The Community Pharmacist's Guide to Pain Management

by Ashley Firm, PharmD; and Caitlin Bertrand, PharmD

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Upon successful completion of this article, the pharmacist should be able to:
1. Explain realistic and obtainable goals of pain management therapy.
2. Design appropriate pain regimens for the treatment of chronic nonmalignant pain.
3. Discuss alternatives to decrease the use of high risk pain medication in patients older than 65 years.
4. Design alternative therapy options for patients utilizing greater than 120 morphine equivalents daily without a cancer diagnosis.
5. Discuss recommended safe and proper drug disposal to patients with unwanted medications.

Upon successful completion of this article, the pharmacy technician should be able to:
1. Discuss goals of pain management therapy.
2. List newly approved analgesic drugs and their drug class.
3. Discuss recommended safe and proper drug disposal to patients with unwanted medications.

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INTRODUCTION
As more than 100 million Americans suffer from chronic pain, it has emerged as the most common cause of long-term disability. Almost 80 percent of patients who experience chronic pain report their pain prevents them from performing activities of daily living (ADLs). As pain management has evolved to become a common aspect in health care, pain is viewed as the fifth vital sign. It is without question that pain is an ailment that health care providers encounter each day, and the impact of pain on the economic health care system continues to grow.

Pain is defined as an unpleasant sensory or emotional experience associated with actual or potential tissue damage or described in terms of such damage. There are several different types of pain including nociceptive and neuropathic. Nociceptive pain is further categorized as somatic pain caused by injury to body tissue that is well defined and localized, or visceral pain caused by injury to the viscera that is poorly localized due to being mediated by stretch receptors. Neuropathic pain follows the nervous system and can be due to damage to a peripheral nerve (peripheral neuropathy), autonomic change (sympathetically mediated pain), or from abnormal central nervous system activity (central pain). Examples of peripheral neuropathy, sympathetically mediated pain, and central pain are diabetic neuropathy, sympathetic dystrophy, and phantom limb pain, respectively. The American College of Rheumatology defines chronic pain as pain lasting longer than three months.

The approach for the treatment of pain, or pain management, should be a multidisciplinary team approach utilizing nonpharmacologic and pharmacologic options. The Institute of Medicine’s 2011 Report on relieving pain in America emphasized the need to change the patient and provider’s view of pain. This includes viewing pain as a public health challenge and tailoring pain care to each patient’s experiences. While customizing pain management for each individual patient, the patient’s expectations of pain reduction should not be to become 100 percent pain free, as most clinical trials suggest a 33-50 percent reduction in pain as a reasonable standard to determine if a regimen is effective. Communicating this information to patients is helpful in establishing realistic treatment goals and reduce unnecessary dose escalations.

Non-pharmacologic options should be considered with any pain management plan, including relaxation, aerobic exercise, physical therapy, electric stimulation, and acupuncture. A meta-analysis of 40 systematic reviews comparing a variety of nonpharmacologic options such as acupuncture, back schools, and exercise therapy showed benefit in reducing pain compared to placebo, sham therapy or no treatment. A randomized study of 120 patients with osteoarthritis of the knee compared acupuncture plus pharmacotherapy, sham acupuncture plus pharmacotherapy plus pharmacotherapy alone. The acupuncture plus pharmacotherapy group shows statistically significant improvement in the Western Ontario and McMaster Universities index, which assesses pain, stiffness and physical function in patients with osteoarthritis. Suggesting alternatives or adjuncts to pain medication, such as exercise and physical therapy can be of great benefit to patients, and community pharmacists can recommend appropriate options for patients when necessary.

Many pharmacologic options exist for the treatment of pain with an outline of escalation from over-the-counter options to high dose opioid therapy using the World Health Organization (WHO) Pain Ladder. Although originally designed for relief from cancer pain, the step-wise approach has been used for relief of chronic non-cancer pain as well. The pain ladder suggests using non-opioids and adjuvants initially including non-steroidal anti-inflammatory drugs (NSAIDs), acetaminophen, skeletal muscle relaxants, and topical agents. If the pain worsens or remains after use of the above agents, continuation onto opioid therapy is recommended.

Starting with step one, the use of pharmacologic options focuses on non-opioids such as NSAIDs or acetaminophen. In addition to the direct pain relievers listed in the ladder, adjuvant agents such as skeletal muscle relaxants and topical analgesics could also be considered at this step to enhance analgesic effects and reduce other symptoms associated with chronic pain.

While all NSAIDs carry black box warnings for gastrointestinal bleeds and cardiovascular adverse events, there are preferred NSAIDs to help decrease the risk of a
particular event. For example, naproxen is the preferred NSAID for patients with cardiovascular disease because it does not appear to increase the risk of major cardiovascular events, supported by a meta-analysis of more than 750 trials comparing NSAIDs to either placebo or head-to-head with another NSAID. The vascular risks of ibuprofen and high-dose diclofenac were found to be comparable to COX-2 inhibitors.

