Integrated Pain Management

Michael Massey, DO
CentraCare Health – St Cloud, MN

Objectives

At the conclusion of this session, participants should be able to:

1. Understand basic concepts of pain medicine
2. Understand team models of pain management
3. Understand role of primary care and pain medicine in an integrated pain management model

Outline

- Review Pain Physiology
- Chronic Pain Patient
- Psychosocial Factors
- Pain Treatment Models
- Integrated Pain Medicine

Pain History

Religion and Pain Experience
Pain History

- Hippocrates – Disturbance of bodily humors (fluids)
- Pain and disability are symptoms of imbalance
- Thought shifted toward specificity theory (body and mind separated)
- Shifted toward dualistic theory (mind and body not separated)

Peripheral theories of Pain

- Rene Descartes (1596-1650)
  - Bell-Ringing mechanism
  - Specificity Theory

- Claude Bernard (1813-1878) – autonomic nervous system relationship
- Silas Weir Mitchell – Qualities of pain experience associated with sensory nerves
- Johannes Muller – Specific neural pathways and four modalities (i.e touch, warmth, cold, pain)
Biomedical model

- Acute pain reflects tissue damage
- If tissue damage repaired, pain ceases
- Well localized
- Duration, intensity and quality are clear

Nociceptive Pain Processing: Transduction to Perception

Adapted from Scholz J, Woolf CJ, Nat Neuroscience. 2002: (5 suppl): 1062-1067

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Peripheral Nerve Fibers

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Table 37-4 Nerve Fiber Classification

<table>
<thead>
<tr>
<th>Family</th>
<th>Diameter (μm)</th>
<th>Sensory Function</th>
<th>Motor Function</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aβ</td>
<td>1-2</td>
<td>Touch, pressure</td>
<td>Motor responses</td>
<td>Pain and temperature</td>
</tr>
<tr>
<td>Aδ</td>
<td>2-10</td>
<td>Pain, heat</td>
<td>Motor responses</td>
<td>Pain and temperature</td>
</tr>
<tr>
<td>C</td>
<td>&gt;10</td>
<td>Autonomic</td>
<td>Motor responses</td>
<td>Pain and temperature</td>
</tr>
</tbody>
</table>
Central Sensitization

- Complex changes occurring at dorsal horn, brain stem and higher cerebral sites
- Noxious stimuli not necessary to produce pain
- Increased afferent excitation and reduced inhibition

Peripheral Sensitization

- Nociceptors change in response to tissue injury
- Decreased threshold for activation and subsequent evoked pain (hyperalgesia)
- Feed forward loops of sensitization and activation created by nociceptors
Ronald Melzack, Ph.D.

- Gate Control Theory
- Emphasized motivational, affective and cognitive aspects of pain experience
- Neuromatrix theory

Summary of General Pain Mechanisms

- Several areas of the nervous system contribute to processing of pain signals
- These signals can be normal or pathological processes
- Neuroplastic changes may occur to modulate pain experience

Pain Defined

- IASP: “An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”
- Subjective and entirely individual personal experience

Acute vs Chronic Pain

- Acute Pain:
  - Reflects tissue damage
  - Promotes helpful behaviors
  - Time limited
  - Treatment aimed at removing pathological process
- Chronic Pain:
  - Does not (usually) reflect tissue damage
  - Promotes unhealthy behaviors
  - Can remain indefinitely
  - Treatment aimed at improving multiple factors
Chronic Pain Patient

- Miserable
- Ongoing stressors
- “medical limbo”
- Change

Gatchel’s 3-Stage Model

I. Normal emotional reaction during acute phase

II. Behavioral and psychological reactions and problems

III. Acceptance or habituation to “sick role”

Gatchel RJ, 1991

Biopsychosocial Model

- Biological + psychological + social factors contribute to pain experience

Operant Conditioning

- Wilbert Fordyce, Ph.D
- “Pain behavior”
- Factors that maintain pain can be different from those that initiated it
- Pain behaviors subject to shift from structural/mechanical to functional/environmental control
Cognitive Revolution

• Dennis Turk, Ph.D
• One of the champions of biopsychosocial approach
• Research demonstrated that life control and pain interference were key mediators of pain association with depression
• Once life control and pain interference factored out, pain no longer correlated with depression

