SASKATCHEWAN REGISTERED NURSES' ASSOCIATION

RNs WITH ADDITIONAL AUTHORIZED PRACTICE
CLINICAL DECISION TOOL
DECEMBER 1, 2016

ATOPIC DERMATITIS PEDIATRIC

DEFINITION

Atopic dermatitis, also known as eczema, is an inflammatory disorder of the skin. Onset is usually in early childhood. Clients have periods of exacerbation and remission characterized by flares of ill-defined patches of erythema, scale and excoriation. Significant pruritus and generalized dry skin are usually prominent features.

IMMEDIATE CONSULTATION REQUIRED IN THE FOLLOWING SITUATIONS

- Severe disseminated atopic dermatitis (widespread lesions affecting activities of daily living and causing emotional distress)
- Severe atopic dermatitis with secondary infection (systemic manifestation of skin or soft tissue infection)

CAUSES

- Largely unknown
- Allergy

PREDISPOSING AND RISK FACTORS

- Inherited skin sensitivity
- Cold weather
- Excessive washing
- Use of harsh soaps

HISTORY

- Typically begins in infancy
- May last throughout entire life
- Pattern in adulthood differs from that in infancy and childhood
- Periods of remission and exacerbation
- Family history of skin conditions
- Characterized chiefly by itching and scaling
- Vicious cycle of itch, scratch, rash, itch
- Usually affects face, neck, upper arms and back, flexural folds, and feet
- May be more generalized
- Specific irritating agents can be identified
- Wool, solvents, perfumed creams, lotions, and soaps may be bothersome
- Hot humid or cold dry weather and emotional stress may aggravate symptoms

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PHYSICAL FINDINGS

- Secondary changes in the skin due to chronic rubbing or scratching are as follows:
  - Infant stage: pruritic, red, scaly and crusted lesions on the exterior surface of the cheek or scalp
  - Childhood stage: lichenified plaques on flexural surfaces especially the antecubital and popliteal fossae, volar aspects of the wrists, ankles and neck
- Skin is scaly, dry, and thickened (lichenified)
- Fissures may be present
- Excoriations
- Mild redness and edema often present
- Vesicles may be present in some areas
- Lesions may be weeping
- Pustular or crusted lesions may be present
- Some areas of skin usually show chronic changes (thin skin, scarring, lichenification)

DIFFERENTIAL DIAGNOSIS

- Seborrheic dermatitis
- Dry skin (winter itch)
- Allergic contact dermatitis
- Psoriasis
- Scabies

COMPLICATIONS

- Scarring
- Secondary bacterial infection
- Chronic irritation of skin
- Side effects of medication (e.g., steroid preparations)

INVESTIGATIONS AND DIAGNOSTIC TESTS

- Lab testing not used routinely and not recommended.
- Obtain swab for culture and sensitivity if secondary infection is suspected.

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MAKING THE DIAGNOSIS

The diagnosis is based on history and physical findings, rarely biopsy.

National Institute for Health and Clinical Excellence (NICE) recommended diagnostic criteria for atopic eczema in children:

- Diagnose atopic eczema if itchy skin condition plus ≥ 3 of:
  - Visible flexural dermatitis involving skin creases, such as elbows or knees (or visible dermatitis on cheeks and/or extensor areas in children ≤ 18 months of age)
  - Personal history of flexural dermatitis (or dermatitis on cheeks and/or extensor areas in children ≤ 18 months of age)
  - Personal history of dry skin in last 12 months
  - Personal history of asthma or allergic rhinitis (or history of atopic disease in first-degree relative of children ≤ 4 years of age)
  - Onset of signs and symptoms before 2 years of age (this criterion should not be used in children < 4 years of age)
  - May have atopic eczema on extensor surfaces rather than flexural surfaces
  - Discoid or follicular lesions may be more common

Note: Presentation may vary in clients with darker skin tones.

NICE recommendations for identification of trigger factors in children with atopic dermatitis are as follows:

- Consider diagnosis of food allergy if:
  - History of immediate food reactions
  - Infants and young children with poor control of moderate to severe atopic dermatitis by optimal management, especially if gut dysmotility or failure to thrive
- Consider diagnosis of inhalant allergy if:
  - Seasonal flares of atopic dermatitis
  - Asthma or allergic rhinitis
  - ≥ 3 years of age with atopic dermatitis on face (especially around eyes)
- Consider diagnosis of allergic contact dermatitis if:
  - Exacerbation of previously controlled atopic eczema

- Reactions to topical treatments

MANAGEMENT AND INTERVENTIONS

Goals of Treatment

- Prevention of chronic skin changes such as pigment changes and scarring
- Relieve generalized dry skin and pruritus
- Treat patches of dermatitis to reduce inflammation and pruritus
- Reduce the risk of secondary infection
- Prevent flare-ups
- Promptly treat complication caused by irritants
- Prevent secondary infections

Appropriate Consultation

- Consult a physician/RN(NP) if no response to therapy after 1 week.

