

**PAIN:** an unpleasant sensory & emotional experience associated with actual or potential tissue damage or described in terms of such damage

Characteristic	Acute	Chronic
Features	Recent onset expected to last days-weeks	Remote often ill-defined onset; duration unknown
Intensity	Variable	Variable
Associated affect	Anxiety when pain is severe or cause unknown; sometimes irritability	Irritability or depression
Associated pain-related behaviors	Moaning, rubbing, splinting when pain is severe	May or may not give any indication of pain
Associated features	Sympathetic hyperactivity when pain is severe (tachycardia, HTN, sweating, mydriasis)	May or may not have vegetative signs (lassitude, anorexia, weight loss, insomnia, loss of libido); may be difficult to distinguish from other disease-related effects

**WHY IS PAIN MANAGEMENT IMPORTANT?**

- Pain is the most common complaint in the ED patient
  - However, 56% of admitted pts do not receive analgesia in the ED
- HCPs should prevent/reduce pain and suffering, but sometimes have to cause pain
- Unrelieved pain is associated with negative physiological and psychological outcomes
  - Cardiac ischemia, poor wound healing post-op, depression/anxiety, hyperalgesia/allodynia

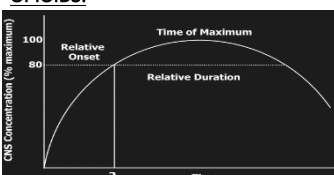
**BARRIERS TO PAIN MANAGEMENT:**

Health Care Professionals	Patients
<ul style="list-style-type: none"> <li>• Inadequate knowledge of pain mgmt.</li> <li>• Inadequate assessment of pain</li> <li>• Inadequate knowledge of analgesics</li> <li>• Concern about AEs of analgesics</li> <li>• Fear of pain &amp; addiction/tolerance</li> <li>• Fear of masking the diagnosis</li> </ul>	<ul style="list-style-type: none"> <li>• Reluctance to report pain                             <ul style="list-style-type: none"> <li>◦ Fear of distracting HCP from dx</li> <li>◦ Fear pain = disease is worse</li> <li>◦ Concern of not being a good pt</li> </ul> </li> <li>• Reluctance to take analgesics                             <ul style="list-style-type: none"> <li>◦ Fear of addiction/tolerance</li> <li>◦ Fear of AEs</li> </ul> </li> </ul>

**MYTH BUSTING:**

Opioids impair the clinical dx of pts with acute abdominal pain	Use of opioids in acute abdominal pain significantly improves pt comfort without compromising treatment decisions
Pts with severe injury receive timely & effective pain management in the ED	Mean time to analgesics = 40-100 min < 50% received analgesics in time
Morphine should be avoided in pts with acute pancreatitis	Only anecdotal (claimed that meperidine less likely to cause spasm of sphincter of Oddi)
Antiemetics should be given to all pts receiving an opioid analgesic	Nausea can be expected to abate when the pain is managed, reserve for severe N&V that persist after analgesia has been obtained
Skeletal muscle relaxants are safe and effective adjunct to analgesics in management of MSK pain with a "spasm" component	Insufficient evidence that these agents are more effective than placebo for short-term relief, whereas they are associated with an increase in CNS side effects.
NSAIDs are safer alternative to opioids for acute pain management	NSAID related death is high; be aware of high-risk pts (minimize risk by using lowest dose and shortest duration) and drug interactions. AEs include GI, renal dysfunction, worsening HF/BP, allergic reaction
IV ketorolac is superior to PO/PR NSAIDs in patients with acute pain	Oral ibuprofen has equal efficacy to IM or IV ketorolac (which is also less safe)

**OPIOIDS:**



- When brain gets to >80% of CNS concentration, you can adequately assess if drug is working, or if you are getting CNS-related AEs (respiratory depression)
  - Fentanyl: 2-3 mins
  - Morphine, hydromorphone: 5-7 mins

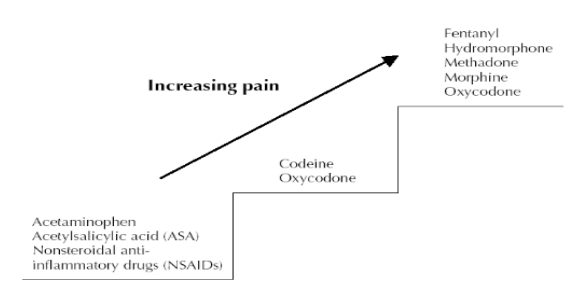
NOTE: don't use meperidine in trauma (seizures); don't use IM opioids

**OPIOID AEs:** sedation, somnolence, confusion, hallucinations, euphoria, blurred vision, dry mouth, **respiratory depression**, **hypotension**, constipation, NV, biliary spasm (abd. pain), urinary retention, diaphoresis, rash, pruritus

**ASSESSMENT OF PAIN:**

PQRST	SOCRATES
<ul style="list-style-type: none"> <li>• Palliation/Provocation</li> <li>• Quality</li> <li>• Radiation</li> <li>• Severity</li> <li>• Temporal Course</li> </ul>	<ul style="list-style-type: none"> <li>• Site/severity</li> <li>• Onset</li> <li>• Character</li> <li>• Radiates</li> <li>• Alleviates</li> <li>• Time</li> <li>• Exacerbation</li> <li>• Sx associated</li> </ul>
Impact (sleep, mood, activity)	
<ul style="list-style-type: none"> <li>• Visual analog scale</li> </ul>	

**WHO ANALGESIC LADDER:**



**ACUTE PAIN MANAGEMENT: "Early, Safe, and Simple"**

- PAIN is always subjective and is what the patient says it is!
- Assessment should be early, rapid, and ongoing
- Avoid unnecessary delays in treating pain
- Individualize analgesic dose (8-10x patient variation)
- Reassess patient frequently
- Anticipate, recognize, and treat adverse effects
- Consider adjunctive and non-pharmacologic therapy
- Sedation ≠ analgesia

**TOLERANCE, DEPENDENCE, ADDICTION**

- **Tolerance:** inability of a given drug to sustain a pharmacological effect
  - Can develop to both analgesic & AEs of opioids
  - Unlikely to occur when used for short periods
  - Cross-tolerance among opioids is incomplete
- **Physical dependence:** state resulting from prolonged use of a drug that produces a withdrawal or abstinence syndrome upon discontinuation of the drug
  - 6-12h: anxiety, irritability, salivation, lacrimation, diaphoresis, N, V, abd. cramps, insomnia
  - 12-24h: dilated pupils, decreased appetite, hot flashes with chills
  - Can last 7-10 days and can be aborted with opioid administration
  - Avoid with opioid taper when D/Cing treatment
- **Psychological dependence (addiction):** a pattern of compulsive behaviour characterized by continuous craving for and opioid for a use other than pain
  - Patient consumed by drug seeking behavior
  - Risk of iatrogenic addiction <1% and should NEVER be primary concern when treating a patient in pain
  - Psychological dependence is independent of physical dependence

**TRAUMA PROTOCOLS:**

- Improved time to first dose of analgesia
- Improved percentage of pts treated within 30 mins
- More doses of fentanyl administered in trauma bay

**SPECIAL POPULATIONS:** hemodynamically unstable, head injury, elderly, pediatrics, IV drug users, "morphine allergy"

**NON-OPIOID ANALGESICS:** acetaminophen, NSAIDs/COX-2 inhibitors, corticosteroids, skeletal muscle relaxants, combo

- Oral prednisolone & naproxen equal in initial goat txt
- Dexamethasone + standard abortive therapy reduced recurrent migraines