicidal ideation assessment
3. Sleep analysis

Criteria for Diagnosis

1. History of widespread pain present for at least 3 months: Pain is considered widespread when all of the following are present:
    - Pain in the left and right side of the body
    - Pain above and below the waist
    - Axial skeletal pain (cervical spine, anterior chest, thoracic spine, or low back)
    - Shoulder and buttock pain is considered as pain for each involved side.
    - Low back pain is considered lower segment.
2. Presence of 11 out of 18 paired, bilateral tender points as delineated by the American College of Rheumatology (Wolfe et. al., 1990)
    - Occiput: bilateral, at the suboccipital muscle insertions
    - Low cervical: bilateral, at the anterior aspects of the intertransverse spaces at C5-C7
    - Trapezius: bilateral, at the midpoint of the upper border
    - Supraspinatus: bilateral, originating above the scapula spine near the medial border
    - Second rib: bilateral, at the second costochondral junctions
    - Lateral epicondyle: bilateral, 2 cm distal to the epicondyles
    - Gluteal: bilateral, in upper outer quadrants in anterior fold of muscle
    - Greater trochanter: bilateral, posterior to the trochanteric prominence
    - Knee: bilateral, at the medial fat pad proximal to the joint line

Differential Diagnosis

1. Chronic fatigue syndrome
2. Rheumatoid arthritis
3. Sjogren's syndrome
4. Systemic lupus erythematosus
5. Ankylosing spondylitis
6. Polymyalgia rheumatica
7. Inflammatory myositis
8. Metabolic myopathies
9. Hypothyroidism
10. Hyperparathyroidism

11. Cushing's syndrome

Step 1 - Patient and Family Education

1. Validate the diagnosis. Patients need to understand their illness before any medications can be prescribed. They must be reassured that fibromyalgia is a "real" illness (Goldenberg, 2004). **(Level III, Recommendation C)**
2. Educate about prognosis, pathophysiology, and treatment principles. Lectures, group discussions, and written materials improved outcomes including pain, sleep, fatigue, self efficacy, and quality of life (Goldenberg, Burekhardt, & Crofford, 2004) **(Level I, Recommendation A)**
3. Fibromyalgia Impact Questionnaire (FIQ). FIQ is a tool to quantitate fibromyalgia's impact over several dimensions of the patient's life, such as function, pain level, fatigue, sleep deprivation, and psychological distress. It is scored from 0 to 100, with 100 being the worst case scenario, with the average being 50 in patients seen in primary care clinics. This tool can be used to monitor the effect of interventions and evaluate patient functional status.

Step 2 - Pharmacological Treatment

1. Adequate sleep. It is proposed that sleep disturbance occurs from a variety of reasons. Some of these reasons include serotonin metabolism in the central nervous system (CNS), resulting in low levels of brain serotonin, low levels of growth hormone secretion, and generalized body pain from the disease process. TCAs help promote restorative sleep and heighten the effects of the body's natural pain-killing substances (endorphins), and increases non-rapid eye movement (non-REM) stage 4 sleep. Low levels of serotonin and norepinephrine are related to depression, muscle pain, and fatigue. Administering TCAs such as amitriptyline helps correct these deficiencies. Recommended dosing is as follows: Amitriptyline 25-50 mg 2 to 3 hours before bedtime, allowing peak sedative effect with minimal carry-over effect. May increase dosing to 50-75 mg over the next weeks if needed for added control. Cyclobenzaprine can be used as an alternative to amitriptyline because of its structural similarity to TCA compounds. The dosage is 10-30 mg at bedtime (QHS). Benzodiazepines are a second alternative, but should be used cautiously at bedtime due to their tendency to stabilize the erratic brain waves that interfere with restorative sleep in patients with fibromyalgia. (Millea & Holloway, 2000) **(Level I, Recommendation A)**
2. Treat fatigue and depression. If no response with TCAs, consider adding selective serotonin reuptake inhibitor (fluoxetine) in the morning. Dosing for fluoxetine is 20 mg every morning (QAM). This class of drugs works to block the re-uptake of serotonin, which in turn allows the body to utilize greater amounts of serotonin. The exact mechanism of action for fluoxetine in fibromyalgia syndrome is unknown. Since people with fibromyalgia already have decreased levels of serotonin; it is believed that fluoxetine increases the levels of serotonin to the brain. (Note: One research study completed in 2002 found there is a synergistic effect between fluoxetine and amitriptyline due to the pharmacokinetic interaction between the 2 drugs. Using them together may be more effective for the patient's symptoms than using them alone) (Arnold et al., 2002) **(Level I, Recommendation A)**
3. Treat muscle spasms. Cyclobenzaprine or low dose benzodiazepines (clonazepam) are used to treat muscle spasms. See explanation above for pathophysiological effect of these medications. Cyclobenzaprine also modulates muscle tension at a supraspinal level. Dosing is 10-30 mg every day (QD) or, if greater dosing is needed, divide the doses, with the smaller dose in the morning and the larger dose in the evening (Tofferi, Jackson, & O'Malley, 2004). **(Level I, Recommendation A)**
4. Adequate pain control. The pain component of fibromyalgia is thought to be abnormal CNS processing of pain signals. It is thought that the pain is caused by a complex interaction between neurotransmitter release, external stressors, patient behavior, hormones, and the CNS system. Tramadol 50-100 mg every 4 to 6 hours is recommended for pain control. Non-steroidal anti-inflammatory agents are not recommended because fibromyalgia is not an anti-inflammatory process. Opioids are not recommended due to adverse side effects and regulatory concerns, and no increased benefit has been noted in research studies (Inanici & Yunus, 2002). **(Level I, Recommendation A)**

Step 3 - Non-pharmacological Treatment

1. Exercise & Massage. Tender point thresholds are increased with exercise and external muscle stimulation via massage. Exercise has also been shown to decrease the perception of central pain, which is also increased in fibromyalgia patients. The following are recommended methods of exercise and pain control **(Level I, II-2, Recommendation B)**

- Cardiovascular fitness training (Gowans & deHueck, 2004)
- Muscle strengthening/stretching (Gowans & deHueck, 2004)
- Balneotherapy (Evcik, Kizilay, & Gokcen, 2002)
- Massage (Hadhazy et al., 2005)
- Biofeedback (vanSanten et al., 2002)

Step 4 - Procedures. There have been very few studies of tender point or trigger point injection demonstrating its effectiveness. However, due to the complicated nature of pain management in some patients, it should not be ruled out as an alternative means of treatment. Further studies are warranted (Goldenberg, 2004). (**Level III, Recommendation C**)

Step 5 - Referrals. (for consideration). Referrals may be helpful for patients with severe symptoms and comorbid psychosocial issues, along with those who are non-compliant or who have not received adequate relief with medication therapy and management (Goldenberg, 2004). (**Level III, Recommendation C**)

- Sleep center
- Mental health professional
- Pain or rehabilitation clinic

Definitions:

Levels of Evidence

Level I: Evidence obtained from at least one properly randomized-controlled trial

Level II-1: Evidence obtained from well-designed control trials without randomization

Level II-2: Evidence obtained from well-designed cohort or case-controlled analytic studies, preferably from more than one center or research group

Level III: Opinions of respected authorities, based on clinical experience; descriptive studies and case reports; or reports of expert committees

Strength of Recommendations

A. There is good evidence to support the recommendation.
B. There is fair evidence to support the recommendation.
C. There is insufficient evidence to recommend for or against, but recommendations may be made on other grounds.

