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The Mortar & Pestle:

MD Custom Rx's monthly e-newsletter

December 2016

Greetings!

Thank you for entrusting in the compounding services at MD Custom Rx to help meet the unique medication needs of your patients. We are excited to share our monthly newsletter with you and look forward to continuing to be your medication problem solvers. Please don't ever hesitate to let us know how we can be of further assistance to you and your practice.

Sincerely,
Dan, Monica and John

Do your Patients have Difficulties Taking their Medications?

Often patients are labeled "non-compliant" when they actually want to comply but are non-adherent because they cannot take or tolerate their medications. Of course, non-adherence typically means less effective outcomes, but compounded medications can help to improve adherence and outcomes.

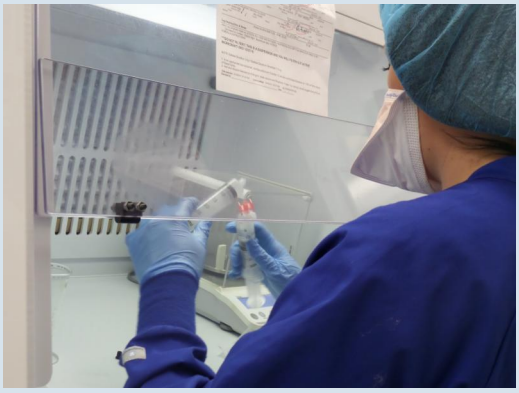
Here are some of the reasons that patients do not take their medications, and how our compounding pharmacist can help:

- Gastrointestinal upset caused by oral medications: we can usually compound the needed medication into a transdermal gel so that the medication is absorbed systemically but bypasses the GI tract.
- Bad taste or texture: we can flavor medications and depending on the patient and drug, can compound as a solution, suspension, lollipop, lozenge, or topical/transdermal preparation.
- Difficulty swallowing or nothing permitted by mouth: medications can be compounded into dosage forms that are not commercially available for a different route of administration.
- Difficulty breaking tablets or measuring a dose: we can compound medications in the dose that is most appropriate for a specific patient.
- Allergies to dyes or lactose, or sensitivities to sugar, alcohol or preservatives: our specially trained professionals can compound medications that are free of problem-causing excipients.

We work together with practitioners and their patients and customize

medications to meet each patient's unique needs.

Risks of Long-Term Opioid Therapy for Chronic Pain



Opioids such as oxycodone and hydrocodone are often ineffective in relieving chronic pain. Therefore, many patients treated with those drugs attempt to relieve pain by increasing the dose. In doing so, they lower their pain threshold (thus increasing their sensitivity to pain), and increase their risk of addiction. Emerging data supports a dose-dependent risk for serious harm, such as overdose, mortality, and possibly fractures and cardiovascular events, according to a review prepared for a National Institutes of Health (NIH) workshop on the role of opioids in treating chronic pain.

Richard F. Mestayer III, MD, a psychiatrist and pain management specialist, stated that he prescribes compounded transdermal gels to treat chronic pain because the effect is localized, the source of pain is treated directly, there is no risk of addiction, and adverse side effects are minimized.

Ann Intern Med. 2015. 162:276-286
Int J Pharm Compd. 2010 May-Jun;14(3):182-92.

Compounded Analgesic Therapy for Disorders of Movement: Arthritis, Neuropathic Pain, and Postpolio Syndrome

Disorders of movement that result from arthritis, neuropathy, or postpolio syndrome (PPS) compromise quality of life, limit activity, and lead to chronic and often severe pain that may not be alleviated by commercially available medications.

According to estimates from the National Center for Health Statistics, more than 440,000 polio survivors in the U.S. may be at risk for PPS, which can develop years after recovery from an initial attack of poliomyelitis. PPS is characterized by new weakening in muscles affected by poliovirus and in muscles that seemed to have been unaffected by that disease. The symptoms of PPS include generalized and muscular fatigue, progressive muscle weakness, muscular atrophy, and pain from joint degeneration and progressive skeletal deformity.

Intense, ineffectively treated pain can produce severe depression and emotional stress. Patients may experience significantly diminished quality of life, and their ability to work is often compromised. Oxytocin nasal spray, 5 units per 0.1 ml, has been used to treat depression associated with chronic pain.

To relieve pain after spinal fusion, Richard F. Metsayer III, MD, reports that the pain cycle can be broken by twice weekly application of a transdermal gel containing ketoprofen 20%, gabapentin 10%, clonidine 0.2% and lidocaine 6% in Pluronic Lecithin Organogel. The gel, together with rest, cold laser therapy and occasional oral ibuprofen,

can provide up to 3 days of pain relief. When starting with lower strengths of ketoprofen, this gel can be administered as often as every 4 hours.

A report published in the International Journal of Pharmaceutical Compounding (May-June 2010;14(3):182-92) presents several case reports and sample formulations.

We welcome your questions about customized medications to meet specific needs.

Percutaneous Absorption of Transdermal Pain Formulations

"Pain treatment is highly individualized and depends on the type of pain experienced by patients. Medications used for chronic neuropathic pain typically include N-methyl-D-aspartate (NMDA) receptor antagonists, glutamate antagonists, GABA b agonists such as ketamine, gabapentin, clonidine, and baclofen."

According to the guidelines established by the IASP Neuropathic Pain Special Interest Group, combinations of medications could potentially be more efficacious than monotherapy in the treatment of chronic neuropathic pain. The combination of analgesics can lead to synergistic effects and potentially enhance analgesia. However, combinations of analgesics that target multiple pain pathways may also necessitate the administration of several drugs with different dosing regimens, resulting in poor patient compliance. In fact, the World Health Organization cites "complexity of regimen" as a major factor leading to patient noncompliance to treatment regimens. Our compounding professionals can combine multiple drugs into a single transdermal formulation which may enhance treatment compliance, while reducing the risk of systemic effects or addiction.

An experimental study evaluated the ability of four commonly used analgesics, incorporated into two transdermal compounding bases, to penetrate human cadaver trunk skin in vitro. Ketamine HCl 5% w/w, gabapentin 10% w/w, clonidine HCl 0.2% w/w, and baclofen 2% w/w were compounded into two transdermal bases, Lipoderm and Lipoderm ActiveMax. Each compounded drug formulation was tested on skin from three different donors and three replicate skin sections per donor to evaluate the percutaneous absorption and distribution. "Rapid penetration to peak flux was detected for gabapentin and baclofen at approximately 1 hour after application. Clonidine HCl also had a rapid penetration to peak flux occurring approximately 1 hour after application and had a secondary peak at approximately 40 hours. Ketamine HCl exhibited higher overall absorption rates than the other drugs, and peaked at 6-10 hours. Similar patterns of drug distribution within the skin were also observed using both transdermal bases.

"This study suggests that the combination of these 4 analgesic drugs can be successfully delivered transdermally... Compounded transdermal drug preparations may provide physicians with an alternative to traditional oral pain management regimens that can be personalized to the specific patient with the potential for enhanced pain

control."

Pain Med. 2016 Feb;17(2):230-8.

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