A meta-analysis of 32 controlled trials and 13 cohort trials from 1985 to 2003 evaluated the risk of developing gastrointestinal adverse events on NSAID therapy. The risk of developing gastrointestinal complications was highest with indomethacin, followed by naproxen, diclofenac, piroxicam, ibuprofen, and meloxicam. The average duration of treatment before developing symptomatic gastrointestinal events was 84 days, but could be observed as early as seven days with indomethacin.

If treatment with step one therapies is unsuccessful at obtaining adequate pain reduction, progression to step two with opioid therapy is warranted. The evidence supporting the use of opioids for acute pain and cancer pain is well established but the use of opioids for chronic nonmalignant pain is not as strong. A systematic review in 2014 of 39 studies found patients treated with opioids for chronic pain found no benefit but did find an increased risk of dose-dependent harm, such as overdose.

Opioid therapy for chronic pain should be initiated only in carefully selected patients, after assessing the benefits of therapy versus the risks of adverse effects and the possibility of addiction and/or dependence. Guidelines from the American Pain Society and the American Academy of Pain Medicine recommend patients at high risk for abuse, such as those with a personal or family history of substance abuse, should be evaluated by a mental health or addiction specialist to determine if opioid therapy is appropriate for them.

Once it has been determined opioid treatment is an appropriate option for a patient, the patient should be prescribed a low dose, immediate release opioid therapy to be used as needed with dose titrations occurring only after an improvement in daily activities is observed. If the patient is using the immediate release product at each available dose time, conversion to a long acting opioid may be considered. With each dose titration or addition of therapy, total daily morphine equivalents should be calculated to verify the 120 morphine equivalents per day threshold has not been exceeded without demonstration of clear benefit of therapy. The total morphine equivalents should be calculated to include all long acting and short acting oral, transdermal, intravenous and intramuscular opioid therapy. This threshold was outlined by the Washington State Agency Medical Director’s Group as the point where the risk of overdose dramatically increases and extreme caution should be used when exceeding this threshold.

The occurrence of adverse events should be evaluated at each follow up encounter and after any dose escalations to re-evaluate the risks and benefits of continuing opioid therapy. Adverse events to specifically inquire about include constipation, somnolence or mental clouding, and nausea or vomiting. Any allergic reactions experienced by the patient should be addressed and managed at each encounter.

One of the first adverse effects to be addressed is distinguishing an allergic reaction to opioid therapy from a pseudo allergy. Pseudo allergies are adverse effects that...
mimic an allergic reaction; pruritus, hives, flushing, sweating, or mild hypotension. These reactions may be related to the mechanism of action of the medication, as is the case with codeine, which causes a histamine release. This can result in a rash and pruritus, which may be treated with an antihistamine. Pseudo allergic reactions may be treated if another opioid is not appropriate for the patient. True allergies include skin reactions other than those listed above, severe hypotension, swelling of lips, tongue, face or mouth, and difficulties breathing, speaking, or swallowing.

Community pharmacists may be consulted by prescribers on navigating a complicated patient allergy profile and choosing another opioid with no cross-reaction with their allergy. Cross-sensitivity does not exist between all opioids; it is based on the structure of the opioid. When a true allergy or intolerable pseudo allergy presents, rotation to a different opioid structure can help provide relief from pain without the risk of adverse events. Morphine, hydromorphone, oxycodone, hydrocodone and codeine are all phenanthrenes, while fentanyl and meperidine are phenylpiperidines and methadone is the only diphenylheptane. Cross sensitivity reactions will occur between opioids with the same structure but not across different structures.

A common adverse effect of pain medication that should be addressed is constipation. It is known that opioids can cause constipation via several mechanisms: reduced peristalsis in the small intestine and colon, increased anal sphincter tone and increased water and electrolyte absorption. Due to the multiple contributing factors to constipation, a multidrug bowel regimen is logical to prevent opioid-induced constipation. Although patients may prevent constipation with adequate hydration and increased intake of fruits and vegetables for dietary fiber, patients of advanced age, those with with poor diet, those taking other constipating medications or patients with hypercalcemia may need pharmacologic treatment. All patients receiving opioid therapy should be counseled to expect and manage constipation, even if they were previously or are currently being treated with opioid therapy because some patients experience constipation but are unaware it is caused by their opioid medication. Pharmacists are a valuable resource to these patients by providing proper counseling and recommending an appropriate bowel regimen as an adjunct to their pain management regimen. Recommended pharmacotherapy to treat opioid-induced constipation includes a stool softener and cathartic agent (docusate sodium 100 mg twice daily and two tablets of

