



Combatting lice in a single treatment

Spinosad (Natroba), a topical pediculicide approved by the FDA in 2011, effectively eradicates lice—with no nit-picking.

PRACTICE CHANGER:

Consider prescribing spinosad—a recently approved topical pediculicide that is more effective than permethrin and eliminates the need for nit combing—for children with head lice.¹

Stough D, Shellabarger S, Quiring J, et al. Efficacy and safety of spinosad and permethrin crème rinses for pediculosis capitis (head lice). *Pediatrics*. 2009;124:e389-e395.

STRENGTH OF RECOMMENDATION

B: Based on a single randomized controlled trial (RCT).

ILLUSTRATIVE CASE

A 6-year-old girl is brought in by her mother, who has just been notified of an outbreak of head lice in the child's school. You examine her scalp and observe viable eggs (nits) at the hair shaft, and tell mom that her daughter has head lice. What's the most effective treatment?

Head lice are common and easily spread among schoolchildren—and a source of frustration for patients, parents, and family physicians alike. Permethrin cream 1% (Nix), one of the most widely used and well-studied pediculicides, is available over the counter.²

Prescription pediculicides, including malathion (Ovide) and lindane (Kwell), are used less frequently due to their side effect profiles: Malathion is highly flammable due to a high alcohol content and lindane can cause neurotoxicity.² Both are typically re-

served for cases resistant to permethrin 1% cream. Local resistance patterns influence physician prescribing, of course, and greater resistance has increased the need for multiple treatments.³

Dual treatment—and combing—are often required

Permethrin is pediculicidal (ie, it kills only live lice); it is not ovicidal (ie, it does not kill nits at every stage).^{4,5} Thus, a second application is usually needed 7 to 10 days after the first to ensure complete eradication. And, because permethrin is not ovicidal, nit combing—a tedious, time-consuming, and often painful process—is required to remove lice and unhatched eggs from the hair shafts. Another downside: Children in districts that do not allow students to return to school until they are completely nit-free often miss school as a result of this lengthy process.

The US Food and Drug Administration (FDA) recently approved spinosad (Natroba topical suspension 0.9% cream rinse) for the treatment of lice in patients ≥4 years old.⁶ Spinosad, which is available only by prescription, eliminates the need for nit combing. But how well does it work?

STUDY SUMMARY

For most patients, a single application is sufficient

The study by Stough et al included 2 identical multicenter RCTs comparing 0.9% spinosad

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➤ **Spinosad is pediculicidal and ovicidal—killing lice and their eggs in all stages.**



without nit combing vs 1% permethrin with combing in patients ≥ 6 months old who had active head lice. There were 446 patients in the primary treatment (spinosad) group and 470 in the control (permethrin) group. All participants within the same household were assigned to the same group.

Participants were evaluated on Days 1, 7, and 14. Those with active lice on Day 7 received another treatment (a second application with the same medication). The primary outcome was the percentage of participants who were lice free on Day 14.

The findings: After 14 days, 85% of the children in the spinosad group vs 44% of those in the permethrin group were lice free. In addition, 75% of those treated with spinosad required only one application for a cure, compared with 37% in the permethrin group.

There were no serious adverse events in either group. Participants in the permethrin group were more likely to experience scalp erythema than those in the spinosad group (6.8% vs 3.1%; $P < .007$). Complete metabolic panels and hematology studies were performed, and no significant differences pre- or posttreatment were found. The dropout rate was $< 10\%$, for similar reasons in both groups.

WHAT'S NEW

Extensive nit combing no longer needed
Spinosad is pediculicidal and ovicidal—killing lice and their eggs in all stages—thereby eliminating the need for extensive comb-

ing in most cases. It has less resistance than current pediculicides, so a second course of treatment is needed only about one-quarter of the time. Spinosad received FDA approval for use in patients ≥ 4 years in 2011.

CAVEATS

Funding of study raises question of bias

The study by Stough et al was funded by Parapro, LLC, the manufacturer of Natroba. The company had access to the data and had a role in the interpretation of the findings and the decision to publish the study. However, the assessors were blinded to treatment group.

CHALLENGES TO IMPLEMENTATION

Cost is high and may not be covered

Cost will be a major barrier to treatment for many families. The average cost of an application of permethrin 1% is about \$20; an application of spinosad costs \$270 without insurance. Individual health plans may not cover it or may require prior authorization. **JFP**

ACKNOWLEDGEMENT

The PURLs Surveillance System is supported in part by Grant Number UL1RR024999 from the National Center for Research Resources, a Clinical Translational Science Award to the University of Chicago. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Center for Research Resources or the National Institutes of Health.

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