

Systematic Review Topic Nomination: Topical Therapy for Psoriasis

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Systematic Review Nomination Questions

1. What is the efficacy and safety of prescription topical treatments for plaque psoriasis?
2. What is the efficacy and safety of prescription topical treatments for plaque psoriasis?
Treatments include:
 - a. Topical corticosteroids
 - b. Calcineurin inhibitors (Topical tacrolimus and pimecrolimus)
 - c. Vitamin D analogues
 - d. Tazarotene
 - e. Moisturizers
 - f. Salicylic acid
 - g. Anthralin
 - h. Coal tar
 - i. Roflumilast
 - j. Tapinarof
 - k. Biologic agent combination
 - l. Nonbiologic combination
 - i. Methotrexate
 - ii. Cyclosporine
 - iii. Acitretin

A review on this topic will inform the update of an existing clinical guideline or evidence-based practice statement.

Psoriasis is a chronic autoimmune condition characterized by red, itchy, and scaly patches on the skin that affects 2-3% of the population [1]. The condition greatly impacts quality of life via physical discomfort, psychological distress, and social stigma. While there is no cure for psoriasis, topical therapy plays a crucial role in managing the condition by directly targeting affected areas of the skin, offering localized relief, and reducing inflammation. It provides patients with a convenient and accessible treatment option, especially for mild to moderate cases, helping to alleviate symptoms such as itching, redness, and scaling. Moreover, consistent use of topical medications can contribute to long-term management strategies, preventing flare-ups and improving overall quality of life for individuals living with psoriasis. Effective management is essential to prevent complications like joint damage (psoriatic arthritis) or cardiovascular issues. Recent advancements in topical therapy for psoriasis, like the FDA approval of roflumilast and tapinarof, and new evidence of the effectiveness and safety of traditional topical therapies necessitate the development of a current systematic review. These novel treatments offer promising options for patients who may have exhausted conventional therapies. Understanding their efficacy, safety profiles, and comparative effectiveness against existing treatments is key for informed clinical decision-making.

Such a review would provide clinicians and researchers with updated insights, guiding them in making informed decisions about the most effective and suitable topical treatments for patients, ultimately improving outcomes and enhancing the standard of care for individuals with psoriasis. By evaluating these therapies systematically, clinicians can optimize treatment strategies and enhance outcomes for the 125 million+ worldwide affected by psoriasis. [1]

The American Academy of Dermatology (AAD) is the largest, most influential, and most representative of all dermatologic associations. With a membership of more than 20,000 physicians worldwide, the AAD is committed to: advancing the diagnosis and medical, surgical, and cosmetic treatment of the skin, hair, and nails; advocating high standards in clinical practice, education, and research in dermatology; and supporting and enhancing patient care for a lifetime of healthier skin, hair, and nails. The AAD is proposing a systematic review of topical therapies for psoriasis in recognition of the changing therapeutic landscape and to support the update of an existing clinical guideline in the area.

1. National Psoriasis Foundation. Psoriasis Statistics. December 21, 2022.

<https://www.psoriasis.org/psoriasis-statistics/>

The American Academy of Dermatology (AAD) is dedicated to advancing dermatology research and translating findings into improved patient care. AAD clinical practice guidelines adhere to industry standards for trustworthy guidelines that require a full systematic review to support recommendation development. Given the recent advancements in topical therapeutics for psoriasis and the recent FDA approval of novel topical therapies, a current systematic review is essential for updating the AAD's 2021 Joint AAD-NPF Guidelines of care for the management and treatment of psoriasis with topical therapy. The proposed systematic review would directly support the guideline update that aims to standardize care, promote consistency in treatment approaches, and ultimately enhance patient outcomes by integrating the most current research findings and best practices into clinical decision-making. This initiative aligns with the AAD's commitment to evidence-based medicine and improving outcomes for all patients with dermatologic conditions and is fully supported by the AAD and the National Psoriasis Foundation.

PICO Format Questions:

a. Population of interest: Who are the people that should be studied?
Individuals of any age with psoriasis of any severity

b. Interventions/options: What options should be compared? These are the decisions the research is intended to inform. Please include specific interventions, treatments or delivery models.

Prescription topical treatments including the following:

- a. Topical corticosteroids
- b. Calcineurin inhibitors (Topical tacrolimus and pimecrolimus)
- c. Vitamin D analogues
- d. Tazarotene
- e. Moisturizers
- f. Salicylic acid
- g. Anthralin
- h. Coal tar
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c. Comparators: Placebo, standard care, or another prescription topical treatment

d. Outcomes: How will evidence generated from this topic make a difference for patients, providers, health systems, policy makers, or other stakeholders? For example, will the evidence generated improve individual outcomes (e.g., pain control), save time, or improve access to care?

