Chronic Pain Assessment

Michael R. Clark, MD, MPH, MBA
Disclosure

- Nothing to Disclose
Learning Objectives

 Review steps in the initial evaluation of a patient with acute pain, including screening for common comorbidities such as depression and sleep disorders

 Compare different pain rating scales

 Describe a comprehensive stepwise approach to the assessment and follow-up of patients with chronic pain

 Identify support tools available to the primary care clinician managing a patient with chronic pain

Acute vs Chronic Pain

- Acute pain is generally short-lived, lasting less than 6 months. It responds to intervention and/or healing.

- Chronic noncancer pain lasts 6 months or longer and may be experienced by the patient as continuous pain or intermittent and recurrent pain events. It serves no useful biologic purpose.

Tools for Initial Pain Assessment

- Nursing Admission Assessment
  - In the acute setting, all admission assessment forms should have an area that addresses pain; all flow sheets should have a section for pain documentation

- Initial Pain Assessment Tool
  - Good tool to collect information about the patient’s pain (location, intensity, quality, onset, duration, variation, rhythms, expressions, alleviating/aggravating factors, effects of pain, pain goal)
Hierarchy of Importance of Measures of Pain Intensity

- Patient’s self-report using a pain scale
  - Gold standard except when patient cannot report pain
- Behaviors
  - Useful in both the young and the elderly
- Report from family members or friends
  - Especially important for infants, young children, elderly who cannot verbalize pain
- Physiologic measures (least sensitive)
  - Acute pain may elicit a change in vital signs; over time physiologic response to pain may not be seen
Pain Rating Scales

- Numeric Rating Scale
  - Widely used
  - Easy to use
  - Used for assigning a number to the pain intensity
  - Scales are usually 0-10 or 0-5 with 0 = “no pain” and 10 or 5 = “worst possible pain”
Numeric Pain Intensity Scale

No pain

 Moderate pain

 Worst possible pain

0 1 2 3 4 5 6 7 8 9 10

Pain Rating Scales

- Visual Analog Scale
  - Rates pain intensity along a continuum using anchor words ("No Pain" – "Worst Pain")
  - Easy to use for persons who cannot give pain a number but more difficult to assign intensity (Usually a standard 100 mm length)
  - Newer scales combine the numeric rating scale, visual analog scale, and the Wong-Baker FACES Pain Rating Scale
Visual Analog Scale

No Pain

Pain as bad as it could possibly be

0

10
Pain Rating Scales

- Faces Rating Scale
  - Developed for use primarily with children as young as 3 years old
  - Can be used with illiterate adults and those who have English as a second language
FACES Pain Rating Scale

0  No Hurt
1 - 2  Hurts Little Bit
3 - 4  Hurts Little More
5 - 6  Hurts Even More
7 - 8  Hurts Whole Lot
9 - 10  Hurts Worst

Pain Rating Scales

- FLACC Scale assesses pain intensity 0-10 based on:
  - Facial expression
  - Leg movement
  - Activity
  - Crying
  - Consolability

(Primarily used in nonverbal children)
## FLACC Scale

<table>
<thead>
<tr>
<th>Categories</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td><strong>Face</strong></td>
<td>No particular expression or smile</td>
</tr>
<tr>
<td><strong>Legs</strong></td>
<td>Normal position or relaxed</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td>Lying quietly, normal position, moves easily</td>
</tr>
<tr>
<td><strong>Cry</strong></td>
<td>No cry (awake or asleep)</td>
</tr>
<tr>
<td><strong>Consolability</strong></td>
<td>Content, relaxed</td>
</tr>
</tbody>
</table>

Each of the five categories is scored from 0–2, resulting in a total score between 0 and 10.

Reprinted with permission: Merkel SI, et al. The FLACC: a behavioral scale for scoring postoperative pain in young children. *Pediatr Nurs* 1997;23(3):293-7. The FLACC scale was developed by Sandra Merkel, MS, RN, Terri Voepel-Lewis, MS, RN, and Shobha Malviya, MD, at C. S. Mott Children’s Hospital, University of Michigan Health System, Ann Arbor, MI.
Pain Rating Scales

- CRIES Neonatal Postoperative Pain Measurement Score Used in NICU based on:
  - Crying
  - Requires oxygen for saturation < 95%
  - Increased vital signs
  - Expression
  - Sleeplessness
# CRIES Neonatal Postoperative Pain Measurement Score

