

Advancing Pain Management in Oregon

The Oregon Pain Management Commission (OPMC)



This online educational module qualifies as the required 1 (one) hour continuing education for pain management in Oregon. Additionally, all health care providers (with the exception of dentists) are required to select and complete an additional 6 (six) hours of continuing education related to pain and/or pain management in their area of interest.

Introduction:

The Oregon Pain Management Commission's goal is to offer education to improve understanding of pain and its treatment. Inadequate pain treatment, over-reliance on medications for pain management and lack of knowledge/support of biopsychosocial-informed pain self-management treatments are serious public health problems.

This module is intended to provide a foundation for advancing pain management in Oregon and to increase awareness regarding evidence-based treatments for the effective management of pain.

Pain treatment issues are complex and cannot be adequately addressed in this one-hour module. Information about additional expanded educational topics may be found on the Oregon Pain Management Commission's [website](#). Providers may elect to address their specific interests/concerns related to the management of pain in the individually selected 6 (six) hour continuing education curriculum requirement which is beyond the OPMC's purview.

The Oregon Pain Management Commission (OPMC)

In 2001, the Oregon Legislature mandated the creation of a commission to focus on pain issues in Oregon. The OPMC is a 19 member advisory commission within the Oregon Health Authority. Its members are an interdisciplinary group of physicians (medical, naturopathic, osteopathic, chiropractic), physician assistants, nurse practitioners, dentists, pharmacists, nurses, psychologists, acupuncturists, physical therapists, occupational therapists, patient advocates, healthcare consumers and other interested individuals. In addition, two members from the Oregon Legislature—a member of the Senate and a member of the House of Representatives—serve as non-voting (ex officio) members.

Among the Commission's tasks is to develop requirements for pain management education for Oregon physicians and other healthcare licensees of the regulatory boards. Its mission is to improve pain management in the State of Oregon through education and development of pain management recommendations. The OPMC represents the concerns of patients in Oregon on issues of pain management to the Governor and the Legislative Assembly. This online pain management education module is updated biennially.

Although there are many challenges to achieving adequate pain management for all Oregonians, the OPMC has a vision for pain care in Oregon.

We believe that adequate pain management can be realized if there is effective collaboration and communication between regulatory agencies, healthcare providers, insurers and patients. Evidence-based pain management services should be as equally available as services for other common conditions or disease states of similar prevalence and health impact. The availability and quality of pain management resources should meet the needs of patients in our state.

A Call for Cultural Transformation:

The economic and social impacts of pain are thought to be greater than for any other single disease entity.

In the past pain was described on the basis of duration and evidence of healing. Definitions simply referred to pain as a physical symptom of illness or injury based on a stimulus response mechanism. Medical treatment focused on pharmacological management of physical symptoms and all pain was managed as acute. Persistent, untreatable pain was believed to be psychosomatic in a pejorative sense; patients were not believed or were thought to be malingering for some gain.

The economic impact of pain is significant. Pain is a leading reason patients seek medical care. A 2011 Institute of Medicine report¹ indicated chronic pain costs the nation up to \$635 billion each year in medical treatment and lost productivity.

Chronic pain is a major public health problem because it affects millions of individuals, their families, and the healthcare system. It negatively affects lifestyle, function, self-efficacy, independence and psychosocial well-being. Chronic pain can cause loss of meaningful occupation, disruptions in family, work, and social relationships, and contributes to needless suffering and risks of suicide.

To prevent acute pain from transitioning to persistent (chronic) pain, appropriate and effective treatment of acute pain is vital. The treatment of acute pain must include biopsychosocial considerations. See Figure 1. Additionally, a new pathway to our approach in the management of pain must be considered. According to Jane C. Ballantyne, University of Washington, the “cultural transformation needed is demedicalization of the most common pain conditions”. See Figure 2.

¹ Relieving Pain in America: A Blueprint for Transforming, Prevention, Care, Education, and Research, 2011: Institute of Medicine (IOM)

Figure 1: Biopsychosocial Model of Pain – Championed by Butler and Moseley and others, 2000.