CLINICAL ALGORITHM(S)

None provided

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EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence is identified and graded for selected recommendations (see "Major Recommendations").

These recommendations were based primarily on sources such as national guidelines, meta-analysis review, and evidenced-based, randomized, controlled research studies. Guidelines and statements are synthesized to make them applicable to the treatment of fibromyalgia.

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IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

University of Texas, School of Nursing, Family Nurse Practitioner Program. Fibromyalgia treatment guideline. Austin (TX): University of Texas, School of Nursing; 2005 May. 13 p. [18 references]

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Not applicable: The guideline was not adapted from another source.

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University of Texas at Austin School of Nursing, Family Nurse Practitioner Program - Academic Institution

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: None available.

Print copies: Available from the University of Texas at Austin, School of Nursing. 1700 Red River, Austin, Texas, 78701-1499

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

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COMMENTARY

WILLIAM S. WILKE, MD*
Department of Rheumatic and Immunologic Diseases, Orthopaedic and Rheumatologic Institute, Cleveland Clinic; member, Fibromyalgia Criteria Study Group

New developments in the diagnosis of fibromyalgia syndrome: Say goodbye to tender points?

ABSTRACT

The Symptom Intensity Scale score can be used to identify and quantify fibromyalgia syndrome from information supplied by a simple questionnaire. In this paper, the author describes how this test was developed and argues in favor of its use in clinical practice in diagnosing fibromyalgia syndrome.

KEY POINTS

The Symptom Intensity Scale questionnaire consists of two parts: a list of 19 anatomic areas in which the patient is asked if he or she feels pain (the total number of yes answers being the Regional Pain Scale score), and a visual analogue scale for fatigue.

According to the Survey Criteria, a diagnosis of fibromyalgia can be entertained if the Regional Pain Scale score is 8 points or higher and the fatigue visual analogue scale score is 6 cm or higher.

The number of tender points, a surrogate for diffuse pain, does not fully capture the essence of fibromyalgia syndrome, in which accompanying fatigue is often severe and nearly always present.

The Symptom Intensity Scale is an accurate surrogate measure for general health, depression, disability, and death. Fibromyalgia syndrome diagnosed with this instrument implies that this illness carries increased medical risk.

*The author has disclosed that he has received consulting fees from the Wyeth and UCB companies, honoraria from Pfizer for teaching and speaking, and study funding from Eli Lilly.

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A relatively new diagnostic tool, the Symptom Intensity Scale, is an easy, quick way to assess both regional pain and fatigue in a patient. It can be used to establish the diagnosis of fibromyalgia syndrome and measure its severity in daily clinical practice without the need to count tender points. It can also be used to detect fibromyalgia as a comorbidity in other clinical illnesses; by uncovering fibromyalgia, the questionnaire serves as a surrogate measure of depression, anxiety, other serious personality disorders, previous or ongoing abuse, and, when fatigue is the dominant symptom, a consideration of obstructive sleep apnea—all part of the pathoetiology of fibromyalgia in that individual.

This manuscript reviews previous criteria and definitions by which fibromyalgia syndrome was recognized, describes how the new questionnaire was developed, and discusses its implications. It is not meant as a review of the pathogenesis or treatment of fibromyalgia or when to send the patient to the rheumatologist. Each of those topics requires lengthy and complex discussions, which are beyond the scope of this paper.

A COMMON, MULTIFACTORIAL DISEASE

The pathoetiology of fibromyalgia syndrome is rooted in disordered sleep, increased stress, and abnormal neurosensory processing, with secondary endocrine and autonomic dysfunction in those who are genetically predisposed.[1-4] Because fibromyalgia is multifactorial, it is best understood from the perspective of an

inclusive biopsychosocial model rather than a limited biomedical model.[5] Its characteristic signs and symptoms are best understood as emanating from a physiologic state, called central sensitization syndrome, in which the nervous system overresponds to stimuli.[1,3] This anomalous state of heightened nervous system response is not confined to the peripheral nervous system, but is also present in the autonomic and central nervous systems.[3,4]

Fibromyalgia syndrome is common, affecting 0.5% to 5% of the general population,[6] and is either the second or third most common diagnosis in a rheumatology practice. Importantly for internists, a diagnosis of fibromyalgia syndrome should be made in 10% to 15% of primary care patients.[7] The high prevalence alone demands diagnostic recognition.

KNOWN IN HISTORY AND LITERATURE

Although the designation *fibromyalgia syndrome* is new, the illness has been with us for as long as we've been us. In fact, the word *rheumatology* may have its origin in fibromyalgia syndrome. Galen (about 180 AD) blamed the symptoms of diffuse pain on the "rheuma," which has been interpreted as "a great fluxion which races [from the center?] to various parts of the body, and goes from one to another."[8] (Is this the origin of blood-letting as a treatment for diseases?) In 1592, the French physician Guillaume de Baillou introduced the term *rheumatism* to describe both muscle and joint pain.[9]

Fibromyalgia has been with us for as long as we've been us

Literature also knows fibromyalgia syndrome. Hans Christian Andersen described a supersensitive princess for whom a pea beneath many mattresses was sufficient to ruin her sleep. In *The Fall of the House of Usher*, Edgar Allan Poe described Roderick Usher as having an "acute bodily illness and mental disorder that oppressed him." Usher would wear garments of only soft texture because rough cloth was painful. Light hurt his eyes, forcing him to keep the curtains drawn. Although he had previously played and enjoyed violin music, he could no longer tolerate the sound of the violin. In fact, he suffered such hyperacusis that he could hear his sister moving in her grave many floors below. Other stories by Poe such as *Rats in the Wall* and *The Tell-Tale Heart* give more evidence that he was well acquainted with the symptoms of central sensitization syndrome.

HOW THE DEFINITION HAS EVOLVED

To recognize fibromyalgia we need an accurate definition, which has evolved over the years. If we don't know where we've been, it is difficult to understand where we are now or how we got here.

Gowers,[10] in 1904, was the first to describe diffuse pain as "fibrositis." He believed that the pain was due to proliferation or inflammation (or both) of subcutaneous and fibrous tissue, a histopathology that has not been satisfactorily demonstrated to this date. Unfortunately for our purposes, his paper was a descriptive essay that made no attempt at codification. In fact, attempts to clinically define and classify fibromyalgia syndrome have been relatively recent.

