Fibrous Dysplasia – Integrative Pain Approaches

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The Role of the Physician

- To Cure Sometimes
- To Relieve Often
- To Comfort Always
Honestly baring it all
Definition of 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
Subcommittee on Taxonomy of Pain Terms
PAIN. 1979, 6-249-52.
Pain and Function in FD-MAS

Patient’s Job  Patient’s Tools

Health Care Provider’s Job  Health Care Provider’s Tools

Our Job  Our Tools
Barriers to Effective Pain Management: Cancer and Non-Cancer

- Failure of:
  - patients to comply with medication regimens
  - healthcare professionals to adhere to guidelines and standards
  - institutions to adopt and enforce guidelines and standards
Healthcare Professional Barriers to Effective Pain Management

- Inadequate training in pain management
  - 52% of oncologists surveyed considered their training to be poor

- Poor assessment of pain

- Concern about:
  - regulation of controlled substances
  - tolerance
  - side effect management

- Fear of addiction

Patient Pain History

1. Site(s) of Pain
2. Severity of Pain
3. Date of Onset
4. Description
5. Duration
6. Aggravating and Relieving Factors
7. Effect on Physical and Social Function
8. Previous Treatment

Source: AHCPR, 1994
Pain Assessment Tools: Temporal Nature of Pain

Intensity of persistent and breakthrough pain
Number of episodes of breakthrough pain
Timing of breakthrough pain relative to ATC dosing interval
Location of breakthrough pain relative to persistent pain
Efficacy of analgesia for persistent pain
Efficacy of analgesia for breakthrough pain
Initial Pain Assessment:

Physical Examination:
- Site of pain
- Adjacent sites (for referred pain)
- Sites of known FD involvement
- Musculoskeletal and neurologic systems

Diagnostic Evaluation:
- Laboratory studies
- Radiologic studies
- Neurophysiologic testing
Initial Pain Assessment: Psychosocial Examination

Disease state: effects and understanding

Reactions to pain
  - meaning of pain
  - coping strategies and support system
  - effects on function
  - effects on mood

Perceptions regarding analgesic therapy
  - expectations, knowledge, and preferences
  - concerns regarding controlled substances

Financial concerns regarding therapy
FD Pain

- Bone Fracture or Instability
- FD growth, inflammatory and myofascial pains
- Peripheral Neuropathies
- Chronic Cephalgia, Headache syndrome
- Spinal Cord Compression
- Pain Associated with Treatments
FD Myofascial Pain

1. Trigger points in taut bands of skeletal muscle.

2. Palpation of trigger points will alter pain (increase, reduce, radiate.)
Nature of Pain

- Somatic, Visceral Nociception
- Psychosocial State and Traits
- Loss of Work
- Physical Disability
- Neuropathic Mechanism
- Psychosocial Influences
- Spiritual
- Social / Family Functioning
- Financial Concerns
- Fear of Death

Total Pain Suffering
Cutaneous Stimulation

Counterstimulation

- TENS
- Heat and Cold
- Vibration
- Therapeutic Massage

Menthol Ointments
Non Pharmacological Methods of Pain Management

- Distraction
- Hypnosis
- Relaxation Exercise
- Biofeedback
- Guided Imagery
- Meditation
- Pet Therapy
- Art Therapy
- Music Therapy
Pharmacological Management
Treatment 3 Step Ladder

1 mild
- ASA
- Acetaminophen
- NSAIDs
- ± Adjuvants

2 moderate
- A/Codeine
- A/Hydrocodone
- A/Oxycodone
- A/Dihydrocodeine
- Tramadol
- ± Adjuvants

3 severe
- Morphine
- Hydromorphone
- Methadone
- Levorphanol
- Fentanyl
- Oxycodone
- ± Adjuvants
Acetaminophen

- Step 1 analgesic, coanalgesic
- Site, mechanism of action unknown
  Minimal anti-inflammatory effect
- Hepatic toxicity
Clinical Choice of NSAID

- Anti-inflammatory effect
- Route of administration: po, im, iv
- Duration of action
- Platelet effect
- GI and Renal toxicity
Opioid agonists

“Among the remedies which it has Pleased Almighty God to give man to Relieve his sufferings, none is so Universal and so efficacious as opium.”

