Atopic Dermatitis Pathway (ED)

DCMC Evidence-Based Outcomes Center

Step #1 Topical Steroids

Mild, moderate, or severe eczema? Use Figure 1a to determine severity

Yes

Treat by body region and severity. Refer to Table 1a/1b

Step #2 Infection

Evidence of bacterial infection (erosions, crusting, pustules, fever, abrupt worsening)? See Figure 1b

No → **Evidence of viral infection (vesicles or small, punched-out erosions)?** See Figure 1b

No → Go to Step #3

Yes

Swab contents of vesicle by deroofing intact vesicle. Otherwise, swab an open, wet erosion. Send for order "HSV 1/2 Amplification Cutaneous/ Mucocutaneous" (see picture to right)

Signs of systemic infection?

Yes → Consider hospital admission, IV acylovir, and +/- Derm consult See Table 2a for dosing.

No

Consider discharge with topical steroids and PO antivirals. See Table 2a for dosing.

→ Go to Step #3

Yes

Swab purulent material if present, otherwise swab open, wet erosion Send for order "Culture Bacterial Aerobic No Smear"

Signs of systemic infection?

No → Consider topical steroids and topical vs PO antibiotics See Table 2b and Table 4.

Yes

Consider hospital admission, coverage for MRSA, and IV antibiotics See Table 2b for dosing.

Step #3 Itch

Itching disruptive to sleep and/or activities of daily living?

No → Go to Step #4

Consider trial of first generation antihistamines See Table 2c for dosing.

Step #4 Gentle Skin Care

Is the patient following a gentle skin care routine?

Yes → Go to Step #5

No

Instruct patient/family to use lukewarm water when bathing, mild fragrance-free soap (i.e. Dove Sensitive Skin bar), and thick moisturizing cream or ointment (Vaseline, Aquaphor, Cerave) applied immediately after bath and multiple times throughout day. *Please reference patient discharge materials for more information.*

Step #5 Triggers

Instruct patient/family to avoid triggers such as:

- harsh soaps/chemicals
- products with fragrance/preservatives/alcohols
- wool clothing
- temperature extremes

Note: Please review Table 3 to determine appropriate referral. Provide patient with AD discharge education materials and encourage them to reference the educational video which is accessible via the QR code on their paperwork.

Updated August 9, 2021

Atopic Dermatitis Pathway

Figure 1a. Atopic Dermatitis Severity Atlas

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Mild

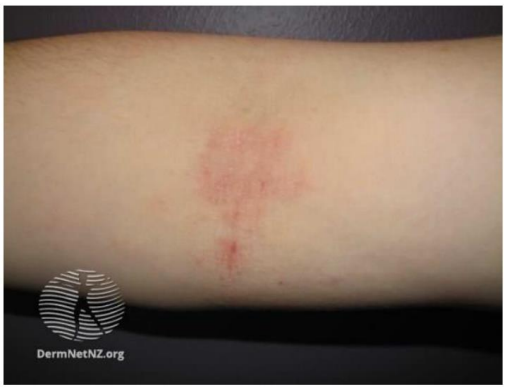


Photo courtesy of DermNet NZ. No changes made.

Moderate

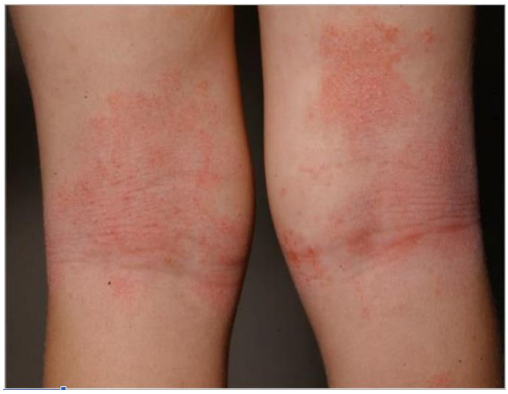
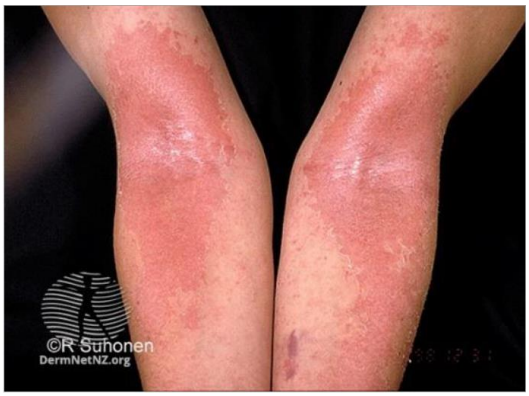


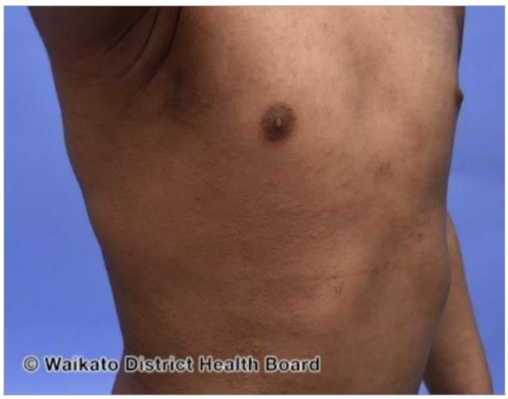
Photo courtesy of DermNet NZ. No changes made.