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crying</td>
<td>No</td>
<td>High pitched</td>
<td>Inconsolable</td>
</tr>
<tr>
<td>Requires $O_2$ for sat &gt;95</td>
<td>No</td>
<td>$&lt;30%$</td>
<td>$&gt;30%$</td>
</tr>
<tr>
<td>Increased vital signs</td>
<td>HR and BP $\leq$ or $&lt;$ preop</td>
<td>HR or BP $\uparrow$ $&lt;20%$ of preop</td>
<td>HR or BP $\uparrow$ $&gt;20%$ of preop</td>
</tr>
<tr>
<td>Expression</td>
<td>None</td>
<td>Grimace</td>
<td>Grimace/grunt</td>
</tr>
<tr>
<td>Sleepless</td>
<td>No</td>
<td>Wakes at frequent intervals</td>
<td>Constantly awake</td>
</tr>
</tbody>
</table>
Helpful Mnemonics

- L-DOC-SARA
  - Location
  - Duration
  - Onset
  - Characteristic
  - Severity and pain goal
  - Aggravating factors
  - Relieving factors
  - Associate symptoms
Helpful Mnemonics

- HISTORY
- ASSESSMENT
- MECHANISM of Pain
- SOCIAL and Psychological Factors
- TREATMENT
- EDUCATION
- REASSESSMENT
Helpful Mnemonics (cont’d)

- Four A’s
  - Analgesia
  - Adverse Side Effects
  - Activities of Daily Living
  - Aberrant Behavior
Associated Symptoms Related to Pain Assessment or Treatment

- Ability to perform activities of daily living
  - Compare from visit to visit (outline typical day)

- Appetite changes
  - Weigh patient on each visit

- Mood changes
  - Quick assessment for depression
  - If positive consider more in-depth assessment and referral if not in behavioral health system
  - Always assess for suicidal ideation (not normal!)
Associated Symptoms Related to Pain Assessment or Treatment (cont’d)

- Anxiety
  - Assess for preexisting and current anxiety
  - Use of anxiolytics

- Sleep disturbances
  - Sleep patterns
  - Nighttime rituals
  - Use of caffeine, alcohol, medications

- Socialization
  - Assess for changes in interactions with others
Basics of Pain Assessment

- Key Points
  - Learn to ask focused questions
  - Use a structured approach
  - The better assessment you do, the more complete the treatment plan
Chronic Pain Overview

- International Association for the Study of Pain (IASP) pain definition: “an unpleasant sensory and emotional experience associated with actual or potential tissue damage”\(^1\)

- 50-75 million people in the United States experience chronic pain that interferes with activities of daily living and quality of life\(^1\)

- Combined expenses of health care, lost compensation, and litigation associated with chronic pain costs the US public approximately $100 billion annually\(^2\)

- Chronic back pain alone affects more than 70% of all Americans at some time in their lives\(^3\)

- The most common reason for unrelieved pain is the failure to routinely assess and effectively manage pain\(^3\)

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Consequences of Chronic Pain

Physical Functioning\textsuperscript{1-3}
- Decreased mobility
- Sleep disturbances
- Fatigue
- Loss of appetite

Mood\textsuperscript{1,2}
- Depression
- Anxiety
- Anger
- Irritability

Social Functioning\textsuperscript{1,3}
- Diminished social relationships (family/friends)
- Decreased sexual function/intimacy
- Decreased recreational and social activities

Societal Consequences\textsuperscript{4-7}
- Increased healthcare utilization
- Disability
- Loss of workdays or employment
- Substance abuse

