Pain management for FD/MAS
Pharmacologic
Mind-body approaches
CAM

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Assessing the Pain

PAIN SCALE

MILD
1 - 3

MODERATE
4 - 7

SEVERE
8 - 10

Comfortable / Uncomfortable
Tolerable / Intolerable

Continuous
Episodic
Incidental

Pain Crisis
Undermedication of Patients With Pain

86% of physicians surveyed reported that the majority of patients with pain were undermedicated

Unrelieved Pain

- Chronic pain patients
  - 40% report that their pain is “out of control”

- General public
  - 71% avoid calling the doctor when in pain
  - 46% avoid medication until the pain “gets bad”
  - 35% avoid medication until the pain is unbearable

(APS 1999)
(Bostrom M. J Pain Symptom Manage, 1996)
Opioid Medication → Oral Route → Rectal Route → Transdermal Route → Effective Pain Management → Parenteral Route → Oral Route → Rectal Route → Transdermal Route → Effective Pain Management
WHO 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
NSAIDs

• Route of administration: po, im, iv
• Duration of action
• Platelet effect
• Gastrointestinal system
• Renal toxicity
• Anti-inflammatory effect
• Reye’s syndrome (ASA-varicella)
Step 3: Opioids for Moderate to Severe Pain

- Morphine
- Oxycodone, Hydrocodone
- Hydromorphone
- Levorphanol
- Fentanyl
Moderate to Severe Pain

Short Acting

• Morphine (Roxanol, MSIR)
• Oxycodone (Roxicodone, Oxy IR)
• Fentanyl (ACTIQ)
• Hydromorphone (Dilaudid)
Treating Persistent Pain—Theory

Over Medication

Around-the-Clock (ATC) Medication

Therapeutic Window

Pain Relief Threshold

Persistent Pain

Time
Periodic Review: 4 A’s

1. Analgesia
2. Activities (of Daily Living- stabilization and improvement in psychosocial function, specifically identified functional (physical activity) goals.
3. Adverse effects (side effects)
4. Aberrant drug-related behaviors (adherence to POC, addiction-related outcomes)
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

Physical Dependence

“Physical dependence on a controlled substance is a physiologic state of neuro-adaptation which is characterized by the emergence of a withdrawal syndrome if drug use is stopped or decreased abruptly, or if an antagonist is administered.”

Physical dependence is an expected result of opioid use and, by itself, does not equate with addiction.

(Federation of State Medical Boards of the United States, Inc. Model Guidelines for the Use of Controlled Substances for the Treatment of Pain. Euless, TX; 1998)
Integrative Medicine

Mind-Body Medicine uses techniques to enhance the mind's capacity to affect bodily function and symptoms (relaxation, hypnosis, visual imagery, meditation, yoga, biofeedback, tai chi, cognitive-behavioral therapies, group support, and spirituality).

Biologically Based Practices use substances found in nature (herbs, foods, and vitamins).

Manipulative and Body-Based Practices—chiropractic/osteopathic manipulation, and massage.

Energy Medicine involve the use of energy fields (qi gong, Reiki, and Therapeutic Touch) and bioelectromagnetic-based therapies.
**Hypnosis**

Requires an individual to enter into a hypnotic state that allows suggestions to enter the unconscious mind.

Individual change occurs through suggestive interaction with the hypnotist who offers solutions to a problem.

**Guided Imagery**

Utilizes unconscious images to gain insight and understanding, and improve psychophysiologic functioning.

May or may not be interactive. Usually suggested imagery.
Hypnosis

State of mind or being characterized by:
inner absorption
concentration and
focused attention

Heightened responsivity to suggestion leading to:
Psychophysiological changes
Psychological changes
Hypnotic Pain Coping Strategies

Methods which:

- achieve neurophysiological alterations
- change or reorganize the cognitive-emotional understandings
- 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
What is the evidence?

- Clinical Pain
- Procedural Pain
- Chronic Pain
- Irritable Bowel Disorder
- Inflammatory Bowel Disease
### Table 1 (continued)

<table>
<thead>
<tr>
<th>Study and type of acute pain</th>
<th>Hypnotizability assessed?</th>
<th>N</th>
<th>Randomized?</th>
<th>Control conditions</th>
<th>Adult or child?</th>
<th>Outcome dimensions</th>
<th>Findings</th>
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<td>Mixed invasive medical procedures—primarily diagnostic arteriograms</td>
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<td>Patient-rated anxiety; BAI</td>
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<td>Maximum increase in respiratory rate</td>
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<td>Maximum increase in systolic BP</td>
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<td>Maximum increase in cutaneous temperature</td>
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<td>Patient-rated surgery satisfaction</td>
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<td>Observer-rated surgical comfort</td>
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<td>Patient-rated pain</td>
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<td>Patient-rated postoperative anxiety; STAIC</td>
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<td>Variety of surgical procedures</td>
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<td>52</td>
<td>Yes</td>
<td>AC</td>
<td>Child (7–19 years)</td>
<td>Length of surgery</td>
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<td>Length of hospital stay</td>
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<td>Length of anesthesia</td>
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<td>Time in postanesthesia care unit</td>
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<td>Medication consumption</td>
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<td>Patient-rated pain intensity</td>
<td>H &gt; (AC = SC)</td>
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<td>Patient-rated anxiety</td>
<td>H &gt; SC; H = AC; AC = SC</td>
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<td>Medication use</td>
<td>(H = AC) &gt; SC</td>
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<td>Time needed for procedure</td>
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<td>Variety of procedures including arterial and venous surgery and nephroscopy</td>
<td>No</td>
<td>241</td>
<td>Yes</td>
<td>SC, AC</td>
<td>Adult</td>
<td>Hypnotizability assessed?</td>
<td>H &gt; (AC = SC)</td>
</tr>
</tbody>
</table>

