

# The Epidemiology of Common Communicable Diseases

Center for Acute Disease Epidemiology

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Visit our web site at [www.idph.iowa.gov/CADE](http://www.idph.iowa.gov/CADE)



| DISEASE   | INCUBATION PERIOD   | MODE OF TRANSMISSION   | PERIOD OF COMMUNICABILITY  | CONTROL MEASURES   | PUBLIC HEALTH RESPONSE   |
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| <b>AIDS/HIV *</b>   | HIV Infection: 14 days.<br>AIDS (Stage 3 HIV Infection): 7 to 10 years (when HIV infection untreated) | Person-to-person by (1) sexual contact, (2) exposure to blood, (3) mother to infant during pregnancy or at time of birth, or via breast feeding.   | Persons with HIV should be considered infectious for life. Risk of transmission may be higher in first months after infection.   | Education of those who are infected, and those who are at risk of becoming infected about how to prevent transmission of HIV (i.e., safer sexual practices, stop injecting drug use and needle sharing, etc.).   | Patient interview by Public Health (PH). Education and counseling in conjunction with HIV testing. Referral of sexual and needle sharing partners for testing, counseling, and treatment.  |
| <b><i>Campylobacter</i> *</b>   | 1-10 days, average 2-5 days.  | By ingestion of contaminated food - particularly undercooked poultry, water, or unpasteurized milk; from contact with infected animals or persons by fecal-oral route.   | Throughout course of disease; usually several days to up to seven weeks.   | Always wash hands thoroughly after bowel movements or diapering, before eating and preparing food. Exclude symptomatic persons from food-handling and child care until diarrhea has ceased. Avoid unpasteurized milk and unpasteurized dairy products. Thoroughly cook all meat, especially poultry.                       | Education on prevention of spread, including avoiding cross contamination of foods by washing cutting boards and other food preparation items between raw poultry or meats and other food products such as vegetables.                       |
| <b>Chickenpox: Varicella</b>  | 10-21 days, average 14-16 days.   | Person-to-person by droplet or airborne spread of respiratory secretions; direct contact with drainage from blisters or indirectly through articles contaminated by secretions from blisters.                  | As long as 5, but usually 1-2 days before onset of rash until all blisters have crusted.   | Exclude from school or child care and avoid contact with susceptible persons until blisters are crusted. Exposed susceptible people eligible for immunization should receive vaccine within 3-5 days to protect from their recent exposure.  | Recommend vaccination for all appropriate susceptible persons.   |
| <b><i>Chlamydia</i> *</b>   | 1-3 weeks; often asymptomatic, especially in females.   | Contact with infected person through sexual activity; neonatal infections by contact with birth canal.   | Duration of infection. Re-infection is common if partners are not treated in a timely manner. Without treatment, infection may persist indefinitely, leading to infections of the upper reproductive tract and other serious, long-term complications in both females and males. | Examine and treat all persons with sexual contact that occurred within the last 60 days, regardless of their test results. Annual screening for sexually active females aged < 25 or at high risk.   | For higher priority cases, patient interview by PH and notification of sexual contacts for referral to medical care. Education on abstinence, monogamy and use of barrier protection such as latex condoms.                                  |
| <b>Conjunctivitis, with a fever and behavioral change, purulence or hemorrhage</b>  | 24-72 hours.  | Contact with discharges from the eyes, nose, or throat of infected people, from contaminated fingers, clothing, and other articles.  | During the course of active infection.   | Persons should not attend school or child care during the acute stage.   | Education of family and classmates on prevention of spread by practicing good hand washing and not sharing towels or other items soiled with discharge from eyes or nose.  |
| <b>Enterohemorrhagic <i>Escherichia coli</i> Includes <i>E. coli</i> O157:H7 and other Shiga toxin producing <i>E. coli</i> *</b> | 2-10 days, average 3-4 days.  | Ingestion of contaminated foods, directly from person-to-person by fecal-oral route, or contact with infected animals. Linked to eating under-cooked, contaminated ground beef, unpasteurized milk and juices. | Duration of excretion of the pathogen in the stool, which is usually 1 week or less in adults but 3 weeks in 1 out of 3 children.  | Exclude from high-risk settings (food-handling, patient care, child care) until 2 negative stool cultures taken 24 hours or more apart and no sooner than 48 hours following discontinuation of antibiotics. Symptomatic contacts should be excluded from high-risk settings until 2 negative stool cultures are obtained. | Patient interview and contact investigation by PH. If high-risk setting involved, contact the Center for Acute Disease Epidemiology (CADE) 1-800-362-2736. Education on importance of hand washing and proper disposal of feces and diapers. |