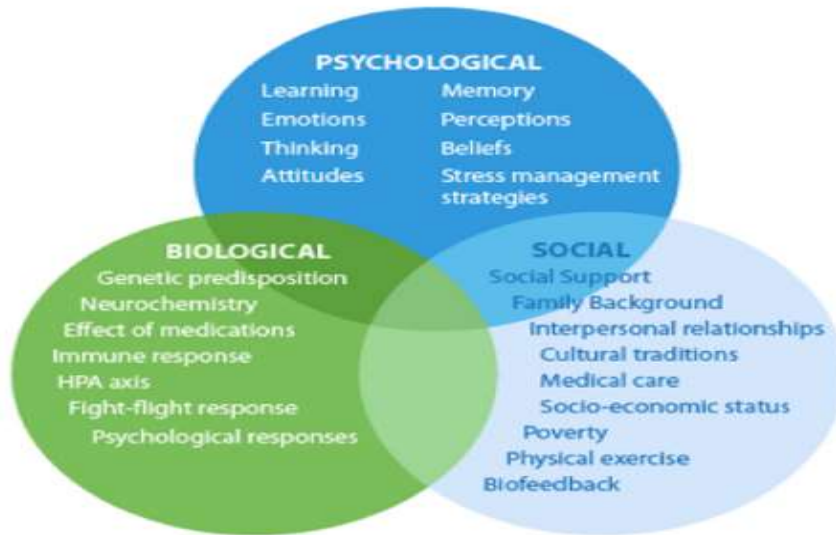
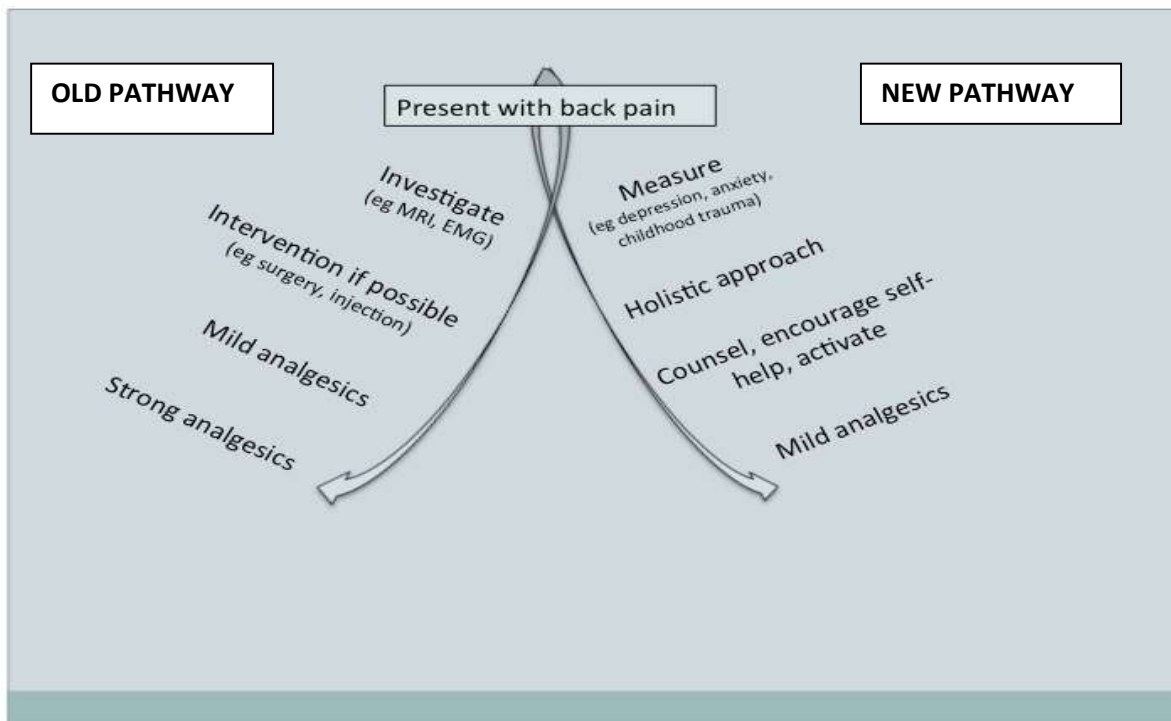


Figure 2: Courtesy of Jane C. Ballantyne, University of Washington, Seattle; Presentation: The evolution of the science of chronic pain: from the gate theory to central sensitization, May 20, 2016



How did we get here?

