

Differential Diagnosis of Typical Measles

Disease	Agent	Typical Season	Typical Age	Prodrome	Fever	Duration of Rash (days)	Rash	Other Signs & Symptoms
Measles	Paramyxovirus Measles virus	Winter, Spring	1 to 20 years	2-4 days of cough, conjunctivitis, and coryza	High	5 - 6	Erythematous, irregular size, maculopapular; starts on temples & behind ears; progresses down from face; fades to brownish	Koplik's spots C blue-white papules (salt grains) on bright red mucosa opposite premolar teeth
Mucocutaneous lymph node syndrome (Kawasaki disease)	Unknown	Winter, Spring	< 5 years	3 days of abrupt fever	High; fever of 5 days is key sign	5 - 7; varies	Erythematous, morbilliform, maculopapular or scarlatiniform, central distribution; erythematous, indurated palms and soles	Acute: dry, fissured & injected lips, strawberry tongue; irritability; cervical lymphadenopathy; conjunctival injection; peripheral edema Subacute: finger-tip desquamation; Complications: arthritis, carditis
Roseola Infantum (exanthem subitum)	Human herpes virus type 6	Any	6 mos. to 2 years	None	High	1-2; it follows defervescence	Discrete erythematous macules, rarely involves face, begins as fever ends	Lymphadenopathy, irritability
Rubella	Togavirus	Spring, (late winter)	7 mos. to 29 years	0 - 4 days; mild malaise, fever; absent in children	Low-grade	1 - 3	Discrete, rose-pink, diffuse, maculopapular; progresses downward from face, may change quickly	Arthralgia (usually in adults), tender posterior cervical & suboccipital lymphadenopathy, malaise, petechiae on soft palate
Scalet Fever	β -hemolytic streptococci	Winter	> 2 years	0 - 1 day, marked	Low-High	2 - 7	Scarlet "sunburn" with punctate papules "sandpaper", circumoral pallor, increased intensity in skin folds, blanches, starts face/head/ upper trunk and progresses downward	Sore throat, exudative tonsillitis, vomiting, abdominal pain, lymphadenopathy, white then red strawberry tongue
Erythema Infectiosum (Fifth Disease)	Human parvovirus type B19	Spring	5 - 10 years	None usually in children, may occur in adults	None to Low-grade	2 - 4	Starts as "slapped cheek", maculopapular; progresses to reticular (lacy) pattern; can recur with environmental changes such as sunlight exposure	Arthralgia/arthritis in adults, adenopathy
Enterovirus	Echovirus Coxsackie virus	Summer (Fall)	Mainly childhood	0 - 1 day fever and myalgias	Low-High	1 - 5	Fine, pink, always affects face; variant is Boston exanthem (large ~ 1 cm, discrete maculopapules)	Sore throat, headache, malaise, no lymphadenopathy, gastroenteritis
Dengue Fever	Dengue virus types 1 - 4 (Flavivirus)			None	High	1 - 5	Generalized maculopapular rash after defervescence; spares palms and soles	Headache, myalgia, abdominal pain, pharyngitis, vomiting
Drug Rash	Penicillins, sulfonamide etc.	Any	Any	Possible due to underlying illness	Possible	Varies	Typically diffuse but may be concentrated in diaper area, typically no progression, erythema multiform rash can progress over a few days	Possibly due to underlying illness or complications
Infectious Mononucleosis	Epstein-Barr Virus	None	10 - 30 years	2-5 days of malaise and fatigue	Low-High	2 - 7	Trunk and proximal extremities. Rash common if Ampicillin given	Pharyngitis, lymphadenopathy, splenomegaly, malaise
Pharyngoconjunctival Fever	Adenovirus types 2, 3, 4, 7, 7a	Winter, Spring	< 5 years		Low-High	3 - 5	Starts on face and spreads down to trunk and extremities	Sore throat, conjunctivitis, headache, anorexia

From: Teaching Immunization for Medical Information, 2005 (http://www.atpm.org/education/TIME/ATPM_Measles-S.pdf) which adapted the information from Centers for Disease Control and Prevention. Epidemiology, Prevention, and Control of Vaccine-Preventable Diseases. Atlanta, GA: Centers for Disease Control and Prevention; 1992; Chap 9.