<table>
<thead>
<tr>
<th>Medications</th>
<th>Recommendation</th>
<th>Alternative</th>
</tr>
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<tbody>
<tr>
<td>Meperidine</td>
<td>Avoid</td>
<td>Mild-moderate pain: Acetaminophen, short course oral NSAID (ibuprofen, naproxen, meloxicam), topical NSAID</td>
</tr>
<tr>
<td></td>
<td>May cause neurotoxicity; not an effective analgesic at common doses.</td>
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<td>Non-selective NSAIDs (examples)</td>
<td>Avoid chronic use unless no other alternatives exist.</td>
<td>Moderate-severe pain: hydrocodone/acetaminophen or oxycodone/acetaminophen</td>
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<tr>
<td>Aspirin  &gt;325 mg</td>
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<td>Diclofenac (oral)</td>
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<td>Etodolac</td>
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<td>Ibuprofen</td>
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<td>Meloxicam</td>
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<td>Naproxen</td>
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<td>Sulindac</td>
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<tr>
<td>Indomethacin</td>
<td>Avoid</td>
<td>Mild-moderate pain: Acetaminophen, short course oral NSAID (ibuprofen, naproxen, meloxicam), topical NSAID</td>
</tr>
<tr>
<td>Ketorolac</td>
<td>High risk of gastrointestinal bleeding</td>
<td>Moderate-severe pain: hydrocodone/acetaminophen or oxycodone/acetaminophen</td>
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<td>Skeleton Muscle Relaxants (examples)</td>
<td>Avoid</td>
<td>Baclofen</td>
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<tr>
<td>Carisoprodol</td>
<td>Poorly tolerated by the elderly due to anticholinergic effects</td>
<td>Tizanidine</td>
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<td>Cyclobenzaprine</td>
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<td>Metaxalone</td>
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<td>Methocarbamol</td>
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Opioids typically cause sedation but can also cause mental clouding, a state where the patient is confused about their surroundings. This can be expected with the initiation or titration of opioid therapy, but symptoms should decrease over a few days to weeks. If symptoms, often observed as inattention, fatigue or delirium, persist beyond a few weeks or decrease quality of life, the opioid regimen should be evaluated. If pain is well-controlled, consider a 25 percent dose reduction; if pain is not well-controlled, try opioid rotation with another opioid. If dose reduction or opioid rotation is not possible, off-label use of stimulants like modafinil or methylphenidate may be considered to help with sedation. A thorough medication review should be conducted when initiating opioid therapy to identify other prescription and over-the-counter medications which may contribute to sedation, dizziness and drowsiness.

Nausea and vomiting secondary to opioid use are adverse effects that affect quality of life and may cause additional pain from movements associated with vomiting. They are mediated by several mechanisms such as a direct effect on the chemoreceptor trigger zone, enhanced vestibular sensitivity and delayed gastric emptying. Although this is unpleasant for the patient upon therapy initiation, tolerance develops quickly and persistent symptoms are infrequent. Gradual titration may help to avoid the development of nausea. If nausea does persist, opioid rotation or an alternative administration route may help to reduce symptoms. Patients may obtain relief using dopamine antagonists such as promethazine or serotonin receptor antagonists such as ondansetron, however long-term use of serotonin receptor antagonists may cause additional constipation.

**NEW THERAPY UPDATES**

**Opioids**

Pharmacologic options for the management of pain continue to evolve, with manufacturers working to provide products with fewer side effects to reduce harmful events and greater narcotic abuse deterrents to reduce the risk of misuse. In addition to the abuse deterrent formulations of the long acting opioids Opana ER (oxymorphone), Exalgo (hydromorphone), and Oxycontin (oxycodone) discussed in “A Review of Abuse-Deterrent Opioids for Chronic Nonmalignant Pain” in the July 2012 issue of Pharmacy and Therapeutics, manufacturers continue to work to stay ahead of the latest trends in medication manipulation and misuse. Information on the latest trends and patterns in prescription medication use is monitored by the National Addictions Vigilance Intervention and Prevention Program (NAVIPPRO) and continually updated to allow providers, pharmacists and manufacturers to remain informed on medication misuse. This subscription service provides an extra layer of surveillance beyond the NABP InterConnect, an integrated system of prescription monitoring programs by analyzing the prescribing and dispensing of opioid medications and providing post-market surveillance for government regulation and pharmaceutical companies.

In response to the changes in medication misuse, along with the reduction of acetaminophen maximum per-unit dose and the rescheduling of hydrocodone as a Schedule II medication, two new single-entity, extended-release hydrocodone products have recently come to market.

Zohydro ER is an extended-release, twice daily hydrocodone capsule indicated for pain management of severe pain requiring long term, around the clock opioid treatment. Zohydro ER is not indicated for as needed pain management or for short term use. Zohydro ER is available in six strengths ranging from 10 mg capsules to 50 mg capsules. If converting from immediate release hydrocodone-acetaminophen combination to Zohydro ER, the total daily hydrocodone dose should be divided to the twice daily Zohydro ER equivalent. If the patient’s total daily dose of hydrocodone falls between two Zohydro ER strengths, the lower strength should be prescribed and the dose titrated to desired effect. A conversion table is available in the prescribing information for conversion from other opioids. If titration is required, dose escalation should not exceed 10 mg per dose every 5-7 days. When initially released, Zohydro ER did not contain any abuse deterrent properties. In October 2014, the makers of Zohydro ER announced the development of an abuse deterrent formula to deter crushing for intranasal or intravenous use by using BeadTek technology, which forms a viscous gel when snorted or mixed with solvents. The newer formulation was released to pharmacies in May 2015.

