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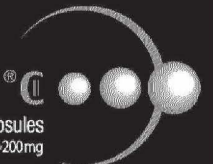
# Pain Market Overview

Training Class: October 19-20, 2011  
inVentiv Health

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# Overview

- Definition of Pain
- Types of Pain
- Goals of Pain Management
- Pain Management Practitioners
- Chronic Pain Treatment

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# What is Pain?

- The most commonly used definition of pain is “any sensation the patient perceives to be uncomfortable.”
  - Any of several different unpleasant sensations that serve to warn us that some part of our body is being damaged.
- Medically, the pain sensation itself is referred to as nociception
- Nociception begins when a sensory nerve ending in some part of the body is strongly stimulated and sends an electrical signal
- These nerve endings normally do not send any signals, but if they are disturbed by a mechanical, thermal or chemical force that might damage the body, they begin actively sending repetitive electrical signals to the spinal cord.

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# Types of Pain

- There are many different types of pain
- Separating pain according to the kind of organ or tissue that the pain originates from and the types of nerves involved in carrying the pain message leads to a broad classification of pain into 4 general types:
  - Somatic pain
  - Visceral pain
  - Neuropathic pain
  - Central Pain

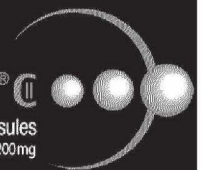
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# Types of Pain

- **Somatic**
  - Originates from the skin, muscles, tendons, ligaments, and bones
  - Easy to locate i.e. cut your hand
  - Sharp, stabbing, throbbing or aching
- **Visceral**
  - Internal organs, such as the liver, intestines, and stomach, generate visceral pain
  - Poorly localized
    - e.g. the pain of angina -originates in the heart, often radiates to the arm or jaw.
- **Neuropathic**
  - Neuropathic pain results when the nerves themselves are damaged
  - Peripheral Neuropathies - long nerves affected so pain is in hands and feet.
  - Diabetics, HIV/AIDs, MS patients
  - Characterized by burning sensation
- **Central**
  - Results from injury, stroke, malignancy, or other lesion in the spinal cord or brain.
  - Difficult for patient to describe and locate – frustrating the patient and physician

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# Goals of Pain Management

- Pain management is reducing a person's pain to a tolerable level to allow the person to function as normally as possible
- The pain management clinician will have slightly different goals depending on the patient's specific type of condition
- Pain management can be divided into three types based on the type of pain:
  - Acute pain management
  - Cancer pain management
  - Chronic benign pain management

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# Goals of Pain Management

## ■ Acute

- Injury or Surgery
- **Goal** – rest comfortably and rehabilitate

## ■ Cancer

- **Goal** – long term effective control of symptoms and keep patients free of side effects

## ■ Chronic Benign

- Caused by diseases that are not fatal nor completely curable
  - Chronic back pain, traumatic nerve injury, diabetic neuropathy
- **Goal** – restore the patient to highest degree of function possible

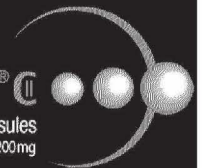
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# Chronic Benign Pain Management

- There are many causes of chronic benign pain
  - Chronic back pain
  - Rheumatoid arthritis
- Many chronic conditions cause some degree of constant pain and are best treated with long-acting or sustained release opioids
  - Other conditions, such as those involving neuropathic pain, may be treated entirely without opioids
- In general, the goal of pain treatment in these patients is to restore them to the highest degree of function possible, while avoiding side effects when possible and managing unavoidable side effects

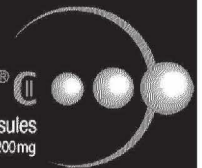
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# Chronic Pain Treatment

- Many chronic benign pain conditions can be treated with a number of therapies
- Multimodal approach
  - Nerve blocks
  - Rehabilitation and physical therapy
  - **Pharmacologic therapy (medications)**
  - Acupuncture
  - Psychotherapy such as stress management (biofeedback)
  - Neurosurgical procedures

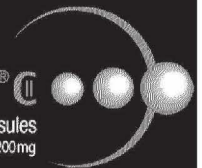
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# Pharmacologic Approach

- Pharmacologic agents provide the mainstay of pain relief for most patients with either chronic benign pain or cancer pain
- Pharmacologic agents include
  - Non-opioid analgesics
  - Opioid analgesics

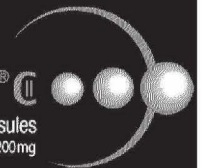
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# Long Acting Opioid Agents

- KADIAN®: morphine sulfate extended-release capsules
- MS Contin®: morphine sulfate controlled-release tablets (generic versions available)
- Avinza®: morphine sulfate extended-release capsules
- Embeda®: morphine sulfate and naltrexone hydrochloride extended-release capsules
- Opana-ER®: oxymorphone HCl extended-release tablets
- Exalgo®: hydromorphone HCl extended-release tablets
- OxyContin®: oxycodone HCl extended-release tablets
- Duragesic®: fentanyl transdermal (patch) system (generic versions available)

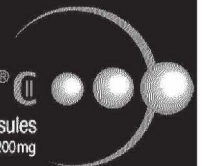
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# Pain Management Practitioners

- Anesthesiologists (Pain Medicine)
- Physical Medicine and Rehabilitation (PM&R)
- Medical Oncologists
- Neurologists / Neurosurgeons
- Orthopedic Surgeons
- Rheumatologists
- Primary care/Internal Medicine
- Nurse Practitioners / Physician's Assistants
- Nurses – day to day contact with patients

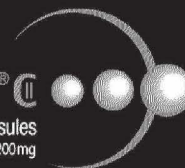
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# Barriers to Effective Pain Control

- Fear of addiction
- Lack of education about pain and pain control
- Opioid phobia
- Fear of legal or regulatory action

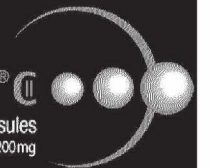
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