## 10-Step Approach to Long-term Chronic Pain Management

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Comprehensive initial evaluation*</td>
<td>- History: pain, medical, psychosocial Assessment; functional, psychosocial</td>
</tr>
<tr>
<td>2. Establish diagnosis*</td>
<td>- X-rays, MRI, CT, neuro-physiologic studies, psychological evaluation, precision diagnostic interventions</td>
</tr>
<tr>
<td>3. Establish medical necessity*</td>
<td>- Physical diagnosis: Physical modalities Therapeutic interventional pain management; Behavior therapy</td>
</tr>
<tr>
<td>4. Assess risk-benefit ratio*</td>
<td>- Treatment is beneficial</td>
</tr>
<tr>
<td>5. Establish treatment goals*</td>
<td>- Pain relief: Improved physical and psychosocial function; identify additional diagnostic tests, consultations, and/or treatments, if planned</td>
</tr>
<tr>
<td>6. Obtain informed consent and agreement*</td>
<td>- For opioid therapy</td>
</tr>
<tr>
<td>7. Initial dose adjustment phase (&lt;8-12 wks)*</td>
<td>- Start low dose: Utilize opioids, NSAIDs, adjuvants. Discontinue: Lack of analgesia, side effects, lack of functional improvement</td>
</tr>
<tr>
<td>8. Stable phase (stable-moderate doses*)</td>
<td>- Monthly refills: Manage side effects Assess for 4 As: Analgesia, activity, aberrant behavior, adverse effect</td>
</tr>
<tr>
<td>9. Adherence monitoring*</td>
<td>- Prescription monitoring programs Random drug screens Pill counts</td>
</tr>
<tr>
<td>10. Outcomes*</td>
<td>- Successful-continue: Stable doses, analgesia, activity, no abuse, side effects Failed-discontinue: Dose escalation, no analgesia, no activity, abuse, side effects, non-adherence</td>
</tr>
</tbody>
</table>

Approach to Long-term Chronic Pain Management

1. Comprehensive initial evaluation*

• History
  • Pain, medical, psychosocial

• Assessment
  • Physical, functional, psychosocial

History

- **PQRST Mnemonic**
  - Assess Provocative (aggravating) and Palliative (relieving) factors
  - Assess the Quality of the pain: burning, stabbing, stinging, dull, sharp, throbbing, shooting, aching, tingling, heaviness, tightness
  - Assess the Region (location) of the pain, Radiation
  - Assess the Severity of the pain (use pain intensity scale)
  - Assess the Timing of the pain (when does it occur, how long does it persist), Treatment
Clinical Assessment of Pain

- Functional Assessment
  - Does the pain interfere with activities: sleeping, eating, walking, rising/sitting, hygiene, sex, relationships?

- Psychological Assessment
  - Does the patient have concomitant depression, anxiety, or mental status changes?

- Medication History
  - What medications have been tried in the past? Which medications have helped? Which medications have not helped?
Unidimensional Pain Assessment Tools

Visual Analog Scale¹

Wong-Baker Faces Scale²

Verbal Pain Intensity Scale¹

0–10 Numeric Pain Intensity Scale³

Multidimensional Pain: Assessment Tools

- Measure pain intensity and impact on function, mood, and/or quality of life

- Examples
  - Brief Pain Inventory
  - Wisconsin Brief Pain Questionnaire
  - McGill Pain Questionnaire
  - Memorial Pain Questionnaire Card
Physical Examination

- A comprehensive physical and neurological examination should be performed when evaluating and identifying the patient’s subjective complaints of pain\(^1\)

- Should serve to verify the preliminary impression from the history and guide the selection of laboratory and imaging studies\(^2\)

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Approach to Long-term Chronic Pain Management (cont’d)

2. Establish diagnosis*

- X-rays, MRI, CT, neuro-physiologic studies
- Psychological evaluation
- Precision diagnostic interventions

Nociceptive vs Neuropathic Pain


Nociceptive
- Arthritis
- Mechanical low back pain
- Post-operative pain
- Sickle cell crisis
- Sports/Exercise injury

Mixed
- Fibromyalgia
- Headache
- Low back pain
- Myofascial pain syndrome
- Skeletal muscle pain

Neuropathic
- Neuropathic low-back pain
- Polyneuropathy (diabetic, HIV)
- Postherpetic neuralgia
- Trigeminal neuralgia
Diagnostics

- There is no single diagnostic test for pain

- Confirm or exclude underlying causes such as rheumatoid arthritis, diabetic neuropathy, spinal disorders, HIV, herpes viruses

- Multiple tests may not be helpful
Diagnostics

- Plain radiology films with flexion, extension and oblique views may be helpful
- Magnetic resonance imaging (MRI)
  - best for most screening
- Computed tomography (CT)
  - if bony pathology is suspected
- CT myelogram
  - patients with previous surgery
- Nerve conduction velocity and electromyography