Sydenham, 1680
Step 2: Opioids for Mild to Moderate Pain

- Codeine (as in Tylenol #3)
- Hydrocodone (as in Vicodin)
- Oxycodone in (as in Percocet)
## Step 3: Opioids for Moderate to Severe Pain

<table>
<thead>
<tr>
<th>Agent</th>
<th>Short-Acting</th>
<th>Long-Acting</th>
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<tbody>
<tr>
<td>Morphine</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>+</td>
<td>+/-</td>
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<tr>
<td>Fentanyl</td>
<td>OTFC</td>
<td>Patch</td>
</tr>
</tbody>
</table>
Periodic Review: 4 A’s

**A**nalgesia

**A**ctivities of Daily Living
- stabilization and improvement in psychosocial function, specifically identified physical functional goals.

**A**dverse effects
- side effects

**A**berrant drug-related behaviors
- adherence to POC, addiction-related outcomes
Properties and Problems - Opioids

Physical Dependence
Tolerance
Addiction
Side Effects
Addiction---Aberrant Drug-Related Behaviors

**Less indicative:**
- Drug hoarding
- Acquisition of similar drugs from other sources
- Aggressively seeking higher doses
- Unapproved use during treatment of another symptom/problem
- Unsanctioned dose escalation
- Requesting specific drugs (unwarranted)

**More indicative:**
- Forging prescriptions
- Concurrent use illicit drugs
- Recurrent script losses
- Selling Rx drugs
- Multiple unsanctioned dose escalations
- Stealing/borrowing another’s drugs
- Obtaining scripts from nonmedical sources

Management of Common Opioid Side effects

- Constipation
  - prophylactic use of laxatives and stool softeners
- Nausea and vomiting
  - neuroleptics, metoclopramide, antivertigenous drugs
- Sedation
  - discontinue other CNS depressants
  - stimulants
- Respiratory depression
- Depression
Anticonvulsants

- Indication
  - Lancinating neuropathic pain

- Mechanism of analgesic action
  - Suppress neuronal tiring

- Examples
  - Carbamazepine, Phenytoin
  - Gabapentin, Pregabalin
Tricyclic & SNRI Antidepressants

Indications
- Neuropathic pain
- Pain associated with depression

Mechanism of analgesic action
- Alter serotonin and norepinephrine levels

Examples
- Amitriptyline, Desipramine, Duloxetine (Cymbalta)
# Adjuvant Analgesics

<table>
<thead>
<tr>
<th>Category</th>
<th>Example</th>
</tr>
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<tbody>
<tr>
<td>NSAIDS</td>
<td>Dextroamphetamine</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Methylphenidate</td>
</tr>
<tr>
<td>Anticonvulsants</td>
<td>Clonidine</td>
</tr>
<tr>
<td>Neuroleptics</td>
<td>Cannabinoids</td>
</tr>
<tr>
<td>Oral Local Anesthetics</td>
<td>Capsaicin</td>
</tr>
<tr>
<td>Muscle Relaxants/Baclofen</td>
<td>Calcitonin</td>
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<tr>
<td>Corticosteroids</td>
<td>Bisphosphonates</td>
</tr>
<tr>
<td></td>
<td>Metoclopramide</td>
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</tbody>
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Other Routes

