# VIRAL EXANTHEMS

**Overview**

Viral exanthems are transient and infection-related widespread rashes that are common in children. A detailed history outlining the onset, location and spread of the rash, associated prodromal symptoms (especially fever) and pruritus can help in determining the rash’s etiology. Characterizing the type of rash on physical exam further aids in diagnosis.

## Diagnostic Considerations

<table>
<thead>
<tr>
<th>Name/ Etiology</th>
<th>Typical Age</th>
<th>Symptoms</th>
<th>Rash Characteristics</th>
<th>Diagnosis (dx)</th>
<th>Complications</th>
<th>Treatment</th>
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</thead>
<tbody>
<tr>
<td>Measles (Rubela)/ Measles virus</td>
<td>5-9 years old, non-immune</td>
<td>Prodrome of high fever and 3 C’s and 1K: cough, coryza, conjunctivitis, Koplik’s spots (white papule on red base in mouth) Rash follows around 4th febrile day</td>
<td>Descending rash: red maculopapular rash spreads from hairline downward Covers entire body except palms and soles Usually lasts 4-6 days.</td>
<td>Clinical dx +/- serology for measles IgM</td>
<td>Pneumonia OM Encephalitis</td>
<td>Supportive – ie. Rest, fluids Contacts: Prophylactic Ig within 6 days of exposure</td>
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<tr>
<td>Rubella/ Rubella virus</td>
<td>Young adults, non-immune</td>
<td>Prodrome uncommon Rash milder compared to measles May see Forschheimer’s spots (petechiae on soft palate)</td>
<td>Descending rash: starts on face with spread to extremities within 1 day Pink maculopapular rash</td>
<td>Clinical dx +/- serology for rubella IgM</td>
<td>Prenatal exposure = Congenital rubella syndrome</td>
<td>Supportive</td>
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<tr>
<td>Roseola infantum/ mainly HSV6</td>
<td>90% of cases in &lt;2 year olds</td>
<td>High fever for 3-4 days Resolution of fever is followed by rash for 2-3 days</td>
<td></td>
<td>Clinical dx</td>
<td>Febrile seizure</td>
<td>Supportive</td>
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<tr>
<td>Erythema infectiosum/ Human Parovirus B19</td>
<td>3-12 ears old</td>
<td>Prodrome of flu-like illness + fever for 7-10 days Rash typically after fever resolves and lasts for 10-17 days</td>
<td>Slapped cheek: Red maculopapular rash on cheeks, forehead, chin Progresses to lacy, reticular rash on extensor surface, trunk neck, buttocks</td>
<td>Clinical dx +/- serology</td>
<td>Prenatal exposure = fetal hydrops, sickle cell disease STAR, “glove &amp; stocking” syndrome, aplastic crisis</td>
<td>Supportive</td>
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<tr>
<td>Chicken pox/ Varicella-zoster virus</td>
<td>90% of cases in &lt; 10 year olds</td>
<td>Prodrome of fever for 1-3 days followed by polymorphous rash</td>
<td>Rash starts centrally on face, scalp or trunk and spreads to extremities ++Pruritic, polymorphous rash initially papules that become vesicle surrounded by erythema Vesicle bursts leaving crust 1st vesicle to last vesicle = 6 days</td>
<td>Clinical dx +/- serology</td>
<td>Prenatal exposure = congenital varicella syndrome Skin: Bacterial infection, necrotizing fasciitis CNS: Encephalitis, cerebellar ataxia Systemic: GAS sepsis! hepatitis, DIC</td>
<td>Supportive PO acyclovir (within 24 hours ideally) if: - non-pregnant patient &gt; 12 yrs old - pregnant patient with serious viral complication (pneumonia) - on long-term salicylates - chronic skin or pulmonary problems - on steroids/immunocompromised Contacts: 1) Vaccination (within 5 days ideally) 2) VZIG within 96 hrs for high risk groups: - pregnant - newborn with mother exposed 5 day pre and 2 day post delivery - premature newborn exposed during 1st month of life - on steroids/immunocompromised - leukemia or lymphoma</td>
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</tbody>
</table>
| Viral Exanthems | Young adults | • Primary infection is often asymptomatic  
• If symptomatic: fever, HA, malaise, myalgia | • Grouped vesicle on erythematous base on skin or mucous membrane.  
• Primary herpetic gingivostomatitis = erosions on lips, tongue | Clinical dx +/- culture or Ag detection | Local: skin infection, keratitis, gingivostomatitis  
CNS: encephalitis  
Systemic: hepatitis, DIC  
Neonatal HSV infection via vertical transmission | Systemic antivirals (acyclovir, valacyclovir, famciclovir)  
Topical antivirals not recommended  
Consider suppressive therapy with recurrent outbreaks (>6 times/year) |
| Hand-Foot-Mouth disease/ Coxsackie A16 virus | Usually < 5 years old | • Fever, sore mouth, anorexia, malaise, diarrhea  
• Rash followed 1-2 days later | • Macular lesions initially on buccal mucosa, tongue, and/or hard palate  
• Evolve into clear vesicles on erythematous base  
• Skin rash starts peripheral usually on palms and soles; can also appear on knees, elbows, buttocks or genitals | Clinical dx +/- serology | Dehydration | Supportive |

References can be found online at http://www.dfc.m.utoronto.ca/programs/postgraduateprogram/One_Page_Project_References.htm