Severe



Salava A, Lauerma A. Role of the skin microbiome in atopic dermatitis. Clin Transl Allergy. 2014;4:33. Published 2014 Oct 17. doi:10.1186/2045-7022-4-33

Mild



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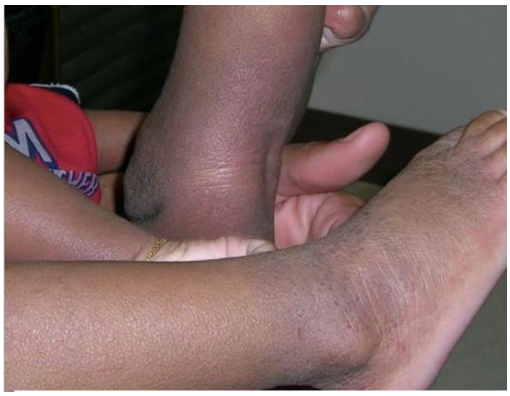
Moderate



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Severe

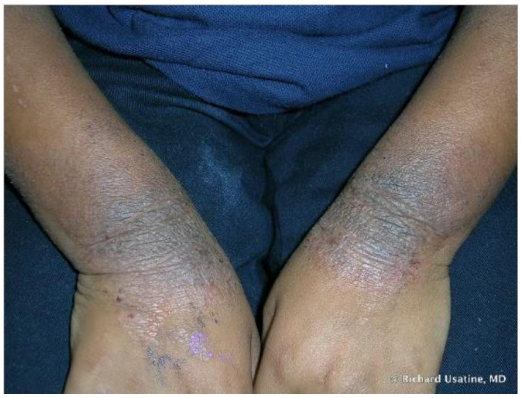

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Figure 1b. Atopic Dermatitis Superinfection Atlas

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Viral Superinfection (Eczema Herpeticum)

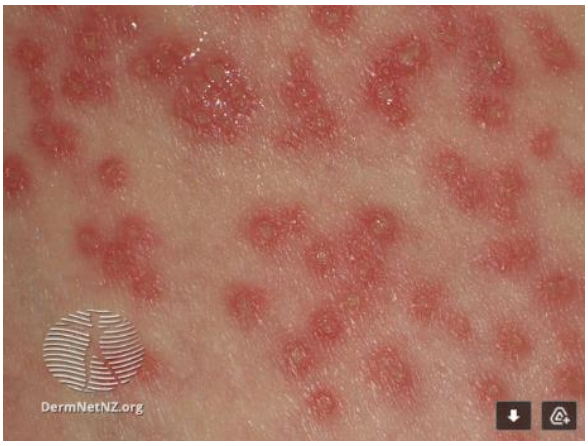
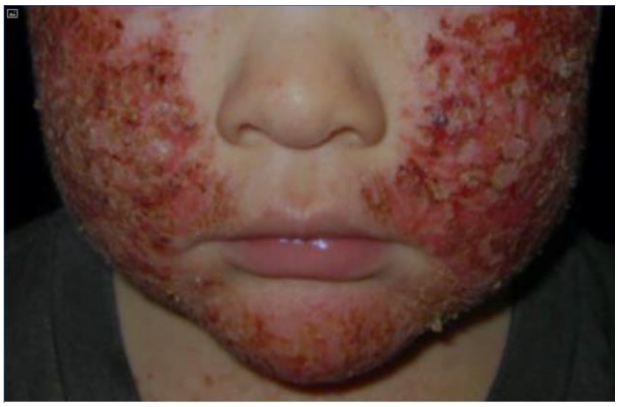


Photo courtesy of DermNet NZ. No changes made.

Bacterial Superinfection



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Atopic Dermatitis Pathway

Description of Severity

Determine Severity of AD Flare

Severity is determined by skin findings in addition to the patient's level of discomfort which can impact quality of life.