Neurobiology and underlying behavioral health issues associated with pain had limited understanding. Healthcare reimbursement systems discouraged interdisciplinary practices to treat chronic pain.

In 1980, a single paragraph written by J. Porter and H. Jick of Boston University Medical Center was published in the New England Journal of Medicine as a “Letter to the Editor” citing their review of patient files for the incidence of narcotic addiction in hospitalized patients. They concluded the development of addiction was rare in patients treated with narcotics².

In 1995, the president of the American Pain Society introduced a campaign entitled “Pain is the Fifth Vital Sign” at the society’s annual meeting which encouraged health care professionals to more aggressively treat pain similar to heart rate and blood pressure. The pharmaceutical industry began promoting the use of opioid medications to treat chronic non-cancer pain as a means to address a newly defined pain crisis. By 2010, enough opioid pain relievers were sold to medicate every American adult with a typical dose of 5 mg of hydrocodone every 4 hours for 1 month³.

When it comes to pain relief from opioids a significant gap exists between a patient’s expectation and reality. In 2004 The American Journal of Emergency Medicine published a study⁴ that assessed patient expectations for pain relief in the emergency room and found that patients often expect 75% of their pain to be relieved with opioids. A systematic review⁵ of the efficacy and safety of opioids for the treatment of chronic non-cancer pain found that patients’ actual pain relief was only 30%.

As pain was prioritized as a 5th vital sign, assessment of pain level became a central focus. Pain scales established a measurable goal and an expectation that the effectiveness of a treatment should be based solely on the reduction of the pain score. Prescribed medication became the default treatment in the absence of a better understanding of pain. Prevalence of pain and the increasing use of opioids have created a “silent epidemic” of distress, disability and danger to a large percentage of Americans. In 2010, the number of deaths due to unintentional drug overdoses exceeded the number of deaths due to motor vehicle traffic accidents. In September 2014 the National Institutes of Health reported⁶ a dramatic increase in opioid prescriptions and use over the past 20 years. This increase in opiate prescriptions parallels a notable increase in opioid related overdoses and hospital admissions. The United States makes up 4.6% of the world’s population and consumes over

² NEJM. 1980;302:123 published

³ CDC. Vital Signs: Overdoses of Prescription Opioid Pain Relievers---United States, 1999-2008; November 4, 2011/60(43);1487-1492

⁴ AM J Emerg Med. 2004 Jul;22(4):286-8

⁵ Pain. 2004 Dec;112(3):372-80

⁶ Pathways to Prevention Workshop: The Role of Opioids in the Treatment of Chronic Pain, 2014 National Instituted of Health (NIH)

80%⁷ of the world supply of opioids. Oregon ranks 4th in the nation in inappropriate use of prescription pain killers for adults⁸. The Oregon Health Authority (OHA) Injury and Violence Prevention Fact Sheet reports that in 2013 there were over 3 million opioid prescriptions, accounting for over 54% of all prescriptions. In 2014, approximately 154 Oregonian deaths were related to opioid medications.

Pain prevention, assessment, and treatment are inadequate⁹.

⁷ International Narcotics Control Board Report 2008. United Nations Pubns., 2009, p.20

⁸ Substance Abuse and Mental Health Services Administration. Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health, September 2015

⁹ Relieving Pain in America: A Blueprint for Transforming, Prevention, Care, Education, and Research, 2011: Institute of Medicine (IOM)

What we know now:

"Pain represents a national challenge. A cultural transformation is necessary to better prevent, assess, treat, and understand pain of all types. Government agencies, healthcare providers, healthcare professional associations, educators, and public and private funders of health care should take the lead in this transformation. Patient advocacy groups also should engage their diverse constituencies. To reach the vast multitude of people with various types of pain, the nation must adopt a population-level prevention and management strategy."

—Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research, 2011: Institute of Medicine

A cultural shift occurred regarding pain. Risks were underestimated and beliefs evolved that patients should expect complete resolution of pain through medication. Pain scores and patient satisfaction surveys impacted treatment decisions. Patients developed tolerance to medications. Pain persisted and morphine equivalency doses increased. The end result is identified as the worst man-made epidemic in modern medical history.

