PEDIATRIC PAIN: NOT JUST A FACE ON A SCALE
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LEARNING OBJECTIVES
➤ Recognize the prevalence of pediatric pain and its impact on function
➤ Identify the neurological and physiological process of pain response
➤ Differentiate typical pain response vs. maladaptive pain patterns
➤ Define different kinds of pain/pain disorders
➤ Recognize the role of occupational therapists in working with children and adolescents in pain

WHAT IS PAIN?
An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

-International Association for the Study of Pain

SUPERFICIAL PAIN

- Cutaneous injury
- Easily localized/identified by patient
- Not always accompanied by obvious signs of injury
VISCERAL PAIN
➤ Stimulation of deeper nociceptors
➤ Thoracic, abdominal, pelvic, cranial cavities
➤ Often diffuse and reported via referred pain

SOMATIC/STRUCTURAL PAIN
➤ Arises in muscles, bones, joints, ligaments, tendons, or fascia
➤ Can be intermittent or constant
➤ Often related to activity or position
➤ Can be acute or chronic

NEUROPATHIC PAIN
➤ Abnormal processing of sensory input due to damaged or changed nervous system
➤ Can be centrally or peripherally based
➤ Commonly continuous (vs. intermittent)
**GATE CONTROL THEORY**
- “Gate” in the dorsal horn inhibits the transition of the pain message to the brain

**ACUTE PAIN**
- Happens after surgery or injury
- Caused by damage to tissue or nerves
- Often resolved within 1 month, but can last up to 3 months
CHRONIC PAIN

ELLIOIT KRANE: THE MYSTERY OF CHRONIC PAIN
https://www.youtube.com/watch?v=J6--CMhcCjQ

MEET THE PAIN MONSTER
CENTRAL SENSITIZATION

- Increased responsiveness of nociceptive neurons in the central nervous system to their normal or subthreshold afferent input.
- Clinically, sensitization may only be inferred indirectly from phenomena such as hyperalgesia or allodynia.

(international association for the study of pain)

CHRONIC PEDIATRIC CONDITIONS

- Arthritis
- Headaches/migraines
- Recurrent abdominal pain
- Sickle cell disease

AMPLIFIED MUSCULOSKELETAL PAIN SYNDROMES

- Fibromyalgia
- Chronic regional pain syndrome
- Neuropathic pain
- Myofascial pain syndrome
- Localized or diffuse idiopathic pain
IMPACT

IMPACT ON PHYSICAL FUNCTION

- Fatigue
- Decreased physical activity
- Decreased endurance
IMPACT ON COGNITION & EXECUTIVE FUNCTIONING

- Attentional interruption
- Hypervigilance
- Depression

IMPACT ON OCCUPATION

- “...given up when aches became worse except when the occupation is so enjoyed that the pain is put out of focus.”


IMPACT ON FAMILY

- Economic burden of multiple medical visits
- Parent time off work
- Time and attention for other family members
- Emotional drain
ROLE OF O.T.

BIOPSYCHOSOCIAL MODEL

➤ "Organic pathology does not reliably predict impairment and disability."
➤ "...the role of the clinician is to assist the patient in becoming an active participant in their own healthcare."


ASSESSMENT

➤ Self-report of pain if at all possible
➤ Patient report vs. parent/caregiver report
➤ Use age-appropriate tools (see Resources)
BIOMECHANICAL GOALS

- Increase physical activity
- Increase muscle strength/endurance
- Return to prior sports/activities

BIOMECHANICAL GOALS CONT’D

- Reduce muscle tension
- Reduce inflammatory responses
- Decrease allodynia
- Reduce dependence on assistive devices

BIOMECHANICAL MODALITIES

- Massage
- Accupressure
- Heat/cold
- TENS
- Kinesio Tape
- Fluidotherapy
- Desensitization
- Mirror therapy
PSYCHOSOCIAL GOALS
➤ Facilitate autonomy/role competence
➤ Coping strategies