Hench[11] proposed the first clinical definition in 1976, and it probably did more harm than good. His criteria were two: pain, and no physiologic explanation. The diagnosis was therefore made by ruling out everything else rather than by ruling it in by clinical criteria. Consequently, the diagnosing physician had to investigate the symptom or symptoms by ordering potentially limitless testing, which all had to be normal before the diagnosis could be entertained. I continue to see this phenomenon today as new patients with classic fibromyalgia syndrome arrive carrying reports of normal magnetic imaging of the entire body and serologic testing—a "connective tissue disease workup."

Counting tender points

Smythe (1979)[12] was the first to define and classify fibromyalgia syndrome as a rule-in diagnosis. Smythe's criteria included tender points in at least 12 of 14 anatomic locations using 4 kg of pressure. In practice, the pressure is approximate—the nail bed blanches in a normotensive examiner with a force of 4 kg. He also described four necessary signs and symptoms: diffuse pain of at least 3 months' duration, disturbed sleep, skin-roll tenderness at the upper trapezius border, and normal results on laboratory tests. He and Moldofsky[13]

also found a relationship between disordered slow-wave sleep and the symptoms of fibromyalgia syndrome.

Yunus et al (1981)[14] compared signs and symptoms in 50 patients with fibromyalgia syndrome and 50 healthy controls to develop criteria for the disease. Of the resulting criteria, two were mandatory: diffuse pain of at least 3 months' duration and lack of other obvious causes. The definition also required tenderness in at least 5 of 40 tender points and outlined 10 minor criteria.

Signs and factors that modulate fibromyalgia syndrome and that were derived from these minor criteria are still clinically important today. Factors that aggravate pain include cold or humid weather, fatigue, sedentary state, anxiety, and overactivity. Relieving factors include a hot shower, physical activity, warm dry weather, and massage.

The American College of Rheumatology (1990). Understanding that at any one time approximately 15% of the general population experiences widespread pain,[15] a committee of the American College of Rheumatology (ACR) set out to differentiate patients with fibromyalgia syndrome from those with less severe widespread pain. The committee compared signs and symptoms in 293 patients deemed by experts to have fibromyalgia syndrome and 265 control patients matched for age, sex, and concomitant rheumatic disorders.[16]

The symptom of widespread pain of at least 3 months' duration and tenderness in at least 11 of 18 points became the ACR's diagnostic criteria and provided a sensitivity of 88% and a specificity of 81% compared with the experts' opinion as the gold standard test.

Low specificity is one of the recognized problems with the ACR criteria: 19% of patients with at least 11 tender points did not have fibromyalgia syndrome. In addition, tender points don't correlate well with some measures of illness activity, such as the Fibromyalgia Impact Questionnaire.[17]

Is the tender-point count a good measure?

The best argument for continuing to count tender points as part of the clinical evaluation is that it is a measure of severity. Higher numbers of tender points indicate greater psychological distress and greater severity and frequency of other, closely related fibromyalgia symptoms.[18,19] Nearly everyone in the general population has at least a few tender points.[16] In fibromyalgia syndrome, the tender-point count is a good status surrogate, a measure of the state of the illness.

But should a state/status measure be used as an illness trait and a criterion for diagnosis? I believe not. Consider, as an analogy, the use of the erythrocyte sedimentation rate in patients with rheumatoid arthritis. An elevated sedimentation rate may indicate increased systemic inflammation, but it is a measure of the status of rheumatoid arthritis, not a trait of this disease. This is why I believe that most rheumatologists would disagree with using some value of the erythrocyte sedimentation rate as a criterion for the diagnosis of rheumatoid arthritis and, by analogy, the tender-point count as a criterion for the diagnosis of fibromyalgia syndrome. Also, the number of tender points, a surrogate for diffuse pain, does not fully capture the essence of the illness, in which accompanying fatigue is often severe and nearly always present.[20]

A CONTEMPORARY DEFINITION AND ITS VALIDATION

Fibromyalgia as a rule-out diagnosis demands potentially endless testing

As the concept of fibromyalgia syndrome evolved, a movement away from tender points took hold.[21]

The Manchester criteria[22] used a pain diagram to establish the diagnosis, in which the patient indicated the areas of pain on a simple drawing, obviating the need for tender points. It showed good agreement with the ACR criteria, and in fact identified patients with more severe symptoms.

The London Fibromyalgia Epidemiology Study Screening Questionnaire,[23] designed as an epidemiologic tool to estimate the prevalence of the syndrome, was the first test to specifically include both pain and fatigue.

White et al,[24] in a very important subsequent study, showed that higher fatigue scores differentiated patients with widespread pain and only a few tender points (7–10) from those with more tender points. This report helped to set the stage for the Symptom Intensity Scale.

TABLE 1

Symptom Intensity Scale

Please indicate any areas of pain in the past 7 days

AREAS	YES	NO	AREAS	YES	NO
Jaw (left)	_____	_____	Upper arm (left)	_____	_____
Jaw (right)	_____	_____	Upper arm (right)	_____	_____
Chest	_____	_____	Upper back	_____	_____
Abdomen	_____	_____	Hip (left)	_____	_____
Forearm (left)	_____	_____	Hip (right)	_____	_____
Forearm (right)	_____	_____	Shoulder (left)	_____	_____
Upper leg (left)	_____	_____	Shoulder (right)	_____	_____
Upper leg (right)	_____	_____	Neck	_____	_____
Lower leg (left)	_____	_____	Low back	_____	_____
Lower leg (right)	_____	_____			

Total number of painful areas:
(this is the Regional Pain Scale score) _____

Please indicate your current level of fatigue

No fatigue ├──┤ Very fatigued

(Measure the position of the patient's response in centimeters from the left end of this 10-cm line. This is the fatigue visual analogue scale score.)

Survey Criteria for fibromyalgia syndrome:
Regional Pain Scale score of 8 or higher and fatigue visual analogue scale score 6 cm or higher[a]

Symptom Intensity Scale score =
[Fatigue visual analogue scale + (Regional Pain Scale score / 2)] / 2[b]

[a] A score of 5.0 cm or higher on the fatigue visual analogue scale is probably consistent with a diagnosis of fibromyalgia syndrome.
[b] A score ≥ 5.75 is diagnostic and differentiates fibromyalgia syndrome from other rheumatic conditions.

One of the problems with the ACR criteria is low specificity

What the Symptom Intensity Scale measures

As can be seen in TABLE 1, the Symptom Intensity Scale score is derived from two distinct measures:

- The Regional Pain Scale score, which is the number of anatomic areas—out of a possible 19—in which the patient feels pain
- A fatigue visual analogue scale score, in which the patient makes a mark somewhere along a 10-cm line to indicate how tired he or she feels. Subsequently, the clinician measures the position of the mark from the left end of the line with a ruler.

