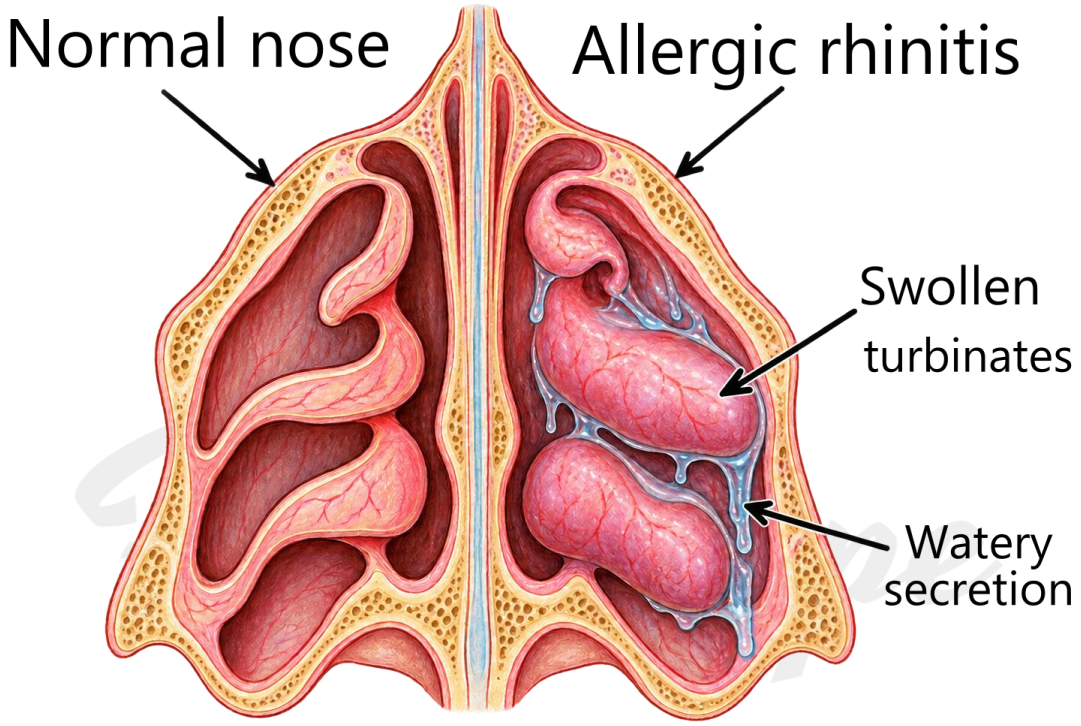
Pediatrics - Topic 28 - Allergic Rhinitis, Atopic Dermatitis, Bronchial Asthma

Allergic Rhinitis

- Allergic rhinitis is an immune-mediated inflammation of the nasal lining after exposure to a relevant allergen.
- IgE-related mast-cell activation and later inflammation cause itching, sneezing, watery discharge and blockage.



Swollen turbinates and watery secretions narrow the nasal passage in allergic rhinitis

Triggers and Symptom Pattern

- Pollens may cause seasonal symptoms, while house-dust mites, mould or animal allergens may cause persistent symptoms.
- Ask whether symptoms worsen at home, outdoors, during cleaning or at a particular season.
- Children may rub the nose upwards, breathe through the mouth or have itchy, watery eyes.
- Pale swollen turbinates support the diagnosis, but appearance alone is not sufficient.
- Persistent blockage can disturb sleep, concentration and school performance.
- Asthma and eczema may coexist and should be assessed during the same consultation.

Differential Diagnosis and Tests

- A unilateral foul-smelling discharge suggests a nasal foreign body rather than simple allergy.
- Consider viral infection, enlarged adenoids, sinus disease and structural obstruction when the pattern is atypical.

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- Allergy testing is useful when identifying a specific allergen will change avoidance advice or specialist treatment.
- A positive test shows sensitization and must match the clinical history before it is considered the cause.

Components of Rhinitis Management

1. Reduce Relevant Exposure

- Avoid tobacco smoke and reduce exposure to an allergen when the history supports a clear association.
- Use practical measures for dampness, mould or dust exposure without promising that one household measure will cure the disease.
- Saline nasal treatment can help clear secretions, using an age-appropriate preparation and safe water when preparing irrigation.

2. Control Inflammation and Symptoms

Intranasal Corticosteroid Use

- An intranasal corticosteroid is useful for persistent or troublesome nasal symptoms, especially obstruction.
- Choose a preparation licensed for the child's age and explain that regular use is more effective than occasional use.
- Aim the spray away from the nasal septum and avoid forceful sniffing.

Additional Treatment and Specialist Referral

- A non-sedating antihistamine may help sneezing, itching and watery discharge.
- Avoid routine prolonged use of nasal decongestants because rebound congestion can occur.
- Refer persistent severe disease, uncertain diagnosis or suspected complications for specialist assessment.
- Selected children with confirmed clinically relevant allergy may benefit from specialist allergen immunotherapy.

