

APPENDIX F

**HOW TO
MANAGE PAIN
AND OPIOIDS
IN SPECIAL
POPULATIONS**



ARIZONA DEPARTMENT
OF HEALTH SERVICES

APPENDIX F: HOW TO MANAGE PAIN AND OPIOIDS IN SPECIAL POPULATIONS

While the concepts detailed in the *Arizona Opioid Prescribing Guidelines* are applicable to patients receiving specialty care, this appendix details additional, specific considerations for post-surgical patients, pediatric patients, dental and elderly patients.

SURGICAL PATIENTS ^{110 111 112}

The Arizona *Guidelines* are not intended to apply to inpatient trauma, burn or major, complex post-operative patients. They are applicable, however, in the outpatient post-operative setting, and the transition from the inpatient to outpatient setting for most post-operative patients. Of note, it is not expected to see these patients 3-5 days post-operatively if there are no clinical issues or concerns; these suggestions should be used in conjunction with regular post-operative follow-up schedules.

A 2017 systematic review found that post-operative prescription opioids often go unused, unlocked and undisposed. More than two-thirds of patients reported unused prescription opioids following surgery, consistent across several studies of general, orthopedic, thoracic and obstetric inpatient and outpatient surgeries.¹⁶ Therefore, best practices for post-operative pain management include the following:

- Conduct a pre-operative evaluation including assessment of medical and psychiatric comorbidities and history of chronic pain and substance use, in order to guide the perioperative pain management plan.
- Provide preoperative patient education about realistic expectations about pain and healing after surgery.¹¹²
 - Set expectations – “Some pain is normal. You should be able to walk and do light activity, but may be sore for a few days. This will gradually get better.”
 - Set norms – “Half of patients who have this procedure take fewer than 10-15 pills.”
 - Endorse non-opioid use – “Take acetaminophen and ibuprofen around the clock, and use the stronger pain pills only as needed for breakthrough pain.”
 - Avoid NSAIDs in patients with peptic ulcer disease and associated risk factors (smoking, drinking), bleeding disorders, renal disease and specific operations at surgeon discretion.
 - Advise that NSAID use for postoperative pain is for a finite amount of time.
 - Stress appropriate opioid use – “These pills are for pain from your surgery, and should not be used to treat pain from other conditions.”
 - Educate about adverse effects – “We are careful about opioids because they have been shown to be addictive, cause you harm and even cause overdose if used incorrectly or abused.”
 - Advise safe disposal – “Disposing of these pills prevents others, including children, from accidentally overdosing. You can take pills to an approved collector (including police stations), or mix pills with kitty litter in a bag and throw them in the trash.”
- Offer multimodal analgesia for the treatment of postoperative pain.
 - *Nonpharmacologic options*: TENS, cognitive behavioral therapy, possible benefit from acupuncture, massage, cold therapy, localized heat and continuous passive motion.
 - *NSAIDs and/or acetaminophen*: a single dose of oral celecoxib 200-400mg given 30-60 minutes prior to surgery is associated with lower opioid requirements after surgery¹¹³ NSAIDs are contraindicated for perioperative pain in patients undergoing CABG and for 14 days after CABG due to increased risk of cardiovascular events.
 - *Gabapentin or pregabalin*: useful for thoracotomy, laparotomy, joint replacement, CABG, spinal fusion as it is associated with reduced opioid requirements before surgery.¹¹³
 - *Local/regional blocks*: regional blocks (like transversus abdominis plane (TAP) block for major abdominal operations) with long-acting medications such as liposomal bupivacaine (when appropriate) to reduce opioid use. Local field blocks could also be used in such cases like open inguinal hernia repairs in order to decrease opioid use.

- Develop procedure-specific opioid prescription strategies. Online tools such as michigan-open.org can guide post-operative prescribing habits, based on the most up-to-date research and recommendations. Examples below come from the Michigan Opioid Prescribing Engagement Network, led by surgeons and anesthesiologists, and are applicable to opioid-naïve patients.

