Pain Management
Fundamental Nursing Skills and Concepts
CHAPTER 20
PNSG 1211

Pain

Pain is
“Whatever the person says it is existing whenever the person says it does”
Pain

Pain is an unpleasant sensation usually associated with disease or injury.

Pain is accompanied by suffering.

The Pain Process

The Process of Pain

Four Phases

1. Transduction
2. Transmission
3. Perception
4. Modulation
Pain Transduction

- Transduction refers to the conversion of chemical information at the cellular level into electrical impulses that move toward the spinal cord
- Begins when cells injured
- Cells release chemicals (i.e. substance P)
- Chemical excite nociceptors
- Nociceptors are sensory nerve receptors activated by stimuli

Pain Transmission

- Transmission is the phase during which stimuli move from the peripheral nervous system toward the brain
- A – delta fibers ~ carry impulses rapidly
- C-fibers ~ carry impulses slower
- In the thalamus, with in the brain
  - Transmits the message to the cortex
  - Notifies nociceptors that message was received
  - To discontinue the transmission

Figure 1: Electronmicrograph of the mouse inginal nerve. A group of unmyelinated axons (U) among several myelinated fibers (M) are seen. S, Schwann cell; C, collagen fibers. X 37,000.
Pain Perception

- **Perception**: The conscious experience of discomfort when the pain threshold is reached.
- **Pain threshold**: The point at which sufficient pain-transmitting stimuli has reached the brain.
- **Pain tolerance**: The amount of pain a person endures.

Perception

- Each person tolerates pain differently

  - Pain is influenced by
    - Genetic
    - Learned behavior
    - Culture

Modulation

- **Modulation** is the last phase of the pain impulse.

  - The brain interacts with the spinal nerves to alter the pain experience

  - Releasing pain: inhibiting neurochemicals
Pain Theories

• Endogenous Opioids - Naturally produced morphine-like chemicals.
  - Endorphins
  - Dynorphins
  - Enkephalins

The release is stimulated by serotonin and norepinephrine. They bind to the sites of the nerve membrane that block the transmission of pain.

• Gate Control Theory
5 Types of Pain

- **Cutaneous pain** ~ originates at the skin
  - *Somatic pain* ~ generated from deeper connective tissue – muscles, tendons and joints
- **Visceral Pain** ~ Arising from internal organs
  - *Referred pain* ~ perceived in area away from the site on origin
- **Neuropathic Pain** ~ pain with atypical characteristics - phantom limb
- **Acute Pain** ~ lasts for a seconds to 6 months
- **Chronic Pain** ~ lasts longer than 6 months

Cutaneous Pain
Referred Pain

Heart Attack

Pain from sciatica radicles from the buttckck down the leg and can travel as far as to the feet and toes.

Neuropathic Pain

Level of amputation

Cramplng

Shooting

Stabbing

Burning

ACUTE VERSUS CHRONIC

Quick onset

Lasts a few seconds to less than 6 months

Tissue trauma, surgery, or recent identifiable etiology

Gradual reduction in pain promotes coping

PAIN

Discomfort that lasts longer than 6 months

Physical and emotional distress

Depression
Pain Assessment

Pain Assessment Standards

- Pain is the *Fifth Vital Sign*
- *Everyone* has a right to a pain assessment, using the appropriate tool.
- Pain is assessed regularly and with vital signs.
- Pain is treated or referred.
- Staff and patients are to be educated about pain management and assessment.
- The patient’s choices are always respected.

Pain Assessment Data

- Onset
- Quality
- Intensity
- Location
- Duration
Nonverbal Pain Indicators

- Moaning
- Crying
- Grimacing
- Guarded Position
- Increased VS
- Reduced Social Interactions
- Irritability
- Difficulty Concentrating
- Changes in eating and sleeping

Pain Intensity Assessment Tools

- Numerical scale
- Word Scale
- Linear Scale
- Picture Scale
- Wong-Baker FACES scale
<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACE</td>
<td>No particular expression or smile</td>
<td>Occasional grimace or frown, withdrawn,</td>
<td>Frequent to constant quivering chin, clenched jaw.</td>
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<tr>
<td></td>
<td></td>
<td>disinterested.</td>
<td></td>
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<tr>
<td>LEGS</td>
<td>Normal position or relaxed.</td>
<td>Uneasy, restless, tense.</td>
<td>Kicking, or legs drawn up.</td>
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<tr>
<td>ACTIVITY</td>
<td>Lying quietly, normal position moves easily.</td>
<td>Squirming, shifting back and forth, tense.</td>
<td>Arched, rigid or jerking.</td>
</tr>
<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>
</tr>
<tr>
<td>CONSOLABILITY</td>
<td>Content, relaxed.</td>
<td>Reassured by occasional touching, hugging or being talked to, distractible.</td>
<td>Difficulty to console or comfort</td>
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**FLACC SCALE**