How the Symptom Intensity Scale was developed

Wolfe (2003)[25] mailed a survey to 12,799 patients who had rheumatoid arthritis, osteoarthritis, or fibromyalgia syndrome. The questionnaire asked respondents if they had pain in 38 articular and nonarticular anatomic regions and to complete a 10-cm fatigue visual analogue scale. He observed that pain in a subset of 19 primarily nonarticular sites differentiated fibromyalgia syndrome from the other two diseases. Calling the number of painful areas of these 19 sites the Regional Pain Scale, he analyzed this measure using Mokken analysis and Rasch analysis to ensure that the

questionnaire was statistically valid.

Wolfe also showed that a score of at least 8 points on the Regional Pain Scale, combined with a score of at least 6 cm on the fatigue visual analogue scale, provided the best diagnostic precision consistent with a diagnosis of fibromyalgia syndrome. The combination of these two measures became known as the *Survey Criteria*.

Katz, Wolfe, and Michaud (2006)[26] next compared the diagnostic precision of the Survey Criteria, the ACR criteria, and a physician's clinical diagnosis. The clinicians made their clinical diagnosis by "considering the long-term patient-clinician experience [including] factors related to pain, tenderness, fatigue, sleep disturbance, comorbidity, and psychosocial variables," or as I call it, the company fibromyalgia syndrome keeps (**TABLE 2**).[7,14,16,20] The Survey Criteria (8 points or higher on the Regional Pain Scale plus 6 cm or higher on the fatigue visual analogue scale) showed a roughly 75% concordance among all three definitions in 206 patients with fibromyalgia syndrome. In a cohort with clinically diagnosed fibromyalgia syndrome, a Regional Pain Scale score of 8 or more had a sensitivity of 83.2%, a specificity of 87.6%, and a percent correct of 85.4%. The authors reported that a score of 6 cm or more on the fatigue visual analogue scale "was also at the optimum level" for diagnosing fibromyalgia, but they did not provide more information.

Wolfe and Rasker (2006),[27] using these data, devised the Symptom Intensity Scale, the score of which is calculated as the fatigue visual analogue scale score plus half the Regional Pain Scale score, all divided by 2. The scale is therefore a continuous variable rather than a categorical one, and scores can range from 0 to 9.75.

The authors gave the questionnaire to 25,417 patients who had various rheumatic diseases and found that a score of 5.75 or higher differentiated fibromyalgia syndrome from other rheumatic diseases, identifying 95% of patients who would satisfy the Survey Criteria for fibromyalgia.

In addition, they found a linear relationship between the Symptom Intensity Scale score and key symptoms of fibromyalgia syndrome. Of even greater importance, the Symptom Intensity Scale score showed closer association with general health than scores on the Health Assessment Questionnaire, a 27-question patient activity scale, the Arthritis Impact Measurement Scale, or the Short Form-36. It also proved to correlate with mood, probability of having diabetes, need for hospitalization, history of or relative time to myocardial infarction, number of comorbidities, rate of disability, and risk of early death (relative risk 1.12, 95% confidence interval 1.10–1.14). The Symptom Intensity Scale is therefore a diagnostic tool as well as a simple measure of general health among all rheumatic disease patients.

TABLE 2

The company fibromyalgia syndrome keeps

Headache
Cognitive problems
Central sensitization (heightened sensitivity to light, odor, and sound)
Fatigue (usually means low energy)
Sleep disturbance
Tender arteries (especially the carotid arteries)
Subjective shortness of breath
Irritable bowel syndrome
Interstitial cystitis (defined as frequent urination)
Neurally mediated hypotension
Exaggerated deep tendon reflexes

BASED IN PART ON INFORMATION IN KATZ RS, WOLFE F, MICHAUD K. FIBROMYALGIA DIAGNOSIS. A COMPARISON OF CLINICAL, SURVEY, AND AMERICAN COLLEGE OF RHEUMATOLOGY CRITERIA. ARTHRITIS RHEUM 2006; 54:169–176.

As the concept of fibromyalgia syndrome evolved, a movement away from tender points took hold

IMPLICATIONS OF THE SYMPTOM INTENSITY SCALE

Three arguments provide a strong rationale for using the Symptom Intensity Scale in the outpatient clinic to investigate the biopsychosocial aspects of illness in our patients:

- It is a simple way to measure overall health
- It can uncover comorbid depression
- It can detect fibromyalgia syndrome in patients who have other diseases.

It measures overall health

Unlike instruments intended for a particular disease such as the Disease Activity Score, which measures disease severity only in rheumatoid arthritis, the Symptom Intensity Scale score can also be used as a measure of global health (or disease severity), and the Survey Criteria (8 or more on the Regional Pain Score and 6 or more on the fatigue visual analogue scale) can be used to establish diagnosis. In fact, instruments like the Disease Activity Score essentially ignore biopsychosocial issues that are captured by the Symptom Intensity Scale.[27]

By detecting fibromyalgia syndrome in our patients, we identify people with symptoms of pain and distress that do not easily fit the prevalent model of organic disease. Measures like the Disease Activity Score are specifically suited as end points in controlled efficacy trials, but if these are the only measures physicians use to estimate a patient's health in the clinic, they do so at their own and their patient's peril.[27]

Because the continuous Symptom Intensity Scale score strongly correlates with patient-perceived pain, depression, and general health, it is an ideal instrument for outpatient evaluation. It complements a complete patient history and physical examination by measuring biopsychosocial factors.

Fibromyalgia syndrome can coexist with a number of other diseases

It uncovers comorbid depression

Rheumatologists do a woeful job of recognizing and diagnosing depression in patients with rheumatoid arthritis. Sleath et al[28] found that patients with rheumatoid arthritis who were diagnosed with depression in the office were always the ones who initiated the discussion of that diagnosis. Their doctors did not elicit it.

Middleton et al[29] found that patients with concomitant fibromyalgia syndrome and systemic lupus erythematosus (SLE) had higher depression scores than did SLE patients without fibromyalgia syndrome. Moussavi et al,[30] writing for the World Health Organization about the findings of a 60-country survey, concluded: "The comorbid state of depression incrementally worsens health compared with depression alone, with any of the chronic diseases alone, and with any combination of chronic diseases without depression."[30]

Worse health implies earlier death. Ang et al[31] reported that a higher average 4-year depression scale score conferred a hazard ratio of 1.35 ($P < .001$) for earlier death among 1,290 rheumatoid arthritis patients followed for 12 years.

By using a test like the Symptom Intensity Scale to detect fibromyalgia syndrome alone or to detect it in patients with other diseases, we implicitly recognize the high likelihood of simultaneous depression. Recognition and treatment of depression will improve overall health.

It can detect fibromyalgia syndrome in patients with other diseases

Not surprisingly, distress-related fibromyalgia syndrome is more common in patients with chronic rheumatic or arthritic diseases, with a frequency ranging from 5% in osteoarthritis to 47% in Sjögren syndrome.[1] When present, fibromyalgia syndrome changes the features of the other disease.