- a. Clinician-reported severity (Psoriasis Area and Severity Index, PASI90, BSA, IGA, etc.)
- b. Patient-reported severity
- c. Itch severity (Visual Analog Scale, Numeric Rating Scale, etc.)
- d. Health-related quality of life (Dermatology Life Quality Index, Psoriasis Disability Index, etc)
- e. Serious adverse events
- f. Adverse events
- g. Discontinuation of treatment due to adverse event

Recent guidelines:

Elmets, C.A., Korman, N.J., Prater, E.F., Wong, E.B., Rupani, R.N., Kivelevitch, D., Armstrong, A.W., Connor, C., Cordoro, K.M., Davis, D.M.R., Elewski, B.E., Gelfand, J.M., Gordon, K.B., Gottlieb, A.B., Kaplan, D.H., Kavanaugh, A., Kiselica, M., Kroshinsky, D., Lebwohl, M., Leonardi, C.L., Lichten, J., Lim, H.W., Mehta, N.N., Paller, A.S., Parra, S.L., Pathy, A.L., Siegel, M., Stoff, B., Strober, B., Wu, J.J., Hariharan, V., Menter, A., 2021. Joint AAD–NPF Guidelines of care for the management and treatment of psoriasis with topical therapy and alternative medicine modalities for psoriasis severity measures. *Journal of the American Academy of Dermatology* 84, 432–470. <https://doi.org/10.1016/j.jaad.2020.07.087>

Recent systematic reviews:

1. Bark C, Brown C, Svangren P. Systematic literature review of long-term efficacy data for topical psoriasis treatments. *J Dermatolog Treat*. 2022 Jun;33(4):2118-2128. doi: 10.1080/09546634.2021.1925211. Epub 2021 Jun 1. PMID: 33945378.
2. Mason AR, Mason J, Cork M, Dooley G, Hancock H. Topical treatments for chronic plaque psoriasis. *Cochrane Database of Systematic Reviews* 2013, Issue 3. Art. No.: CD005028. DOI: 10.1002/14651858.CD005028.pub3.
3. Samarasekera, E.J., Sawyer, L., Wonderling, D., Tucker, R. and Smith, C.H. (2013), Topical therapies for the treatment of plaque psoriasis: systematic review and network meta-analyses. *Br J Dermatol*, 168: 954-967. <https://doi.org/10.1111/bjd.12276>
4. Wu W, Gao N, Han J, Zhang Y, Fang X. Efficacy and Safety of Newer Topical Therapies in Psoriasis: A Systematic Review and Network Meta-Analysis. *Dermatology*. 2024;240(1):1-12. doi: 10.1159/000535056. Epub 2023 Nov 8. PMID: 37939679.

Other important studies in this area:

1. Lebwohl MG, Stein Gold L, Strober B, et al. Phase 3 Trials of Tapinarof Cream for Plaque Psoriasis. *N Engl J Med* 2021; 385:2219.
2. Lebwohl MG, Papp KA, Stein Gold L, et al. Trial of Roflumilast Cream for Chronic Plaque Psoriasis. *N Engl J Med* 2020; 383:229.
3. Leonardi CL, Kimball AB, Papp KA, et al. Efficacy and safety of ustekinumab, a human interleukin-12/23 monoclonal antibody, in patients with psoriasis: 76-week results from a randomised, double-blind, placebo-controlled trial (PHOENIX 1). *Lancet* 2008; 371:1665.
4. Papp KA, Langley RG, Lebwohl M, et al. Efficacy and safety of ustekinumab, a human interleukin-12/23 monoclonal antibody, in patients with psoriasis: 52-week results from a randomised, double-blind, placebo-controlled trial (PHOENIX 2). *Lancet* 2008; 371:1675.
5. Paul C, Stein Gold L, Cambazard F, et al. Calcipotriol plus betamethasone dipropionate aerosol foam provides superior efficacy vs. gel in patients with psoriasis vulgaris: randomized, controlled PSO-ABLE study. *J Eur Acad Dermatol Venereol*. 2017;31(1):119-126. doi:10.1111/jdv.13859
6. Snape SD, Wigger-Alberti W, Goehring UM. A phase I randomized trial to assess the effect on skin infiltrate thickness and tolerability of topical phosphodiesterase inhibitors in the treatment of psoriasis vulgaris using a modified psoriasis plaque test. *Br J Dermatol*. 2016;175(3):479-486. doi:10.1111/bjd.14634
7. Trial of PDE4 Inhibition with Roflumilast for the Management of Plaque Psoriasis (DERMIS-1). <https://clinicaltrials.gov/ct2/show/NCT04211363>
8. Twin Trial of PDE4 Inhibition with Roflumilast for the Management of Plaque Psoriasis (DERMIS-2). <https://clinicaltrials.gov/ct2/show/NCT04211389>