When the Joint Commission on Accreditation of Healthcare Organizations (now The Joint Commission) published Pain Assessment and Management, an Organizational Approach in 2000, pain became known as “the 5th vital sign.” Health care providers began asking patients to rate their pain level as a routine part of assessment. In February 2005, the cover of Time magazine introduced a discussion of “The Right (and Wrong) Way to Treat Pain.” Author Claudia Wallis (2005) noted that 1 in 6 Americans suffered from chronic or reoccurring pain. In May of the same year, USA Today reported the annual cost of chronic pain in the United States was more than $62 billion in reduction of work productivity (Sternberg, 2005).

A review of the literature revealed a real need for pain management methods that are easy for patients to use, give continuous and/or rapid pain relief, and have minimal side effects. Cole (2003) noted that health care providers who stay informed about opioid therapy for pain management are performing one of the basic steps for providing good patient care.

Multiple headlines in recent years identified the dangers of opiate abuse and deaths from overdoses. Nurses are the front-line providers in patient education and safety for all forms of medication. Taking a careful history and providing adequate patient education can help to prevent many problems with medications, including opiates for pain management.

New medications and delivery systems are available to help patients manage their pain. In this article, some of the more innovative opiate delivery systems that enhance pain management are reviewed. With any medication and delivery system, a careful history can direct the patient to the most appropriate pain management method. The nurse should take a detailed drug history, including allergies, adverse effects, and side effects of past medications. Asking which medication worked or did not perform well in the past is important, as is asking a patient how he or she takes a medication. A patient may have a fear of becoming addicted to the medication. The nurse should know that only a small percentage of patients actually do become addicted (Field, 2007); explaining this to the patient can help engage him or her as a partner in a personal pain management plan. Field (2007) also noted that this fear of addiction may result in undertreatment of a patient with genuine pain.

**Tablets**

One of the newest opioid forms to become available is the fentanyl buccal tablet (Fentora®), which was developed to manage breakthrough pain. The buccal tablet is an effervescent formulation which is a fast, effective route of medication administration for breakthrough pain (Webster, 2006). Two separate studies done at Beth Israel Medical Center in New York (Portenov, Messina, Xie, & Peppin, 2007; Portenov, Taylor, Messina, & Tremmel, 2006) evaluated use of fentanyl buccal tablets for cancer-related pain and for opioid-treated patients with chronic low back pain. Both studies demonstrated that the fentanyl buccal tablets were effective and well tolerated in these groups of patients. Rapinyl™ is another fentanyl sublingual tablet still in trials (D’Arcy, 2007).

The fentanyl in these tablets is absorbed through the buccal mucosa, aided by an effervescent reaction that produces large shifts in pH (Webster, 2006). The buccal tablets take about 10-15 minutes to dissolve between the gums and upper molar; they have greater bioavailability due to the fact that they bypass the gastrointestinal tract and first-pass liver metabolism. They may be effective not only for breakthrough or sudden pain but also for anticipated pain, such as that experienced by an orthopedic surgical patient scheduled to attend a rehabilitation session. Side effects...
are similar to other opioids, including nausea, dizziness, and headache; no reports of respiratory depression were noted in the literature. Prior to administering the buccal tablet, the nurse should examine the patient for any oral lesions, dental abscesses, or difficulties with salivation.

**Lozenge/Lollipop**

A slightly older form of fentanyl is the more familiar fentanyl lozenge or lollipop (Actiq®). The lozenge was developed for patients with breakthrough cancer pain or those who were already taking opioids for persistent pain (Cephalon, Inc., 2006). It also was studied previously for postoperative pain (Ashburn et al., 1993; Lichtor et al., 1999) but currently is indicated only for breakthrough pain related to cancer in patients already taking other opioids (Cephalon, Inc., 2006). Hanks, Nugent, Higgs, and Busch (2004) found oral lozenges to be effective in a variety of patients, with no patient reporting dissatisfaction with the drug or delivery system. Their research indicated that this delivery system offered a unique, fast-acting pain management strategy that most patients found easy to use.