Wolfe and Michaud[32] used the Survey Criteria to evaluate 11,866 rheumatoid arthritis patients and found that 17.1% of them also had fibromyalgia syndrome, and those that did had higher levels of pain, greater global severity, higher scores on the Health Assessment Questionnaire and Short Form-36 mental component, and more disability than those without fibromyalgia syndrome.

Urrows et al[33] found that the mean tender-joint count correlated with the mean tender-point count in 67 patients with rheumatoid arthritis followed for 75 days. Comorbid fibromyalgia syndrome rendered joints more tender, so that an examiner using the tender-joint count as a major indicator of disease severity might overestimate severity and excessively treat a rheumatoid arthritis patient with unrecognized concurrent fibromyalgia syndrome. Because comorbid fibromyalgia syndrome can inflate Health Assessment Questionnaire scores and subjective pain scale scores in rheumatoid arthritis, more appropriate investigation and management decisions should follow recognition.

Concurrent fibromyalgia syndrome can also be troublesome in SLE. Patients with fibromyalgia syndrome had greater disability

than patients without fibromyalgia syndrome despite having no worse SLE damage scores.[29] Comorbid fibromyalgia syndrome in SLE has also been shown to diminish quality of life as measured by the Short Form-36.[34]

Fibromyalgia syndrome also has the potential to confound the diagnosis of concomitant diseases. Wolfe et al[35] found that 22.1% of 458 patients with SLE also had fibromyalgia syndrome using the Symptom Intensity Scale criteria. At the time of referral to a rheumatologist, patients who met the criteria for fibromyalgia syndrome were more likely to have self-reported a diagnosis of SLE than were patients for whom SLE had been previously physician-confirmed. The authors warned that fibromyalgia syndrome could intrude into the precision of the diagnosis if only a positive antinuclear antibody test and "soft" SLE criteria were used for diagnosis. If we are unaware of fibromyalgia syndrome, spurious diagnoses may ensue.

BOTTOM LINE

I use the Symptom Intensity Scale as part of routine evaluation in my office. Most patients can complete it with no instruction in 2 minutes or less. I believe it should be used in the clinic to confirm a diagnosis of fibromyalgia syndrome in patients with chronic diffuse pain at rest and to identify comorbid distress in patients with other diseases. This test complements a careful patient history and physical examination, and through its symptom and general health correlations facilitates characterization of our patients' illnesses in line with the biopsychosocial model.

Since the Symptom Intensity Scale has been shown to be an accurate surrogate measure for general health, depression, disability, and death, fibromyalgia syndrome diagnosed using this instrument implies that this illness is not just centrally mediated pain, but that it carries increased medical risk. It can also be used as a research tool to measure the prevalence of fibromyalgia syndrome in other diseases.

Although the Symptom Intensity Scale is not yet recognized by the ACR as part (or the whole) of the classification criteria for fibromyalgia syndrome, it has already been shown in published studies to be a valid research tool, and it will very likely be the cornerstone of the new criteria.

Goodbye to tender points? Get used to it. ■

Rheumatologists do a woeful job of recognizing and diagnosing depression

REFERENCES

1. **Wilke WS**. The clinical utility of fibromyalgia. J Clin Rheumatol 1999; 5:97–103.
2. **Cohen H, Buskila D, Neumann L, Ebstein RP**. Confirmation of an association between fibromyalgia and serotonin transporter region (5-HTTLPR) polymorphism, and relationship to anxiety-related personality traits. Arthritis Rheum 2002; 46:845–847.
3. **Geisser ME, Glass JM, Rajcevska LD, et al**. A psychophysical study of auditory and pressure sensitivity in patients with fibromyalgia and healthy controls. J Pain 2008; 9:417–422.
4. **Katz DL, Greene L, Ali A, Faridi Z**. The pain of fibromyalgia syndrome is due to muscle hypoperfusion induced by regional vasomotor dysregulation. Med Hypotheses 2007; 69:517–525.
5. **Engel GL**. The need for a new medical model: a challenge for biomedicine. Science 1977; 196:129–136.
6. **Gran JT**. The epidemiology of chronic generalized musculoskeletal pain. Best Pract Res Clin Rheumatol 2003; 17:547–561.
7. **Wolfe F, Ross K, Anderson J, Russell IJ, Hebert L**. The prevalence and characteristics of fibromyalgia in the general population. Arthritis Rheum 1995; 38:19–28.
8. **Lagier R**. Nosology versus pathology, two approaches to rheumatic diseases illustrated by Alfred Baring Garrod and Jean-Martin Charcot. Rheumatology (Oxford) 2001; 40:467–471.
9. **Ruhman W**. The earliest book on rheumatism. Br J Rheumatol 1940; 2:140–162.
10. **Gowers WR**. A lecture on lumbago: its lessons and analogues. Br Med J 1904; 1:117–121.
11. **Hench PK**. Nonarticular rheumatism. Arthritis Rheum 1976; 19(suppl):1081–1088.
12. **Smythe HA**. "Fibrositis" as a disorder of pain modulation. Clin Rheum Dis 1979; 5:823–832.
13. **Smythe HA, Moldofsky H**. Two contributions to understanding of the "fibrositis" syndrome. Bull Rheum Dis 1977–1978; 28:928–931.
14. **Yunus M, Masi AT, Calabro JJ, Miller KA, Feigenbaum SL**. Primary fibromyalgia (fibrositis): clinical study of 50 patients with matched controls. Semin Arthritis Rheum 1981; 11:151–171.
15. **Croft P, Rigby AS, Boswell R, Schollum J, Silman A**. The prevalence of chronic widespread pain in the general population. J Rheumatol 1993; 20:710–713.
16. **Wolfe F, Smythe HA, Yunus MB, et al**. The American College of Rheumatology 1990 Criteria for Classification of Fibromyalgia. Report of the Multicenter Criteria Committee. Arthritis Rheum 1990; 33:160–172.
17. **McVeigh JG, Finch MB, Hurley DA, Basford JR, Sim J, Baxter GD**. Tender point count and total myalgic score in fibromyalgia: changes over a 28-day period. Rheumatol Int 2007; 27:1011–1018.
18. **Croft P, Schollum J, Silman A**. Population study of tender point counts and pain as evidence of fibromyalgia. BMJ 1994; 309:696–699.
19. **Wolfe F**. The relation between tender points and fibromyalgia symptom variables: evidence that fibromyalgia is

