Interdisciplinary Treatment of Childhood Chronic Pain

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“Everybody talks about chronic pain, but nobody does anything about it.”

Mark Twain
Childhood Chronic Pain

- Clinical impact
- Biopsychosocial model
- Interdisciplinary approach
- Intensive pain rehabilitation
- Treatment challenges

Definition

- Pain that recurs or persists over a period of at least 3 months, or pain that extends beyond the expected period of healing
- Most commonly located in limbs, head, abdomen
- CRPS, headache, abdominal pain, fibromyalgia
Epidemiology

- Prevalence of at least 15%, with rates ranging from 15-30/40%
- Pain may be the primary problem or occur in the context of chronic health problem
- More prevalent in girls, with peak incidence at 14-15 years

Clinical Significance

- 5-10% report significant impact or disability associated with pain
  - Missed school days, lower grades
  - Fewer social interactions
  - Less involvement in sports & other activities
  - Sleep & emotional/behavior difficulties
Impact on Parents & Families

- Sense of helplessness, anger, worries & fears
- Familial stress and arguments
- Time-consuming, multiple medical appointments, long drives or flights
- Uncovered medical charges, time away from work, transportation, child care

Etiological Models

- Increasingly complex over time
- 21st century models are multivariate and recognize biological, psychological, and social contributors
Framework for Understanding Pediatric Chronic Pain

Biopsychosocial Contributors

Frequency of Contributing Factors

- Culture
- Socioeconomic status
- School environment
- Social and peer interactions
- Parental and family factors

- Individual beliefs
- Coping
- Mood/affect
- Anxiety/fear

- Physical health
- Pain modulation
- Sex
- Pubertal development

Factors
Biopsychosocial Contributors

Rehabilitation Model

- An understandable and useful alternative to the acute pain model of care
  - Pain is accepted as a symptom that may or may not be eradicated
  - Focus is on independent functioning (rather than pain), improved coping, and increased self-efficacy
Rehabilitation Model

• Shifts goal of treatment from finding a “cure” to (1) coping with pain and symptoms and (2) returning to normal activity
  – Discourages belief that patient can return to activity only after symptoms have resolved
• Improvement is first measured by increased functioning

• Active problem-solving approach is needed
• There is no magic bullet -- a long-term solution is necessary

Interdisciplinary Treatment

• Psychological treatment approaches
• Physical and occupational therapies
• Pharmacologic interventions
• CAM therapies
• School reintegration
• Sleep treatment
• Intensive pain rehabilitation
Psychological Treatment Approaches

• Cognitive-behavioral therapies
• Parent skills training
• Acceptance and commitment therapy

Cognitive-Behavioral Therapies

• Emphasize role of thoughts and feelings in how we feel and what we do
  – Brief
  – Instructive
  – Goal-oriented
  – Promote self-management
• Effective for reducing pain and restoring normal activity
Cognitive-Behavioral Therapies: Skills and Strategies

- Belly breathing
- Relaxation training
- Imagery
- Distraction
- Problem-solving
- Thought changing skills
- Time management
- Sleep hygiene

Skill 1: Belly Breathing

How to Do It:
1. Imagine you have a balloon in your belly.
2. Put your hand on top of your belly.
3. Breathe in slowly through your nose, counting to three and feeling the balloon fill with air.
4. Breathe out slowly through your mouth, counting to five and feeling the balloon get flat. Imagine that the pain goes out of your body as you breathe out.
5. Notice how your muscles relax as you breathe out. Imagine a picture of your muscles moving.

Why It Can Help:
- Belly breathing reduces your muscles, calms your nervous system, and helps release chemicals (called endorphins) in your body that reduce pain.

