Pediatric Dermatology for the School Nurse

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Disclosures

• None

Outline

• Describe common appearance of inflammatory and infectious skin conditions in school-age children
• List common treatments for categories of rashes
• Discuss ways that school nurses may help children with dermatologic conditions better adapt to the school environment
Topics
• Inflammatory
  • Atopic dermatitis
  • Contact dermatitis
  • Psoriasis
  • Vitiligo
• Infectious
  • Tinea corporis
  • Tinea capitis
  • Impetigo
  • Warts
  • Vaccine preventable – measles, varicella

Atopic Dermatitis
• Cause:
  • 1 – Skin barrier disruption
  • 2 – Dry skin
  • 3 – Bacterial infections on skin
  • 4 – Scratching / irritating the skin
• Symptoms
  • ITCHY
• Treatments
  • Mild: Moisturizers, topical steroids
  • Moderate: stronger potency topical steroids, antihistamines
  • Severe: Immunosuppressant
Infants – face, extensors

Children- flexural surfaces

Topical Steroids

- Steroids vary in potency and are given for specific body sites
- Ointments, creams, lotions are different strength
- Some children have stinging with application of medications

<table>
<thead>
<tr>
<th>Potency</th>
<th>Examples</th>
<th>Body site</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Clobetasol Fluocinonide</td>
<td>Extremities, Trunk</td>
</tr>
<tr>
<td>Medium</td>
<td>Triamcinolone</td>
<td>Extremities, trunk, short duration to face, body folds</td>
</tr>
<tr>
<td>Low</td>
<td>Desonide Hydrocortisone</td>
<td>Face, groin, body folds</td>
</tr>
</tbody>
</table>
Atopic Dermatitis and School

• Up to 25% of children have AD
• Itch often affect sleep, leading to poor academic performance
  • Melatonin, antihistamines can help
• AD is associated with development of ADD/ADHD

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Associated conditions

• Pityriasis alba
• Food allergies
• Allergic rhinitis, asthma

Take Home Pearl – Atopic Dermatitis

• Children with atopic dermatitis benefit from frequent re-application of moisturizers
• Moderate to severe AD may impact school achievement
Contact dermatitis

• **Cause:**  
  - Allergy to substance on skin

• **Symptoms**  
  - **DELAYED reaction**  
    - 3-5 days after exposure  
    - Itchy, similar to atopic dermatitis  
    - Not usually hives, anaphylaxis  
    - Exception is latex allergy

• **Associated conditions**  
  - Atopic dermatitis

• **Treatments**  
  - Avoidance of allergens  
  - Topical steroids

Common causes of contact dermatitis

| TOP 20 ALLERGENS IN CHILDREN AND ADOLESCENTS (<18 YEARS OF AGE) AS IDENTIFIED BY THE NORTH AMERICAN CONTACT DERMATITIS GROUP |
|---|---|
| Metals – nickel sulfate, cobalt chloride, gold sodium thioglycollate, potassium dichromate |
| Preservatives – thimerosal, quaternium-15, formaldehyde, diazolidinyl urea |
| Topical antibiotics – neomycin sulfate, bacitracin |
| Fragrances, including Myroxylon pereirae (balsam of Peru) |
| Components of rubber products – mercapto benzothiazole, carba mix |
| Other – lanolin alcohol, colophony, propylene glycol, benzalkonium chloride, p-phenylenediamine, dispers dye |

Vitiligo

• **Cause:**  
  - Autoimmune destruction of pigment containing cells in skin

• **Symptoms**  
  - Usually asymptomatic

• **Associated conditions**  
  - Other autoimmune disorders, especially thyroid

• **Treatments**  
  - Topical steroids, Phototherapy
Psoriasis

• **Cause:**
  - Autoimmune condition of the skin affecting rate of turnover of epidermis
  - NOT contagious

• **Symptoms**
  - Itchy, painful
  - Can be associated with depression

• **Treatments**
  - Mild: topical steroids, vitamin D analogs
  - Mod/Severe: Immunosuppressants, UV therapy, topical steroids

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**Take Home Pearl**

• Help children find ways to normalize their skin conditions
Take Home Pearl

- Psoriasis is an autoimmune condition and is not contagious

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Tinea Corporis “ringworm”

- **Cause:**
  - Fungal infection of the stratum corneum (top layer of the skin)
  - Contagious
- **Symptoms:**
  - Usually asymptomatic, mild itch
- **Associated conditions:**
  - None, occurs in healthy children
- **Treatments:**
  - Topical antifungals, oral if severe
  - Topical steroids will **WORSEN**

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Take home point – Tinea corporis

- Tinea corporis can be contagious, but is easily treated with topical antifungals
Tinea capitis

- **Cause:**
  - Fungal infection of the hair follicle
  - Contagious
- **Symptoms:**
  - Usually asymptomatic, mild itch
  - Thick scaling on scalp, lymphadenopathy
- **Associated conditions:**
  - None, occurs in healthy children
- **Treatments:**
  - Oral antifungals
  - Topical antifungals not effective

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Take home point – tinea capitis

- Treatment of tinea capitis requires oral antifungals

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Verruca vulgaris (warts, plantar warts)

- **Cause:**
  - Viral infection
  - Contagious, through many develop immunity
- **Symptoms:**
  - Usually asymptomatic, mild pain
- **Associated conditions:**
  - None, occurs in healthy children
  - Severe in immunosuppressed children
- **Treatments:**
  - Not required, self limited
  - MANY – salicylic acid, liquid nitrogen, duct tape occlusion
Warts interrupt normal skin features

Take home points – verruca vulgaris
- Warts are transmissible between children, especially in locker rooms, pools
- Kids should avoid picking/manipulation to avoid spread

Molluscum contagiosum
- **Cause:** Viral infection of skin
- **Symptoms:** Usually asymptomatic, Can trigger patch of eczema
- **Associated conditions:** None, healthy children
- **Treatments:** Treatment not required, self limited in 2-3 years, Zymaderm (OTC), "blisterr beetle" solution (cantharidin) in office, contact sensitization
Varicella

• **Cause:**
  • Varicella zoster virus

• **Signs/Symptoms**
  • Blisters on erythematous background
  • “Dew drops on a rose”
  • Lesions in different stages

• **Associated conditions**

• **Treatments**
  • VZV vaccine – live vaccine age 1

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Measles

• **Cause:**
  • Vaccine preventable viral illness

• **Signs/Symptoms**
  • Preceding URI (cough, runny nose, fever)
  • Macules and papules starting on head, spreads down
  • Koplik’s spots in mouth

• **Associated conditions**
  • Subacute sclerosing panencephalitis
  • Pneumonia

• **Treatments**
  • MMR age 1
  • ISOLATION, REPORT TO HEALTH DEPARTMENT

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Encourage Sun Safety!
Thank you!