Pain Management

Multidisciplinary Way of Treating Pain:

- Surgery
- Pain Management Program
- Psychological Help
- Physical Medicine
- Nerve Blocks
- Joint Injections
- Radiofrequency
- Pulled Radiofrequency
- Education & Discharge
- Prevention
- Electrolytes
- Motivation
Pain Management

Treatment biases:
- the “look of pain”

Techniques
- Standards for the relief of acute pain and cancer pain

Pain Management

Drug therapy

Nonopioids Drugs

Opioids Drugs

Adjuvant Drugs

Nonopioids Drugs

Nonopioids Drugs are non-narcotics and nonsteroidal anti-inflammatory (NSAIDs)
- Non-narcotics
  - Aspirin
  - Tylenol
- Nonsteroidal anti-inflammatory (NSAIDs)
  - Ibuprofen – Motrin, Advil
  - Ketorol
  - Naprosyn sodium – Aleve, Naprosyn
- Cyclooxygenase (COX) -2 inhibitors
  - Celebrex
Opioids Drugs
- Opioids (synthetic narcotic) and opiate analgesics are containing opium or its derivatives
- Controlled substances
- Examples
  - Morphine
  - Codeine
  - Meperidine (Demerol)
  - Fentanyl

Adjuvant Drugs
- Analgesic Drugs are combined with adjuvant drugs to improved pain control.
  - Antidepressants - Zoloft
  - Anticonvulsants - Neurontin
  - (NMDA) – ketamine
  - Nutritional supplements – glucosamine
- Alternative medical therapy

Botulinum Toxin Therapy
- *Clostridium botulinum* found in soil and water
- Treats painful musculoskeletal conditions and various types of headaches
- Causes skeletal muscle contraction when it is released at the synapses of motor nerves
- Blocking acetylcholine results in temporary paralysis of the injected muscle
- Local effect and lasts 2-6 months
- Duration of each injection tends to become shorter over time
Invasive Pain Management

Injections

- Intramuscular
- Intravascular
- Subcutaneous
Patient Controlled Analgesia

- Pain relief is rapid
- Pain is kept at a constant tolerable level
- Less drug is used
- No repeat injections
- Anxiety is reduced
- Side effects are decreased
- Clients tend to move and ambulate sooner and take an active role in pain management

Intraspinal Analgesia

- Is a method of receiving pain by instilling anesthetic via catheter into a space in the spinal cord
- Administered continuous or PRN
- Relieves pain with minimal systemic side effects
- Decreased repeat injections
Intraspinal Analgesia

Epidural Analgesia

Placement of Intraspinal Analgesia

Surgical Approaches

Intractable Pain

Rhizotomy

Cordotomy
Surgical Approaches

Rhizotomy ~ sectioning of the nerve root

Cordotomy ~ interruption of pain

Nondrug/Nonsurgical Interventions

- Education
- Imagery
- Meditation
- Distraction
- Relaxation
- Heat and Cold
Other Methods

- Transcutaneous Electrical Nerve Stimulation (TENS)
- Acupuncture
- Acupressure
- Percutaneous Electrical Nerve Stimulation (PENS)
- Biofeedback
- Hypnosis

Transcutaneous Electrical Nerve Stimulation (TENS)
Acupressure

Percutaneous Electrical Nerve Stimulation (PENS)

Biofeedback
Hypnosis

Nursing Implications

Nursing Implications

- Increase your knowledge of pain
- Take pain seriously
- Implement measures for treatment
- See Nursing Guidelines 19-1
Nursing Diagnoses

- Acute Pain; Chronic Pain
- Ineffective coping
- Knowledge Deficient – Pain
- Anxiety; Fear

The Rights of Patients with Pain

**A Bill of Rights for People with Pain**

- I have the right to have my reports of pain accepted and acted on by healthcare professionals.
- I have the right to have my pain controlled, no matter what its cause or how severe it may be.
- I have the right to be treated with respect at all times. When I need medication for pain, I should not be treated like a drug abuser.

Addiction

- “A pattern a compulsive drugs use characterized by a continued craving for an opioid and the need to use the opioid for effect other than pain relief”

- A leading factor in treatment of pain is **Fear**
Placebos

Placebo

Malingering

Gerontologic Considerations

- Pain often go unreported
- Higher risk for pain
- Diminished pain tolerance
- Make develop mental status changes
- Adverse effects are more dramatic

CARPE DIEM