

# Viral exanthems and enanths

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# Definitions

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- **Exanthem:** a generalized cutaneous eruption associated with a systemic disease.
- **Enanthem:** a mucus membrane eruption, can be associated with exanthems
- **Macule:** flat lesions that vary in color from the surrounding skin. Size <1 cm
- **Patch:** Large macule >1 cm
- **Papule:** palpable, discrete lesions measuring <0.5 cm diameter
- **Maculopapular**
- **Nodule:** Large papule >0.5 cm.
- **Plaque:** a well-circumscribed, elevated, superficial, solid lesion, >1 cm

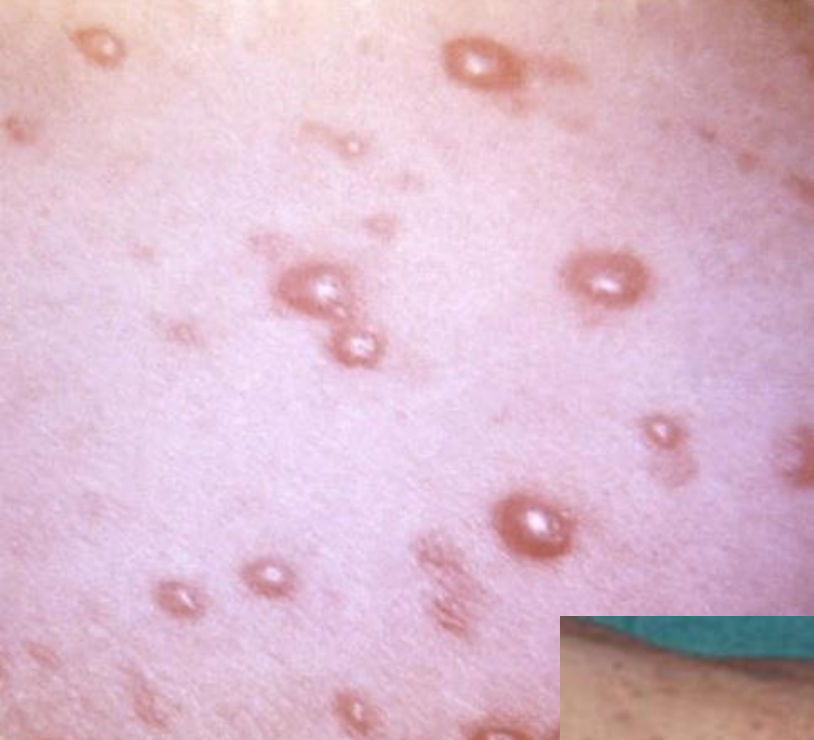


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# Definitions

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- Vesicle: small ( $<0.5$  cm), circumscribed skin papules containing serous fluid
- Bullae: large ( $\geq 0.5$  cm) vesicles
- Pustule: small ( $<0.5$  cm), circumscribed skin papules containing pus
- Wheal: elevated edematous skin area that are often erythematous, erythematous border and pale center usually
- Petechiae: Pin-point, round red lesions usually caused by capillary skin bleed, does not blanch with pressure (non-blanchable)
- Purpura: Large (3-10 mm) red or purple skin lesions usually caused by bleeding beneath the skin, non-blanchable, palpable or non-palpable
- Echemosis: Large purpura  $>1$  cm



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# Introduction

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- Pathophysiology: Direct damage, toxins, or immune response
- Causes: Drugs, infection, others
- Determining the cause is based on morphology, distribution and time course, as well as contacts, immunization status and the rest of physical examination



# Measles

- Humans only. Incubation period 10–12 days
- Begins with prodrome: fever, conjunctivitis, rhinorrhea, sore throat, and cough. Koplik spots (gray–white papules on the buccal mucosa)
- ~3 days later, coalescing erythematous macules and papules beginning in the hairline area, spreads over the rest of the body over 5–7 days, resolves in the same order as its appearance, and often leaves a brownish discoloration of the skin.



# Measles

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- Acute encephalitis, often results in permanent brain damage, 1 in 1000 cases
- Subacute sclerosing panencephalitis (SSPE) is a rare degenerative CNS disease characterized by behavioral and intellectual deterioration and seizures, 7-10 years after wild-type measles infection.
- Highly communicable. Direct contact with droplets or, less commonly, airborne spread.
- Contagious 4 days before the rash to 4 days after
- Dx: Serology. Rx: *Vitamin A*

# Rubella (German m



- Subclinical, or mild generalized erythematous maculopapular rash, lymphadenopathy, and slight fever. Starts on the face, generalized in 24 hrs, lasts 3 d.
- Lymphadenopathy, may precede rash, often posterior auricular or sub-occipital, can be generalized.
- Conjunctivitis and palatal enanthem.
- Transient polyarthralgia and polyarthritis rarely in children, common in adolescents and adults, especially females.
- Encephalitis and thrombocytopenia are complications.



