



Published in final edited form as:

Arch Dermatol. 2012 March ; 148(3): 391–392. doi:10.1001/archdermatol.2011.2267.

Parental Response to Written Eczema Action Plans in Children with Eczema

Jillian F. Rork, BA,
Harvard Medical School

William J. Sheehan, MD,
Children's Hospital Boston, Harvard Medical School

Jonathan M. Gaffin, MD,
Children's Hospital Boston, Harvard Medical School

Karol G. Timmons, RN, MS, CPNP,
Children's Hospital Boston

Robert Sidbury, MD,
Seattle Children's Hospital

Lynda C. Schneider, MD, and
Children's Hospital Boston, Harvard Medical School

Wanda Phipatanakul, MD, MS
Children's Hospital Boston, Harvard Medical School, Fegan 6, 300 Longwood Avenue, Boston, MA 02115, P: 617-355-6117, F: 617-730-0310

INTRODUCTION

The treatment of eczema in the pediatric population can be a complex and dynamic process. A typical care plan may include over-the-counter and prescription topical agents, oral medications, as well as bathing and dietary recommendations. Inevitable disease fluctuations demand treatment modification and thus parental and patient confusion can easily occur. Unsurprisingly, adherence in eczema management is poor and has been reported to be as low as 32% with simple regimens.¹

Similar to eczema, asthma is a fluctuating disease with evolving treatment plans. To address this, written asthma action plans provide an educational framework for disease self-

Corresponding Author: Wanda.Phipatanakul@childrens.harvard.edu.

Statement of Author Contributions:

Jillian Rork and Dr. William Sheehan had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Dr(s) Wanda Phipatanakul, Lynda Schneider, Robert Sidbury, William Sheehan, and Karol Timmons, CPNP.

Acquisition of Data: Jillian Rork, Karol Timmons, CPNP, and Dr(s) William Sheehan, Wanda Phipatanakul, Lynda Schneider

Analysis and interpretation of data: Jillian Rork and Dr(s) William Sheehan, Jonathan Gaffin and, Wanda Phipatanakul

Statistical analysis: Dr(s) William Sheehan and Jonathan Gaffin

Drafting of the manuscript: Dr (s) William Sheehan and Wanda Phipatanakul, and Jillian Rork

Critical Revision of the manuscript for important intellectual content: Dr(s) Wanda Phipatanakul, Lynda Schneider, Robert Sidbury, William Sheehan, Jonathan Gaffin, Karol Timmons, CPNP, and Jillian Rork.

Administrative, technical, or material support: Dr(s) Wanda Phipatanakul, William Sheehan, Robert Sidbury, Lynda Schneider, Karol Timmons, CPNP, and Jillian Rork

Study supervision: Dr(s) Wanda Phipatanakul and William Sheehan

management and are effective at improving adherence and decreasing exacerbations.^{2, 3} Previous studies have suggested that an individualized written Eczema Action Plan (EAP) has the potential to serve as a specific treatment guideline that addresses each patient's fluctuating treatment regimen.^{4,5} In this quality improvement study, we hypothesize that EAPs would be well-received by parents and improve their treatment confidence, particularly when managing eczema flares.

METHODS

During clinic appointments at our tertiary allergy program, children with eczema treatment regimens requiring multiple topical and/or oral medications were approached by their provider to participate in the study and were given an individualized EAP (Figure 1) similar to a previously published eczema action plan.⁵ Parents completed a baseline survey addressing parents' perceived severity of their child's eczema, treatment comfort level, and whether or not they had previously received a written eczema care plan. Parents were contacted via telephone between 3–12 months later to complete a follow-up survey regarding the severity of their child's eczema and the utility of the EAP, specifically if it clarified which medications to use during an eczema flare. This study was approved by the Children's Hospital, Boston Investigational Review Board (Committee on Clinical Investigation). Descriptive statistics were used to explore the characteristics of the study population and statistical significance was determined by McNemars test for paired data.

RESULTS

Thirty five children with a diagnosis of eczema were included in the study with 100% completion of baseline and follow-up surveys. The subjects' ages ranged from 4 months to 17 years with 63% (22/35) male (Table 1).

At baseline, 80% (28/35) reported having never received a written, individualized eczema care plan. Of the thirty-five subjects, 51% (18/35) of parents self-rated their child's skin as severe and 46% (16/35) as moderate. All subjects completed a follow-up survey via telephone between 3–12 months after the clinic encounter, with a median time of 3.9 months. At the time of follow-up, 80% (28/35) of the parents rated their child's eczema on a lower severity scale with 57% (20/35) mild, 40% (14/35) moderate, and 3% (1/35) severe. Parental comfort level of skin care improved from a baseline 57% (20/35) to 86% (30/35) after receiving the EAP ($p = 0.016$).

Survey questions specifically addressing the EAP revealed that 80% (28/35) of parents reported currently having the EAP. Parents found the EAP helpful 86% (30/35) of the time and 86% (30/35) believed it was helpful clarifying which medications to use when their children had an exacerbation. Of children whose eczema improved in severity, 68% (19/28) of parents attributed the EAP as a contributing factor.