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| <b>Fifth disease, Human parvovirus B19 infection, Erythema infectiosum</b>                          | 4-20 days.  | Contact with infected respiratory secretions; also from mother to fetus; and by transfusion of blood and blood products.   | Greatest before onset of rash. Probably not communicable after onset of rash. People with aplastic crisis are communicable up to 1 week after onset of symptoms.   | Frequent hand washing. Cover nose and mouth with disposable tissue when coughing and sneezing and proper disposal of tissue. Or cough and sneeze into your upper arm. Do not share eating utensils. Exclusion is not necessary.   | Student, teacher, and family education about hand washing and standard precautions. Susceptible women who are pregnant or who might become pregnant, and have continued close contact to people with parvovirus B19 infection should consult with their healthcare provider. |
| <b><i>Giardia</i> *</b>   | 3-25 days or longer, average 7-10 days.                               | Person-to-person spread by fecal-oral route, especially in child care centers. Rarely by ingestion of contaminated food or water, or by contact with infected animals. | Entire period of infection, often months.  | Exclude symptomatic persons from food handling and child care until effective treatment has been initiated and diarrhea has ceased. Good hand washing by staff and child after bowel movements or diapering, and before eating or preparing food.   | Education on prevention of spread to families, teachers and classmates. Surveillance for additional cases.   |
| <b>Gonorrhea *</b>  | 2-5 days, sometimes longer; often asymptomatic especially in females. | Contact with infected person through sexual activity; neonatal infections by contact with birth canal.   | Duration of infection. Re-infection is common if partners are not treated in a timely manner. Without treatment, infection may persist indefinitely, leading to infections of the upper reproductive tract and other serious, long-term complications in both females and males. | Examine and treat all persons with sexual contact that occurred within the last 60 days, regardless of their test results. Annual screening for sexually active women age <25 or at high risk.  | For higher priority cases, patient interview by PH and notification of sexual contacts for referral to medical care. Education on abstinence, monogamy and use of barrier protection such as latex condoms.  |
| <b>Hand, foot, and mouth disease: Coxsackievirus (Not related to animal foot and mouth disease)</b> | 3-5 days.   | Direct contact with nose and throat discharges and feces of infected people and by droplet spread.   | During acute stage of illness, perhaps longer; viruses persist in stool for several weeks.   | Prompt hand washing after handling discharges, feces, and soiled articles. Wash or discard articles soiled with nose and throat discharges. Cover nose and mouth with disposable tissue when coughing and sneezing and proper disposal of tissue. Or cough and sneeze into your upper arm. Exclusion may not prevent additional cases as virus is excreted after symptoms are gone  | Education of families, teachers, and classmates about proper hand washing.   |
| <b>Hepatitis A *</b>  | 15-50 days, average 28-30 days.                                       | Person-to-person spread by fecal-oral route; ingestion of contaminated food or water, or sharing of drug paraphernalia.  | Approximately 2 weeks before and 1 week after onset of jaundice.   | Hand washing. Exclude from high-risk situations (food handling, child care, and patient care) for 1 week after onset of jaundice. Give household, child care and other intimate contacts immune globulin (IG) 0.02ml/kg body weight and or vaccine within 14 days of last exposure.   | Immediate patient interview and assessment by PH. Contact investigation. Counseling. If case is in high-risk situation, contact CADE 1-800-362-2736 immediately. Recommend vaccination to appropriate susceptible persons.   |
| <b>Hepatitis B *</b>  | 45-180 days, average 60-90 days.                                      | Sexual, IV drug use, close household contact, perinatal mother-to-infant. Rarely occupational percutaneous or mucus membrane exposure to blood, saliva or semen.       | Blood and other body fluids are infectious during late incubation period, clinical disease, and for variable period after recovery (as long as HBsAg positive). Chronic carriers are infectious for life.  | Follow Standard and Blood Borne Pathogen Precautions. Cover open cuts and sores. Wear gloves when in contact with blood or body fluids. Immediate clean up of objects contaminated with blood or body fluid. For blood or needle exposure to known HBsAg positive persons, and not vaccinated, hepatitis B immune globulin (HBIG) 0.06 mg/kg body weight within 24 hours (no later than 72 hours for perinatal exposure, 7 days for percutaneous exposure, or 14 days for sexual exposure) and HBV vaccine given at 0,1, and 6 months if not previously vaccinated. | Patient interview and assessment by PH. Contact investigation. Counseling. Education on prevention of further spread and hepatitis B. Screen all women during each pregnancy. Recommend vaccination to appropriate susceptible persons, including all infants.               |
| <b>Impetigo: Staphylococcal disease</b>   | Variable and indefinite. Average 4-10 days.                           | Direct contact with purulent drainage from infected lesion.  | Until all lesions are healed.  | Avoid contact with purulent drainage from lesions. Cover lesions when attending school or child care.   | Education on prevention of spread and hand washing.  |
| <b>Influenza (Flu)</b>  | 1-4 days, average 2 days.   | Contact with droplets from the nose and throat of an infected person who is coughing or sneezing.  | One day before symptoms occur and up to 7-10 days after symptoms begin.  | Vaccination. Stay home while ill. Wash hands often with soap and water. Cover nose and mouth with disposable tissue when coughing and sneezing or cough and sneeze into your upper arm. Avoid close contact with ill individuals. Antiviral drugs, as prescribed.   | Education on prevention of spread. Recommend annual vaccination for all appropriate persons.   |