Hysingla ER is an extended-release, once-daily hydrocodone tablet with abuse deterrent properties to deter crushing of tablets for intranasal or intravenous use by forming a viscous gel. Hysingla ER is also indicated for severe pain requiring long-term, around the clock opioid treatment and is also not indicated for as needed or short term pain relief. Hysingla ER is available in seven doses ranging from 20 mg to 120 mg to allow for customization for each patient. When converting from other oral hydrocodone regimens, calculate the patient’s total daily dose of hydrocodone and convert to once daily Hysingla ER as a one-to-one ratio. If converting from another opioid to Hysingla ER, a conversion table is provided in the prescribing information. It is recommended to underestimate the patient’s dose and provide immediate release opioids for breakthrough pain and titrate to an effective dose.

**Non Opioids**

Two NSAIDs that have gone off patent were approved by the Food and Drug Administration recently in formula-
tions with a feature that provides similar efficacy from a smaller dose, though it is unknown whether this reduces incidence of adverse events. Zorvolex (diclofenac) and Tivorbex (indomethacin) are capsule preparations created with SoluMatrix Fine Particle Technology, which allows for a lower overall NSAID dose with similar efficacy as high dose NSAIDs. Zorvolex is low-dose diclofenac indicated for the treatment of osteoarthritis pain. It is available as 18 mg and 35 mg capsules and dosed three times a day. Tivorbex is low-dose indomethacin indicated for the treatment of mild to moderate acute pain in adults. It is available in 20 mg and 40 mg capsules, 20 percent lower than current indomethacin products on the market, and is dosed two to three times a day.

ROLE OF PHARMACISTS
Community pharmacists can play a role in pain management by collaborating with local physicians, nurses, nurse practitioners, and physician assistants. Establishing open lines of communication with these health care providers helps to ensure the safety of mutual patients regarding controlled substance medications. In addition to informing providers about drug interactions, dosing concerns, or possible misuse of prescriptions, pharmacists can help local prescribers to stay up to date on new updates of therapy or new laws and policies concerning controlled substance prescriptions such as the expansion of naloxone distribution. A good working relationship with local providers will also help to ensure better reception of recommendations. The next few sections describe a few of the issues that are ripe for pharmacist-prescriber collaboration.

High Risk Medications
All opioid medications should be considered “high risk” from the aspect of dispensing due to the potential for harm including abuse, misuse, and overdose. In addition to specific opioids, other pain medications have been identified by the American Geriatric Society (AGS) as high risk medications to be avoided in the elderly. The AGS publishes the Beers Criteria to identify medications with a high probability of adverse events in the elderly using a systematic review. Of the medications identified by the AGS Beers Criteria, a portion are incorporated into the list maintained by the National Committee for Quality Assurance (NCQA) which is the reference for the “High Risk Medication” measure that is once again set to be part of the Medicare Part D Star Rating System in the 2016 plan year. Pharmacists can have an impact on preventing initiation or encouraging discontinuation of high risk medications by regularly screening new prescriptions, and by completing medication therapy management (MTM) cases assigned by OutcomesMTM and Mirixa. While performing this service, pharmacists can consult both patients and physicians to find the best alternative therapy for pain management in older adults without causing unwanted and potentially dangerous adverse effects. Reducing the use of high risk medications in the elderly will not only help patients, but will also help the pharmacy have an objective metric that it is providing high quality care.

SAFE STORAGE AND DISPOSAL
News headlines and reports of disciplinary action from state boards taken against licensed health care professionals document the persistent demand for diverted controlled substances. Diversions by doctors and other prescribers, nurses, pharmacists, pharmacy and medical technicians, home health workers, family members, and visitors happens when medications are stolen or illegally sold from hospitals, pharmacies, or patients. As theft continues to be a threat to adequate pain management, safe storage is an important part of patient education when initiating opioid therapy. Counseling tips for patients new to opioid therapy include not sharing their medical information with friends and family to prevent being targeted, maintaining an inventory of medication to detect theft, and only carrying a small amount of medication when traveling.

Patients should regularly clean out their medication cabinet to dispose of medications no longer needed. The Drug Enforcement Administration (DEA) has finalized rules governing the disposal of controlled substances by its registrants and consumers. These regulations permit authorized manufacturers, distributors, reverse distributors, and retail pharmacies to voluntarily administer mail-back programs and maintain collection receptacles. In addition, the finalized rule expands the authority of authorized hospitals/clinics and retail pharmacies to voluntarily administer mail-back programs and maintain collection receptacles. In addition, patients should also help the pharmacy have an objective metric that it is providing high quality care.

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al options available for pharmacies to offer to patients for home use include pre-paid mail away packages or home deactivation kits. In addition to home disposal options, pharmacies may now explore reverse distributor options when allowable by their state and local regulations to collect and dispose of returned medications. By providing a safe way to dispose of these medications, pharmacists can prevent an accidental overdoses.

