Reducing Opioid Adverse Drug Events

Prescriber Tips:

- Nonpharmacologic therapy (physical therapy, exercise, cognitive behavioral therapy) and nonopioid pharmacologic therapy (non-steroidal anti-inflammatory drugs [NSAIDs], tricyclic antidepressants [TCAs], serotonin and norepinephrine reuptake inhibitors [SNRIs], anticonvulsants) are preferred for chronic pain.[1]
- Before initiating opioid therapy, it is essential to perform a comprehensive assessment:[2]
  - Pain condition, general medical history, psychosocial history, functional history, psychological evaluation, substance use history, addiction risk screening, assessment of previous therapy
    - Screening tools to assess patient's risk for opioid misuse or addiction: Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP®-R); Current Opioid Misuse Measure® (COMM); Opioid Risk Tool (ORT); and Diagnosis, Intractability, Risk, Efficacy (DIRE)[3]
- Review prescription drug monitoring program (PDMP) database and consider use of urine drug testing (UDT) and risk assessment tools to assess opioid misuse.[1, 2]
  - PDMP assists in making informed clinical decisions regarding the appropriateness of a controlled substance prescription by assessing data of previously filled controlled substance prescriptions.
  - UDT assesses for prescribed medications and for other controlled prescriptions and illicit drugs.
- Establish realistic and measurable treatment goals with <u>all</u> patients with regard to pain relief and improvement in function.[1, 2]
  - Discuss risks, benefits, and limitations of treatments.
- When initiating opioid therapy, immediate-release instead of extended-release/long-acting opioids should be prescribed using lowest effective dose for the shortest duration.[1]
- Routine monitoring and vigilance are critical to ensure effective and safe use of opioids.[1, 2]
  - At each visit, assess and document patient pain and function using validated tools and assess appropriateness of opioid regimen.
  - Advise patients about common effects of opioids such as constipation.

Situation	Recommendation
Assessing Function and Pain[1, 2, 4, 5]	• 3-item PEG Assessment Scale: to assess **P**ain intensity, interference with **E**njoyment of life, and interference with **G**eneral activity • 2-item Graded Chronic Pain Scale: to assess pain intensity and pain interference • Numeric rating scale pain (0–10 scale), functional assessment using the Oswestry Disability Index (0–50 scale), Neck Disability Index (0–50 scale), employment status, and/or improvement in activity status • Clinically meaningful improvement has been defined as a 30% improvement in scores for both pain and function
Monitoring[1]	Evaluate benefits and harms with patients: • Starting long-term opioid therapy or dose escalation: within 1 to 4 weeks (lower end of range when extended release/long acting (ER/LA) opioids are started/increased or when total daily dose of opioid is <u>≥</u> 50 MME. • Continued therapy: every 3 months or more frequently. <u>Note:</u> If benefits do not outweigh harms of continued opioid therapy, optimize therapies and work with patients to taper opioids to lower dosages or to taper and discontinue opioids.

- Avoid prescribing opioids and benzodiazepines concurrently.[1]
- Calculating the total daily dose of opioids helps identify patients who may benefit from closer monitoring, reduction or tapering of opioids, or prescribing of naloxone.[1, 6]
  - Morphine milligram equivalents (MME) conversion table (Table 1)
- Refer patient, as clinically indicated, for additional evaluation to achieve treatment goals (e.g., pain management consultation).[2]
- Consider offering naloxone when prescribing opioids to patients at increased risk of overdose:[1, 6]
  - Patients taking benzodiazepines with opioids
  - Patients taking higher dosages of opioids (≥50 MME/day)
  - Prior opioid-related emergency department visits

Table 1: Calculating morphine milligram equivalents (MME)[1, 6]

Opioid (Doses in mg/day except where noted)	Conversion Factor
Codeine	0.15
Fentanyl transdermal (in mcg/hour)	2.4
Hydrocodone	1
Hydromorphone	4
Methadone	
1–20 mg/day	4
21–40 mg/day	8
41–60 mg/day	10
≥ 61–80 mg/day	12
Morphine	1
Oxycodone	1.5
Oxymorphone	3

These dose conversions are estimated and cannot account for all individual differences in genetics and pharmacokinetics

1. **Determine** the total daily amount of each opioid the patient takes.
2. **Convert** each to morphine milligram equivalents (MME).
   - Multiply the dose of each opioid by conversion factor (see table).
3. **Add** them together.

Preventing and Managing Opioid Side Effects:

Side Effect	Description
Constipation:[1, 2, 7, 8]	Common side effect. Tolerance rarely develops to this effect. Constipation must be closely monitored and a bowel regimen should be initiated as soon as deemed necessary (e.g., stool softener and stimulant). – Consider bowel regimen initiation before the development of constipation.
Nausea and vomiting:[7, 8]	More commonly seen at initiation or when switching agents. Usually transient, however, treatment should be made available if substantial nausea and vomiting develop. Slow dose titration, decrease of opioid dose, switch to another analgesic and/or routes of administration may help. If antiemetic is necessary, drug treatment should be tailored specifically to the source of the problem.
Sedation:[7, 8]	Commonly presents with initiation of opioid therapy or with dose increases. Most of the central nervous system (CNS) adverse effects are transient; however, some patients may require additional therapy. Suggested treatments are opioid dose reduction, opioid rotation, discontinuing or reducing doses of sedating medications, and use of psychostimulants.
Lack of pain relief:[1, 7]	Alternative drug therapy may be necessary due to individual variability in genetics and pharmacokinetic /pharmacodynamic tolarance. Side effects can contribute to under-dosing and inadequate analgesia. When opioids are used, combine them with nonpharmacologic or nonopioid pharmacologic therapy, as appropriate, to provide greater benefits to patients.

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