Current research¹⁰ identifies significant risks of associated harms and limited evidence of benefit in improving overall pain scores or functioning with long-term use of opioid medications. In light of what is being called an opioid epidemic, significant changes are being made to the way healthcare looks at the treatment of patients with pain.

National Pain Strategy calls for integrated pain care:

"Healthcare providers, insurers, and the public need to understand that although pain is universal, it is experienced uniquely by each person, and care—which often requires a combination of therapies and coping techniques—must be tailored. Pain is more than a physical symptom and is not always resolved by curing the underlying condition. Persistent pain can cause changes in the nervous system and become a distinct chronic disease."

—Relieving Pain in American: A Blueprint for Transforming, Prevention, Care, Education, and Research, 2011: Institute of Medicine (IOM)

¹⁰ Ann Intern Med. 2015;162:276-286

Rethinking Pain: So how does pain work?

The International Association for the Study of Pain (IASP) defines pain as:

Nociception

“The neural process of encoding noxious stimuli.” (IASP)
Nociception involves neural information about potentially harmful stimulus and can be thought of as a *danger message* to the brain.

Pain

“An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.” (IASP)

Central Sensitization

“Increased responsiveness of nociceptive neurons in the central nervous system to their normal or subthreshold afferent input.” (IASP)

Peripheral sensitization

“Increased responsiveness and reduced threshold of nociceptive neurons in the periphery to the stimulation of their receptive fields.” (IASP)

New understanding of pain allows us to develop and prioritize the best treatment plan with our patients. While there is great depth and complexity to the neuroscience of pain, which this module cannot address, some key things should be noted here.

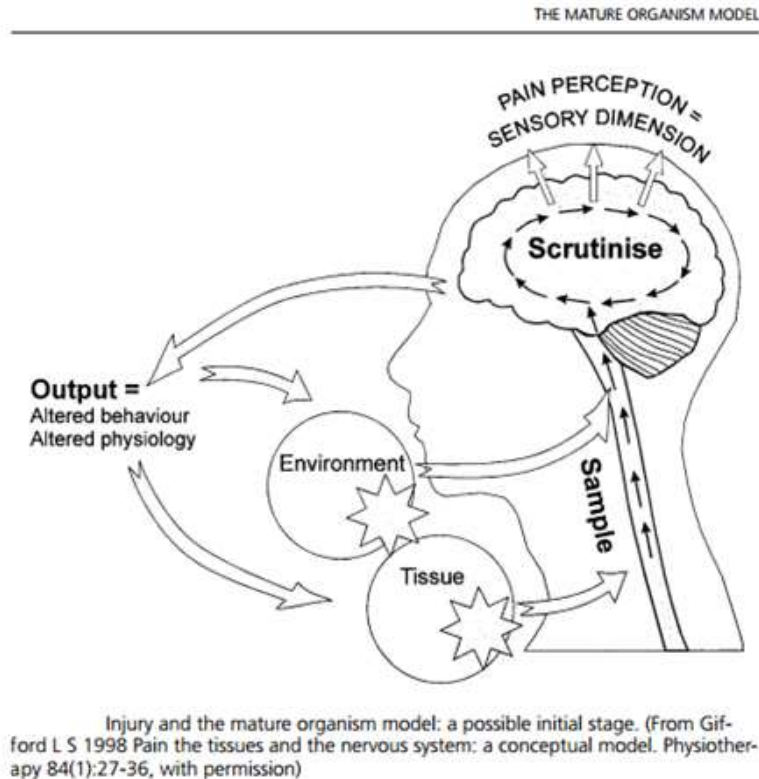
Pain and harm are not equivalent. The existence and severity of the pain experience is not directly correlated to tissue damage or injury. This is particularly relevant when working with complex persistent or chronic pain.

A pain experience is the result of an evaluation of threat to the individual and is based on assessment of input, including nociception. Nociception alone will not create a pain response. Rather it is necessary, when tissue is harmed, for the brain to attend to that stimulus and assign sufficient threat value to produce a response of pain.

With an acute injury, a healthy nervous system will accurately evaluate that threat has occurred and will produce a pain response. With persistent pain, there is less accuracy.