PREVENTING DIVERSION
In 2012, it was estimated 2.1 million people in the United States were suffering from substance use disorder related to opioids. In 2008, there were 14,800 deaths due to overdose, with prescription pain medications being responsible for nearly three out of four overdoses. The number of patients with substance use disorders is only expected to rise as more prescriptions are written for opioids each year. Opioid use disorders are broken down into three categories: misuse of prescribed opioid medications, use of diverted opioid medications, and use of illicitly obtained heroin. As patients with legitimate diagnoses warranting opioid therapy are not immune from opioid use disorders, caution should be used with all opioid prescriptions to ensure safe and proper use by the patient.

When speaking of prescription diversion, many pharmacists think of altered or forged prescriptions. One of the quickest ways to alter a prescription is the addition of a digit to the quantity or strength to change the dispensed quantity or strength to a higher amount. Pharmacists and pharmacy technicians can identify this red flag in prescriptions altered in this fashion by comparing the quantity prescribed to the directions and prescriber’s specialty. For example, a prescription written by an emergency department provider for an opioid four times a day seems more logical to be written for a quantity of 20 for a five-day supply as opposed to a quantity of 120 for a 30-day supply. Additional evidence of an altered prescription include signs of rinsing, or removing previous ink by rinsing the prescription with acetone or xylene, such as the use of different ink on different parts of the prescription, or a “water” line on the prescription where the rinsing occurred.

An important tool for prescribers and pharmacies to use against unauthorized changes to a written prescription is e-prescribing. It insures that no one other than the prescriber or pharmacy has access to the prescription to copy or alter it. E-prescribing of controlled substances is permitted in all 50 states and as of August 2015, every state permits prescriptions for Schedule II-V drugs to be sent electronically. Pharmacy vendors report that they have met security requirements to receive e-prescriptions for controlled substances and the upcoming deadline in New York state to send all prescriptions electronically is putting pressure on prescriber software vendors.

Regulators and lawyers are taking a greater interest in the extent to which pharmacists and prescribers may be liable for misused and diverted prescription drugs. The Code of Federal Regulations, Title 21, section 1306.04 states: “a prescription for a controlled substance must be issued for a legitimate medical purpose by an individual practitioner in the usual course of their professional practice, and the pharmacist possesses a corresponding responsibility to ensure the prescription is used legitimately.” A violation of this section is no longer based on the pharmacist knowing it is not for legitimate medical practice, but should have known.

One of the earliest examples of the assertion in responsibility is USA vs. East Main Street Pharmacy in 2010. The DEA’s Show Cause Order alleged the pharmacist should have known the prescriptions were not for legitimate medical practice due to a number of red flags, including dispensing combinations of “cocktail” prescriptions, early refills, and high doses without individualization of dosing.

Another example of violation of the code is USA vs. Nick Tran, RPh, for filling prescriptions faxed from a medical center without any question of their validity despite the same medication being filled at multiple pharmacies in the area. Tran’s pharmacy accounted for the dispensing of 98 percent of the medical center’s controlled substances, increasing its dispensing of controlled prescriptions from a few hundred to several thousand. Tran was sentenced to 10 years in prison after he was found guilty for dispensing prescriptions outside of his scope of practice.

More recently, the state Supreme Court of West Virginia ruled patients addicted to controlled substances could file lawsuits against the prescribers and pharmacists who contributed to their addiction. The plaintiffs in the eight lawsuits against the four physicians and three pharmacies claimed their addiction resulted in their criminal abuse of and criminal activity to obtain the controlled substances. This ruling provides the strongest highlight of the responsibility to dispense the prescribed medication correctly only after analyzing the drug therapy for safe, effective and appropriate use.

As the pharmacist’s duty to determine the medical legitimacy of prescriptions is put in the spotlight, what are the warning signs or red flags of illegitimate medical use? In an effort to help educate pharmacists to identify warning signs of diversion and abuse, the National Association of Boards of Pharmacy (NABP) and Anti-Diversion Industry Working Group (ADIWG) have released a video titled “Red Flags” and is available to view in the pharmacist’s section of NABP’s AwareRx.com prescription safety website (www.awarerx.org/pharmacists).

Red flags of prescription drug abuse include groups of patients presenting with similar prescriptions from the same office, prescriptions from distant locations, high dose
or ongoing pain medications from a provider not specialized in pain, using street slang for medication names, requesting early refills, or willingness to pay cash for opioids despite prescription insurance coverage. Additional warning signs include prescriptions for drug cocktails of an opioid + a benzodiazepine + a muscle relaxant, which are used together to intensify the effect of the medications. Hydrocodone, alprazolam, and carisoprodol are known as the “trio” or “holy trinity”; when oxycodone is included with alprazolam and carisoprodol, it is described as the “holy trinity.”