Psychological Evaluation

- Investigate psychiatric contributions to pain, including:
  - Sleep disorders
  - Depression
  - Anxiety
  - Personality disorders
  - History of substance abuse/dependence
Approach to Long-term Chronic Pain Management (cont’d)

| 3. Establish medical necessity* | • Physical diagnosis  
|                              | • Therapeutic interventional pain management  
|                              | • Physical modalities  
|                              | • Behavior therapy  

| 4. Assess risk-benefit ratio* | • Treatment is beneficial  

| 5. Establish treatment goals* | • Pain relief (may not be complete)  
|                              | • Improved physical and psychosocial function  
|                              | • Identify additional diagnostic tests, consultations, and/or treatments, if planned  

Development of Patient Care Plan

- Physician-patient partnership
- Based on findings from:
  - Physical examination and history (including ethnic/cultural background, age, gender, spirituality)
  - Comorbid conditions and adherence
  - Psychological assessment
  - Pain history and characteristics
  - Etiology of pain
Goals of Effective Management

- “In persistent non-cancer pain, the goal of restoring physical or psychological function is often given equal importance to the goal of pain control”¹

- It should be made clear to patients and families that the total absence of any discomfort is not always achievable²

Principles of Pain Management

- Individualize pain management

- Assess and treat disability and physical, psychosocial, and psychological comorbidities\(^1,2\)

- Select simplest approach using multimodal therapy (pharmacologic and nonpharmacologic)\(^1,2\)

Principles of Pain Management (cont’d)

- Consider expert consultation if:
  - Uncertainty about diagnosis
  - Specialized treatment (eg, nerve block) is indicated
  - Unable to achieve pain and functional goals
  - Discomfort with opioid therapy in person with a history of substance abuse
  - Evidence suggests opioid misuse/abuse
  - Several treatments/combinations tried without success
Approach to Long-term Chronic Pain Management (cont’d)

6. Obtain informed consent and agreement*

- For opioid therapy

## Approach to Long-term Chronic Pain Management (cont’d)

| 7. Initial dose adjustment phase (<8-12 wks)* | • Start low dose  
  • Utilize opioids, NSAIDs, adjuvants  
  • Discontinue if:  
    • Lack of analgesia, side effects, lack of functional improvement |
|---------------------------------------------|---------------------------------------------------------------|
| 8. Stable phase (stable-moderate doses)*    | • Monthly refills  
  • Assess for 4 As  
  • Analgesia, activity, aberrant behavior, adverse effect  
  • Manage side effects |
| 9. Adherence monitoring*                    | • Prescription monitoring programs  
  • Random drug screens  
  • Pill counts |

Treatment

- Comprehensive management includes a combination of nonpharmacologic and pharmacologic therapy

- Nonpharmacologic therapy
  - Biofeedback
  - Physical therapy\(^1,2\)
  - Massage
  - Acupuncture
  - Cognitive behavior therapies and other modalities
  - Physical exercise

## Nonpharmacologic Therapies for Low-Back Pain*

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Net Benefit</th>
<th>Level of Evidence</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progressive relaxation</td>
<td>Substantial</td>
<td>Fair</td>
<td>B</td>
</tr>
<tr>
<td>Acupuncture</td>
<td>Moderate</td>
<td>Fair</td>
<td>B</td>
</tr>
<tr>
<td>Cognitive-behavioral therapy</td>
<td>Moderate</td>
<td>Good</td>
<td>B</td>
</tr>
<tr>
<td>Exercise</td>
<td>Moderate</td>
<td>Good</td>
<td>B</td>
</tr>
<tr>
<td>Interdisciplinary rehabilitation</td>
<td>Moderate</td>
<td>Good</td>
<td>B</td>
</tr>
<tr>
<td>Spinal manipulation</td>
<td>Moderate</td>
<td>Good</td>
<td>B</td>
</tr>
<tr>
<td>Brief individualized education</td>
<td>Moderate</td>
<td>Fair</td>
<td>B</td>
</tr>
<tr>
<td>Massage</td>
<td>Moderate</td>
<td>Fair</td>
<td>B</td>
</tr>
<tr>
<td>Yoga</td>
<td>Moderate-Limited</td>
<td>Fair-Poor</td>
<td>B</td>
</tr>
<tr>
<td>Back schools</td>
<td>Small</td>
<td>Fair</td>
<td>C</td>
</tr>
</tbody>
</table>