PSYCHOSOCIAL MODALITIES
➤ Guided relaxation/imagery
➤ Biofeedback
➤ Distraction
➤ Creative arts

EDUCATION GOALS
➤ Body mechanics
➤ Pacing/energy conservation
➤ Work simplification
➤ Relaxation/stress management
➤ Sleep hygiene
➤ Nutrition
BARRIERS TO SUCCESS

PROVIDER
- Poor pain assessment
- Limited knowledge
- Pathology
- Treatment options
- Limited resources
- Treatment modalities
- Referral options (specialists, etc.)

PATIENT
- Inability to describe pain
- Motivation to participate in therapy/healthcare
- Minimize emotional concerns in favor of physical symptoms
- Perceived threats of returning to “normal”
FAMILY

- Cultural beliefs re: pain, medication use, etc.
- Personal beliefs re: procedures, addiction, etc.
- Lack of local options/covered resources
- Economics
- Hopelessness

“...

You can’t always fix the problem by fixing the problem.

-Unknown

REFERRAL TO A SPECIALIST

- Inadequate pain control despite use of standard protocols
- Consideration for specialist interventions
- Specific patient request
- Confirmation that all reasonable approaches have been explored
- Need for access to an interdisciplinary team and/or pain management program
RESOURCES: PAIN ASSESSMENT

NEONATAL/INFANT PAIN

- Combination of behavior + vital sign changes
- Premature Infant Pain Profile-Revised (PIPP-R)
- CRIES
**FLACC**

- **2 months - 7 years**

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<tbody>
<tr>
<td>Face</td>
<td>No particular expression or smile</td>
<td>Occasional grimace or frown; withdrawal, tearful</td>
<td>Frequent or constant grimacing; distant, droopy eyes</td>
</tr>
<tr>
<td>Legs</td>
<td>Normal position or relaxed</td>
<td>Staring, restless, tense</td>
<td>Kicking, or legs chew up</td>
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<tr>
<td>Activity</td>
<td>Lying quietly, normal position; moves easily</td>
<td>Spinning, rolling, back and forth, fidgety</td>
<td>Jerking, rigidity</td>
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<tr>
<td>Cry</td>
<td>No cry (awake or asleep)</td>
<td>Moans or whimpers; occasional complaint</td>
<td>Crying steadily, screams or sobs, frequent complaints</td>
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<tr>
<td>Consolability</td>
<td>Content, relaxed</td>
<td>Reassured by occasional touching, hugging or being talked to, distractible</td>
<td>Difficult to console or comfort</td>
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**COMFORT SCALE**

- **Unconscious and/or ventilated patients of any age**
- **Scoring criteria (0-5 points) for:**
  - Alertness
  - Calmness/agitation
  - Respiratory response
  - Physical movement
  - Blood pressure
  - Heart rate
  - Muscle tone
  - Facial tension


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**WONG-BAKER FACES®**

- **3 years and older**

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<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>A little bit</td>
<td>More</td>
<td>Even more</td>
<td>Whole lot</td>
<td>Most</td>
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MANCHESTER PAIN LADDER

➤ 3 years and older


VISUAL ANALOG SCALE

➤ 7 years and older


SLIDE ALGOMETER

➤ 7 years and older

<table>
<thead>
<tr>
<th>ASSESSMENT TOOLS/METHODS</th>
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<tbody>
<tr>
<td>➤ Pediatric Quality of Life Inventory (PedsQL)™</td>
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<tr>
<td>➤ 2-18 years</td>
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<tr>
<td>➤ Varni/Thompson Pediatric Pain Questionnaire</td>
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<tr>
<td>➤ 3-18 years</td>
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<td>➤ McGill Pain Questionnaire</td>
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<tr>
<td>➤ Designed for adults</td>
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<tr>
<td>➤ Pain diary</td>
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<td>➤ Drawing</td>
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