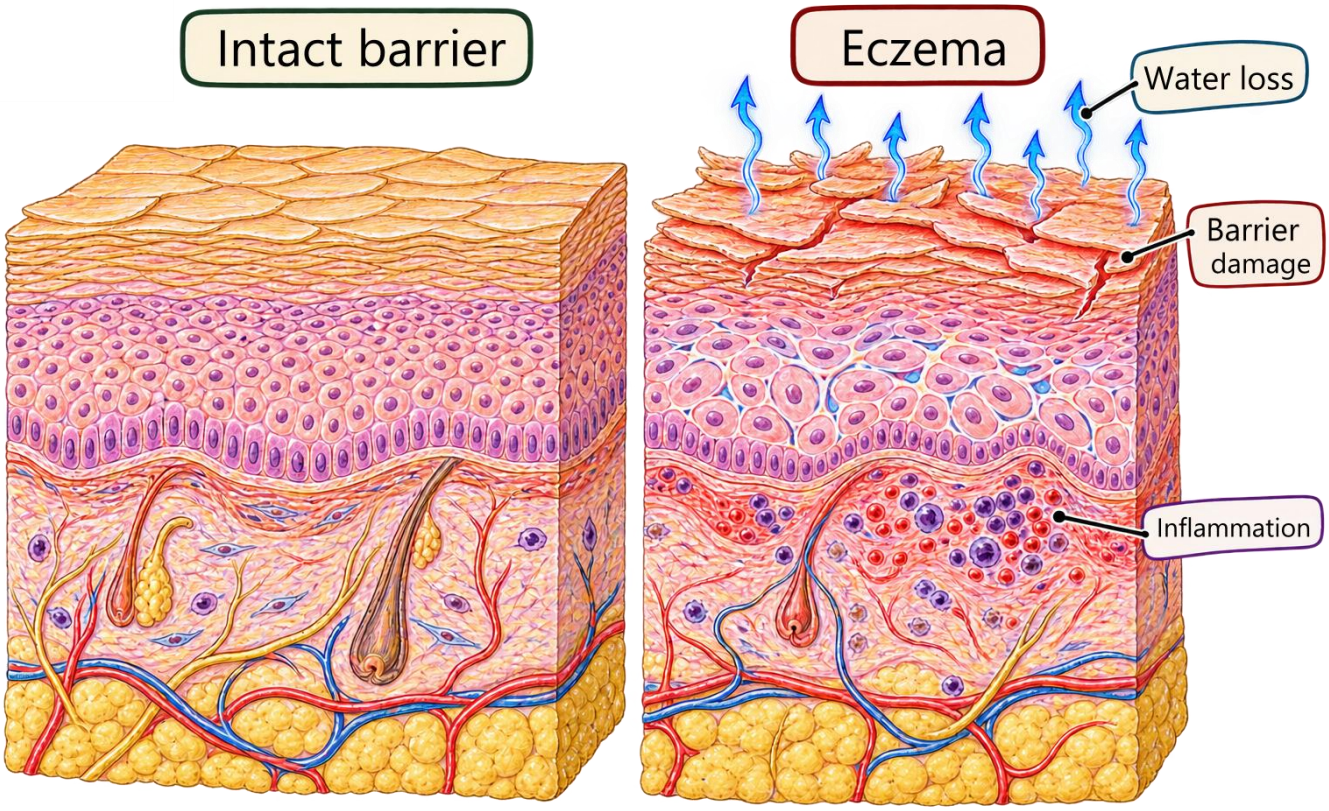
Atopic Dermatitis

- Atopic dermatitis is a relapsing inflammatory skin condition in which itch and a weak skin barrier reinforce each other.

Barrier Dysfunction and Inflammation

- Water escapes more easily through the damaged barrier, while irritants and allergens can penetrate it.

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A disrupted skin barrier allows water loss and entry of irritants, helping sustain eczema inflammation

Clinical Features and Assessment



Atopic dermatitis often affects flexural skin, with dry inflamed itchy patches

- Infants often have eczema on the cheeks and outer limb surfaces, while older children commonly have flexural eczema.
- Dryness, scratch marks, thickened skin and disturbed sleep are common.
- Assess the extent, itch, sleep loss, infection and effect on the child and family.

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- Food allergy testing is considered for a convincing immediate reaction or selected persistent disease, rather than for every child with eczema.
- Unsupervised exclusion diets can impair growth and should be avoided.

Components of Eczema Management

1. Restore the Barrier

- Apply an unperfumed emollient regularly over dry skin, including between flares.
- Use gentle cleansing and avoid irritating soaps, fragrances and harsh rubbing.
- Choose a comfortable product the family can obtain and use consistently.
- Explain the fire risk from emollient residue on clothes and bedding near flames or smoking materials.

2. Treat Active Inflammation

- Use a topical corticosteroid of suitable potency for the child's age, disease severity and body site.
- Mild-potency treatment is generally preferred on the face and neck, with specialist exceptions for severe short-lived flares.
- Teach the amount, site, frequency and planned duration rather than simply advising the family to use a steroid cream.
- Apply the medicine to active eczema and review failure to improve within the expected treatment period.
- Topical calcineurin inhibitors and systemic or biologic treatment are specialist options for selected persistent disease.