Below is a graphic illustration of this concept, from Louis Gifford, PT, showing the relationship between input, including nociceptive input, the central processing at the level of the brain, and the output response that includes the pain experience:

Figure 3: Mature Organism Model - Louis Gifford



Example of a pain response essentially equivalent to the nociceptive input (acute injury):
You cut your hand and you experience immediate pain.

Example of nociceptive input without sufficient threat value to experience pain:
You cut your hand as you are running out of the house to get your child before they run into traffic. The threat of the traffic is greater than the threat of the hand injury and you don't feel pain until your child is safe. Or you injure your hand in a battlefield where the threat of the environment is so great that you don't feel the hand injury until you are in a safe environment.

Example of pain in complete absence of nociceptive input:

Phantom limb pain, where there is no longer any tissue at all, but the brain continues to process a representation of the hand in the brain (including the sensory cortex) and produces a pain response.

Pain is an experience that we naturally wish to avoid. Avoidant behavior is normal and healthy when it supports avoidance of stresses to healing tissues, helping us treat an injured part of the body more gingerly while we recover. Avoidant behavior becomes dysfunctional when the pain that is experienced is not related to tissue healing. This is known as fear avoidance and is a significant aspect of many people's persistent pain experience.

Fear-avoidance (Wall and Melzack)

"Fear avoidance beliefs capture the dimension that pain is to be avoided rather than confronted. A rich literature demonstrates the disabling nature of these beliefs, largely in individuals with low back pain and the relationship with disability is typically greater than that with pain intensity."

Figure 4: Fear-avoidance Model – Vlaeyen, JW, Linton, SJ



The 'fear'-avoidance model. If pain, possibly caused by an injury, is interpreted as threatening (pain catastrophizing), pain-related fear evolves. This leads to avoidance behaviors, and hypervigilance to bodily sensations followed by disability, disuse and depression. The latter will maintain the pain experiences thereby fueling the vicious circle of increasing fear and avoidance. In non-catastrophizing patients, no pain-related fear and rapid confrontation with daily activities is likely to occur, leading to fast recovery. Pain catastrophizing is assumed to be also influenced by negative affectivity and threatening illness information.

Pain catastrophizing: (Quartana)

“Pain catastrophizing is characterized by the tendency to magnify the threat value of a pain stimulus and to feel helpless in the presence of pain, as well as by a relative inability to prevent or inhibit pain-related thoughts in anticipation of, during, or following a painful event.”

Pain catastrophizing affects how individuals experience pain. Sullivan et al developed the Pain Catastrophizing Scale and identified three key features of pain catastrophizing:

1. Rumination (e.g. "I can't stop thinking about how much it hurts")
2. Magnification (e.g. "I'm afraid that something serious might happen")
3. Helplessness (e.g. "There is nothing I can do to reduce the intensity of my pain")

Neuroplasticity (Merriam Webster Medical Dictionary):

“The capacity of the brain to develop and change throughout life, something Western science once thought impossible.”

New understanding of the changeable nature of the nervous system, coupled with information from real-time research from functional magnetic resonance imaging (fMRI), makes clear the role of the brain and nervous system in changing the pain experience. The nervous system can adapt negatively to produce an ongoing persistent pain state, and can also change to significantly decrease a pain state.

This knowledge led to a change in terminology being adopted around the world. The term *chronic pain* (a condition that will remain static and with which a person must learn to cope), is now called *persistent pain*, which reflects the ongoing challenges of pain but acknowledges the nervous system is capable of change. Though we do not know how much a person's system will change with the right input, we know it can positively adapt to decrease their pain.

Pages 8-11, "Rethinking Pain: So How Does Pain Work?" Nora Stern, Providence Health & Services. Copyright 2016. All Rights Reserved.

Where do we go from here...?