Non-Pharmacological Interventions

- Offer support to the client/caregiver as it can be difficult to live with this irritating and cosmetically unattractive condition.
- Treat stress and anxiety.
- Advise client/caregiver to stop using steroid preparations once acute lesions have healed since steroids do not have any preventive benefit and may further irritate and damage skin. If maintenance is required, consult with a dermatologist. Steroids should be used at the lowest effective dose for the shortest duration to minimize adverse effects.
- Assist client/caregiver to identify precipitating and aggravating factors and encourage avoidance.
- If lesions are wet, promote drying and cooling with compresses qid prn (normal saline).
- Prevent and treat dry skin with emollients which seal in moisture (e.g., petroleum jelly). This is first line treatment for prevention of flares and treatment of irritation or itch.
- If lesions are dry, promote lubrication with Glaxal base or petroleum jelly (Vaseline) bid, after bathing and prn. Apply emollients after application of steroid treatment.

- Decrease frequency of bathing.
- Use a mild soap or no soap for bathing.
- Consider a 'bleach bath' for clients who fail to respond to standard treatment, particularly those prone to recurrent infection and atopic dermatitis flares. Education on the goals, proper use, and safe storage of bleach must be provided to parents/caregivers.
  - A concentration of 0.005% bleach (sodium hypochlorite) is made by adding 120 mL (1/2 cup) of 6% household bleach to a full bathtub [estimated to be approximately 151 L (40 gallons)] of water. The amount of bleach should be adjusted based on the size of the bathtub and the amount of water in the tub.

Pharmacological Interventions

Reduce inflammation if itch is moderate or severe:

- Selection of topical therapy:
  - Gels and creams are used for acute, weeping eruptions. Ointments are used for dry or lichenified lesions. Lotions are used for hairy areas.

Topical Therapy

Body Area Potency	Skin Properties	Corticosteroid Potency
Face, intertriginous folds	Thin skin more absorption Consider cream, lotion, gel, or foam.	Initial treatment with low potency e.g., Hydrocortisone 0.5% bid-qid for 1-2 weeks
Scalp	Medium thickness skin Consider gel, foam, or lotion which are useful in hairy areas.	Initial treatment with mild potency e.g., mometasone furoate 0.1% bid for 1-2 weeks
Body	Medium thickness skin Consider cream, ointment, gel, foam, or lotion.	Initial treatment with mild potency e.g., mometasone furoate 0.1% bid for 1-2 weeks
Palms and soles	Thick skin Consider ointment.	Initial treatment with high potency e.g.,

		betamethasone valerate 0.1% bid for 1-2 weeks

Pruritus associated with eczema is not mediated by histamine, so histamine blockade is generally ineffective. HydrOXYzine (Atarax) may provide some relief through central sedation and is useful to break the itch-scratch cycle. However, evidence is lacking regarding the age at which this should be prescribed.

- For children > 12 years of age, hydrOXYzine (Atarax) 10mg orally hs prn.
- In children < 12 years of age, consult a physician/RN(NP) regarding the use of hydrOXYzine.

Caution: Children have a high skin surface to body weight ratio, increasing the risk of adrenal suppression. It is important to use the lowest effective dose of medication for the shortest amount of time that can achieve the best result.

Treatment secondary infection

- Apply topical antibiotic preparation:
  - Mupirocin cream (Bactroban) tid for 7-10 days
  - Retapamulin (Altabax) 1% bid for 7-10 days
  - Fucidic Acid cream bid for 7-10 days

Oral antibiotics may be necessary if there are multiple lesions that appear infected:

- Cloxacillin 50-100 mg/kg/day orally in 4 divided doses for 7-10 days
  Or
- Cephalexin (Keflex) 50-100 mg/kg/day orally in 4 divided doses for 7-10 days.

If methicillin-resistant *Staphylococcus aureus* (MRSA) is suspected:

- Sulfamethoxazole/Trimethoprim (SMX/TMP) 8-12 mg/kg/day orally in 2 divided doses for 7 days (do not use in children < 2 months of age).

Client and Caregiver Education

- Counsel client/caregiver about appropriate use of medications (dose, frequency, application, compliance, etc.).
- Encourage proper hygiene to prevent secondary bacterial infection.

- Recommend loose-fitting cotton clothing.
- Recommend avoidance of coarse materials and wool.
- Recommend avoidance of overheating (hot showers).
- Recommend avoidance of irritants at home.
- Recommend use of a soap substitute (e.g., Aveeno) and avoidance of soaps.
- Suggest that cotton gloves be worn inside rubber gloves when client works with liquids.

Suggest that greasy lubricants (e.g., Lubriderm) be applied within minutes of leaving shower or bath to "lock in" moisture.

Monitoring and Follow-Up

- Follow-up in 1-2 weeks to assess response. If no response, discuss use of a more potent topical steroid with a physician/RN(NP). Advise client/caregiver to return sooner if signs of infection develop.

Referral

- Arrange elective follow-up with a physician/RN(NP) if there is no response to treatment.

DOCUMENTATION

- As per employer policy

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This SRNA Clinical Decision Tool (CDT) exists solely for use in Saskatchewan by an RN with additional authorized practice as granted by the SRNA. The CDT is current as of the date of its publication and updated every three years or as needed. A member must notify the SRNA if there has been a change in best practice regarding the CDT. This CDT does not relieve the RN with additional practice qualifications from exercising sound professional RN judgment and responsibility to deliver safe, competent, ethical and culturally appropriate RN services. The RN must consult a physician/RN(NP) when clients' needs necessitate deviation from the CDT. While the SRNA has made every effort to ensure the CDT provides accurate and expert information and guidance, it is impossible to predict the circumstances in which it may be used. Accordingly, to the extent permitted by law, the SRNA shall not be held liable to any person or entity with respect to any loss or damage caused by what is contained or left out of this CDT.