not a discrete disorder in the clinic. Ann Rheum Dis 1997; 56:268–271.
20. **Mease PJ, Arnold LM, Crofford LJ, et al**. Identifying the clinical domains of fibromyalgia: contributions from clinician and patient Delphi exercises. Arthritis Rheum 2008; 59:952–960.
21. **Harth M, Nielson WR**. The fibromyalgia tender points: use them or lose them? A brief review of the controversy. J Rheumatol 2007; 34:914–922.
22. **Macfarlane GJ, Croft PR, Schollum J, Silman AJ**. Widespread pain: is an improved classification possible? J Rheumatol 1996; 23:1628–1632.
23. **White KP, Harth M, Speechley M, Ostbye T**. Testing an instrument to screen for fibromyalgia syndrome in general population studies: the London Fibromyalgia Epidemiology Study Screening Questionnaire. J Rheumatol 1999; 26:880-884.
24. **White KP, Speechly M, Harth M, Osbye T**. The London Fibromyalgia Epidemiology Study: comparing the demographic and clinical characteristics in 100 random community cases of fibromyalgia versus controls. J Rheumatol 1999; 26:1577–1585.
25. **Wolfe F**. Pain extent and diagnosis: development and validation of the regional pain scale in 12,799 patients with rheumatic disease. J Rheumatolol 2003; 30:369–378.
26. **Katz RS, Wolfe F, Michaud K**. Fibromyalgia diagnosis. a comparison of clinical, survey, and American College of Rheumatology criteria. Arthritis Rheum 2006; 54:169–176.
27. **Wolfe F, Rasker JJ**. The Symptom Intensity Scale, fibromyalgia, and the meaning of fibromyalgia-like symptoms. J Rheumatol 2006; 33:2291–2299.
28. **Sleath B, Chewning B, De Vellis BM, et al**. Communication about depression during rheumatoid arthritis patient visits. Arthritis Rheum 2008; 59:186–191.
29. **Middleton GD, McFarlin JE, Lippski PE**. The prevalence and clinical impact of fibromyalgia in systemic lupus erythematosus. Arthritis Rheum 1994; 37:1181–1188.
30. **Moussavi S, Chatterji S, Verdes E, Tandon A, Patel V, Ustun B**. Depression, chronic diseases, and decrements in health: results from the World Health Surveys. Lancet 2007; 370:851–858.
31. **Ang DC, Choi H, Kroenke K, Wolfe F**. Comorbid depression is an independent risk factor for mortality in patients with rheumatoid arthritis. J Rheumatol 2005; 32:1013–1019.
32. **Wolfe F, Michaud K**. Severe rheumatoid arthritis (RA), worse outcomes, comorbid illness, and sociodemograghic disadvantage characterize RA patients with fibromyalgia. J Rheumatol 2004; 31:695–700.
33. **Urrows S, Affleck G, Tennen H, Higgins P**. Unique clinical and psychological correlates of fibromyalgia tender points and joint tenderness in rheumatoid arthritis. Arthritis Rheum 1994; 37:1513–1520.
34. **Gladman DD, Urowitz MB, Gough J, MacKinnon A**. Fibromyalgia is a major contributor to quality of life in lupus. J Rheumatol 1997; 24:2145–2148.
35. **Wolfe F, Petri M, Alarcon GS, et al**. Fibromyalgia, systemic lupus erythematosus (SLE) and evaluation of SLE activity. J Rheumatol 2009; 36:27–33.

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OPIOID TAPERING

Safely Discontinuing Opioid Analgesics

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Introduction

Severe hurricanes in the Gulf Coast during 2005 caused many hardships for patients and healthcare providers alike. An important concern coming to light during this time of crisis was the inability to obtain prescription medications, including opioid analgesics. Patients with chronic pain and their healthcare providers faced the daunting task of either somehow procuring the opioids or, if this was not possible, tapering the medications to prevent onset of opioid withdrawal.

Safely discontinuing, or tapering, opioid analgesics is an ongoing concern, both in times of crisis and on a daily basis.

In response to the crisis in the Gulf Coast, a multi-organization Working Group published "Recommendations to Physicians Caring for Katrina Disaster Victims on Chronic Opioids" (AAPM et al. 2005). The National Pain Foundation also published information for patients regarding withdrawing from medications (NPF 2005). Safely discontinuing, or tapering opioid analgesics is not only a concern in times of natural disaster, but an issue that pain services and primary care providers confront daily as they try to balance the benefits and adverse effects of analgesics.

Reasons for Tapering

There are many reasons for considering opioid tapering, both from healthcare provider and patient perspectives. Patients may decide that they wish to stop their opioid therapy if they experience adverse effects. Opioid rotation is an option; however, patients may be wary to try another agent or may experience intolerable adverse effects with certain chemical classes of opioids. Their pain may not be opioid-responsive, their underlying disease process may have improved as a result of surgery or other interventions, or despite increasing their dose at regular intervals an adequate pain response was not realized. Patients may be reluctant to continue opioids because of a negative social stigma attached to this therapy. In some cases the opioid may be discontinued due to the cost associated with obtaining the prescription or because a newly assigned medical clinician refuses to provide such therapy chronically.

There are many reasons for considering opioid tapering, such as adverse effects, inadequate pain relief, and medication costs.

Providers may engage in tapering an opioid due to safety concerns. One of the controversies in chronic opioid management is the phenomenon of opioid-induced hyperalgesia (Chu et al. 2006; Doverty et al. 2001; White 2004), which suggests that in certain patients chronic exposure to opioids results in an increased sensitivity to pain. This may occur as early as one month after initiating opioid therapy.

Other potential consequences of long-term opioid use include hypogonadism and resultant osteoporosis (Daniell 2002; Abs et al. 2000). Serum testosterone levels have been shown to fall within hours after ingestion of a single dose, and low serum levels of testosterone and estradiol are associated with an increased risk of osteoporosis (Daniell 2002; Moyad 2003).

Providers also may have concerns about efficacy. If they do not see an improvement in patient function and quality of life, they may feel that the risks of the therapy (as mentioned above) outweigh a questionable benefit. Finally, providers may consider tapering opioids due to patient non-compliance with the medication regimen or violation of the patient's opioid agreement with the pain management team.

Guidance for starting medications is fairly easily obtained from product package inserts and reference books; however, it is more difficult to find information about switching or stopping opioid medications. Many practitioners, particularly specialists, tend to have their own formulas for managing conversions and tapers; although, there is no single strategy that can be applied to all patients, and each situation must be handled on an individual basis. The most important factor to consider is how acutely the taper or conversion is needed.

There is no single strategy that can be applied to all patients. Each situation must be handled on an individual basis.

Detoxification Settings

Several options are available, depending on how acutely the taper is needed.

Tapering off opioids (often called detoxification or "detox") may be done within a chemical-dependency treatment setting, specialty clinic, or primary care practice. Protocols vary between institutions and outpatient centers and, depending on how acutely the taper is needed, several options are available:

Ultra-rapid detoxification is performed in the inpatient setting under general anesthesia. The usefulness of this method is controversial and is inappropriate for agents that have a long biological half-life (e.g., methadone).

Inpatient detoxification usually employs a fairly rapid tapering protocol in conjunction with behavioral therapy. This setting is considered for those patients who: a) are medically unstable, b) fail outpatient programs, c) are non-compliant, d) have comorbid psychiatric illness, or e) require polysubstance detoxification. Due to the financial burden of inpatient programs, many facilities have shifted to partial hospitalizations or intensive outpatient programs.