PROCEDURE-SPECIFIC OPIOID PRESCRIBING STRATEGIES		
Procedure	Hydrocodone (Norco) - 5 mg tablets	Oxycodone 5 mg tablets
	Codeine (Tylenol #3) - 30 mg tablets	
	Tramadol - 50 mg tablets	
Laparoscopic Cholecystectomy	15	10
Laparoscopic Appendectomy	15	10
Inguinal/Femoral Hernia Repair (Open/Laparoscopic/Robotic)	15	10
Open Incisional Hernia Repair	40	25
Laparoscopic Colectomy	35	25
Open Colectomy	40	25
Hysterectomy		
Vaginal	20	15
Laparoscopic & Robotic	30	20
Abdominal	40	25
Wide Local Excision +/- Sentinel Lymph Node Biopsy	30	20
Simple Mastectomy +/- Sentinel Lymph Node Biopsy	30	20
Lumpectomy +/- Sentinel Lymph Node Biopsy	15	10
Breast Biopsy or Sentinel Lymph Node Biopsy	15	10

Recommendations were based on patient-reported data from the Michigan Surgical Quality Collaborative and other published studies. Recommended amounts meet or exceed self-reported use of 75% of patients. Previous studies have shown that when patients are prescribed fewer pills, they consume fewer pills with no change in pain or satisfaction scores. Many patients use 0-5 pills. Recommendations are for patients with no preoperative opioid use. For patients taking opioids preoperatively, prescribers are encouraged to use their best judgment.

- Do not provide enough pain medications to “tide someone over;” provide what is medically necessary.
- For opioid-tolerant patients undergoing elective surgery, consult with pain medicine or addiction specialists.
 - Studies of abdominal surgery, joint arthroplasty and spinal surgery have shown preoperative opioid use is a significant predictor of adverse patient-reported outcomes.¹¹³
 - In collaboration with the prescriber of long-term opioid therapy, consider opioid tapering prior to elective surgeries and delaying surgery if necessary to provide additional time for pre-surgical optimization.
- Consider developing and implementing enhanced recovery pathways for post-operative patients.
 - See American College of Surgeons’ *AHRQ Safety Program for Improving Surgical Care and Recovery*: facs.org/quality-programs/iscr
 - See Society of American Gastrointestinal and Endoscopic Surgeons’ (SAGES) *SMART™ Enhanced Recovery Program*: sages.org/smart-enhanced-recovery-program

PEDIATRIC PATIENTS

Like adults, pediatric patients experience acute and chronic pain. There are two primary areas of concern with pediatrics: the accidental poisonings of young infants and children, and the exposure/experimentation that may lead to opioid use disorders in adolescents. Cohort and survey studies have found that opioid use disorder is a leading cause of morbidity and mortality among U.S. youth.¹¹⁴

For acute pain management:

- Use opioids only in children with moderate or severe pain, or pain that is refractory to non-opioid analgesics.
 - Agents not recommended: In 2017, FDA issued warnings and contraindications for the use of codeine and tramadol for pain management in all children < 12 years old.¹¹⁵
- Counsel parents about the need for safe storage of their own opioids and controlled substances. Most adolescents who misuse opioids often access them through a friend or family member.¹¹⁶

For chronic pain management:

Chronic pain disorders are common in children and teenagers. Up to 8% of children experience debilitating chronic pain and around 3% require intensive rehabilitation.^{117 118 119} Further, around 17% of adult chronic pain patients report a history of chronic pain in childhood or adolescence.¹²⁰ Mental health disorders such as anxiety and depression are early risk factors for developing chronic pain, impairing the patient’s ability to cope with the pain and escalating the perceived pain level.

- Recognize that the pediatric population may have unique vulnerabilities and inappropriate and/or prolonged exposure to opioids may lead some to develop addiction, drug-seeking behavior and the misuse of prescription opioids.
- Strongly recommend not using opioids to treat chronic pain in pediatric patients.
 - Use of prescribed opioids before the 12th grade is independently associated with future opioid misuse among patients with little drug experience and the vast majority of substance use is initiated in adolescence.
 - Use of opioids to treat chronic pain may lead to opioid-induced hyperalgesia and catalyze the sensitization process, leading to progression of the child’s pain.
- Use a multimodal approach to treat chronic pain in pediatric patients.
 - *Non-opioid medications*: includes gabapentin, alpha-2-agonists, low dose amitriptyline and lidocaine creams or patches.