1. Peripheral Nerve Blocks
2. Intravenous Infusion (surgical pain)
3. Intraspinal Infusion (surgical pain)
   - Epidural
   - Intrathecal
4. Direct Neuro-Axial Dosing
   - Epidural
   - Intrathecal (spinal)
<table>
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<tr>
<th>CAM Modality</th>
<th>Definition</th>
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<tr>
<td>TENS</td>
<td>Electrical stimulation of nerve and/or muscles to relieve pain; it is used less frequently to produce anesthesia. The optimal placements of electrodes or “trigger points” may correspond with acupuncture analgesia points. TENS is sometimes referred to as acupuncture-like when using a low-frequency stimulus.</td>
</tr>
<tr>
<td>Acupuncture</td>
<td>The practice of piercing specific peripheral nerves with needles to relieve the discomfort associated with painful disorders, to induce surgical anesthesia and for therapeutic purposes. This procedure was originally introduced and practiced in China. Electroacupuncture is a form of acupuncture using low-frequency electrically stimulated needles to produce analgesia and anesthesia and to treat disease. Acupressure uses similar principals but without needles; it can be administered with local pressure with fingers or pressure bands.</td>
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<tr>
<td>Massage therapy</td>
<td>Group of systematic and scientific manipulations of body tissues best performed with the hands for the purpose of affecting the nervous and muscular system and the general circulation.</td>
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<td>Aromatherapy</td>
<td>The use of fragrances and essences from plants to affect or alter a person’s mood or behavior and to facilitate physical, mental, and emotional well-being. The chemicals comprising essential oils in plants has a host of therapeutic properties and has been used historically in Africa, Asia, and India. It is often used in conjunction with massage.</td>
</tr>
<tr>
<td>Psychotherapy</td>
<td>A form of therapy in which two or more patients participate under the guidance of one or more psychotherapists for the purpose of treating emotional disturbances, social maladjustments, and psychotic states. A generic term for the treatment of illnesses primarily by verbal or nonverbal communication. Includes behavior therapy, art therapy, hypnosis, imagery, music therapy, group therapy.</td>
</tr>
<tr>
<td>Behavior therapy</td>
<td>The application of modern theories of learning and conditioning in the treatment of behavior disorders. Techniques include cognitive therapy, biofeedback, relaxation techniques, and meditation.</td>
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<tr>
<td>Hypnosis</td>
<td>A state of increased receptivity to suggestion and direction, initially induced by the influence of another person.</td>
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<tr>
<td>Imagery</td>
<td>The use of mental images produced by the imagination (a form of psychotherapy). It can be classified by the modality of its content: visual, verbal, auditory, olfactory, tactile, gustatory, or kinesthetic. Common themes derive from nature imagery (e.g., forests and mountains), water imagery (e.g., brooks and oceans), travel imagery, etc. Imagery is often used to help patients cope with other diseases. Imagery often forms a part of hypnosis, of relaxation techniques, and of behavior therapy.</td>
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<tr>
<td>Cognitive coping strategies*</td>
<td>Attempt to alter patterns of negative thoughts and dysfunctional attitudes to foster more healthy and adaptive thoughts, emotions, and actions. Major classes include external focus of attention, neutral imaginings, pleasant imaginings, dramatized coping, rhythmic cognitive activity, and pain acknowledging. Emphasizes the basic components: education, skills acquisition, coginitve and behavioral rehearsal, and generalization and maintenance.</td>
</tr>
<tr>
<td>Relaxation techniques</td>
<td>The use of muscular relaxation techniques and activities in treatment to reduce feelings of tension. Often used in conjunction with imagery techniques.</td>
</tr>
<tr>
<td>Music therapy</td>
<td>The use of music as an adjunctive therapy in the treatment of neurologic, mental, or behavioral disorders.</td>
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TENS = transcutaneous electrical nerve stimulation.
*All definitions come from reference 34, except for cognitive coping strategies.
Hypnotic Pain Coping Strategies

Methods which:

– achieve neurophysiological alterations
– change or reorganize the cognitive-emotional understanding
– improve behavioral patterns
– promote new useful perceptions of time and space
Pain Coping Strategies

direct suggestion for alleviation
distraction and avoidance
alteration of pain experience
awareness of pain experience