Turk et al. Pain, 61, 1995

Catastrophizing

• Exaggerated negative orientation toward a noxious stimulus
• Rumination
• Magnification
• Helplessness


Anger

Perceived Injustice

Sullivan M, 2008

FEAR ➔ ANXIETY

ACCEPTANCE

• Live with the pain without reaction or disapproval

• “Yes you can do this activity, Yes you are going to have pain, Yes you can do this activity”

Continuum of Team Models

• CCH is mostly in a consultative system of pain care
• We will be developing Integrative pain care
• Biopsychosocial model

Multidisciplinary Team Model

• Patient care managed by team leader

• Leadership is often hierarchical

• Team members have individual goals

• Decisions are usually made individually rather than as a team
Interdisciplinary Team Model

- Team members work together toward common goal
- Make collective therapeutic decisions
- Communicate and consult face to face with other team members
- Teams possess a combination of skills that no single individual demonstrates alone
- Team able to achieve more than sum of individuals involved

Interdisciplinary Team Approach

- OT
- PT
- VOC
- NUTRITION
- PATIENT
- PSYCH
- RT
- MD
- SW
- RN

Functional Restoration Program

- Best treatment for high impact chronic pain
- Best evidence for return to activity and limiting utilization of healthcare resources
- Will not be available for at least 6 months
- Plan to be CARF Accredited by Aug ’18

R Chou, J Loeser, et al. APS Low Back Pain Guideline Panel 2009

FRP SCHEDULE

- 8 Hours a day, 5 days a week, 4-6 weeks
- Small Groups
- Maintenance
Pain Program Goals

- Decrease pain intensity
- Increase physical activity
- Improve pain medication regimen
- Improve psychosocial functioning
- Return to recreational activity and work
- Reduce utilization of healthcare resources

Pain in America

**Situation:**
- Pain program being organized to meet needs of our stakeholders

**Background:**
- 1/3 Americans suffer from chronic pain
- Economic impact is over half a $Trillion/yr
- United States transitioning from fragmented to integrated care

Strategies

**National:**
- IOM Report 2011
- CDC Opioid Guidelines 2016
- NIH National Pain Strategy 2016

**Local:**
- ICSI 2016

IOM Report 2011

- Articulated the burden of pain in our society
- Called for a cultural transformation in pain prevention, care, education and research
- Recommended the development of “a comprehensive population health-level strategy”
CDC Guidelines for Prescribing Opioids for Chronic Pain 2016

- Recommendations for primary care clinicians prescribing opioids for chronic pain outside of active cancer treatment, palliative care, and end-of-life care
- The guidelines are intended for PCPs treating chronic pain with opioids in outpatient settings
- Because clinicians work in team-based care, it refers to and promotes integrated pain management and collaborative working relationships
- Guidelines for opioid prescribing – Not a strategy for national pain care

National Pain Strategy

- Intended to initiate a long-term effort to create a cultural transformation in how pain is perceived, assessed, and treated
- Steps toward the ideal state of pain care

“Integrated care is the systematic coordination of medical, psychological and social aspects of health care and includes primary care, mental health care, and, when needed, specialist services”

Institute for Clinical Systems Improvement 2016

- Communicate a clear and consistent message
- Chronic pain should be managed proactively like any other chronic condition (It can be a disease in itself)
- Encourage “collaborative care model.”
Patient Centered Medical Home

- Treat chronic pain like a chronic disease
- Screening and initiation of clinical pathways
- Utilize integrated behavioral health and physical therapy
- Refer to pain medicine for consultation as needed

Messaging

- Help the patient re-conceptualize their pain
- Motivational interviewing: foster optimism and combat demoralization
- Facilitate active patient participation and responsibility for treatment
- Encourage feelings of success, self-control and self-efficacy

Yellow Flags

- Maladaptive beliefs
- Expectations and pain behavior
- Reinforcement of pain
- Heightened emotional activity
- Job dissatisfaction
- Poor social support
- Compensation

Integrated Pain Management
Summary

• Pain physiology: peripheral and central sensitization
• Neuromatrix theory emphasizes psychosocial factors are key in pain experience
• Primary care functions to screen and facilitate initiation of clinical pathways in integrated pain program
• Interdisciplinary pain programs have excellent evidence for better outcomes

Questions?