

COMPOUNDING

for Pain Management

Compounding pharmacists can solve many problems faced by chronic pain patients.

As compounding pharmacists, we are considered problem-solving specialists. On a daily basis we work with physicians to solve their patients' medication problems. We have been trained to respond to the needs of problem patients. Whether it's by providing a preservative-free solution for a patient allergic to parabens, sublingual drops for hospice patients who cannot swallow, or a medicated lollipop for a child with thrush, we are able to make a positive impact on patient care by using our compounding expertise.

There is perhaps no other specialty that appreciates our problem-solving abilities more than that of pain management. The chronic pain patient seen by the physician is generally the epitome of the "problem patient." By the time many of these patients are seen by a pain management specialist, they are unable to work due to excruciating pain, suffer from depression because of their condition, and are treated as addicts by society and medical practitioners who are uninformed about pain management.

Chronic pain patients often view the pain management specialist as their last hope for relief. They have generally been treated by numerous physicians and have been placed on multiple medications, with unsuccessful results. A physician treating this type of patient needs as many therapeutic options at his disposal as possible. Some of the problems encountered by these patients include acetaminophen toxicity caused by combination analgesics, frequent dosing intervals, intolerable side effects, and the need for preservative-free medications for use in the intrathecal space. The compounding pharmacist's problem-solving ability is a perfect match for the multitude of medication problems faced by the chronic pain patient.

Eric Vidrine, PD, FACA

Owner and Pharmacist

Professional Arts Pharmacy

2600 Johnston Street, Suite 115, Lafayette, LA 70506

Solutions to Common Problems

Acetaminophen Toxicity

A common problem encountered by physicians treating the chronic pain patient is acetaminophen toxicity caused by combination analgesics containing narcotics and acetaminophen. While most narcotics used in these combinations have no "ceiling effect," chronic ingestion of doses as low as 3 g of acetaminophen have caused liver damage. Consider the chronic pain patient requiring 120 mg of hydrocodone per day for adequate pain control. Currently, hydrocodone is commercially available only in combination tablets containing either acetaminophen, aspirin or ibuprofen. Using a commonly prescribed combination tablet of hydrocodone 10 mg and acetaminophen 500 mg on a dosing schedule of two tablets every four hours, the patient would receive 120 mg of hydrocodone but would also receive 4000 mg of acetaminophen, well above the amount needed to cause liver damage when taken for up to a year. At this point, the physician is faced with a choice of either converting the patient to a single-entity opioid without acetaminophen, such as morphine or hydromorphone, or switching to a nonnarcotic pain medication. However, once pain relief is established with a certain medication, physicians and patients are reluctant to

switch medications. Other medications may have unacceptable side-effect profiles or may provide inadequate pain relief. It can also be psychologically disconcerting for a patient who has finally received relief to suddenly start over with a new medication. A compounding pharmacist can offer a solution to this problem by preparing an acetaminophen-free hydrocodone capsule. This would allow the patient to remain on the medication that is effective and eliminate the problem of acetaminophen toxicity.

Frequent Dosing Intervals

Dose customization and the preparation of altered-release capsules are also services that the compounding pharmacist can offer the pain management physician. Many chronic pain patients require large doses of medications at very frequent dosing intervals. Due to economic concerns, most commercial products come in only a couple of strengths and dosage forms that limit prescribing flexibility. A typical example is hydromorphone. Hydromorphone is commercially available in 2-, 4- and 8-mg tablets and is a relatively short-acting opioid. While these strengths may suit the needs of most patients, some chronic pain patients require larger doses. For these patients, a couple of problems arise. Taking multiple tablets of varying strengths is sometimes necessary to deliver the needed dose to achieve pain control, and frequent dosing intervals are inconvenient and make it difficult for the patient to get a full night's rest because he or she has to wake up several times a night to take the medication. Compounding can offer solutions to these problems as well. By preparing a custom-strength capsule, the compounding pharmacist can eliminate the need for taking multiple tablets, easing administration and increasing compliance for the patient. As for the frequent dosing schedule, an altered-release capsule can be compounded that may allow for decreased dosing intervals. This would enable the patient to rest through the night while maintaining adequate pain relief. By compounding patient-specific dosages in immediate- or altered-release forms, the compounding pharmacist can simplify medication administration and allow for a better quality of life for the chronic pain patient.

Intolerable Side Effects

Pain management specialists often treat conditions such as fibromyalgia, reflex sympathetic dystrophy, arthritis and painful neuropathies. Medications used to treat these conditions include anti-inflammatory drugs, opioids, skeletal muscle relaxants, tricyclic antidepressants and anticonvulsants. Many of these medications have systemic side effects that limit their use and effectiveness. For example, a patient with severe arthritis may require an anti-inflammatory medication but be unable to tolerate the gastrointestinal side effects commonly associated with these medications. Or the patient may have a history of bleeding ulcers that would make oral anti-inflammatory agents too dangerous. Custom-formulated topical gels, creams and solutions can offer site-specific treatment while decreasing or eliminating systemic side effects. Compounding

Continuing Education

Goal: To provide practical information on compounding for pain management

Objectives: After reading and studying this article, the participant will be able to:

1. Discuss the role of the pain management specialist in working with the patient and other health practitioners in minimizing or relieving pain.
2. Recommend alternative dosage forms for delivering pain medications.
3. Recommend alternative drugs and strengths for pain medication.
4. List factors associated with compounding for implantable infusion pumps.

pharmacies around the country routinely prepare combinations of anti-inflammatory agents, local anesthetics and muscle relaxants to topically treat many of the above-mentioned disorders. By offering alternate delivery systems and combinations, compounding pharmacists can offer the pain management specialist more flexibility in prescribing appropriate medications.

Need for Preservative-Free Medications

Today more and more pain management specialists are using different modalities to treat chronic pain. One such modality is the implantable infusion pump used to administer intrathecal medications. This pump has a volume of 18 mL and generally delivers minute volumes of medication to the intrathecal space over a period of 60 to 90 days before it must be refilled. Currently the only Food and Drug Administration-approved drugs for use in this pump are morphine sulfate and baclofen. However, many physicians prefer to use other opioids, local anesthetics and α -adrenergic stimulants in varying combinations. Some of the more common drugs used in our practice include morphine, fentanyl, hydromorphone, sufentanil and bupivacaine in varying combinations.

In addition to being able to offer a variety of drug choices, compounding pharmacists can also provide higher concentrations of these drugs. This becomes important in implantable pump therapy because it allows for longer times between refills. This minimizes the opportunity for infection and is more convenient and cost effective for the patient. Several factors must be considered when compounding medications for intrathecal use. Isotonicity, sterility, packaging accuracy and preparation of a preservative-free product are all important elements of the process. Any pharmacy preparing these medications should have access to a clean room, an analytical balance, and an autoclave; and personnel should be well trained and validated in aseptic technique.

By utilizing a qualified compounding pharmacist, pain management specialists are able to select the most appropriate drugs, doses and dosage forms for individual patients. Our problem-solving expertise is a good match for the multitude of problems faced by chronic pain patients, making compounding and pain management a perfect fit.