



David Miller, RPh, PhD

STATS:

- BS from Ferris State University in 1990; MS in Pharmaceutics from University of Michigan in 1994; PhD in Pharmaceutics from University of Michigan in 1996, with an emphasis in transdermal drug delivery, specializing in iontophoresis
- Nine years of compounding experience
- Pharmacy prepares 113 compounds per day

Congratulations to David Miller, RPh, PhD, of Keystone Pharmacy in Grand Rapids, Mich., PCCA's July Pharmacist of the Month.

Compounding is a perfect fit for someone with a formulation development background. When I first heard of the opportunity to join Keystone Pharmacy as a compounding specialist, I was excited to have a chance to work on smaller formulation development, focusing on one patient at a time. My partner and mentor, **Larry Curtis, RPh**, encouraged me to come to Michigan for a visit. Afterwards, I was so excited about the opportunity that compounding presented that I could not wait to move from Salt Lake City back to Grand Rapids to begin my new career!

At Keystone Pharmacy, I face thrilling challenges that my team and I are forced to tackle daily. Because of my basis in pharmaceuticals, I have the physiochemical background that is necessary to overcome most formulation difficulties, and the insight into how to solve drug delivery challenges.

Favorite PCCA Formulas

I love pain management. I love the gratification that comes from helping a patient alleviate their pain. My favorite formulas are Ketamine 10%, Gabapentin 6%, Clonidine 0.2%, Lidocaine HCl 2% Topical Lipoderm® (**PCCA Formula #9383**), and variations thereof. Typically at Keystone Pharmacy, we'll add Amitriptyline 7% and Ketoprofen 10% to the formulation.

It is my goal with pain management to help end the patient's pain as expediently as possible. Typically, these patients are very difficult to treat. Their physicians have tried all of the easy things with them; therefore, they frequently are in despair and feel hopeless. By using the "shotgun approach," and hitting as many of the seven pain modulators as possible (sodium channel; opioid; GABA; glutamate and aspartate,

including AMPA and NMDA; epi/norepinephrine; and inflammatory, including prostaglandin-mediated and alpha agonist), it is my opinion that we have the best chance of mitigating the patient's pain and giving them back their quality of life.

Compounding Success Stories

At Keystone Pharmacy, we've been on the receiving end of many stories with positive outcomes, which continually add to the reasons of why I compound. Our first story is about Steve, a motorcycle crash victim who had severe neuropathic pain in his legs as a result of his injuries. He hadn't slept in months because of the pain, and he often felt desperate and hopeless. The pain clinic was at their wits' end with Steve, but I convinced the doctor to allow me to try a pain cream using the "shotgun approach" mentioned above. Steve was skeptical, but picked up his cream the next morning and applied it three times that day. The following morning, I called Steve to follow up. He reported that he was nearly pain-free, and slept for eight hours the previous night! He literally was in tears, overcome by the relief and hope that these compounded formulations afforded.

Our second story features Violet, an 89-year-old terminal cancer patient. Violet had collapsed veins, muscle wasting, could not take anything by mouth, had a rectal fistula, and her integument (skin) was degrading. The doctors couldn't think of a practical way to administer morphine, or any other opioid, to relieve her pain. I suggested using a Morphine 10 mg/3 mL Solution (modified **PCCA Formula #3253**) in a nebulizer, allowing Violet to inhale her pain relief. Her physician later reported that Violet received adequate pain relief as a result of the nebulized formulation, and that she passed away pain-free.

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“This Works for Me” By: David Miller, RPh, PhD

Advice for a new compounder:

1. Obtain a mentor and listen to their advice. A mentor can help to guide you down the right path to ensure your patients receive the best care.
2. Surround yourself with a dedicated and talented team who has a passion for helping people.
3. Always put the needs of your patients first. By putting the needs of your patients first, and working to solve their problems to the best of your ability, your business will flourish, and you will be happier as you reap the love and respect that comes with those efforts.
4. Build your practice on safety.
5. Never stop learning!