Pain Management: Nonpharmacological

Pain Resource Nurse Program
Module 5

The Resource Center of the Alliance of State Pain Initiatives
© University of Wisconsin Board of Regents, 2008

Nonpharmacological Interventions
- Strategies other than medications
- Types of nonpharmacologic interventions
  - Basic comfort measures
  - Cutaneous stimulation techniques
  - Cognitive and behavioral strategies

Rationale for Nonpharmacologic Treatment of Pain
- Pain is more than just a sensory experience.
- Pain has affective, cognitive, behavioral, sociocultural and spiritual dimensions.
- Most pain is best treated with a combination of pharmacologic and nonpharmacologic strategies

Primary vs Adjunctive Treatment
- Type of pain
- Pain intensity
- Duration
- Patient preference

Potential Mechanisms of Action
- Interrupt the transmission of pain signals
  - Gate Control & Neuromatrix Theory
- Distract attention from pain
- Release of physical and emotional tension
- Endorphin release
- Change pain-related thoughts

Additional Benefits of Nonpharmacologic Interventions
- Reduced anxiety
- Improved mood
- Increased sense of control over pain
- Improved sleep
- Decreased fatigue
- Improved function
- Restored hope
- Improved quality of life
Barriers to Nonpharmacological Pain Management

- Lack of knowledge
- Belief that nonpharmacologic interventions are not effective
- Perceptions that patients won’t be receptive
- Lack of time & equipment
- Lack of support from colleagues, administrators

Basic Comfort Measures

- Positioning
- Touch
- Dietary needs
- Environmental conditions
  - Lighting
  - Noise
  - Temperature
- Pacing activities / rest
- Supportive devices

Distraction

- Short term
- Sensory shielding
- Multiple senses

- Study of children ages 4-6 during DPT vaccination, randomized to 3 groups
  - Blow bubbles
  - Light touch around site before & during
  - Usual care

Either type of distraction = significantly lower pain scores. Least pain reported by group with touch


Cutaneous stimulation

- Stimulation of the skin and underlying tissues
- Locations:
  - Directly over or around pain
  - Proximal to the pain (between pain and the brain)
  - Distal to pain (beyond the pain)
  - Contralateral to pain (opposite side)
Heat

- Decreases sensitivity to pain, releases muscle tension, and provides a competing sensory experience.
- Useful for muscle tension or spasm, neck and back pain, arthritis, postoperative pain.

Heat Application

- Moisture increases heat penetration.
- Temperature: 40° to 45° C.
- Duration: 5 – 30 minutes.
- Contraindications:
  - Bleeding
  - Topical menthol or medicated ointments
  - Burned or radiated skin.

Cold

- Decreases sensitivity to pain, reduces muscle spasms, and provides a competing sensory experience.
- Useful for muscle spasms, back pain, arthritis, headache, trauma and surgical incision pain.
- Cold may be more effective than heat.

Cold Application

- Provide graduate onset of cold.
- Temperature: 15° C.
- Duration: Up to 20 minutes.
- Contraindications:
  - Poor circulation
    - Peripheral vascular disease
    - Raynaud's phenomenon
  - Radiated skin.

Vibration

- Changes the quality of pain sensations (e.g., sharp to dull).
- Useful for muscle pain, tension headache, phantom limb pain, postoperative pain.

Vibration

- High frequency (fine motion) vibrations more effective than low frequency.
- Duration: Up to 30 minutes, 2-3 times/day.
- Contraindicated:
  - Thrombocytopenia
  - Thrombophlebitis / DVT
  - Burned, cut, or fragile skin.
Cutaneous stimulation

Massage
- Rubbing, kneading, tapping or manipulating soft tissue
- Produces physical and mental relaxation, improves circulation and may reduce edema
- Useful for low back pain, cancer pain, fibromyalgia, headache, musculoskeletal pain, post-exercise pain and soreness

Using Massage
- Traditional massage: gentle kneading strokes
- Site of pain, back, neck, scalp, hands, feet
- Duration: 5 minutes – 1 hour
- Contraindications
  - Thrombocytopenia
  - Fragile skin
  - Superficial thrombophlebitis or DVT
  - Acute inflammation or skin infection
  - Superficial tumor sites