Assessment:

Comprehensive assessment of a person with pain will allow the best selection of appropriate treatment. Treatment should focus on present and future level of function and self-efficacy. A good assessment should:

- “Recognize the difference between acute and chronic and the implications for the assessment and management of the patient.” (from International Association for the Study of Pain (IASP) curriculum guidelines)
- Include appropriate assessment measures for the primary domains (sensory, affective, cognitive, physiological and behavioral) to account for the multi-dimensional nature of pain.
- Recognize both strengths and limitations of commonly used measures for diverse pain dimensions. For example, self-reporting, physical performance measures (such as Functional Capacity Evaluations), and physiological/autonomic response measures.
- Include pain modification assessment strategies to match inherent variable clinical presentations.
- Assess individual factors of pain: sociocultural characteristics, clinical characteristics, type and state, vulnerable populations.
- Refer to relevant health professionals appropriately and timely.
- Assess impact on daily life and quality of life.
- Utilize assessment strategies appropriate to communication problems related to age, language or physical or cognitive processing.
- Utilize behavioral and psychological measures of pain.
- Utilize standardized baseline and repeat measures of pain related to interference with function and quality of life.
- Include assessments which involve the limbic forebrain (emotions, mood, and cognitive aspects of pain).

Pain assessment should also include:

- A general history and physical exam evaluating general condition, musculoskeletal and neurologic systems, and the site of pain.
- Evaluation of self-reported pain and evaluation of behaviors or gestures suggestive of pain.
- Evaluation of subjective reported factors (location, onset/duration of pain, quality of pain with word descriptors, intensity of pain, variations/rhythms of pain, aggravating and alleviating factors of pain, associated symptoms, and potential pathology causation of pain).
- Evaluation of currently used therapeutic pain relief measures.

- A functional assessment evaluating prior level of function, pain-related changes or effect upon level of function, and impact on activities of daily living.
- A psychosocial assessment evaluating impact of pain on quality of life and meaning of pain in relation to an individual’s age, roles, and skills, all within the context of culture and ethnicity. This evaluation should consider any history of depression, psychopathology, sexual, physical or emotional abuse, and chemical or alcohol dependency.

Treatment:

“Pain results from a combination of biological, psychological and social factors and often requires comprehensive approaches to prevention and management.”

—Relieving Pain in American: A Blueprint for Transforming, Prevention, Care, Education, and Research, 2011: Institute of Medicine (IOM)

Just as the cause of an individual’s pain may include many factors, the treatment of their pain may require a combination of physical, psychological and pharmacological treatment modalities to address the whole person.

Modifiable Life Factors that Impact Pain

Physical Factors

Posture
 Function and Occupation
 Neuroplasticity
 Strength/Endurance/Pacing
 Mobility/Movement
 Sleep/Rest/Fatigue
 Diet/-Nutrition

Social Factors

Caregiver Burden
 Roles and Responsibilities
 Social Support/Isolation
 Transportation

Psychological Factors

Mindfulness
 Anxiety/Depression
 Cognition/Attention
 Happiness/Enjoyment
 Self-Efficacy/Meaning/Purpose
 Sense of Safety/Sense of Place
 Self-Image/Shame

Spiritual Factors

Suffering
 Meaning of Pain
 Faith/Religiosity
 Hope/Despair

1. The Patient Must be Part of the Treatment Team

- The central member of a treatment team is the patient; the composition of the team should depend on the patient’s need. The plan of care should be individualized and culturally appropriate.
- Pain management staff should educate the patient so they can participate as fully as possible in decision making and in self-management of pain.
- Family members may be part of the pain management team to assist with medication and other aspects of pain care. Strict adherence to HIPAA privacy policies and other ethical boundaries and risks, including the risks of medication diversion, should be kept in mind when involving family members.

2. Interprofessional/-Integrative Providers

- Each member of the pain treatment team needs to understand the anatomical and physiological basis of pain perception, the psychological factors that modify the pain experience, and the basic principles of pain management. Each team member should also understand modifiable lifestyle factors, self-management techniques and refer patients to appropriate disciplines.
- Clinical disciplines are equally important members of the pain care team.
- Effective management of severe and/or chronic pain usually involves more than one healthcare provider over the course of treatment, and clear communication between these providers is extremely important.
- All team members must be advised of any changes or developments by the involved specialists and other providers.
- Collaborative care models of chronic pain where the primary care clinician works collaboratively with behavioral specialists can result in improved outcomes for chronic pain management
- The Institute of Medicine, the World Health Organization and the International Association for the Study of Pain recommend all patients with chronic pain be referred to a lifestyle health educator.