	Skin Findings	Quality of Life
Mild	Patches of scaly pink to red skin Mild, intermittent itching	Little impact on daily activities or sleep
Moderate	Multiple patches of scaly pink to red skin Frequent itching Excoriation or localized areas of thickened skin may be present	Some impact on daily activities and sleep due to frequent itching and skin discomfort
Severe	Widespread scaly skin Incessant itching Open, cracked areas of skin Lichenified skin Bleeding, oozing Skin color changes	Limits daily activities Impacts sleep and can affect daily mood

Determine Severity of AD Flare. In: Pathway for Evaluation and Treatment of Suspected Atopic Dermatitis. https://www.chop.edu/clinical-pathway/atopic-dermatitis-determine-severity-flare. Posted: October 2018 Authors: L. Castelo-Soccio MD; K. Woo Castelo CRNP; M. Jen MD; C. Tucker MD; K. Gupta MD; C. Yun MD; J Hart MD; E. Delgado MD; L. Wilson RN; B. Johnson RN; A. Verma MD; M. Perman MD; J. Treat MD The Children's Hospital of Philadelphia Philadelphia, PA 19104

	Skin Findings
Viral Superinfection (Eczema Herpeticum)	Round, punched-out, shallow erosions
Bacterial Superinfection	Erosions or ulcerations with erythema, honey-crusting, warmth, +/- purulence

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Table 1a: ABBREVIATED STEROID TABLE FOR PATIENTS USING DCMC PHARMACY:

Severity	Location	Age<2 y/o[a]	Age>2y/o[a]	Potency
Mild	Face/axilla/genitals	Hydrocortisone acetate 2.5%	Hydrocortisone acetate 2.5%	Low
	Body	Hydrocortisone acetate 2.5%	Hydrocortisone acetate 2.5%	Low
Moderate	Face/axilla/genitals	Hydrocortisone acetate 2.5%	Hydrocortisone acetate 2.5%	Low
	Body	Triamcinolone 0.025%	Triamcinolone 0.1%	Medium
Severe	Face/axilla/genitals	Hydrocortisone acetate 2.5%	Triamcinolone 0.025%	Low-medium
	Body	Triamcinolone 0.1%	Triamcinolone 0.1% Mometasone 0.1%	Medium-high

[a] When multiple per category, steroids are listed in order of increasing strength.

Table 1b: ABBREVIATED STEROID TABLE FOR OUTPATIENT PHARMACY USE:

Severity	Location	Age<2 y/o[a]	Age>2y/o[a]	Potency
Mild	Face/axilla/genitals	Hydrocortisone acetate 2.5%	Hydrocortisone acetate 2.5% Desonide 0.05%	Low
	Body	Hydrocortisone acetate 2.5% Desonide 0.05%	Hydrocortisone acetate 2.5% Desonide 0.05% Triamcinolone 0.025%	Low
Moderate	Face/axilla/genitals	Hydrocortisone acetate 2.5% Desonide 0.05%	Hydrocortisone acetate 2.5% Desonide 0.05% Triamcinolone 0.025%	Low
	Body	Triamcinolone 0.025%	Triamcinolone 0.1% Fluticasone 0.005%	Medium
Severe	Face/axilla/genitals	Hydrocortisone acetate 2.5% Desonide 0.05% Triamcinolone 0.025%	Desonide 0.05% Triamcinolone 0.025%	Low-medium
	Body	Triamcinolone 0.1%	Triamcinolone Mometasone 0.1% Betamethasone dipropionate 0.05% Clobetasol 0.05%	Medium-high/ Very High

[a] When multiple per category, steroids are listed in order of increasing strength.

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Table 1c: QUICK TIPS FOR PRESCRIBING TOPICAL STEROIDS:

Strength	• If a patient is using high potency steroid and flaring, do not decrease strength if possible. Send a refill of the high potency steroid to *outside* pharmacy **OR** prescribe triamcinolone 0.1% in a 454 g jar, especially if there is extensive skin involvement.
Formulation	• OINTMENT>cream>lotion • Ointments are the most effective vehicle for topical steroid use in atopic dermatitis, however some patients may have an aversion to the texture and prefer a cream instead.

Available/ Suggested Quantities	For diffuse BSA: 454 g (only available for hydrocortisone 2.5% and triamcinolone 0.1%)
	For localized BSA: 30-60 g
	• DCMC
	  ○ Hydrocortisone 2.5%: 28.35 g, 454 g
	  ○ Triamcinolone 0.025%: 80 g
	  ○ Triamcinolone 0.1%: 80 g, 454 g
	  ○ Mometasone 0.1%: 45 g
	• Retail pharmacies
	  ○ Hydrocortisone 2.5%: 28.35 g, 454 g
	  ○ Desonide 0.05%: 60 g
	  ○ Triamcinolone 0.025%: 80 g
	  ○ Triamcinolone 0.1%: 80 g, 454 g
	  ○ Fluticasone 0.005%: 30 g, 60 g
	  ○ Mometasone 0.1%: 45 g
	  ○ Betamethasone valerate 0.05%: 45 g
	  ○ Clobetasol propionate 0.05%: 30 g, 45 g, 60 g

