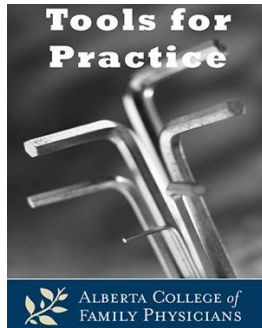


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Topical Capsaicin for Neuropathic and Osteoarthritis Pain: Maybe not so hot?

Clinical Question: What are the benefits and harms of topical capsaicin for neuropathic or osteoarthritis pain?

Bottom Line: Evidence for topical capsaicin in neuropathic pain and hand osteoarthritis is highly inconsistent, with some studies showing clinical benefit (variably defined) for one in 4-7 patients while other studies show no benefit. There is no benefit in knee osteoarthritis. Local adverse effects (burning, stinging) in up to 60% of patients lead to one in 8-9 more stopping therapy.

Evidence:

- Neuropathic pain:
 - Systematic review [seven Randomized Controlled Trials (RCTs), 1,600 patients, varied neuropathic pain types], 0.075% topical capsaicin versus placebo, 6-12 weeks:¹
 - Clinical improvement (variably defined): 42% versus 28% (placebo), not statistically different.
 - Adverse events:
 - Burning, stinging, or erythema: 63% versus 24% (placebo), Number Needed to Harm (NNH)=3.
 - Coughing, sneezing: 9% versus 1% (placebo), NNH=13.
 - Withdrawal: 15% versus 3% (placebo), NNH=9.
 - Two other systematic reviews, 0.075% capsaicin versus placebo, at 4-8 weeks:²⁻³
 - Benefit:
 - Physician-rated "Much Better" (four RCTs, 309 patients):² 73% versus 49%, Number Needed to Treat (NNT)=5.
 - ≥50% pain improvement (10 RCTs, 969 patients):³ NNT~7.
 - Adverse events:³
 - Local reaction: 58% versus 18%, NNH=3.
 - Withdrawal: 16% versus 2%, NNH=8.
 - RCT of 33 diabetic neuropathy patients,⁴ 0.025% gel versus placebo:
 - Pain score or patients achieving 30% pain reduction: No difference.
 - Adverse skin reaction: 15% versus 0% (placebo), NNH=6.

- Osteoarthritis pain:
 - Two systematic reviews (3-4 RCTs, 301-382 patients, hand osteoarthritis), 0.025%-0.075% topical capsaicin versus placebo at 4-8 weeks:^{2,5}
 - Clinical improvement, variably defined:² 45% versus 16%, NNT=4.
 - Pain score ~8/100 points lower than placebo.⁵
 - Adverse events not reported.²
 - RCT (99 patients, knee osteoarthritis), 0.0125% capsaicin versus placebo over four weeks:⁶ No improvement.
- Limitations: Blinding likely compromised due to burning and redness.

Context:

- Burning or stinging usually recedes after several days of use.⁷
- 60-gram tube of 0.075% Capsaicin cream costs ~\$30 (about 60-day supply based on QID use, depending on area).
- NICE recommends for localized neuropathic pain when oral medications not tolerated⁸ and as an add-on therapy for knee or hand osteoarthritis pain.⁹

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Disclosure:

Authors do not have any conflicts of interest to declare.

References:

1. Derry S, Moore RA. *Cochrane Database Syst Rev.* 2012; (9):CD010111.
2. Zhang WY, Li Wan Po A. *Eur J Clin Pharmacol.* 1994; 46(6):517-22.
3. Mason L, Moore RA, Derry S, *et al.* *BMJ.* 2004; 328(7446):991.
4. Kulkantrakorn K, Lorsuwansiri C, Meesawatsom P. *Pain Pract.* 2013; (6):497-503.
5. Cameron M, Gagnier JJ, Little CV, *et al.* *Phytother Res.* 2009;(11):1497-515.
6. Cameron M, Chrubasik S. *Cochrane Database Syst Rev.* 2013; (5):CD010538.
7. CPS [Internet]. Ottawa (ON): Canadian Pharmacists Association; c2018 [updated 2018 July]. Capsaicin [product monograph] Available from: <http://www.e-cps.ca> or <http://www.myrxtx.ca>. Last Accessed: July 7, 2018.
8. National Institute for Health and Care Excellence. NICE Guideline (CG173). Available from: <https://www.nice.org.uk/guidance/cg173>. Last Accessed: June 27, 2018.
9. National Institute for Health and Care Excellence. NICE Guideline (CG177). Available from: <https://www.nice.org.uk/guidance/cg177>. Last Accessed: July 9, 2018.

Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practising family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. Each article is peer-reviewed, ensuring it maintains a high standard of quality, accuracy, and academic integrity. If you are not a member of the ACFP and would like to receive the TFP emails, please sign up for the distribution list at <http://bit.ly/signupfortfps>. Archived articles are available on the ACFP website.

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