Interprofessional Treatment Team

Medical Physician	Pharmacist	Exercise Physiologist
Naturopathic Physician	Nurse Practitioner	Massage Therapist
Chiropractic Physician	Nurse	Health Coach
Osteopathic Physician	Physician Assistant	Yoga Instructor
Dentist	Acupuncturist	
Psychiatrist	Physical Therapist	
Psychologist	Occupational Therapist	
Social Worker	Substance Use Counselor	

3. Never Medications Alone

If opioids are used, they should be combined with non-pharmacologic therapy and non-opioid pharmacologic therapy as appropriate¹¹.

“Reductions in prescribing should be evidenced based and clinically appropriate and not done out of fear.”

—David Barbe, MD, MHA, stated at the 2016 Annual Meeting of the Oregon Medical Association Board of Trustees

All prescribers must:

- Recognize their responsibility for ensuring that prescription pain medications are available to the patients who need them.
- Take steps to prevent these medications from becoming a source of harm or abuse.
- Understand the special issues in pain management for patients who may already be opiate dependent.

47% of patients on opioid medication for 30 days in the first year of use will be on opioids 3 years later¹².

60% of patients on opioid medication for 3 months will still be on opioids 5 years later¹³.

4. Pain Management Goals

Biopsychosocial and interdisciplinary treatment goals should:

- Measure treatment success by functional ability and self-efficacy not by absence of pain.
- Be Specific, Measurable, Achievable, Realistic and Time-based (SMART).

The cornerstones of good pain management practices include:

- Appropriate consultations, referrals, and diagnostic tests.
- Accurate record keeping and documentation.
- A treatment plan developed in collaboration with the patient with timely follow-up.

¹¹ CDC Guideline for Prescribing Opioids for Chronic Pain – United States 2016

¹² Express Scripts Report: December 2014; A Nation in Pain, Focusing on U.S. Opioid Trends for Treatment of Short-term and Longer-term Pain

¹³ Martin BC et al. J Gen Intern Med 2011; 26: 1450-57;

Having the conversation about pain

Conversations should:

- Explain pain.
- Focus on function, quality of life and living a meaningful life while managing pain. Patients should be redirected away from focusing on the elimination of pain.
- Inform patients about treatment modalities and encourage activation/participation.
- Stress concern for the patient's safety and emphasize medical professionals are there to support them and help them safely and effectively manage pain.
- Include shared decision making: Make patients partners by involving them in decisions that affect their care. Set realistic short term goals.

Manage your reactions and emotions:

- These conversations can provoke anxiety and discomfort for the most confident and experienced providers.
- Breathe and remind yourself your role is to safely guide the patient's treatment.
- Be clear on the outcome you hope to reach *before* you enter the room.
- Practice what you might say.
- Actively listen to the patient's concerns, emotions and opinions.
- Stay in the medical expert role.
- Speak to what is behind a patient's comment, not to the comment itself.
- Speak to what you know to be true.
- Be prepared to "agree to disagree" with your patient.
- State how much you care about them and emphasize your confidence in their ability to make the proposed changes.

Changing behavior can be scary and create fear for the patient. Fear can *look* like resistance. The challenge is to get patients working with you. As Theodore Roosevelt said "people don't care how much you know, until they know how much you care."

- Be supportive and provide resources:
 - "I care about you and this is not safe; we need to make some changes."
 - "It is normal for you to feel anxious and skeptical about going to the pain program, but I am confident that you can do it."

The motivational interviewing technique is a collaborative person-centered process (using warmth, genuine empathy, and acceptance) to engage patients, elicit change talk and evoke motivation to make positive changes from the patient. Motivational interviewing¹⁴ significantly increases adherence to chronic pain treatment in the short term.

¹⁴ The Efficacy of Motivational Interviewing in Adults with Chronic Pain: A Meta-Analysis and Systematic Review, Dion Alperstein & Louise Sharpe, *The Journal of Pain*, Vol 17, No 4 (April), 2016: pp 393-403.

- Empower the patient by giving them options:
 - “Based on your risk factors, opioids are not a safe option. Would you be willing to discuss some non-opioid treatments?”
- Use reflection and validation:
 - “You seem ____ (upset, anxious, frightened) by what I have said.”

