

## COMPELLING COMMENTS

### The Father of Modern Cryotherapy

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Cryotherapy, the destruction of living tissue through freezing, is extensively utilized in the modern practice of dermatology. Its use dates back to the mid nineteenth century by Dr. James Arnott of England. Born in 1797, Arnott is widely regarded as the father of cryotherapy.<sup>1</sup> He used a solution of crushed ice and salt, reaching temperatures as low as -24°C, to freeze tumors in patients with advanced cancers. This technique was useful in reducing tumor size, decreasing bleeding, and ameliorating pain.<sup>1</sup> In his own words, Dr. Arnott described the significance of his work: “congelation arresting the accompanying inflammation, and destroying the vitality of the cancer cell, is not only calculated to prolong life for a great period, but may, not improbably, in the early stage of the disease, exert a curative action.”<sup>2</sup>

Arnott designed his own cryotherapy device, which consisted of a cushion connected to two tubes that carried water from a reservoir containing the freezing salt solution. Dr. Arnott presented and won a medal for this device at the Great Exhibition of London in 1851.<sup>3</sup> In addition to treating tumors, Arnott also proposed that cryotherapy could be used to treat acne, neuralgia, and headaches due to the numbing effects of freezing temperatures. Additionally, Arnott suggested that the numbing effects of the cold should be further utilized to anesthetize skin prior to surgery.<sup>1</sup> From Arnott’s early work, the

practice of cryotherapy has blossomed into a staple in the practice of modern dermatology. Today, dermatologists use cryotherapy in the form of liquid nitrogen to treat cutaneous lesions. It has emerged as an inexpensive, safe, and easy way to treat skin lesions in a clinical setting. Furthermore, cryotherapy provides great cosmetic results which is a significant upside for the practicing dermatologist.

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