



## Topical corticosteroids for atopic dermatitis - More than skin deep

### CLINICAL QUESTION

**What are the benefits/harms of topical corticosteroids for atopic dermatitis in adults/children?**

### BOTTOM LINE

**Evidence is somewhat limited but topical corticosteroids are effective for atopic dermatitis and efficacy likely increases with potency. Once daily seems similarly effective to twice daily. If frequent flares, 'weekend therapy' (treatment 2-days/week to areas with recurrent flares) will help ~60% avoid a flare versus ~30% using placebo-cream over 16-weeks. Topical corticosteroids are well-tolerated for ≤6 weeks. Long-term harms are not available.**

### EVIDENCE

- Four systematic reviews of randomized controlled trials (RCTs) in past 10 years.<sup>1-4</sup> Results statistically significant unless indicated.
- Versus vehicle/moisturizer:
  - More children responded to topical corticosteroids, all-types combined: 65% versus 32% (vehicle/moisturizer), not compared statistically.<sup>1</sup>
  - 2-days/week ('weekend therapy') fluticasone 0.005-0.05% versus vehicle, for prevention.<sup>2</sup>

- Patients with  $\geq 1$  flare over 16-20 weeks (4 RCTs, 718 patients): 28% versus 61% (vehicle), Number needed to treat (NNT)=3.
  - Others found similar.<sup>3</sup>
- Lower versus higher potency:
  - Using 4-potency classification (examples): Mild (hydrocortisone 1%), moderate (hydrocortisone valerate 0.2%), high (betamethasone valerate 0.1%), very high (clobetasol dipropionate 0.05%).<sup>3</sup>
    - Mild versus more potent steroids, marked improvement at 1-5 weeks:<sup>3</sup>
      - 34% (mild) versus 52% (moderate) (4 RCTs, 449 patients), NNT=6.
      - 40% (mild) versus 71% (high) (9 RCTs, 458 patients), NNT=4.
    - Moderate or high potency steroids versus more potent. Results mixed:
      - Marked improvement 1-5 weeks, between-participant trials: No difference.<sup>3</sup>
      - Within same-participant trials: Appears higher potency better, statistics not interpretable.
  - Using 7-potency US classification: Gradual increase in efficacy but comparisons indirect (network meta-analysis), statistics not provided.<sup>4</sup>
- Once versus twice daily, using same steroid: No difference (5 RCTs, 903 patients).<sup>3</sup>
- Adverse events, limited information. Short-term (2-6 weeks):
  - Eczematous skin, skin thinning in <1% of patients on placebo/steroid (18 RCTs, 1533 patients). RCTs too short, inconsistent/poor reporting, difficult to measure adverse effects on diseased/thickened skin.<sup>3</sup>
  - Normal skin, mean epidermal thickness loss: 0% mild versus 26% very-potent steroids (24 RCTs, 309 patients without eczema).<sup>5</sup>

## CONTEXT

- Potency classifications inconsistent.<sup>6</sup>
- Tacrolimus 0.1% is at least equivalent to moderate-potency topical corticosteroids.<sup>7</sup>
- Guidelines: Optimal treatment regimens unclear, stepwise increased potency reasonable.<sup>8</sup> Moisturizers strongly recommended for all patients.<sup>8</sup>

## REFERENCES

1. Fishbein AB, Mueller K, Lor J *et al.* J Pediatr Nurs. 2019 Jul-Aug; 47:36-43.
2. Van Zuuren EJ, Fedorowicz Z, Christensen R *et al.* Cochrane Database Syst Rev. 2017 Feb 6; 2(2):CD012119.
3. Lax SJ, Harvey J, Axon E *et al.* Cochrane Database Syst Rev. 2022 Mar 11; 3(3):CD013356.
4. Chu DK, Chu AWL, Rayner DG *et al.* J Allergy Clin Immunol. 2023; 152(6):1493-1519.
5. Barnes L, Kaya Gurkan, Rollason V. Drug Saf. 2015 May; 38(5):493-509.
6. Bowie AC, Tadrous M, Egeberg *et al.* JAMA Dermatol. 2022 Jul 1; 158(7):796-800.

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7. Braschi E, Moe S. Fancy Creams for Scaly Skin: Topical calcineurin inhibitors for atopic dermatitis Tools for Practice #345. Available at: <https://cfpclearn.ca/ftp345/>. Accessed on: January 2, 2024.
8. Sidbury R, Alikhan A, Bercovitch L, *et al.* J Am Acad Dermatol. 2023; 89(1):e1-e20.

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