3. Recognize Infection and Refer

Bacterial Infection Assessment

- Increasing pain, spreading redness, fever or systemic illness requires assessment for infection.
- Not every crusted flare needs an antibiotic, so treat according to the overall clinical findings.

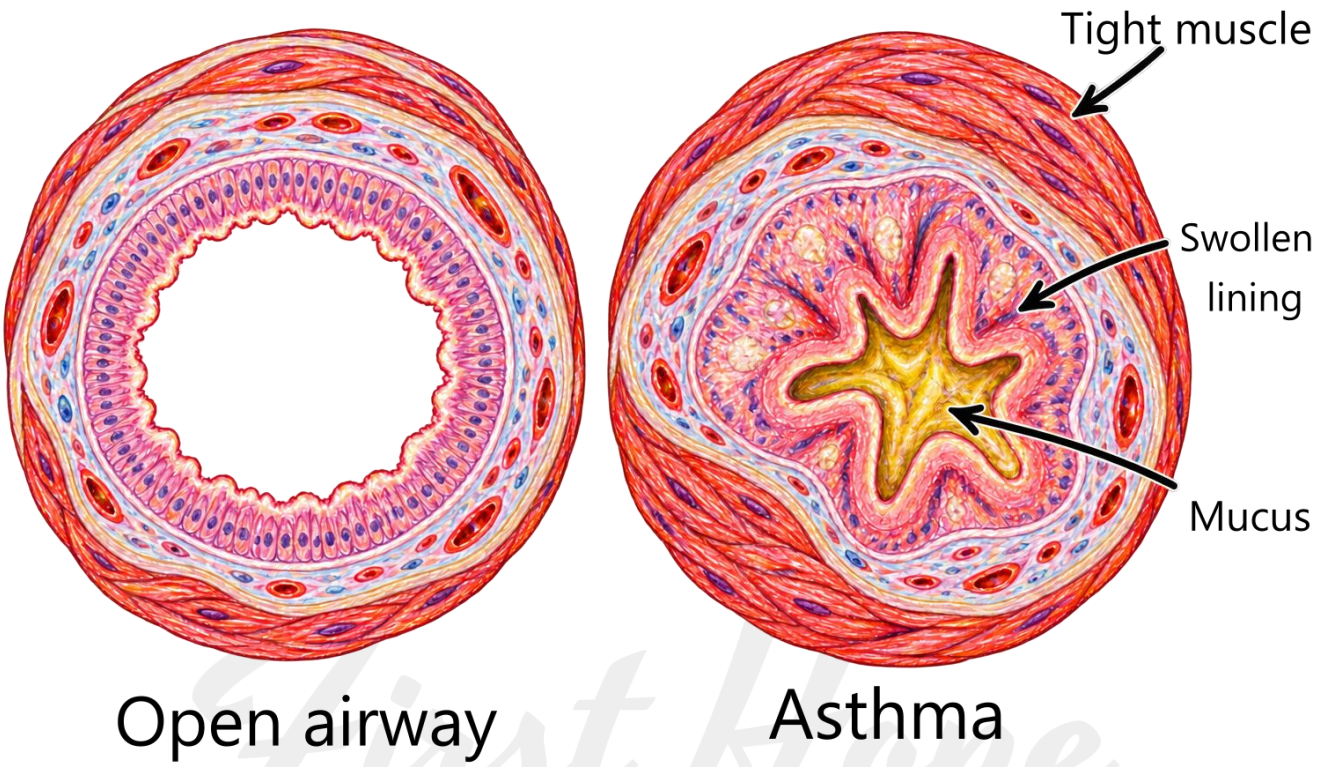
Eczema Herpeticum

- Painful grouped blisters or uniform punched-out erosions suggest eczema herpeticum.
- Suspected eczema herpeticum requires immediate systemic aciclovir and same-day specialist assessment.
- Eye involvement also requires urgent ophthalmological assessment.

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Childhood Asthma

- Asthma causes variable respiratory symptoms with variable limitation of expiratory airflow.
- Inflammation, smooth-muscle contraction and mucus narrow the airway, making it harder to breathe out.



Asthma narrows the airway through muscle contraction, lining swelling and mucus

Recognizing the Pattern

- Symptoms include recurrent wheeze, cough, breathlessness or chest tightness that vary over time.
- Night-time symptoms, exercise-related symptoms and improvement with appropriate inhaled treatment support the diagnosis.
- Viral infections, allergens, smoke, air pollution and exercise may trigger symptoms.
- A normal examination between episodes does not exclude asthma.
- Persistent wet cough, poor growth, focal signs or symptoms from birth suggest an alternative diagnosis.
- Sudden unilateral wheeze after choking suggests an inhaled foreign body.

Mechanisms of Airflow Limitation

Mechanism	Effect
Bronchial smooth-muscle contraction	Rapid narrowing contributes to variable symptoms and can respond to a bronchodilator.

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