

# The Mortar & Pestle:

MD Custom Rx's monthly e-newsletter

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[MDCustomRx.com](http://MDCustomRx.com)

## 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*

## Midrin Ingredients Available for Migraine Sufferers

. Migraine is the 3rd most prevalent illness in the world.

- Nearly 1 in 4 U.S. households includes someone with migraine.
- Amazingly, 12% of the population – including children – suffers from migraine.
- 18% of American women, 6% of men, and 10% of children experience migraine.
- Migraine is most common between the ages of 18 and 44.
- Migraine tends to run in families and there is a higher risk in those experiencing hormonal changes.



Midrin™ was the brand name of a prescription medication approved to treat migraine that contained isometheptene mucate, dichloralphenazone and acetaminophen, and was discontinued by the manufacturer several years ago when one of the ingredients was unavailable. More recently, the FDA told manufacturers that they must cease distributing medications containing isometheptene mucate. This is because isometheptene mucate was approved after the Food, Drug, and Cosmetic Act of 1938, meaning that it was proven to be safe, but before the 1962 amendment requiring proof of efficacy for a

specific indication. However, isomethoptene mucate, dichloralphenazone and acetaminophen all have monographs in the United States Pharmacopeia and National Formulary (USP-NF). Therefore, compounding pharmacies are permitted to compound using these ingredients.

<https://migraineresearchfoundation.org/about-migraine/migraine-facts/>

<https://www.fda.gov/consumers/consumer-updates/kefauver-harris-amendments-revolutionized-drug-development>

<https://www.fda.gov/drugs/human-drug-compounding/section-503a-federal-food-drug-and-cosmetic-act>

## Aspirin Suppositories

Aspirin suppositories are on manufacturer backorder. Since aspirin degrades in water, aspirin suppositories must be prepared using a base that is a fatty blend.

***When patients need medications that have been discontinued for reasons unrelated to safety, or are on backorder and commercially unavailable, our compounding pharmacy can help. Please call our pharmacist to discuss any questions.***

## Topical Metformin for Hyperpigmentation

There are numerous causes of hyperpigmentation, such as post-inflammatory etiologies, hormonally mediated factors, cosmetics, drug-induced causes, and UV radiation in addition to systemic conditions such as Addison's disease and Wilson's disease. These pigmentation disorders have traditionally been a relatively difficult condition to treat, and currently used depigmentating agents have little effect with sometimes severe side effects.



Metformin is primarily an antidiabetic drug, but has been found to play an important role in a number of cutaneous disorders. By improving hyperinsulinemia, metformin has helped hormonal acne, hidradenitis suppurativa and acanthosis nigricans. Its antiandrogenic properties further serve as an add-on to the conventional management of hirsutism associated with polycystic ovarian syndrome (PCOS). Metformin has also been topically used in hyperpigmentary disorders with significant improvement.

Metformin acts on the melanogenic proteins tyrosinase, tyrosine-related protein (TRP)-1 and TRP-2 bringing about a reduction in their expression. This downregulates the expression of microphthalmia-associated transcription factor (MITF), which has been referred to as the master gene for melanocyte survival.

Only topical metformin (not oral) has resulted in improvement of hyperpigmentation disorders. Topical metformin solution was originally tested on the tails of mice for 8 weeks., and induced tail whitening. Then, researchers confirmed the antimelanogenic effect of metformin on reconstituted human epidermis and on human skin biopsies. These data emphasize the depigmenting effect of metformin and suggest a clinical strategy for using metformin in the topical treatment of hyperpigmentation disorders. In animal studies, metformin exerted an antagonistic role in pigmentation only as a topical preparation. Recently, there have been encouraging reports of the benefits of using metformin in treatment of cutaneous malignancies.

Several reports have demonstrated the inhibitory effect of metformin on the proliferation

of many cancers including melanoma. Recently, it has been shown that metformin is able to modulate the cAMP level in the liver. As cAMP has a crucial role in melanin synthesis and skin pigmentation, the effect of metformin on melanogenesis was investigated both in vitro and in vivo. Treatment with topical metformin led to reduced melanin content in melanoma cells and in normal human melanocytes by decreasing cAMP accumulation and cAMP-responsive element-binding protein phosphorylation. This inhibitory effect is correlated with decreased expression of master genes of melanogenesis.

[Indian J Pharmacol. 2016 Jan-Feb; 48\(1\): 4–10.](#)  
[J Invest Dermatol. 2014 Oct;134\(10\):2589-2597.](#)

*Topical metformin is not commercially available,  
but can be compounded by prescription at our pharmacy.*

## Don't Let Athlete's Foot Become a Summer Bummer!

Along with summer's heat and humidity comes an increase of tinea pedis, more commonly known as athlete's foot. Athlete's foot is a contagious fungal infection that affects the skin on the feet, but can sometimes spread to the hands, armpits and groin.<sup>1</sup>

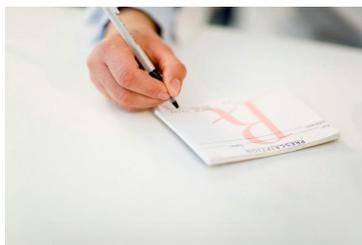
The success of using topical therapy for athlete's foot and fungal skin infections requires that the medication can be adequately absorbed and is used for a prolonged period of time to eradicate the fungal infection.

By prescription, our compounding professionals can prepare creams, solutions, lotion, powders and foams containing combinations of medications such as ketoconazole, miconazole, clotrimazole, ibuprofen, undecylenic acid, and urea, or even Amphotericin B, in the concentrations that are most appropriate for a specific patient. We can also use natural ingredients like tea tree oil and lavender oil, and can select the best base depending on the condition being treated.

<sup>1</sup> <https://www.dermatologistoncall.com/blog/dont-let-athletes-foot-become-a-summer-bummer/>

### MD Custom Rx Educational Events

We regularly offer educational events at the pharmacy. Be sure to share our events with your patients. **VISIT OUR WEBSITE** to see our schedule and to register. If you are interested in speaking on a topic, please contact the pharmacy.



#### Write a Prescription for a Compound

Learn more about how to write a prescription for a compounded preparation.

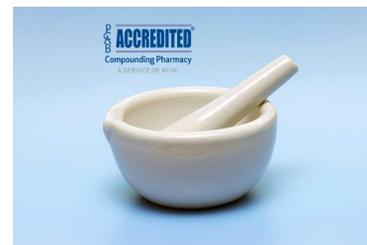
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#### Collaborative BHRT Prescribing

Learn more about our Collaborative BHRT Prescribing Program.

[LEARN MORE](#)



#### PCAB Accreditation

Why it's important to use a PCAB Accredited Compounding Pharmacy?

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## Would you share your experience with MD Custom Rx?

At MD Custom Rx, we strive to provide the best quality of care. Your comments are important to us and they will help us to continue to improve the services we provide.

Please take a moment to review us.

