Cryotherapy for acne treatment: Efficacy and patient experiences.

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Introduction

Acne is one of the most common skin conditions, affecting individuals of all ages, but especially teenagers and young adults. While there are many treatment options available, some patients are increasingly turning to alternative therapies to address stubborn or persistent acne. One such treatment gaining attention is cryotherapy, a method involving the application of extreme cold to the skin. Originally used for conditions like warts, skin tags, and precancerous lesions, cryotherapy is now being explored for its potential in acne management. This article delves into the efficacy of cryotherapy for acne treatment and shares insights from patient experiences [1].

Cryotherapy is a technique that uses extreme cold, typically liquid nitrogen, to treat various dermatological conditions. The procedure works by freezing the targeted tissue, which causes the skin cells to undergo necrosis (cell death). In the context of acne treatment, cryotherapy targets the sebaceous glands, which produce excess sebum and contribute to the formation of acne lesions. The cold temperature is believed to reduce inflammation, shrink sebaceous glands, and kill bacteria on the skin's surface, ultimately helping to improve acne symptoms [2].

Cryotherapy can be applied directly to the skin through a spray or cotton-tipped applicator, and the procedure usually lasts only a few minutes. While this method has been largely studied for its effects on other skin conditions, its application in acne treatment is still relatively new. However, anecdotal evidence and early studies suggest that it may offer promising results, especially for patients with inflamed or cystic acne [3].

Cryotherapy for acne works primarily through its anti-inflammatory effects. By cooling the skin and the affected areas, cryotherapy reduces the size and activity of sebaceous glands, which are often overactive in acne-prone skin. The cold also constricts blood vessels, limiting the flow of nutrients and oxygen to the sebaceous glands, which may decrease sebum production [4].

Additionally, cryotherapy may help kill the bacteria *Propionibacterium acnes*, a primary contributor to acne development. The freezing process can damage the bacteria's cell walls and prevent further growth, reducing the overall bacterial load on the skin. This can be particularly effective for patients with pustules, cysts, or inflammatory acne that is difficult to treat with traditional topical or oral medications [5].

While cryotherapy is often considered an alternative treatment for acne, several studies and case reports indicate its potential efficacy, particularly for certain types of acne. For instance, cryotherapy has shown positive effects in reducing inflammation and redness in acne lesions, as well as decreasing the size of cysts and nodules. Some studies have found that patients who underwent cryotherapy experienced fewer breakouts and had clearer skin after a series of treatments [6].

However, the efficacy of cryotherapy for acne treatment can vary depending on the severity and type of acne. Patients with mild to moderate acne may not see as significant results as those with more severe or cystic acne. Additionally, cryotherapy may not be effective for everyone, and multiple sessions are often required for optimal results. It is also important to note that while cryotherapy can reduce symptoms, it does not address the underlying causes of acne, such as hormonal imbalances or poor diet, and should be used as part of a comprehensive acne management plan [7].

Patient experiences with cryotherapy for acne have been mixed, with some individuals reporting significant improvements in their skin and others seeing minimal results. For many patients, the main benefit of cryotherapy is the reduction in inflammation and the quick, noticeable improvement in the appearance of their acne. Since cryotherapy is typically a quick procedure, patients appreciate the minimal downtime required and the convenience of the treatment [8].

However, some patients have reported discomfort during the procedure, particularly when it comes to the cold sensation applied to the skin. The freezing process can be intense, and although the procedure is short, it can cause a temporary stinging or burning sensation. This discomfort can be particularly challenging for patients with sensitive skin [9].

Furthermore, not all patients experience long-lasting results from cryotherapy. While it may be effective in reducing existing acne lesions, some individuals find that their acne returns after a few weeks or months. This has led some patients to seek out additional treatments, such as oral medications or topical treatments, in conjunction with cryotherapy to maintain clear skin [10].

Conclusion

Cryotherapy for acne treatment is a promising, though still relatively novel, option for patients struggling with severe or persistent acne. The procedure has shown efficacy in reducing inflammation, shrinking sebaceous glands, and controlling

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***Received:** 1-May-2025, Manuscript No. aarcd-25-164968; **Editor assigned:** 5-May-2025, PreQC No. aarcd-25-164968 (PQ); **Reviewed:** 17-May-2025, QC No. aarcd-25-164968; **Revised**: 24-May-2025, Manuscript No. aarcd-25-164968 (R); **Published**: 31-May-2025, DOI:10.35841/aarcd-8.3.266.*

***Citation:** Murase D. Cryotherapy for acne treatment: Efficacy and patient experiences. Res Clin Dermatol. 2025;8(3):266.*

bacterial growth, all of which contribute to acne resolution. While it may offer rapid and visible improvements for some patients, its effects can vary, and multiple treatments may be needed for long-term success.

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Citation: *Murase D. Cryotherapy for acne treatment: Efficacy and patient experiences. Res Clin Dermatol. 2025;8(3):266.*