Doctor shopping or pharmacy shopping is another red flag for prescription misuse and diversion. When claims for identical or similar medications are adjudicated to prescription insurance, the insurance may reject the claim for refill too soon. Detecting multiple prescriptions for similar medications filled at multiple pharmacies becomes more difficult as patients become more sophisticated and track their refill dates, request similar but not identical prescriptions, or pay cash to prevent insurance rejections. Pharmacists who have access to a prescription drug monitoring program (PDMP) to monitor patient activity at other pharmacies should utilize it. If it is discovered a patient is using multiple pharmacies to fill narcotic prescriptions, an open dialogue with the patient is necessary to determine the reasoning for using multiple pharmacies. Similarly, if the patient is using several prescribers to receive controlled substances, pharmacists should make the prescribers aware of the situation. It should be stressed to patients to use one pharmacy, or one pharmacy chain with networked dispensing records, to decrease the likelihood of missed drug interactions, duplications in therapy or other dangerous prescription cocktails.

**PRESCRIPTION DRUG MONITORING PROGRAM**

Each state, except for Missouri, has established a PDMP to collect prescription dispensing data from pharmacies at regular intervals every 7-30 days. Each individual PDMP determines what drug schedules are reported from only schedule II to schedule II-V. Information sent to the program includes patient name and date of birth, medication name and strength, quantity, day supply, prescriber, and dispensing pharmacy. Pharmacists, prescribers, and law enforcement agencies may request access to the program to perform a patient search. Because all information is provided to the program, regardless of payment method, patients are no longer able to “beat the system” by receiving prescriptions from different prescribers, filling at different pharmacies, and paying cash to avoid any insurance flags.

Dozens of studies have reviewed the use of the PDMP programs to determine their efficacy in reducing medication diversion, and a complete review of evidence is available on the PDMP Center of Excellence Briefing of PDMP Excellence. Highlights of the report include:

- In Ohio emergency departments, 41 percent of medical providers altered their prescribing for patients receiving multiple narcotics at the same time. Of the 41 percent, 61 percent prescribed no narcotics or fewer than anticipated.
- In California, 74 percent of physicians who responded to the survey indicated they had altered their prescribing practices as a result of using the PDMP.
- Doctor shopping in Florida decreased 51 percent after the creation of the PDMP.

However, not all PDMP systems are connected, so patients may visit multiple providers and multiple pharmacies in neighboring states without being flagged to a pharmacist when dispensing. Within the United States, 29 PDMPs are actively sharing data and four others are in the process of establishing data sharing, connected states are listed on NABP’s PMP InterConnect webpage (www.nabp.net/programs/pmp-interconnect/nabp-pmp-interconnect). Until all systems are connected and actively sharing data, pharmacists should consider registering for PDMP programs in nearby bordering states and verifying patient activity with each system prior to dispensing.

**PAIN CONTRACTS**

Pain contracts (also described as opioid contracts or opioid treatment agreements) are agreements entered into by the patient and provider when entering a pain management program. The contracts serve several purposes: providing the patient with information about the risks of opioid therapies, outlining monitoring procedures to ensure proper opioid use, restricting the obtaining of opioids from multiple providers, and allowing for more complete management of the patient’s pain. Aspects of pain contracts may include provisions for monitoring such as medication counts, urine drug screens, and scheduled office visits to detect improper medication usage, including overdose and diversion. The contract may also require the use of one pharmacy to assist in the monitoring for opioids from one provider. Pharmacists should be aware of the multitude of non-controlled medications that can result in a positive urine drug screen, such as quetiapine, diphenhydramine, and ibuprofen. The false positives occur due to the similar shape between these medications and the shape of the opioid the urine screen is detecting.

Pain contracts may be perceived by some patients as a lack of trust or limitations preventing adequate pain control. These negative perceptions should be discussed with the patient with the goal by all parties to optimize pain management in a safe manner. While the many stipulations in pain contracts can seem restrictive to the patient’s autonomy, a systematic review of four observational studies found a modest decrease of 7-23 percent in opioid misuse when a pain contract was implemented, compared to a control group with no contract.
ROLE OF NALOXONE
Due to the increasing number of opioid related deaths in the United States, the DEA has become very strict in monitoring the Controlled Substance Act (CSA) in regard to not only pharmacists and pharmacies, but also physicians and drug wholesalers. Along with the previously mentioned cases of pharmacists being responsible for adverse events, physicians have also taken precautions when prescribing opioid pain medications to decrease their liability. In some areas, prescribers of opioid therapy have prescribed naloxone for patients to use in the case of an accidental overdose. As of July 2015, 40 states and the District of Columbia have amended their legislation to allow for easier access to naloxone, with some states allowing access to naloxone in a pharmacy without a prescription or removing fear of criminal charges from those requesting assistance for a person experiencing a drug overdose. Several states, including New Mexico, Washington, California and Rhode Island, currently have collaborative practice agreements in place allowing pharmacists to prescribe naloxone kits to patients to use in case of overdose.