Outpatient detoxification commonly employs a slower tapering protocol. While it is common practice to replace short-acting opioids with extended release products (e.g., MS Contin® or Oxycontin®) or one with a long half-life, such as methadone, a taper using the prescribed short-acting opioid is frequently employed. There is no single protocol that has been proven more efficacious than another and, regardless of the strategy used, the provider needs to be involved in the process and remain supportive of the patient and his/her family.

Duration of Taper

The duration of the taper depends on its complexity and the patient's needs. The universal goal is to taper as quickly as the patient's physiologic and psychological status allows. The presence of multiple comorbidities, polysubstance abuse, female gender, and older age are among factors increasing the difficulty of tapering and tend to lengthen its duration. Patients with a long history of taking chronic opioids, or any centrally acting medication involving receptor pharmacology (e.g., dopamine agonists, SSRIs) are more likely to experience withdrawal from a taper that is too rapid, and therefore may require a longer taper period to avoid such symptoms. Some patients may have a great deal of anxiety about the potential for increased pain or experiencing withdrawal symptoms. In all cases, it is important to make decisions about tapering therapy on an individual basis.

The universal goal is to taper as quickly as the patient's physiologic and psychological status allows.

The Katrina Disaster Working Group's recommended tapering schedules are found in ***Table 1*** (AAPM 2005). The VA Clinical Practice Guideline on chronic opioid therapy also contains suggested tapering regimens for several different opioids, as presented in ***Tables 2 and 3*** (USVA 2003). The VA regimens are quite rapid and are not tolerated by many patients. Unless there is a pressing need for a rapid taper, a slower taper is tolerated much better.

Table 1. Katrina Disaster Working Group Suggested Tapering Regimens [AAPM 2005]

- Reduction of daily dose by 10% each day, or…
- Reduction of daily dose by 20% every 3-5 days, or…
- Reduction of daily dose by 25% each week.

Table 2. VA Suggested Tapering Regimens for *Short-Acting* Opioids [USVA 2003]

- Decrease dose by 10% every 3-7 days, or…
- Decrease dose by 20%-50% per day until lowest available dosage form is reached (e.g., 5 mg of oxycodone)
- Then increase the dosing interval, eliminating one dose every 2-5 days.

Table 3. VA Suggested Tapering Regimens for *Long-Acting* Agents [USVA 2003]

Methadone

- Decrease dose by 20%-50% per day to 30 mg/day, then…
- Decrease by 5 mg/day every 3-5 days to 10 mg/day, then...
- Decrease by 2.5 mg/day every 3-5 days.

Morphine CR (controlled-release)

- Decrease dose by 20%-50% per day to 45 mg/day, then…
- Decrease by 15 mg/day every 2-5 days.

Oxycodone CR (controlled-release)

- Decrease by 20%-50% per day to 30 mg/day, then…
- Decrease by 10 mg/day every 2-5 days.

Fentanyl – first rotate to another opioid, such as morphine CR or methadone.

Agents Used to Taper

Depending on the situation, several options for tapering agents are available. The same opioid medication the patient has been taking may be used. This can be accomplished even with short-acting agents, as mentioned previously. The average daily dose should be spaced evenly throughout the day (and "prn" doses eliminated), usually with a frequency of every 4 or 6 hours. Once the patient has been stabilized on a scheduled dosing frequency, the tapering regimen may be implemented (***Table 2***).

Short-acting agents may be replaced with another medication with a long half-life, such as methadone, or an extended release product such as MS Contin® or OxyContin® [already mentioned above]. Many programs use methadone, as it is less likely to produce euphoria and is inexpensive compared with the other long-acting agents. It must be made clear however that the methadone is being used to treat pain, and that the taper is being done for medical reasons, not for substance abuse rehabilitation.

Usually after a dosing conversion has been completed, a "test dose" or "test regimen" will be given with close monitoring. If the dose of the long-acting agent is too low, the patient may develop withdrawal symptoms; however, if the dose is too high, the patient may develop sedation. During the first week, the dose of the long-acting agent should be adjusted to control

any withdrawal symptoms. After the patient has been stabilized, the tapering regimen may be implemented (***Table 3***).

Author's Comment:

When rotating opioids in a patient with cancer or with escalating pain needs, I suggest a more *aggressive* conversion, using a short-acting agent for breakthrough pain. For chronic nonmalignant pain, I recommend a more *conservative* conversion and allow patients a small supply of short-acting opioid for breakthrough pain during the time of dosing adjustment. This is particularly helpful when switching from a short-acting agent to a long-acting agent, or when switching to methadone, as it takes several days to reach steady state blood levels. The ability to use a short-acting agent for a week or two allows flexibility and gives the patient some sense of control. It also prevents the risk of overdosing, particularly with methadone.

Adjusting Tapering Regimens

Individual patients may have differing responses to the tapering regimen chosen. For those who have been on long-term opioid therapy, there may be fear and anxiety about reducing and/or eliminating their opioid(s). Patients may be concerned about the recurrence or worsening of pain. They also may be concerned about developing withdrawal symptoms. Typically, the last stage of tapering is the most difficult. The body adapts fairly well to the proportional dosage reduction to a point and then (less than 30-45 mg of opioid/day) the body cannot adapt as well to the changes in concentration and receptor activity, which precipitates withdrawal if the tapering regimen is not slowed.

Adjustments in tapering schedules are shown above in ***Tables 2 and 3***. Patients may also not be emotionally ready for the next stage of dose reduction. If the patient has been making a reasonable effort and has followed through with the tapering plan, slowing the taper may be the most reasonable adjustment.

Author's Example 1:

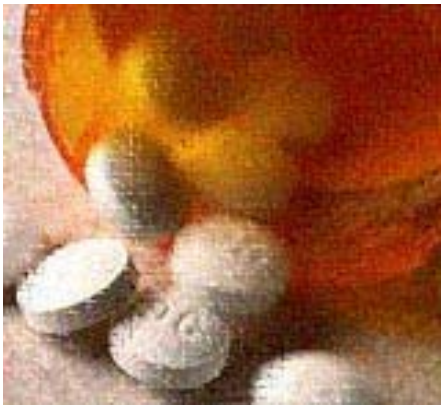
A patient who has been taking methadone for back pain has required escalating doses during the last 3 months without any noted pain relief. Since her pain is not opioid-responsive, you would like to taper her off methadone and try another approach. She is currently taking methadone 40 mg TID and there is no acute need to taper her rapidly, so a slow taper as follows is reasonable.

