

# RECOMMENDATIONS

MAY 2020 · COMPOUNDED TOPICAL PAIN CREAMS: REVIEW OF SELECT INGREDIENTS FOR SAFETY, EFFECTIVENESS, AND USE

## RECOMMENDATION REGARDING TREATMENT

### **Recommendation 1: Caution should be used when prescribing and/or dispensing compounded topical pain cream preparations**

Prescribing clinicians, compounding pharmacists, and non-pharmacists who compound should exercise caution when considering inclusion of compounded topical pain creams in pain management plans, given the lack of scientific evidence to support their safety or effectiveness beyond a few limited ingredients.

## RECOMMENDATIONS TO ADDRESS PUBLIC HEALTH CONCERNS

Given the public health concerns related to the use of compounded topical pain creams, the committee recommends additional research, education, and oversight to support safety, effectiveness, and use of these preparations.

### **Recommendation 2: Strengthen and expand the evidence base on safety and effectiveness of active pharmaceutical ingredients (APIs) and excipients commonly used in compounded topical pain creams.**

Pain researchers, public and private funding agencies, and relevant patient advocacy organizations should prioritize research efforts to examine the safety and effectiveness of compounded topical pain creams, including but not limited to:

- Randomized, double-blind, placebo-controlled clinical trials with sufficient numbers of patients to study, both in isolation and in combinations, APIs and inactive ingredients commonly used in compounded topical pain cream formulations.
- Clinical research on APIs with demonstrated effectiveness to treat pain in pre-clinical animal models which may indicate a potential therapeutic effect in humans (e.g., cannabidiol).
- High-quality evidence is needed to inform the safety profile for all APIs that act systemically.
- Research on potential new topical or transdermal therapeutic agents to treat pain.

Funding agencies that could drive these efforts include: Agency for Healthcare Research and Quality, National Center for Complementary and Integrative Health, other relevant institutes or centers of the National Institutes of Health, and Patient-Centered Outcomes Research Institute.

Patient advocacy organizations that could drive these efforts include: American Academy of Hospice and Palliative Medicine, American Academy of Pain Medicine, American Cancer Society, American Chronic Pain Association, American Society for Pain Management Nursing, Oncology Nursing Society, and U.S. Pain Foundation.

### **Recommendation 3: Require continued training for clinicians who prescribe compounded pain medication, particularly pain management specialists. Revise current educational requirements for compounding pharmacists and non-pharmacists who compound.**

Inter-professional organizations representing pharmacy, nursing, medical sectors and other professions with prescriber authority to treat pain conditions should advocate for state-level certification of individuals who seek to begin or continue to prescribe compounded topical pain creams. Formal clinical education should be offered in parallel to continuing medical education courses for clinicians who prescribe topical pain creams.

- Inter-professional organizations that could drive these efforts include: American Academy of Hospice and Palliative Medicine, American Academy of Physician Assistants, American Association of Nurse Practitioners, American Cancer Society, American Medical Association, American Society of Anesthesiologists, and American Society of Interventional Pain Physicians.

## RECOMMENDATIONS TO ADDRESS PUBLIC HEALTH CONCERNS (CONTINUED)

State boards of pharmacy, local and regional schools of pharmacy, and non-profit professional societies and organizations within the medical and pharmaceutical sectors should support and incentivize more in-depth training on compounding delivered by schools of medicine and pharmacy, as well as relevant non-profit professional societies and organizations. These courses should:

- Review the compounding process, including the complexities of formulation science, which aim to ensure that all formulations are optimized when multiple APIs are combined.
- Examine current peer-reviewed, evidence-based conclusions on the safety and effectiveness of commonly used APIs and excipients in topical applications.
- Review the potential risks and/or reported adverse effects associated with use of compounded topical pain creams.

Additional continuing medical education courses hosted by for-profit organizations should not substitute for this more in-depth training, due to potential conflicts of interest.

### **Recommendation 4: Additional state-level oversight of compounded topical pain creams is needed to improve safety and effectiveness.**

The National Association of Boards of Pharmacy should convene the state boards of pharmacy to unify and increase their oversight of 503A compounding pharmacies. The charge to increase oversight should also require all 503A compounding pharmacies to:

- Provide a standardized insert for all dispensed compounded pain cream preparations with 1) a detailed description of the formulation, including all active pharmaceutical ingredients (APIs) and excipient components and 2) clear guidance for use, including how much (cream surface area and volume) and under which conditions to apply, and 3) caution for potential adverse effects.
- Report adverse events to the state boards of pharmacy boards and U.S. Food and Drug Administration (FDA) through an established mechanism (e.g. FDA Adverse Event Reporting System, Med Watch).
- Monitor, record, and annually report the types, formulations, payer, and dispensing rates of compounded pain cream preparations.
- Uniformly adopt standards in USP 795 to ensure the quality of dispensed nonsterile compounded preparations.

FDA and global standards-setting organizations (e.g., U.S. Pharmacopeia) should collaboratively develop standard processes for testing APIs (in solitude and combinations) and excipients commonly used in compounded topical pain creams. These should include protocols to examine the mechanisms by which APIs are absorbed and released from compounded preparations, with a prioritized focus on APIs in formulations with transdermal properties that allow drugs to travel through the skin to act regionally or systemically.

To read the full report, please visit  
[nationalacademies.org/compoundedpaincream](https://nationalacademies.org/compoundedpaincream)

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