Community pharmacists should be familiar with the different delivery devices and instructions for use as many patients, family, friends, and caregivers have no previous experience with naloxone products and will require education on proper use and administration in the event of an overdose emergency. The most common packaging of naloxone for administration by the patient in the community is an auto injector, available under the brand name EVZIO, intramuscular or subcutaneous injection. In July 2015, FDA accepted a new drug application for a naloxone nasal spray product, and is still considering the application at the time this article was printed. Each time a pharmacist dispenses one of these naloxone products, the pharmacist should provide counseling to the patient and their friends and family members. Due to the nature of an overdose, it is unlikely the patient will be the one administering the medication, so others who have close contact with the patient should be prepared to administer naloxone in case of emergency. The EVZIO system is designed to be administered by those without training by providing visual and voice instructions to aid in proper administration.

MOTIVATIONAL INTERVIEWING
Pharmacists are uniquely positioned to provide counseling for pain management expectations and the patient’s goals of therapy at the point of dispensing each month. During the patient encounter, patient autonomy should be emphasized and the patients should be included in their decision making. A pharmacist may place the focus of pain management on patients discussing their goals of therapy, concerns about cost or adverse effects or relief experienced with current regimen to place patients in control of their own treatment. Motivational interviewing is based on three key elements for success: collaboration with the patient, evoking or drawing out the patient’s ideas about change, and emphasizing the patient’s autonomy and decision making power in health care decisions. When interviewing patients, asking questions regarding how they feel about a particular treatment option, or requesting permission to contact their prescriber for changes to therapy allow patients to believe they are an active part of their treatment plan.

“Change talk” are statements made by patients revealing consideration of, motivation for, or commitment to change, and should be a factor considered in driving pain management therapy. With change talk, pharmacists can gain a better understanding of how likely a patient is to follow through with changes using several types of questions to elicit six different types of change talk. The different types of change talk include statements about a desire for change, capability for change, reasons for change, feeling obliged to change, commitment to change or actions taken. The first four provide insight on the desire to commit change, or pre-commitment to change, but no action to change behaviors. The last two are the action phase of change and should be the ultimate goal of discussing change talk.

Using the patient’s own desires and motivation for change can assist in the development of SMART (specific, measurable, attainable, realistic and timely) goals to convert precommitment talk to action. These goals can be related to several aspects of pain management: incorporation of non-pharmacologic options into therapeutic plan, decrease in use of as needed medication to decrease adverse effects, or other goals important to the patient. Pharmacists can use the patient-developed SMART goals to help track improvement in the control of pain and decrease reliance on pain medications to perform daily activities.

As pharmacists are the last line of defense before a medication reaches a patient, it is critical that pharmacists remain updated on the current trends of pain medication use and misuse. It is the pharmacist’s responsibility to ensure that patients are receiving safe and effective dosages of pain medications to avoid accidental overdoses. Each prescription should be carefully analyzed for potential dangers, even if it is the same dosing as previous prescriptions. Factors to consider when reviewing the prescription include adverse events, development of tolerance, inadequate pain relief, and misuse of medication. When filling prescriptions, technicians and pharmacists should pay close attention to early refills and start a dialogue with patients if they are requesting early refills frequently, as this may be a sign of inadequate pain relief, misuse, or abuse. In either case, patients should be counseled on the importance of following the prescriber’s directions, the dangers of not taking their medication as prescribed, and to speak
Continuing Education Quiz
Select the correct answer.

1. When counseling patients on new pain medication, what is a realistic goal related to controlling their pain?
   a. With proper pain management regimens, including nonpharmacologic options, their pain should be reduced by 75-100 percent.
   b. Pain medication regimens reduce pain by 33-50 percent alone, but increases to 50-80 percent when nonpharmacologic options are added.
   c. Optimal use of nonpharmacologic and pharmacologic pain management options will lead to a pain reduction of 33-50 percent.
   d. Although no pain management regimen will reduce pain to 100 percent pain free, patients should expect their pain to significantly reduce to greater than 50 percent relief when starting opioid therapy.

2. Which of the following is not considered a suspicious activity when a patient requesting a prescription fills by the National Association of Boards of Pharmacy and Anti-Diversion Industry Working Group’s video?
   a. Using brand names when referring to a medication in conversation with the pharmacist
   b. Requesting early refills on skeletal muscle relaxants
   c. Prescriptions from offices far away from pharmacy location
   d. Multiple patients presenting with similar prescriptions from the same provider

3. Which of the following is an example of a pseudoallergy and can be treated with an antihistamine?
   a. Difficulty swallowing
   b. Hives
   c. Face swelling
   d. Severe hypotension

4. If a patient is allergic to Tylenol #3, which of the following pain medications could possibly have cross reactivity and should be avoided if possible?
   a. Percocet
   b. Norco
   c. MS Contin
   d. All of the above

Editor’s Note: For the list of references used in this article, please contact America’s Pharmacist Managing Editor Chris Linville at 703-838-2680, or at chris.linville@ncpanet.org.
5. Which of the following is considered a Food and Drug Administration recommended method for drug disposal?
   a. Flushing all prescription medications, other than hormonal products, down the toilet
   b. Removing label and mixing medication with kitty litter or used coffee grounds.
   c. Blacking out personal information on the label and throwing medication in the trash
   d. Placing medication in garbage disposal with used coffee grounds