Proposed regimen starting with 10 mg methadone tablets:

Week 1: 30 mg TID
Week 2: 20 mg TID
Week 3: 15 mg TID
Week 4: 10 mg TID
Week 5: 10 mg qam, 5 mg qnoon, 10 mg qpm
Week 6: 5 mg qam, 5 mg qnoon, 5 mg qpm
Week 7: 5 mg qam, 5 mg qnoon, 5 mg qpm

Switch to 5mg methadone tablets…

Week 8: 5 mg qam, 2.5 mg qnoon, 5 mg qpm
Week 9: 2.5 mg qpm, 2.5 mg qnoon, 5 mg qpm
Week 10: 2.5 mg TID
Week 11: 2.5 mg BID
Week 12: 2.5 mg Daily
Then discontinue



Author's Example 2:

A patient is having intolerable constipation with controlled release morphine, and you have tried every option for a bowel regimen without success. The patient has had to go to the ER for bowel impaction twice. You feel that an opioid rotation and/or taper off of the morphine is the most reasonable option. The patient is currently taking 120 mg morphine BID (total 240 mg daily).

Option A: Convert to methadone, approx. 20 mg daily (split 10 mg BID)
Begin a taper off of this (see above), as the patient tolerates

Option B: Taper starting with 30 mg morphine tablets
Week 1: 90 mg BID
Week 2: 60 mg BID
Week 3: 30 mg BID
Switch to 15 mg tabs
Week 4: 15 mg qam, 30 mg qpm
Week 5: 15 mg BID
Week 6: 15 mg Daily
Then discontinue

Author's Example 3:

A patient is about 8 weeks out from orthopedic surgery and is ready to taper off her regular schedule of hydrocodone/acetaminophen. She is currently taking 2 tabs every 6 hours (8 tablets per day).

Option A: Rapid taper (duration 10 days)
1 tab every 6 hrs x 1 day (4/day), then…
1 tab every 8 hrs x 3 days (3/day), then…
1 tab every 12 hrs x 3 days (2/day), then…
1 tab every daily x 3 days (1/day), then…
Discontinue

Option B: Slow taper (duration 3 weeks)
Reduce by 1 tablet/day every 3 days until off

Adjunctive Therapy

Patients should always be made aware of the signs and symptoms of opioid withdrawal – see ***Table 4*** – so that they may contact the provider to adjust the taper. Opioid withdrawal is typically not dangerous, but it may cause considerable discomfort. Some providers will add clonidine to attenuate the autonomic symptoms such as hypertension, nausea, cramps, diaphoresis (perspiring), and/or tachycardia. Antihistamines or trazodone may be used to help with insomnia and restlessness. Nonsteroidal anti-inflammatory agents may be used for muscle aches, dicyclomine for abdominal cramps, and Pepto-Bismol® for diarrhea.

Table 4. Opioid Withdrawal Signs/Symptoms

- Abdominal cramps
- Anxiety
- Diaphoresis
- Diarrhea
- Dilated pupils
- Goose bumps
- Hypertension
- Insomnia
- Lacrimation
- Muscle twitching
- Rhinorrhea
- Tachycardia
- Tachypnea

Advising Patients on Emergency Tapering

Following the Katrina Hurricane, the National Pain Foundation (NPF 2005) offered some recommendations for what patients can do when all access to continuing pain medications is cut off, as during an emergency or other crisis. These are adapted here and a version of this might be provided to patients whenever chronic opioid analgesics are prescribed.

Stopping Opioid Painkillers in an Emergency

If you are unable to refill or get your opioid medications, symptoms of withdrawal will vary depending on how long you were on the opioid medication and what type you were taking. People taking morphine, hydromorphone, or oxycodone may experience withdrawal symptoms within 6 to 12 hours of the last dose while those taking methadone or controlled-release opioids will experience symptoms 1 to 4 days after the last dose. Typically, withdrawal from morphine takes 5 to 10 days while withdrawal from methadone or other long-acting opioids takes longer.

Ideally, discontinuing the medication would be a slow tapering process under the care of a physician or other appropriate medical provider. If this cannot be accomplished, it is important to make an effort to taper the dose on your own as slowly as possible.

The best way to avoid serious withdrawal symptoms is to reduce the amount of medication you are taking or how often you are taking it before you run out. Reducing the amount by 25% per day, or by 25% every other day, may result in some withdrawal symptoms, but it is better than having to suddenly stop the medication when you run out.

If you are taking any of the extended release versions of opioids, such as OxyContin® or Kadian®, or fentanyl patches, do not tamper with them in any way. Breaking or opening these capsules, or cutting patches, can release the entire dose at once, causing overdose and possible death. Instead, take the whole tablet or capsule or use the whole patch, but take or use the medication less often to reduce the dosage.

Drink a lot of fluid, try to stay calm, and keep reassuring yourself that the withdrawal reaction will pass and you will eventually feel better. One of the symptoms during opioid withdrawal is a state of sensitized pain, meaning your pain may feel more intense or severe. This also will pass with time.

Remember: Always seek professional healthcare assistance as soon as you can — if possible, before running out of medication.

Summary

Currently there is no standard protocol for tapering opioids; however, there are now some suggested guidelines. Regardless of the reason for tapering opioids, the plan must be individualized to each patient's needs. Close follow-up and psychosocial support are essential.

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References

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AAPM et al. (American Academy of Pain Medicine, National Pain Foundation, American Pain Foundation, and National Hospice and Palliative Care Organization). Recommendations to Physicians Caring for Katrina Disaster Victims on Chronic Opioids. 2005. Available at http://www.painmed.org/katrinarecommendations.pdf. Accessed January 16, 2006.

Abs R, Verhelst J, Maeyaert J, et al. Endocrine consequences of long-term intrathecal administration of opioids. J Clin Endocrinol Metab. 2000;85:2215-2222.

Chu LF, Clark DJ, Angst MS. Opioid tolerance and hyperalgesia in chronic pain patients after one month of oral morphine therapy: A preliminary prospective study. Pain. 2006;7(1):43-48.

Daniell HW. Hypogonadism in men consuming sustained-action oral opioids. Pain. 2002;3(5):377-384.

Doverty M, White JM, Somogyi AA, et al. Hyperalgesic responses in methadone maintenance patients. Pain. 2001;90:91-96.

Kingsbury SJ, Simpson GM. Principles for starting, stopping, or switching medications. Psychiatry Svs. 2002;53(2):139-140.

Moyad MA. Osteoporosis: A rapid review of risk factors and screening methods. Urol Oncol. 2003; 21(5):375-379.

NPF (National Pain Foundation). Abrupt Withdrawal from Medications – Information and Caution. 2005 (Sept). Available at http://www.nationalpainfoundation.org/MyTreatment/MyTreatment_Abrupt_Withdrawl.asp. Accessed February 9, 2006.

USVA (U.S. Veterans Affairs Administration). Clinical Practice Guideline for the Management of Opioid Therapy for Chronic Pain. 2003; Appendix Y: 52-53. Available at http://www.oqp.med.va.gov/cpg/cot/ot_base.htm. Accessed February 8, 2006.

White JM. Pleasure into pain: The consequences of long-term opioid use. Addictive Behaviors. 2004;29:1311-1324.

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