# Rubella (German measles)

- *Congenital Rubella Syndrome*. miscarriage, fetal death, or anomalies: **ophthalmologic** (cataracts, retinopathy, glaucoma), **cardiac** (patent ductus arteriosus, peripheral pulmonary artery stenosis), **auditory**, or **neurologic** (meningoencephalitis, microcephaly, mental retardation).
- Growth restriction, pneumonitis, hepatosplenomegaly, thrombocytopenia, and dermal erythropoiesis (so-called “blueberry muffin” lesions).

# Rubella (German measles)

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- Humans only. Incubation period 2-3 weeks.
- Droplets transmission. Few days before to 7 days after the rash.
- MMR vaccine.

# Parvovirus B19 (Erythema Infectiosum, Fifth Disease)

- Mild fever, malaise, myalgia, and headache in 30% of cases; facial rash “slapped cheek” accompanied by circumferential rash on the trunk
  - A symmetric, macular, lace-like, and often pruritic rash on the trunk, moving to the extremities with temperature and sunlight, for weeks to months.
- 10% of children but commonly occur among



# Parvovirus B19

## (Erythema Infectiosum, Fifth Disease)

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- Or atypical rash: rubelliform or petechial, papulopurpuric gloves-and-socks syndrome
- Aplastic crisis in patients with hemolytic anemias (eg, sickle cell disease)
- During pregnancy can cause fetal hydrops.
- Replicates in human erythrocyte precursors. Only humans.
- Once rash appears, patients is no longer contagious.
- Before that, droplet precautions.



## Roseola Infantum (HHV6)

- Human herpesvirus 6 (HHV-6). Only humans!.
- Cervical and characteristic postoccipital lymphadenopathy, gastrointestinal tract or respiratory tract signs, and inflamed tympanic membranes.
- Fever usually is high (temperature  $>39.5^{\circ}\text{C}$ , for 3 to 7 days).
- Roseola: erythematous maculopapular rash, appears once fever resolves and lasts hours to days.
- Febrile seizures are the most common complication

# Varicella Zoster Virus (VZV)

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- Primary infection → chickenpox. Only humans.
- Generalized, pruritic, vesicular rash ~250-500 lesions in varying stages of development and resolution. Low-grade fever.
- Complications: bacterial super-infection, pneumonia, CNS (acute cerebellar ataxia, encephalitis), thrombocytopenia. More severe in infants, adolescents, and adults.
- Reye syndrome. Secondary bacterial infection.
- Immunocompromised children
- Hemorrhagic varicella
- Airborne isolation



# Varicella Zoster Virus

- Cephalocaudal pattern, involving the scalp and mucocutaneous surfaces (Enanthem)
- Remains latent in the dorsal root ganglia.
- Reactivation results in **herpes zoster (“shingles”)**, a grouped vesicular lesions in the distribution of 1 to 3 sensory dermatomes, sometimes accompanied by pain and/or itching localized to the area.



# Hand-Foot-and-Mouth Disease



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## Enteroviruses

• Coxsackie A, other enteroviruses

• vesicles on the palmar and plantar skin, buccal mucosa

• can also occur on other parts of the body.

• palate, tongue and buccal mucosa are affected.



- Self limited, supportive management.
- Complications; other infections.



# uscum Contagiosum

- POX virus. 1 to 20 discrete, 2- to 5-mm-diameter, flesh-colored to translucent, dome-shaped papules, some with central umbilication.
- Trunk, face, and extremities.
- Self-limited, resolves in 6 to 12 months.
- Highly contagious



# Erythema Multiforme

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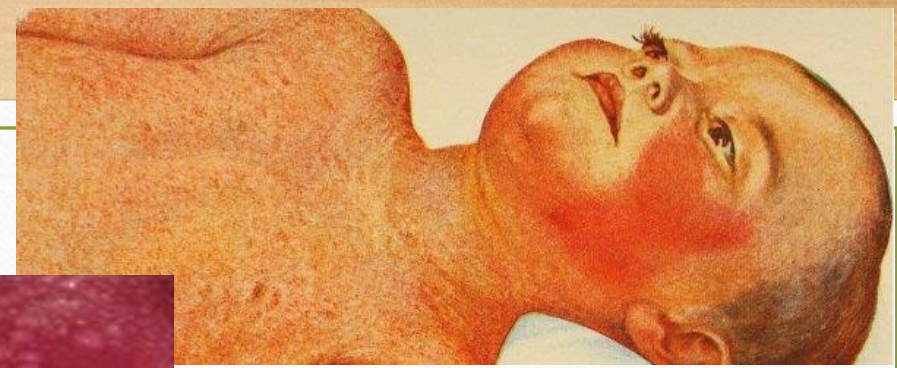
central dusky zone surrounded by ring of pale edema, and an outer ring of erythema

- Hypersensitivity reaction
- It is frequently recurrent
- HSV, mycoplasma pneumonia, drugs
- May last for 2–3 weeks
- Erythema multiforme major and minor, Stevens Johnsons syndrome



**desquamation**

- The epidemiologic features, symptoms, signs, sequelae, and treatment are the same as those of streptococcal pharyngitis.



Any question?

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Thank you