

## Nicotinamide

[Int J Dermatol](#). 1995 Jun;34(6):434-7.

### **Topical nicotinamide compared with clindamycin gel in the treatment of inflammatory acne vulgaris.**

[Shalita AR](#), [Smith JG](#), [Parish LC](#), [Sofman MS](#), [Chalker DK](#).

Department of Dermatology, State University of New York, College of Medicine, Brooklyn, USA.

**BACKGROUND.** Systemic and topical antimicrobials are effective in the treatment of inflammatory acne vulgaris; however, widespread use of these agents is becoming increasingly associated with the emergence of resistant pathogens raising concerns about microorganism resistance and highlighting the need for alternative nonantimicrobial agents for the treatment of acne. Nicotinamide gel provides potent antiinflammatory activity without the risk of inducing bacterial resistance. **METHODS.** In our double-blind investigation, the safety and efficacy of topically applied 4% nicotinamide gel was compared to 1% clindamycin gel for the treatment of moderate inflammatory acne vulgaris. Seventy-six patients were randomly assigned to apply either 4% nicotinamide gel (n = 38) or 1% clindamycin gel (n = 38) twice daily for 8 weeks. Efficacy was evaluated at 4 and 8 weeks using a Physician's Global Evaluation, Acne Lesion Counts, and an Acne Severity Rating. **RESULTS.** After 8 weeks, both treatments produced comparable (P = 0.19) beneficial results in the Physician's Global Evaluation of Inflammatory Acne; 82% of the patients treated with nicotinamide gel and 68% treated with clindamycin gel were improved. Both treatments produced statistically similar reductions in acne lesions (papules/pustules; -60%, nicotinamide vs. -43%, clindamycin, P = 0.168), and acne severity (-52% nicotinamide group vs. -38% clindamycin group, P = 0.161). **CONCLUSIONS.** These data demonstrate that 4% nicotinamide gel is of comparable efficacy to 1% clindamycin gel in the treatment of acne vulgaris. Because topical clindamycin, like other antimicrobials, is associated with emergence of resistant microorganisms, nicotinamide gel is a desirable alternative treatment for acne vulgaris.

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[J Cosmet Laser Ther](#). 2006 Jun;8(2):96-101.

### **The effect of 2% niacinamide on facial sebum production.**

[Draelos ZD](#), [Matsubara A](#), [Smiles K](#).

Department of Dermatology, Wake Forest University School of Medicine, Winston-Salem, NC 27262, USA. [zdraelos@northstate.net](mailto:zdraelos@northstate.net)

**BACKGROUND:** The presence of sebum on the face is responsible for both facial shine and the formation of comedonal and inflammatory acne lesions. Sebum control is a goal of many OTC skin care products; however, most currently available products function by absorbing sebum from the face rather than modulating its production. **OBJECTIVE:** To demonstrate the effect of topical 2% niacinamide on sebum excretion rates and casual sebum production in Oriental and Caucasian populations. **METHODS:** Separate clinical trials were conducted in both Japan and the USA to evaluate the effect of topical 2% niacinamide in different ethnic groups. A total of 100 Japanese subjects were enrolled in a double-blind, placebo-controlled comparison between two independent balanced groups. Fifty subjects applied the 2% niacinamide moisturizer to the face for 4 weeks and 50 subjects used a placebo moisturizer for 4 weeks, with sebum excretion rate (SER) measurements taken at baseline, week 2, and week 4. In addition, 30 Caucasian subjects were enrolled in a randomized split-face study for 6 weeks with SER and casual sebum levels (CSL) measured at baseline, week 3, and week 6. **RESULTS:** The results of the Japanese study demonstrated that the SER of the two groups was not significantly different at baseline, but the 2% niacinamide treated group demonstrated significantly lowered SER after 2 and 4 weeks of application. The results were somewhat different in the Caucasian study. After 6 weeks of treatment, the CSL was significantly reduced, but the SER was not significantly reduced. **CONCLUSIONS:** Topical 2% niacinamide may be effective in lowering the SER in Japanese individuals and CSL in Caucasian individuals.

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## **Pharmacologic doses of nicotinamide in the treatment of inflammatory skin conditions: a review.**

[Niren NM](#) .

University of Pittsburgh Medical Center, Pennsylvania, USA.

Various skin disorders with an inflammatory component often have been treated with steroids and/or oral antibiotics. However, long-term use of these agents has drawbacks: steroids may induce numerous serious side effects such as hypertension, immunosuppression, and osteoporosis, and overuse of oral antibiotics may contribute to the development of bacterial resistance, as well as to a host of nuisance side effects such as diarrhea, yeast infections, and photosensitivity. As a result, alternative oral treatments, such as nicotinamide, have been investigated. During the past 50 years, many clinical reports have identified nicotinamide as a beneficial agent in the treatment of a variety of inflammatory skin disorders; what's more, its exceptional safety profile at pharmacologic doses makes it a potentially ideal long-term oral therapy for patients with inflammatory skin diseases. A recent large study evaluating nicotinamide for the treatment of acne or rosacea has confirmed the potential benefits of oral nicotinamide as an alternative

approach to managing inflammatory lesions associated with acne vulgaris and acne rosacea. This article reviews the substantial number of reports published over the past 50 years that document the clinical utility and safety of oral and topical formulations of nicotinamide for the treatment of a variety of inflammatory skin conditions.

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