



## Topical Anal Fissure Treatments – getting to the bottom of it

### CLINICAL QUESTION

**How effective are topical treatments (calcium channel blockers, nitrates and vitamin E) in adults with chronic anal fissures?**

### BOTTOM LINE

**Healing rates with topical nitroglycerin are ~60% compared to 40% on placebo at 8 weeks. Topical calcium channel blockers are at least as good, with a lower risk of headache (7% versus 56%). Based on 1 randomized, controlled trial (RCT), topical vitamin E may be superior to nitroglycerins (86% versus 66% healed at 8 weeks).**

### EVIDENCE

- Five systematic reviews of RCTs in last 10 years.<sup>1-5</sup> Focusing on most recent. Adjunctive treatments usually unclear (often fiber or dietary advice). Healing mostly defined as determined on exam or patient reported. Results statistically different unless indicated.
- Calcium channel blockers (example diltiazem 2% ointment):
  - Healing: 3 systematic reviews (1-7 RCTs, 60-727 patients) found higher healing rates for calcium channel blockers (78-82%) versus control (33-42%), number need to treat (NNT)=3 over ~6 weeks (one of 3 analyses not statistically different).<sup>1-3</sup>
- Nitroglycerins (example nitroglycerin 0.2-0.4% ointment):
  - Healing (17 RCTs, 1063 patients):

- At 8 weeks,<sup>1</sup> 63% versus 38% (placebo), NNT=4.
  - Other systematic reviews found efficacy ~50% versus 35% (placebo).<sup>2,3</sup>
- Calcium channel blockers versus nitroglycerins:
  - Healing (11 RCTs, 770 patients):
    - At 8 weeks, 79% versus 65% nitroglycerin.<sup>1</sup>
    - Similar in other systematic reviews,<sup>3-5</sup> but only statistically different in 1 review.<sup>3</sup>
  - Headache (10 RCTs, 590 patients):
    - 7% versus 56% nitroglycerin.<sup>1</sup>
- Limitations:
  - Many systematic reviews included pediatrics, did not include all RCTs, and had suboptimal statistical analysis; many RCTs unblinded, and did not use placebo.
- Vitamin E:
  - 1 RCT, 160 patients, topical vitamin E or topical nitroglycerin twice daily.<sup>6</sup> At 8 weeks:
    - Healing: 86% versus 66% nitroglycerin, NNT=5.
    - Stopping due to headache: 0 versus 18% nitroglycerin.
  - Limitations: Patients unblinded, nitroglycerin possibly underdosed, unknown IU/g of vitamin E.

## CONTEXT

- Most fissures are at the midline. Other locations may indicate secondary cause (example Crohn's disease) and should be investigated.<sup>7</sup>
- Guidelines recommend topical calcium channel blockers or topical nitroglycerins.<sup>8,9</sup>
  - Botox and surgery are options for treatment failure, but fecal incontinence possible.<sup>9</sup>
- Cost (~8 weeks):
  - Compounded topical calcium channel blocker/nitroglycerin: ~\$60/30g.<sup>10</sup>
  - Commercially available vitamin E ointment = ~\$10/50g.<sup>11</sup>

## REFERENCES

1. Jin JZ, Hardy MO, Unasa H, *et al.* Int J Colorectal Dis. 2022; 37:1-15.
2. Nelson RL, Thomas K, Morgan J, *et al.* Cochrane Database System Rev. 2012; 2:CD003431.
3. Nelson RL, Manuel D, Gumienny C, *et al.* Tech Coloproctol. 2017; 21:605-25.
4. Nevins EJ, Kanakala V. Turk J Surg. 2020; 36(4):347-52.
5. Sajid MS, Whitehouse PA, Sains P, *et al.* Colorectal Dis. 2012; 15:19-26.
6. Ruiz-Tovar, J, Llaverro C. Dis Colon Rectum. 2022; 65:406-12.
7. Dykstra MA, Buie WD. CMAJ. 2019 July; 191:E737.
8. Stewart DB Sr, Gaertner W, Glasgow S, *et al.* Dis Colon Rectum. 2017; 60(1):7-14.
9. Wald A, Bharucha AE, Limketkai B, *et al.* Am J Gastroenterol. 2021; 116(10):1987-2008.

## AUTHORS

**Callie Fagan** BSP, **Michael R Kolber**, MD CCFP MSc, **Adrienne J Lindblad**, BSP ACPR PharmD

*Authors do not have any conflicts of interest to declare.*

10. Personal communication: Stacy Jardine, clinical pharmacist at Peace River Value Drug Mart, Peace River, Alberta. October 4, 2022.
11. Webber Vitamin E First Aid Ointment on Walmart.ca. Available at: <https://www.walmart.ca/en/ip/webber-vitamin-e-first-aid-ointment/6000189067438> Accessed October 7, 2022.

---

**TOOLS FOR PRACTICE  
PROVIDED BY**



---

**IN PARTNERSHIP WITH**



**Tools for Practice** are peer reviewed and summarize practice-changing medical evidence for primary care. Coordinated by **Dr. G. Michael Allan** and **Dr Adrienne Lindblad**, they are developed by the Patients, Experience, Evidence, Research (PEER) team, and supported by the College of Family Physicians of Canada, and the Alberta, Ontario, and Saskatchewan Colleges of Family Physicians. Feedback is welcome and can be sent to [toolsforpractice@cfpc.ca](mailto:toolsforpractice@cfpc.ca). Archived articles can be found at [www.toolsforpractice.ca](http://www.toolsforpractice.ca)

*This communication reflects the opinion of the authors and does not necessarily mirror the perspective and policy of the College of Family Physicians of Canada.*