The convenience of this delivery system also makes it one of the most difficult to maintain in a household, particularly one with small children or pets. It is offered as a hard, sugar-sweetened lozenge on a small stick. The patient places it in the mouth and actively sucks on the medication, rotating the stick between the cheeks and gums. The drug's manufacturer issued special warnings for disposing of unused medication and storage of the medication system. The stick must be cleaned under hot water and then placed in the trash. Unfinished lozenges should be stored in a special container out of the reach of others (Cephalon, Inc., 2006). Patient teaching includes use of the medication, safe storage of unused and partially used lozenges, and disposal of the used sticks. Side effects are similar to other opioid analgesics, including orthostatic hypotension, bradycardia, respiratory depression, and risk of dependence (Turkoski, Lance, & Bonfiglio, 2006).

**Transdermal Patches**

Fentanyl also is available in a transdermal patch, which has been marketed longer than the unique oral forms of the drug. The patch is applied to clean, dry, hairless skin. It then slowly releases medication over a 72-hour period to manage chronic moderate-to-severe pain (U.S. National Library of Medicine, 2006). A review of the literature revealed multiple problems with overdose and abuse since the patch became available. Overdose can occur if the patient uses more than the prescribed dose, if body temperature reaches 40°C, or the patient's skin is exposed to a direct heat source (Turkoski et al., 2006). Abuses documented in the literature include patients extracting medication from the patch then injecting or swallowing it, applying multiple patches, or mixing the extracted medication with heroin (Boddiqer, 2006; Brown University, 2005). The Food and Drug Administration issued a Public Health Advisory in 2005 warning practitioners to use safety information sheets and teach patient precautions, including signs and symptoms of overdose, techniques for applying the patches, and use of other medications while using the patches (“New Drugs/Drug News,” 2005). Cole (2003) noted that while controlled-release medications have positive effects for patients, such as improved sleep, ability to participate in rehabilitation, and enhanced pain management, their longer half-life leads to more toxicity in overdoses.

IONYSYS® is another type of transdermal system for fentanyl delivery (Ortho-McNeil, Inc., 2006). A credit card-sized patch with a small battery, it uses a low-intensity electrical field to transport the medication through the skin. The patient activates the device to deliver a dose of medication; the delivery system also turns off when it is out of medication. IONSYS® is being used currently in postoperative patients to offer freedom from carrying or moving around with a bulky pump system. The side effect profile is similar to other opioids, but dosing can be set before the device is placed on the patient (D’Arcy, 2007). IONSYS® is approved only for use in hospitalized patients and must be removed before the patient is discharged.

Buprenorphine also is being studied in a transdermal delivery system for treating severe cancer pain and chronic non-cancer pain. The system is still in trials in the United States (Evans & Easthope, 2003; Sorge & Sitti, 2004), but is available in the United Kingdom under the brand name BuTrans®.

**Implantable Pumps**

Intrathecal infusion (implantable pumps) of morphine has been used previously for pain treatment. Studies are now underway to evaluate the effectiveness of both fentanyl and sufentanil (an analog of fentanyl) in intrathecal delivery systems. Currently both of these drugs are approved for short-term epidural administration, such as during and after childbirth or surgery. Studies about more long-term use of these drugs in intrathecal infusions are underway to evaluate their stability and effectiveness (Waara-Wolleat, Hildebrand, & Stewart, 2006).

**Injection**

DepoDur® is the brand name for a single dose, extended-release epidural morphine liposome injection. Recent studies have evaluated its effectiveness for post-Caesarean analgesia as well as pain management after lower abdominal surgery when compared to conventional epidural morphine (Carvalho, Roland, Chu, Campitelli, & Riley, 2007; Gambling, Hughes, Martin, Horton, & Manvelian, 2005). Findings indicated the delivery was effective with no serious adverse effects, and subjects required less breakthrough analgesia compared to other patients who used conventional epidural morphine.

More people are living with chronic pain. Whether the pain is malignant or non-malignant, the nurse can assist the patient in cor-
rect use of the various forms of opioid medications; teach the importance of home safety, especially related to storage and delivery; and educate the patient about addiction potential and adverse effects, especially those that may be life-threatening. Current education about new medications, delivery systems, and possible abuses helps the nurse be a better partner in the patient’s pain management plan.

References

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ter, randomized, double-blind, placebo-controlled study. *Clinical Therapeutics, 26(11), 1808-1820.*

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