Sig	• Apply twice daily to affected areas until clear then 2-3x weekly for maintenance

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Table 2a: Antiviral Treatment for HSV Superinfection (i.e. Eczema Herpeticum)

Drug [a, b]	Route	Dosing	Max Dosage
Acyclovir[a]	IV	>3 mo age: 5 mg/kg/dose q8hrs x 5-7 days	1000mg/dose
Acyclovir	Oral	20mg/kg/dose 4x/day x 5-7 days	800mg/dose, 3200mg/day
Valacylovir[b]	Oral	20mg/kg/dose BID x 5-7 days	1000mg/dose

[a] For patients <3 mo age: 20 mg/kg/dose IV q8hrs x14 days due to risk of complications/CNS involvement.
If signs of systemic infection consider IV acyclovir. Maintain adequate hydration while using IV acyclovir. Consider IV fluids (5-10cc/kg bolus or maintenance rate continuous fluids) prior to IV acyclovir use, and monitor renal function.
Dosing in this table is for patients with normal renal function. Please contact pharmacy for assistance with dosing in renal insufficiency. Acyclovir Dosing Guide for DCMC

[b] There is limited data for use of valacyclovir in patients <2 years of age. Acyclovir is the preferred drug in this age group.

Table 2b: Antibiotic Treatment for Bacterial Superinfection

Indication	Drug [a, b, c, d]	Route	Dose	Max dose
Suspected MSSA	Cephalexin[a]	PO	25mg/kg/dose q8hrs x 5-7 days	1000mg/dose
	Cefazolin	IV	33mg/kg/dose q8hrs x 5-7 days	6g/day
Suspected MRSA	Clindamycin, [b]	PO	10mg/kg/dose q8hrs x 5-10 days	450mg/dose
	Clindamycin[c]	IV	13mg/kg/dose q8hrs x 7-10 days	600mg/dose
	Doxycycline[d]	PO	≤ 40kg: 2.2mg/kg/dose q12hrs x 5-10 days >40 kg: 100mg BID x 5-10 days	
	Bactrim	PO	5mg/kg/dose (for TMP component) q12hrs x 7-10 days	320mg TMP/dose
Localized Infection	Mupirocin	Topical	TID x 10-14 days	NA

[a] Clindamycin is the preferred empiric choice for purulent infections or personal/family history of MRSA.

[b] Round to nearest cap size (75mg, 150mg, 300mg). Caps may be opened and contents sprinkled into food (i.e. pudding, applesauce, yogurt). Also available as a 15 mg/mL oral solution.

[c] If signs of systemic infection, consider IV Vancomycin (until culture and sensitivity information is available).

[d] Do not use in children < 8 years of age.

Hospital Antibiogram link

Table 3c: Anti-itch Medications-Antihistamines

Drug	Age	Route	Dosing	Max dosage
Hydroxyzine	-	Oral	0.5 mg/kg q6hrs	25mg/dose

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Table 3: Pediatric Dermatology Referral/Consultation Criteria

Routine Outpatient Referral	Expedited Outpatient Referral*	Inpatient/ED Consultation
Severe AD	Severe AD with multiple ED visits	Severe AD
Mild/moderate AD not improving with appropriate PCP management after 8-12 weeks	Severe AD not improving with appropriate PCP management after 8-12 weeks	Moderate persistent AD not responding to appropriate treatments
Mild/moderate AD requiring multiple ED visits	Severe AD with superinfection not improving on appropriate therapy	Diagnosis in question
AD with recurrent superinfection		AD with severe or extensive superinfection or any superinfection not improving on appropriate therapy
		AD with immunosuppression

*To request an expedited referral:
During clinic hours: Call SFC Pediatric Dermatology nurse line (512-628-1920, option 4).
Outside clinic hours: Page after hours dermatology (512-203-1210).

Table 4: Criteria for Treatment of Bacterial Superinfection with Oral Antibiotics

Infection not responding to topical antibiotics
Signs/symptoms of systemic infection
Superinfection involving large body surface area that is not amenable to topical application
Immunosuppression

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DELL CHILDREN'S
EVIDENCE BASED OUTCOMES CENTER

Approved by the Atopic Dermatitis Pediatric Evidence-Based Outcomes Center Team

Revision History
Original Date Approved: August 2021
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Recommendations

Practice recommendations were directed by the existing evidence and consensus amongst the content experts. Patient and family preferences were included when possible.

Approval Process

EBOC guidelines are reviewed by DCMC content experts, the EBOC committee, and are subject to a hospital wide review prior to implementation. Recommendations are reviewed and adjusted based on local expertise.