Conclusion

Most Americans who live with chronic pain do not receive appropriate care¹⁵. Information is essential. There is much more to learn about chronic pain prevention and treatment; existing knowledge could be used more effectively to reduce substantially the numbers of people who suffer unnecessarily¹⁶. An interdisciplinary approach is required for optimal pain management. The National Pain Strategy states “access to safe and effective care for people suffering from pain remains a priority that needs to be balanced in parallel with efforts to curb inappropriate opioid prescribing and use practices.” In Oregon, local and statewide efforts are being made to reduce the risks associated with the use of opioid medications that target abuse, addictions and unintentional overdose deaths. Coverage for non-pharmacologic treatments are being made through recent changes to the Oregon Health Plan’s Prioritized List of Health Services. The revisions support funding for the assessment of pain, comprehensive and evidence-based inter-professional modes of treatment, and recommends early interventions to prevent chronicity. While continuing to champion education about inter-professional modes of effective treatment, the Oregon Pain Management Commission advocates for the following:

- Identify barriers to non-pharmacologic treatments for chronic pain that promote a biopsychosocial treatment approach to chronic pain with the goal of improved patient well-being and self-management of pain.
- Promote the use of and reimbursement for non-pharmacologic multi-modality interdisciplinary services for chronic pain.
- Promote collaborative models of pain management between primary care clinicians and sources of pain treatment expertise.
- Promote the use of the Chronic Care Model¹⁷ that transforms care of chronic conditions from acute and reactive to proactive, planned, and population-based.
- Promote community programs that assist individuals with self-management of chronic pain.

¹⁵ (2011) Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. Washington, DC, Institute of Medicine

¹⁶ The National Pain Strategy: A Comprehensive Population Health-Level Strategy for Pain 2016

¹⁷ Wagner EH, et al. Milbank Q 1996, Coleman et al. Health Affairs 2009, Stelfox et al. Prev Chronic Dis 2013, Miller et al. Med Care 2013

Additional Topics

Malignancy Pain

End of Life/ Palliative Care

Complex Regional Pain Syndrome

Diabetic Neuropathy

Herpetic Neuropathy

Fibromyalgia

Addictions/ Chemical Dependency/ Tolerance,
Misuse, Abuse

Opioid Prescribing; Risk mitigation

Central Sensitization

Adverse Childhood Events

Post-Traumatic Stress Disorder

Cognitive Behavior Therapy

Medical Marijuana

Alexander Technique

Motivational Interviewing

Bibliography: Rethinking Pain

Gifford, L S. "Pain, the Tissues and the Nervous System: A conceptual model." *Physiotherapy* (1998): 84(1):27-36. with permission.

Gifford, Louis. "Topical issues in pain, Mature Organism Model." 1998.

Louw, Adrian, PT, PhD and Puentedura, Emilio PT, PhD, OTP. *Therapeutic Neuroscience Education*. International Spine and Pain Institute, 2013.

McMahon, Stephen, Koltzenburg, Martin, Tracey, Irene and Turk, Dennis. *Textbook of Pain*. Saunders, 2013.

Moseley, Lorimer and Butler, David. *Explain Pain*. Adelaide, Australia: Noigroup Publications, 2013.

—. *Sensitive Nervous System*. Adelaide, Australia: Noigroup Publications, 2006.

Quartana PJ, Campbell CM, Edwards RR. "Pain Catastrophizing: A Critical Review." *Expert Rev Neurother* (2009): 745-58.

Sullivan, Michael, PhD. *Pain Catastrophizing Scale Users Manual*. Copyright 1995, 2001, 2004, 2006, 2009. Departments of Psychology, Medicine, and Neurology School of Physical and Occupational Therapy, McGill University, n.d. <e-mail: michael.sullivan@mcgill.ca >.

Vlaeyen JW, Linton SJ. "Fear-avoidance and its consequences in chronic musculoskeletal pain: A state of the art." *Pain* (2000): 317-32. May 2 2016.
<https://www.researchgate.net/publication/12534678_Vlaeyen_JW_Linton_SJ_Fear-avoidance_and_its_consequences_in_chronic_musculoskeletal_pain_A_state_of_the_art_Pain_85_317-32>.

Thank you!

Thank you for your time in learning more about pain management in Oregon, the complex nature of pain, evolving concepts about the treatment of pain and what is needed to ensure that all Oregonians have access to the best possible pain treatment available to them.

This material is the property of the Oregon Pain Management Commission and may not be used without express permission of the Commission.