- *Supplements*: includes magnesium, omega 3 fish oils, vitamin D and melatonin.
- *Integrative medicine techniques*: includes diaphragmatic breathing, aromatherapy, biofeedback, mindfulness and yoga.
- *Physical therapy*: to be considered for all patients with chronic pain.
- Refer pediatric patients with chronic pain to psychology to decrease catastrophizing, provide coping mechanisms and teach relaxation and distraction techniques.
- Recommend and refer to family therapy as needed.
- Incorporate nutrition and daily exercise into the treatment plan.

Screening and treatment for substance use disorder:

- Screen pediatric patients for substance use as part of an age-appropriate comprehensive history, using 4Ps or CRAFFT.
 - The 4 P's: **Parents** (Did any of your parents have a problem with alcohol or other drug use?), **Partner** (Does your partner have a problem with alcohol or drug use?), **Past** (In the past, have you had difficulties in your life because of alcohol or other drugs, including prescription medications?) and **Present** (In the past month, have you drunk any alcohol or used other drugs?). Any "yes" should trigger further questions.
 - CRAFFT: brightfutures.aap.org/Bright%20Futures%20Documents/Screening.pdf.
- Consider medication-assisted treatment as an option for pediatric patients with opioid-use disorder.
 - Medication-assisted treatment has been recommended by the American Academy of Pediatrics for adolescent and young adult patients with severe opioid use disorders.¹¹⁴

DENTAL PATIENTS¹²¹

Dentists cannot assume that their prescribing of opioids does not affect the opioid use problem. There is a risk of opioid-related adverse events even with acute, short-term therapy. Dentists are among the top prescribers of opioids to teenagers.¹²²

- Develop procedure-specific opioid pain management strategies, based on peer-reviewed recommendations for analgesia.
- Utilize multimodal pain strategies for management of acute postoperative pain, as a means for sparing the need for opioid analgesics.
- Consider the use of long-acting local anesthetics to manage post-surgical pain.
- Coordinate with other treating doctors, including pain specialists and primary care, when prescribing opioids for management of chronic orofacial pain.
- Do not provide enough pain medications to "tide someone over"; provide what is medically necessary.

Chronic or persistent pain is a common problem in older adults. There are age-associated differences in the effectiveness and toxicity of opioid therapy, given age-related alterations in drug absorption, distribution, metabolism and excretion.

- Nonpharmacologic therapies and topical therapies are first line treatment for pain management in older adults.
 - Topical NSAIDs, capsaicin and lidocaine have the advantage of low risk of adverse events and ease of use.
- Consider acetaminophen as initial and ongoing pharmacotherapy in the treatment of persistent pain, particularly musculoskeletal pain.
 - Absolute and relative contraindications to acetaminophen use in this population include liver failure, hepatic insufficiency (up to 2g acetaminophen may still be indicated), chronic alcohol use and/or dependence.
- Consider NSAIDs like ibuprofen and naproxen for mild or moderate chronic pain, if the person has no contraindications.
 - Nonselective NSAIDs and COX 2 selective inhibitors should be used with extreme caution.
 - Patients taking aspirin for cardioprophylaxis should not use ibuprofen.
 - NSAIDs should not be used in the case of heart failure or eGFR < 30 mL/min.
 - PPI should be provided for gastroprotection.
 - Indomethacin and ketorolac should be avoided for mild or moderate chronic pain.
- Avoid opioids if history of falls or fractures, unless it is being used for pain management due to recent fractures or joint replacement.
 - Opioids have been added to the list of CNS medications that should be avoided in individuals with a history of falls or fractures.
- If opioids are indicated, anticipate, assess for, and identify potential opioid-associated adverse effects.
 - The Beers criteria offers medications and combinations of medication that should be avoided or used with caution.¹²⁴
 - Polypharmacy is a common danger; older adults use an average of 2-5 prescription medications on a regular basis.
- If opioids are indicated, reduce the use or dosage of other CNS medications being used.
- Use caution with benzodiazepines since older adults have increased sensitivity to them.
 - In general, all benzodiazepines increase risk of cognitive impairment, delirium, falls, fractures and motor vehicle crashes in older adults.