6. Which of the following combinations of medications is a possible warning sign for prescription drug abuse?
   a. Zohydro, Motrin, Skelaxin
   b. Vicodin, Ativan, Naprosyn
   c. Percocet, Xanax, Soma
   d. Norco, Valium, Ambien

7. According to the American College of Rheumatology, patients are considered to have chronic pain when their pain lasts longer than ________.
   a. 30 days
   b. 60 days
   c. 90 days
   d. 180 days

8. Which of the following is not considered a high risk medication by the Beer’s Criteria and has a lower risk of adverse effects in adults greater than 65 years of age?
   a. Meperidine
   b. Cyclobenzaprine
   c. Baclofen
   d. Indomethacin

9. Phantom limb pain is an example of _______ pain.
   a. Peripheral neuropathy
   b. Nociceptive pain
   c. Central pain
   d. Somatic pain

10. According to the World Health Organization (WHO) Pain Ladder, which of the following is not true regarding therapy for pain management?
    a. Patients can begin with opioid therapy at first presentation of pain if the pain is ranked a 10 out of 10 on the pain scale.
    b. Step 1 therapy options include acetaminophen and NSAIDs.
    c. Adjuvants such as skeletal muscle relaxants and topical agents can be used to enhance analgesic effects.
    d. Opioid therapy is recommended only when patients do not receive adequate relief with Step 1 therapies.

11. Which of the following is an appropriate recommendation to prevent opioid induced constipation?
    a. Increase fluid intake to maintain adequate hydration.
    b. Increase fruits and vegetables in diet.
    c. Add docusate and senna to medication regimen.
    d. All of the above.

12. Which abuse deterrent feature is used in the formulation of two recently approved long-acting opioids?
    a. Crushed tablet forms a viscous gel in most liquids.
    b. Tablet is indestructible outside duodenal pH.
    c. Capsule contains a radioluminescent dye pack.
    d. None of the above

13. Which of the following NSAIDs has the lowest risk of cardiovascular events and is the preferred NSAID in patients with cardiovascular disease?
    a. Ibuprofen
    b. Meloxicam
    c. Naproxen
    d. Diclofenac

14. How many total morphine equivalents should not be exceeded per day to avoid the risk of opioid overdose?
    a. 100
    b. 120
    c. 150
    d. 200

15. Which of the following is a correct mechanism of action for opioid induced nausea and vomiting?
    a. Indirect effect on chemoreceptor trigger zone
    b. Enhanced vestibular sensitivity
    c. Rapid gastric emptying
    d. Stimulation of 5-HT3 receptors

16. Fine particle formulations of diclofenac and indomethacin offer which advantage over generic NSAIDs?
    a. Once daily dosing
    b. Superior efficacy compared to other NSAIDs due to once daily dosing and increased drug exposure
    c. Lower overall systemic drug exposure
    d. Lower risk of adverse events
    e. C and D
17. A patient presents to your pharmacy with new prescriptions for Oxycontin 40 mg twice daily and Roxicodone 5 mg every six hours as needed. The patient and prescriber are familiar to your pharmacy and you believe the patient to be using the medication legitimately. What is the morphine equivalent (MEQ) of this regimen and proper action by the pharmacist?
   a. 100 MEQ, the patient should be counseled on proper use of his as needed Roxicodone
   b. 120 MEQ, the patient is over the recommended limit and the pharmacist should contact the prescriber for a decrease in dosage
   c. 150 MEQ, the patient is over the recommended limit and the pharmacist should contact the prescriber for a decrease in dosage
   d. 150 MEQ, the pharmacist should counsel the patient on signs of drug overdose and develop an appropriate action plan if an overdose is suspected

18. Which of the following is an appropriate management of a patient new to opioid therapy who complains of confusion regarding his surroundings and an inability to complete daily activities?
   a. Continue opioid therapy at a higher dose to decrease time to tolerance.
   b. Discontinue opioid therapy until symptoms clear and restart opioid titration.
   c. Rotate opioid with a non-opioid until symptoms resolve
   d. Decrease the opioid dose by 25 percent and continue to monitor symptoms.

19. Which is an incorrect statement about the use of naloxone for opioid overdose?
   a. Naloxone should only be administered by trained healthcare professionals.
   b. Naloxone is available for dispensing with a pharmacist written order in 40 states and the District of Columbia.
   c. Naloxone is available in an intranasal delivery system under the brand name EVZIO.
   d. Naloxone administration technique should be taught to the patient and friends and family of the patient in case of emergency.

20. Which of the following is an example of a SMART goal related to pain management?
   a. Decrease use of as needed oxycodone from four to three tablets daily by next month.
   b. Increase physical therapy exercises by next week.
   c. Decrease use of long acting hydrocodone products.
   d. Decrease use of as needed oxycodone products to three tablets.