

An Investigation of the Order of Applying an Emollient with a Topical Steroid in the Treatment of Atopic Dermatitis

*Conner, A.¹, and Tietje, A.²

¹Undergraduate Researcher, Division of Science Department, Southern Wesleyan University,

²Associate Professor, Division of Science Department, Southern Wesleyan University,
andreaconner@mail.swu.edu

Keywords: Atopic Dermatitis, treatment efficacy, hydrocortisone, emollient

Abstract: In 2007, the prevalence of Atopic Dermatitis had increased two to three-fold within the last three decades and affected 15-20% of young children¹. Atopic Dermatitis is often described as a confusing, localized, and generalized lichenification (thickness of skin, often due to scratching)². Current treatment includes the use of both steroid and emollient creams. Current suggestions for the order of application are contradictory. This study aims to examine the role of the order of application of treatments for Atopic Dermatitis. Hairless mice (SKH-1) were induced to a mild flare-up using 2,4-dinitrochlorobenzene (DNCB) and treated with either 1% hydrocortisone (Cortizone-10 Max Strength) alone, 1% hydrocortisone followed by Cetaphil (emollient), or Cetaphil followed by 1% hydrocortisone. We assessed the efficacy of the treatments by measuring: body weights, area scores, severity scores, and Immunoglobulin E (IgE) levels. For all variables statistical analysis was performed using analysis of variance (ANOVA). For all measurements, there were no statistically significant differences seen between the treatment groups. Of note, there were also no statistically significant difference seen between the treatment groups and the control untreated group. These findings show that there is no significance to the order of application of an emollient with a topical steroid. Potential future research would be to look at the variance in time between application of an emollient and a topical steroid in combined treatment regimens.

1. Buys, L. M. (2007). Treatment Options for Atopic Dermatitis. *American Family Physician*, 75(4), 523-528.

2. Wise, F. & Sulzberger, M.B. (1993). Footnote on problems of eczema, neurodermatitis and lichenification. In: *Year Book of Dermatology & Syphilology*, F., Wise & M.B., Sulzberger, (Ed(s).), pp. 38-39, Year Book Publishers, ISBN 0093-3627, Chicago