**Note.** H = hypnosis alone; PBRS-R = Procedural Behavior Rating Scale—Revised; PBCL = Procedural Behavior Checklist; MMPI = Minnesota Multiphasic Personality Inventory; MPQ = McGill Pain Questionnaire; BAI = Beck Anxiety Inventory; SpO2 = Oxygen saturation; STAIC = State–Trait Anxiety Inventory for Children.
Uses

Anxiety- situational, procedural, adjustment to illness
Sleep problems
Bothersome physical symptoms
  ◆ Nausea
  ◆ Itching
  ◆ Headache
  ◆ Habits, phobias
  ◆ Pain- acute, procedural, chronic
Coping with internal or external stressors or stimuli

Nausea associated with chemotherapy- esp. acute onset or anticipatory
Suffering issues
Healing imagery
Preparation for procedures and surgery-
  ◆ MRI
  ◆ Lumbar puncture
  ◆ Venipuncture
  ◆ Bone marrow biopsy
  ◆ Radiation therapy sessions
  ◆ Chemotherapy sessions
Alleviation by Suggestion

- **direct**
  - suggestion to alleviate pain

- **symptom substitution**
  - less noxious than presenting pain

- **numbness**
  - decreased sensation of pain in involved area

- **analgesia**
  - imagined application of analgesic substance
Distraction & Avoidance

- **fantasy**
  - involvement in pleasurable fantasy/memory

- **time distortion** (e.g. ‘road hypnosis’)
  - make duration of pain seem shorter...
  - or interval between pains seem longer (OB)
Distraction & Avoidance

- displacement... to some other part of body
- internal distraction... mental work
- external distraction... shift to external focus
Alteration of Pain Experience

- Cognitive change... altering meaning of the pain
- Perceptual change, Reinterpretation
  - amnesia for the pain (lessens dread)
  - altered meaning
  - altered anticipation
- Dissociation
  - dissociate painful body part... temporal dissociation...distance oneself from pain
Awareness of Pain Experience

- **Sensory information**
  (preparation to avoid catastrophizing)

- **Sensory awareness**
  (Meares- full awareness to pain experience to gain insight into nature of pain perception)

- **Reactivity to pain sensations**
Josh

14 yr old boy
Sarcoma of head, back, bones, invading brain
Severe pain in head and chest
Wants to be able to sleep
Multiple broken ribs from metastases
Wants to stay at home
Wants pain control
Understands and accepts that he is dying
Professional organizations

- American Society of Clinical Hypnosis
- Society for Clinical and Experimental Hypnosis
First visit- hospital- anxiety interfering with radiation therapy
Biofeedback:

- Aid in muscular relaxation
- Change blood flow
- Change autonomic system arousal state
- Change state of immune system
- Change brain states—relaxation—other?
Emotional influence on Nervous System

- Ned Kalin MD-

- **Cortisol**: ‘master stress hormone’
  - Low doses alert and organize behavior
  - Higher doses: leave one ‘stressed out’
    - inattentive
    - disorganized
    - depressed
Emotional influence on Nervous System

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<thead>
<tr>
<th>EMG Biofeedback</th>
<th>Other Biofeedback</th>
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<tbody>
<tr>
<td>Headaches- muscle tension type</td>
<td>Heart rate</td>
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<tr>
<td>Stress</td>
<td>Respiration</td>
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<tr>
<td>Incontinence- urinary, rectal</td>
<td>EEG</td>
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<td>Encopresis</td>
<td>Eye movement</td>
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<td>Vaginismus</td>
<td>Neurofeedback</td>
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<td>Athletic performance training</td>
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<td>Neurotraining- stroke</td>
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</table>
‘Classical’ vs Neurofeedback

- EMG biofeedback requires client to:
  - Be aware of clenched muscles during session
  - Also afterward
  - Let go of tension after they leave therapy
  - Often wear a blue dot on hand to remember to change their habitual tension and relax certain muscles or muscle groups
Neurofeedback

- Brain governs the whole body
- Brain wave training is considered much more global than other biofeedback modalities (upstream)
- Neurofeedback requires less/no conscious effort
  - Brain wave training - more automatic
  - Often one single 45 minute session
  - No follow up
Neurofeedback Development

- Kamiya 1968 article in Psychology Today
- Alpha state EEG
- Trancendental Meditation—Maharishi Mahesh Yogi
- Herbert Benson MD—The Relaxation Response
- Drug-induced states of 1960’s-70’s
  - Ken Kesey, Timothy Leary, the Beatles…
Applications

- Headaches
  - Tension
  - Vascular/migraine
- Nausea and vomiting
- Muscle movement disorders
- Muscle pain—myofascial – TMD

- Altered states: desired/undesired
  - Anxiety and stress (GSR)
  - Insomnia (thermal, muscle, GSR)
  - Attention deficit disorder (Neuro & GSR)
  - Impulse disorders, chemical dependency (GSR)