Your Turn

TENS
- Skin stimulation through mild electrical current
- Various modes: conventional, brief-intense, strong low-rate (acupuncture-like)
- Electrodes placed directly over or near the site of pain or at an acupuncture point
- Useful for musculoskeletal pain, low back pain, rheumatoid arthritis, postoperative pain, phantom limb pain, and headache

TENS
- Requires a physician’s order
- Contraindications
  - On-demand pacemakers
  - Implanted electrical devices
- Reserved for moderate – severe pain due to cost
Physical Exercise
- Aerobic exercise, resistance training
- ROM, passive exercise in debilitated patients
- Useful for low back pain, osteoarthritis, neck pain, general musculoskeletal pain
- Supervised by trained professional
- Practiced on a regular basis
  - Intensity, frequency, duration should be individualized to avoid exacerbation of pain
  - Active lifestyle change

Cognitive and Behavioral Strategies
- Change the way pain is interpreted and experienced
- Modify thoughts that prevent coping with pain effectively
- Divert attention away from pain
- Increase personal sense of control over pain

Distraction
- Directing attention away from pain
- Requires:
  - Mental capacity to concentrate
  - Physical ability / energy to engage in distracting activities
- Useful for brief pain episodes, procedural pain
  - Awareness of pain may return when distraction ends

Using Distraction Interventions
- Choose something the patient is interested in
- Consistent with energy level / ability to concentrate
- Activity that stimulates the major senses
  - Hearing
  - Sight
  - Touch / movement
- Potential to increase the distractive stimulus when pain increases

Relaxation
- Release of stress and tension associated with pain
  - Decreased autonomic nervous system activity
- Useful for:
  - Pain caused by muscle tension
  - Arthritis, procedural pain, postoperative pain, cancer pain
  - Cognitive and affective components of pain
Relaxation Techniques

- Jaw Relaxation
- Rhythmic breathing
- Heartbeat breathing
- Progressive muscle relaxation
- Stretch-based relaxation
- Meditation
- Prayer

Imagery

- Using one’s imagination to create sensory images that decrease pain
  - Distraction / Relaxation Imagery (pleasant scene)
  - Pain-focused (image of pain itself)
- Useful for back pain, postoperative pain, arthritis pain, headache, cancer pain

Using Imagery

- Audiotaped script or live guide
- Preceded by relaxation exercise
- Use multiple senses in developing images
- Length tailored to patient's preferences and energy level
- Caution in patients with psychiatric illness

Music

- Distracts attention from pain, stimulates relaxation, or changes attitude / mood
- Useful for procedural pain, postoperative pain, cancer pain, arthritis pain
- Use patient preference for music selection
- Encourage tapping out rhythm, singing, dancing
- Give patient control over volume and length of intervention

Other Strategies

- Art therapy
- Play therapy
- Pet therapy
- Child-life developed programs

Education

- Cause of pain
- Methods of pain assessment
- Goals, expectations
- Treatment options
- Rationale for therapy
- Flare prevention
Supportive Therapy
- Social support
  - Group
  - Individual
- Expression of feelings about pain
- Encouragement / reassurance
- Discussion of other problems / concerns
- Referral to psychologists, social worker, clergy as necessary

Psychological Therapies
- Cognitive-behavioral therapy
- Contingency management
- Cognitive restructuring
- Hypnosis
- Biofeedback
- Psychotherapy

Other Specialized Practices
- Acupuncture / Acupressure
- Chiropractic / Osteopathic Medicine
- Complementary therapies
  - Reiki
  - Therapeutic touch
  - Aroma therapy
  - Others

Selecting nonpharmacologic treatments
- Previous experiences and expectations for outcome
- Age and developmental level
- Patient preferences and coping styles
- Type and intensity of pain
- Physical and cognitive abilities
- Concurrent symptoms
- Involvement of friends / family

Use of Nonpharmacological Interventions with Pediatric Patients
- Evidence supports use of cognitive-behavioral interventions in procedural pain
  - Distraction, imagery, nurse / parent coaching
- Match intervention activities to patient’s developmental level
- Little evidence for cutaneous stimulation techniques

Conclusions
- Nonpharmacologic interventions can relieve mild pain when used alone or enhance relief of moderate to severe pain treated with analgesics
- Nurses should offer nonpharmacologic interventions to their patients, explaining rationale and mechanisms of action
- Consider pain characteristics, patient preferences, and abilities in selecting treatment strategies
- Adapt interventions for age and developmental stage as appropriate