# PHN: Pharmacologic Treatment Options

<table>
<thead>
<tr>
<th>Topical Analgesics</th>
<th>Tricyclic Antidepressants</th>
<th>Antidepressants</th>
<th>Anticonvulsants</th>
<th>Opioids</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lidocaine patch 5%*</td>
<td>• Amitriptyline</td>
<td>• Selective serotonin reuptake inhibitors</td>
<td>• Gabapentin*</td>
<td>• Controlled-release morphine</td>
</tr>
<tr>
<td>• Capsaicin</td>
<td>• Desipramine</td>
<td>• Selective serotonin-norepinephrine reuptake inhibitor</td>
<td>• Pregabalin*</td>
<td>• Oxycodone CR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lamotrigine</td>
<td>Methadone</td>
</tr>
</tbody>
</table>

*FDA-approved for use in treatment of pain associated with postherpetic neuralgia.
Breakthrough Pain

- Transient exacerbation of pain occurring in a patient with otherwise stable, persistent pain
  - Incident pain – caused by patient movement
  - Spontaneous pain – unrelated to patient action
  - End-of-dose pain – occurring just prior to the next scheduled dose of analgesic
- Rapid onset (<5 minutes)
- Severe intensity
- Self-limiting, average duration 30 minutes
- Prevalence: 20%-95% in surveys

Breakthrough Pain: Assessment

- No independently validated tool to assess
  - Location, severity, temporal factors, relationship to baseline persistent pain, relationship to scheduled analgesic(s), precipitants, predictability, inferred pathophysiology

- Reassess etiology of baseline persistent pain

- Reassess around-the-clock coverage of scheduled analgesic(s) for baseline persistent pain

Breakthrough Pain: Management

- Use potent analgesic with rapid onset and short duration of action
- If using immediate-release analgesic(s) for baseline persistent pain → consider sustained-release analgesic(s)
- If using sustained-release analgesic(s)
  - Increase dose
  - Shorten dosing interval
- Non-pharmacologic measures

Approach to Long-term Chronic Pain Management (cont’d)

10. Outcomes*

- Successful - continue
  - Stable doses, analgesia, activity, no abuse, no side effects
- Failed - discontinue
  - Dose escalation, no analgesia, no activity, abuse, side effects, non-adherence

Aberrant Drug-Taking Behaviors

▪ Abuse/addiction occurs in about 3% of chronic pain patients taking opioids

▪ Risk factors for abuse or addiction in the general population also predict opioid abuse
  — History of early substance use
  — Personal/family history of substance abuse
  — Comorbid psychiatric disorders

## Aberrant Drug-Taking Behaviors (cont’d)

<table>
<thead>
<tr>
<th>Probably More Predictive of Addiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling prescription drugs</td>
</tr>
<tr>
<td>Stealing or “borrowing” drugs</td>
</tr>
<tr>
<td>Obtaining prescription drugs from nonmedical sources</td>
</tr>
<tr>
<td>Multiple dose escalation or other noncompliance with therapy despite warnings</td>
</tr>
<tr>
<td>Repeatedly seeking prescriptions from other clinicians or from emergency departments without informing prescriber or after warnings to desist</td>
</tr>
<tr>
<td>Repeated resistance to changes in therapy despite clear evidence of adverse physical or psychological effects from the drug</td>
</tr>
<tr>
<td>Prescription forgery</td>
</tr>
<tr>
<td>Injecting oral formulations</td>
</tr>
<tr>
<td>Concurrent abuse of alcohol or illicit drugs</td>
</tr>
<tr>
<td>Multiple episodes of prescription “loss”</td>
</tr>
<tr>
<td>Evidence of deterioration in the ability to function at work, in the family, or socially that appears to be related to drug use</td>
</tr>
</tbody>
</table>

### Aberrant Drug-Taking Behaviors (cont’d)

<table>
<thead>
<tr>
<th>Probably Less Predictive of Addiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggressive complaining about the need for more drugs</td>
</tr>
<tr>
<td>Requesting specific drugs</td>
</tr>
<tr>
<td>Unsanctioned dose escalation or other noncompliance with therapy on 1 or 2 occasions</td>
</tr>
<tr>
<td>Reporting psychic effects not intended by the clinician</td>
</tr>
</tbody>
</table>

Support Tool

Support Tool (cont’d)

Chronic Pain Overview Summary

- Evaluate/adopt personalized “step approach” to pain assessment/management (eg, HAMSTER)
- Identify pain tools that work for your practice
- Set realistic, achievable goals in pain reduction
- Comprehensive management should include combination of nonpharmacologic/pharmacologic therapy
- Seek to minimize specialist referrals, only for times when absolutely necessary