



University of Colorado

Infectious Diseases and Antimicrobial Stewardship News

Spotlight on Measles: What You Need to Know

Q: What is the current measles activity in the United States?

A: 839 cases have been confirmed in 23 states (as of May 10, 2019), the largest number since measles was eliminated in the U.S. in 2000. Outbreaks are ongoing in Rockland County NY, New York City, Washington State, New Jersey, California, and Michigan. No cases have been reported in Colorado since Jan 2019.

Q: What about in other parts of the world?

A: Large outbreaks are occurring in Israel, Ukraine and the Philippines. The World Health Organization reports that measles cases have risen by 300% in 2019 compared to the same period during 2018.

Q: What are the symptoms of measles?

A: Generalized maculopapular rash and fever, often accompanied by cough, coryza, or conjunctivitis. Symptoms usually occur 7-21 days after exposure. Complications include ear infections, seizures, encephalitis and, rarely, death. Immunocompromised patients may exhibit an atypical rash or no rash.

Q: How is measles spread? How infectious is it?

A: Measles is highly contagious and is transmitted by droplets or direct contact with nose/throat secretions of an infected person or by airborne spread. The virus may remain infectious in the air for up to 2 hours. Up to 90% of the people close to a person with measles who are not immune will also become infected.

Q: What questions should I ask someone I suspect might have measles?

A: Ask about MMR vaccination status, recent travel (both within and outside of the U.S.), and contact with returning travelers.

Q: What should I do with a patient who is in clinic or the ER with suspected measles?

A: The patient should be masked and removed from the waiting areas as soon as they are identified, placed in an airborne isolation room, and if one is not available, they should be placed in a separate room with the door closed and should remain masked. Only health care providers with presumptive evidence of measles immunity should have contact with the patient. Staff and providers should wear an N-95 mask when evaluating the patients and when obtaining lab specimens. Once the patient is discharged or moved, the room should remain unoccupied with the door closed for 2 hours prior to cleaning and re-opening the room for use.

Q: What testing should I do on a patient with suspected measles?

A: Collect a nasal wash, oropharyngeal, or nasopharyngeal swab for measles PCR testing to be performed by the CDPHE lab (ordered as a miscellaneous test in EPIC). Specimen collection instructions are at <https://www.colorado.gov/pacific/cdphe/measles>. Also collect a serum specimen for measles IgM, to be performed at the UCH laboratory.

Q: Who needs to be notified about a patient with suspected measles?

A: Immediately report suspected patients to the UCH Infection Prevention team by paging 303-266-2927 during business hours, or report to the house supervisor after hours.

Q: What is presumptive evidence of measles immunity?

A: Either two documented doses of live, attenuated measles virus containing vaccine (MMR), OR serologic evidence of immunity to measles (i.e., a positive measles IgG titer), OR birth prior to 1957. Prior to 1957 measles rates were such that those born during this time period are presumed to have immunity.

Q: Who should be considered for measles vaccination?

A: Infants 6–11 months of age should receive one dose of MMR prior to traveling abroad. One dose of MMR may be also considered for infants traveling to NYC or other areas in the U.S. with ongoing measles outbreaks. People ≥ 12 months of age without evidence of measles immunity as outlined above should have two doses (at least one month apart) of MMR or MMRV prior to traveling abroad.

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Antibiotic Durations: Shorter is Better!

Many moons ago, Roman Emperor Constantine decided that a week would contain seven days. The rationale for applying Constantine units to antibiotic durations (treating infections for 7 days, 14 days, etc.) will forever be unknown, as most of these durations are not evidence-based.

Numerous studies have since shown that shorter antibiotic durations are equally efficacious when compared to longer durations. The table displays antibiotic durations that have been found in prospective, randomized controlled trials to be equivalent for common adult bacterial infections.

As always, remember to consider the study conditions when deciding whether any study findings can be applied to your patient (e.g. source control, specific antibiotic used, host immune status, etc.)

Infection	Short Duration (days)	Long Duration (days)
Community-acquired Pneumonia	3-5	7-10
Hospital-acquired/Ventilator-associated Pneumonia	7-8	10-15
Intra-abdominal Infection	4-8	10-15
Skin and Soft Tissue Infections	5-6	10
Cystitis	3	5
Pyelonephritis	5-7	10-14
Gram negative bacteremia	7	14
Acute Exacerbation of Chronic Bronchitis	5	7-10
Acute Bacterial Sinusitis	5	10
Chronic osteomyelitis	42	84

- Taylor Morrisette, PharmD

Reference: Wald-Dickler N, Spellberg B. *Clin Infect Dis*, 2019.

Featured article: Gram Negative Bacteremia

Seven Versus 14 Days of Antibiotic Therapy for Uncomplicated Gram-negative Bacteremia: A Noninferiority Randomized Controlled Trial

Yahav et al, *Clin Infect Dis*, 2018

- 604 patients at 3 centers hospitalized with gram negative bacteremia, afebrile and HD stable ≥ 48 hrs (uncontrolled source excluded) randomized to 7 vs 14 days of antibiotics
- 68% urinary source, 90% Enterobacteriaceae
- No difference in 90-day mortality, infection relapse, suppurative or distant complications, readmission, or extended hospitalization between the groups; 7 days noninferior to 14 days

Crossword Puzzle

Submit your answers to misha.huang@ucdenver.edu and include your name, role, and department for a chance to win a \$10 DazBog giftcard!

Across

- Constantine unit
- Preferred for MSSA bacteremia, including with penicillin allergy
- Main risk factor for C diff infection
- ESBL and CRE, for example
- Measles symptom

Down

- Adequate days of therapy for bacterial sinusitis, for most
- Enterobacteriaceae member
- Common cause of acute gastroenteritis
- Isolation type for measles

