Opioids

- Chemical classes:
  - Phenanthrenes
  - Benzomorphans
  - Phenylpiperidines (e.g., fentanyl, alfentanyl, sufentanyl, meperidine)
  - Diphenylheptanes (e.g., tramadol)
  - Taeptadol
  - Natural, semi-synthetic, synthetic
  - Affinity:
  - Action:
  - Duration:

Morphine

- Naturally occurring, derived from opium
- 104-105% oral bioavailability
- T1/2: 2-3 hrs
- Duration of action: 4-5 hrs, extended release formulations (6-12, 24)
- Metabolites: M6G (analgesic, action at mu and delta receptors), M6G (alloidynia, hyperalgesia, myclonic, seizures), may accumulate in renal dysfunction
- Chronic administration may result in accumulation of more metabolites than parent compound
- Chronic, high doses result in metabolism to hydromorphone

Hydromorphone

- Semisynthetic derivative of morphine
- 6-8 times more potent than morphine
- 24% oral bioavailability
- T1/2: 2.3 hrs
- Duration of action: 3.4 hrs, extended release formulation (6-12)
- Metabolites: hydromorphone-3-glucuronide, inactive (useful in renal insufficiency)
**Tapentadol**
- Sustained, centrally acting, weak μ-agonist and norepinephrine/more in α1B/C
- Comparable analgesic efficacy to codeine, though 10- to 20-fold lower peak plasma concentration
- May be used in combination with weak opioids
- Pain relief up to 12 hours
- Metabolism: active
- May be more harmful in neuropathic pain states

**Buprenorphine**
- Semisynthetic, partial μ-agonist
- Once every 4-8 hours
- Methadone is the other predominant drug
- Side effects: respiratory depression, nausea
- Drug interactions: nonsteroidal anti-inflammatory drugs, warfarin

**Universal Precautions/Risk Mitigation**
- Treating the Patient with Pain
  - Standardize care as much as possible
  - Use diagnosis and risk stratification to help guide options and schedule appropriate follow-up
  - Consider psychological assessment, substance use assessment, and risk assessment (SOAP, ORT)
  - Informed Consent, Treatment Agreement

**Risk Factors for Opioid Misuse or Addiction**
- Personal or family history of substance addiction
- History of comorbid psychiatric conditions
- History of opioid use
- Gender
- Age
- History of physical, emotional, or sexual abuse
- History of "process addiction": sex, gambling, food, shopping
- Previous history of alcohol dependence, not being a member of a treatment program and poor social support

**Addiction Behavior**
- Patterns of behavior that may suggest addiction
  - Concealment, mood swings, antisocial
  - Decreased activity
  - Increasing use, more immediate
  - Increasing sleep disturbance
  - Increasing pain complaints
  - Increasing relationship dysfunction

**Impaired Control or Compulsive Use**
- Report will focus on behavior or trigger
- Frequent early renewal requests
- Urgent calls or unscheduled visits
- Abusing other drugs or alcohol
- Cannot produce medications
- Withdrawn not at clinic visit
- Change in demeanor on approach
- Irritable, anxious, labile mood
- Declining activity
- Intoxicated, somnolent, sedated
- Urgent calls or unscheduled visits
- Irregular sleep patterns
- Withdrawing
- Cannot produce medications
- Unable to stop anything other than opioids
Substance Abuse/Addiction Resources
- Substance Abuse and Mental Health Services Administration (SAMHSA)
  - www.samhsa.gov: opioid treatment program directory, behavioral health treatment services
  - Searchable by state for local resources
  - National Helpline 1-800-662-HELP (4357)
    - Free confidential support, treatment, and referral to organizations for individuals and family members facing mental and/or substance use disorders.
    - Free publications

When to Refer to a Pain Specialist
- When pain patients beyond expected recovery period
- Consider for patients with known addiction or other medical or psychological risk factors that make them more vulnerable to developing pain-related or opioid-related complications.
- Patients who use or abuse alcohol or other substances are at higher risk for severe post-surgical pain or complications if prescribed opioid pain medication.
- Consider when opioid prescribing is considered beyond the needs for pain therapy.
- Consider when a patient is exhibiting signs of opioid misuse and addiction.
- Consider when patients require the use of non-opioid pain medications.
- Consider when patients are exhibiting signs of opioid misuse and addiction.
- Consider when patients require the use of non-opioid pain medications.
- Access to adjunct and/or alternative therapies.