DISCUSSION

The results of this study add to the growing body of literature supporting the use of action plans in eczema management. Parents overwhelmingly (86%) reported the EAP was helpful and thought it clarified which medications to use during a flare. While this study design cannot establish whether the EAP directly contributed to improving eczema, we note that 68% of parents whose child's eczema improved attributed the EAP as a contributing factor.

Limitations to the study include small population size, sampling bias, and that self-report is not a validated measuring instrument. It would be crucial for future studies to evaluate a larger and more clinically diverse group of children not limited to children with treatment

regimens requiring multiple medications. A randomized-controlled study with objective measurement of eczema at baseline and follow-up by using a score system such as the Eczema Area and Severity Index (EASI) would further clarify the effectiveness of EAPs in treating eczema.⁶

In conclusion, our study provides preliminary evidence that EAP's may have clinical utility in managing eczema in the pediatric population. Simple organization helps clarify medications for parents and improves confidence when treating their children.


Acknowledgments

Funding/Support: This was an unfunded study.

Financial Disclosures: Dr. Lynda Schneider receives research funding from Astellas Pharma US, Inc. Dr. Wanda Phipatanakul receives research grants from the National Institutes of Health (R01 AI 073964, R01 AI 073964-02s1) and Astra Zeneca. Dr. Robert Sidbury is involved in a multi-center trial sponsored by Pierre Fabre.

REFERENCES

1. Krejci-Manwaring J, Tusa MG, Carroll C, et al. Stealth monitoring of adherence to topical medication: adherence is very poor in children with atopic dermatitis. *J Am Acad Dermatol.* 2007 Feb; 56(2):211–216. [PubMed: 17224366]
2. Finkelstein JA, Lozano P, Farber HJ, Miroshnik I, Lieu TA. Underuse of controller medications among Medicaid-insured children with asthma. *Arch Pediatr Adolesc Med.* 2002 Jun; 156(6):562–567. [PubMed: 12038888]
3. Lwebuga-Mukasa J, Dunn-Georgiou E. A school-based asthma intervention program in the Buffalo, New York, schools. *J Sch Health.* 2002 Jan; 72(1):27–32. [PubMed: 11871359]
4. Ntuen E, Taylor SL, Kinney M, O'Neill JL, Krowchuk DP, Feldman SR. Physicians' perceptions of an eczema action plan for atopic dermatitis. *The Journal of dermatological treatment.* Jan; 21(1):28–33. [PubMed: 19968578]
5. Chisolm SS, Taylor SL, Balkrishnan R, Feldman SR. Written action plans: potential for improving outcomes in children with atopic dermatitis. *J Am Acad Dermatol.* 2008 Oct; 59(4):677–683. [PubMed: 18513825]
6. Hanifin JM, Thurston M, Omoto M, Cherill R, Toft SJ, Graeber M. The eczema area and severity index (EASI): assessment of reliability in atopic dermatitis. EASI Evaluator Group. *Exp Dermatol.* 2001 Feb; 10(1):11–18. [PubMed: 11168575]



Children's Hospital Boston

Eczema/Atopic Dermatitis Action Plan

Doctor/NP: _____
 To contact Doctor/PA/NP: (617) 355-6117
 To contact Doctor on call: (617) 355-6369

Name: _____
 DOB: _____
 MRN: _____
 TODAY'S DATE: _____

DAILY SKIN CARE ROUTINE

- **BATH 10-20 minutes:** Daily Every other day
 - **Cleanser:** _____
- **MOISTURIZER:** _____ twice daily and more often as needed
- **Antihistamine:** _____

GREEN ZONE (Skin with **very mild** redness/irritation)

- Continue Daily Skin Care Routine

YELLOW ZONE (Skin starting to **FLARE** with **mild to moderate** redness/itching)

- Continue Daily Skin Care Routine
- Apply topical steroid: _____ twice daily to **FACE** for maximum ___ days
- Apply topical steroid: _____ twice daily to **BODY** for maximum ___ days

RED ZONE (Skin with **SEVERE** redness/itching/oozing)

- Continue Daily Skin Care Routine with any changes made in Yellow Zone
- Apply topical steroid: _____ twice daily to **FACE** for maximum ___ days
- Apply topical steroid: _____ twice daily to **BODY** for maximum ___ days
- Call **(617) 355-6117** or Doctor on call **(617) 355-6369** if there is **no improvement in 3-5 days**

Figure 1. Children's Hospital Boston Eczema Action Plan. All children received a personalized eczema action plan at the time of their baseline visit.

Table 1

Demographics of Study Population

Total N = 35 subjects		
Age	% (n)	
< 1 year	34%	(12)
1 – 4 years	40%	(14)
5 – 9 years	12%	(4)
> 9 years	14%	(5)
Sex		
Male	63%	(22)
Female	37%	(13)
Race *		
White	49%	(17)
Black	17%	(6)
Hispanic	9%	(3)
Asian	9%	(3)
Other	9%	(3)
No response	9%	(3)

* Race was self-reported