What You Need:
- A comfortable place to sit or lie down.
Parent Skills Training

• Encourage Normal Activity
  – Frequent approval for maintaining normal activity patterns
  – Encourage child to stay calm and practice coping strategies where feasible
  – Advocate daily school attendance or stay in school as the norm

Parent Skills Training

• Discourage Pain Behavior
  – Ignore excessive complaining, pain gestures, and requests for special assistance.
  – Dispense medications according to directions.
  – If the consequence of the pain behavior is to avoid or escape from a situation, consider maintaining things as they are or pose an alternative with little appeal to the child.
  – Avoid questioning about the presence or status of pain.
Physical and Occupational Therapies

- Aim to restore physical function, make daily activities easier, and improve fitness level
- Stretches, exercises, walking to increase strength, flexibility, endurance
- Typically referred for musculoskeletal pain but beneficial for other chronic pain conditions
Pharmacologic Interventions

- Prescribed to reduce pain severity, inflammation, help with sleep, treat depression & anxiety, treat underlying medical condition
- Helpful to some patients, but not effective for all patients
- Most effective as one component of multimodal treatment plan


CAM Therapies

- Mind-body therapies, natural products, manipulation therapies, acupuncture, yoga
- Increasingly used, often with conventional methods
- Small but growing evidence base
- Consider rationale, clinical and research evidence, & safety
Intensive Pain Rehabilitation

• Coordinated interventions among at least 3 disciplines working together in the same facility in an integrated way
• Treatment provided in an inpatient or day hospital setting
• Average of 8 hours of treatment/day over a 1- to 3-week period

Intensive Pain Rehabilitation

• Collaborative goal is to improve functioning and re-engagement in age-specific activities
• Target population is youth unable to make progress in an outpatient treatment setting or with severe pain-related disability
Pain Rehabilitation Outcomes

- At discharge, large improvements for disability and small-to-moderate improvements for pain intensity and depressive symptoms
- Positive effects maintained at short-term follow-up
  
  Hechler et al., 2015

Cleveland Clinic Pediatric Pain Rehabilitation Program

- Serves children and adolescents with chronic pain and related functional disability
- Goals
  - To help patients cope better
  - To restore normal activity
Pain Conditions Treated

- Complex Regional Pain Syndrome (CRPS)
- Headache
- Abdominal Pain
- Fibromyalgia

Age and Chronicity

- Age = 15-16
- Females > males
- Chronicity = 3-4 years
- Between 60-70% of patients are from out-of-state
Combined Inpatient/Day Hospital Model

- Inpatient treatment (1st 2 weeks)
  - Control over environment (eg, activity, sleep, diet)
  - 24/7 program philosophy
  - Provides a reset for parents and kids
- Day hospital (3rd week)
  - Participate as outpatients during the day but at home with parents at night
  - Designed to facilitate a smooth transition from hospital to home

Interprofessional and Integrated Care

- Blends rehabilitation therapies, behavioral health, pediatric subspecialty care, and school program
- Integrates physical, psychological, and CAM therapies
- Individualized and coordinated
Rules of Engagement: Goals & Objectives

- Primary focus = return to normal functioning
- Program is treatment-focused, not evaluative or diagnostic
- Active participation, both child and parent, is critical
- Stay active despite pain
- Long-term commitment to lifestyle changes is essential

Rules of Engagement: Expectations/Guidelines

- In bed by 10:30p and awake by 7a
- Eat three meals daily and stay hydrated
- Be active outside rooms
- Complete PT/OT, mind-body, & school homework nightly
- Parents are expected to participate in educational, school re-entry, & other meetings
Pain Severity and BAPQ Composite Scores at Admission and 1-Year Follow-Up

Pain Ratings and School & Work Days Missed

<table>
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<tr>
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<th>School Days Missed/Wk</th>
<th>Work Days Missed/Wk</th>
<th>Hospitalization Days/Mo</th>
<th>Pain Ratings (0-to-10)</th>
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<tr>
<td>Admission</td>
<td>3.32</td>
<td>2.51</td>
<td>2.47</td>
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<td>Two Years Post-Discharge</td>
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Banez et al., 2014
Results

Before

Evans, Benore, & Baroz, 2015

Clinical Challenges

• Difficult to dispel belief that medications/surgery are the only helpful strategies
• Inability to understand how psychosocial stressors/problems can exacerbate pain
• Inability to accept pain and commit to living with pain
Clinical Challenges

- Fear of harming child by pushing “too hard”
- Overcoming home and family culture of sick role behavior and functional disability
Cleveland Clinic

Every life deserves world class care.