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| <b>Lice, head</b>  | Varies with stage of louse/lice at exposure.   | Direct contact with an infested person such as head to head contact; less frequently by contact with contaminated personal articles. Most children catch lice from exposure in the community, not in their school.       | Until nymphs or adult lice and their eggs (nits on hair shaft) have been destroyed through treatment.   | There is no need for child to be sent home from school or child care the day of diagnosis. Allow to return after initial treatment. A "no-nit" policy is not recommended. A second treatment in 10 days. On days 3-9 and 12-14 shampoo, condition and wet-comb hair using a fine-tooth comb before rinsing off conditioner. Launder clothing and bedding using hot water and dryer. Check family members and close contacts for infestation. | Counseling. Education on appropriate control measures. If there are barriers for getting treatment, contact PH.   |
| <b>Measles: **<br/>Rubeola,<br/>Hard measles,<br/>Red measles</b>    | About 10 days. Rash usually appears about 14 days after exposure but can be as long as 19-21 days. Fever onset, 7-18 days. | Airborne by a fine mist caused when an infectious person coughs, sneezes or talks. This stays suspended in the air for up to 3 hours.  | 4 days before rash appears to 4 days after onset of rash.   | Exclude from school and child care for 4 days after appearance of rash. Vaccinate appropriate susceptible contacts as soon as possible but within 72 hours of last exposure. IG for appropriate susceptible contacts such as pregnant women as soon as possible but must be within 6 days of last exposure.  | Contact CADE immediately 1-800-362-2736. IgM is necessary to confirm diagnosis. Patient interview and contact investigation by PH. Institute outbreak control measures. Recommend immunization with MMR to all appropriate susceptible persons. |
| <b>Methicillin-resistant Staphylococcus aureus (MRSA)</b>            | After colonization, disease may not occur until several months later, or more commonly, never.                             | Direct person-to-person contact is the primary method of transmission. At least 1 in 3 infected persons are infected by spread from one part of their body to another. Infection is much less likely in healthy persons. | Variable: as long as organisms are present in the body substances (i.e., weeping wounds, nasal discharges). Spread much less likely from colonized persons. | Cover open cuts and sores. Good hand washing. Cover nose and mouth with disposable tissue when coughing and sneezing with proper disposal of tissue. Or cough and sneeze into your upper arm. Treatment of MRSA infections, if indicated. MRSA is not grounds for exclusion from child care, school or nursing home.   | Educating health care providers, family, and contacts about MRSA and the importance of hand washing and standard precautions.   |
| <b>Mononucleosis Epstein-Barr virus (EBV)</b>                        | 4-6 weeks.   | Person-to-person by oral-pharyngeal route, via saliva.   | Prolonged pharyngeal excretion may persist for months after infection.  | Avoid contact with saliva. Good hand washing, disinfection of articles soiled with nose and throat discharges, proper disposal of tissues, cover nose and mouth with disposable tissue when coughing and sneezing or cough and sneeze into your upper arm.   | Education of students on prevention of spread.  |
| <b>Mumps *</b>   | 12-25 days, average 16-18 days.  | Droplet or direct contact with saliva and by airborne droplet route.   | 3 days before to 4 days after day of symptom onset or until symptoms resolve, whichever is longer.  | Exclusion from school and child care through 5 days after onset or until symptoms have resolved, whichever is longer. Vaccination is indicated for unimmunized contacts but may not provide protection for this exposure.  | Recommend immunization with MMR to all appropriate susceptible persons.   |
| <b>Neisseria meningitidis invasive disease: **<br/>Meningococcal</b> | 2-10 days, average 3-4 days.   | Direct contact including droplet spread and discharges from nose and throat during infectious period (which often is asymptomatic).  | Until organisms no longer present in discharges from nose and throat. Persons are non-infectious 24 hours after effective antibiotics are started.          | Respiratory isolation until appropriate antibiotic for 24 hours. Chemoprophylaxis for close contacts. Vaccination in limited situations. Infected person should receive rifampin prior to discharge if neither 3rd generation cephalosporin nor ciprofloxacin was given as treatment.  | Contact CADE 1-800-362-2736 immediately. Patient interview and contact investigation. Recommend immunization to appropriate susceptible persons.  |
| <b>Pertussis: *<br/>Whooping cough</b>                               | 6-20 days, average 9-10 days.  | Person-to-person by breathing in respiratory droplets.   | During catarrhal period until 3 weeks after onset of cough. Not infectious after 5 days of appropriate antibiotics.   | Infected person and symptomatic contacts should be excluded from school until at least 5 days of appropriate antibiotics have been completed or have coughed for 21 days. Course of appropriate antibiotics for all household and other close contacts.  | Interview investigation by PH. Recommend immunization for appropriate susceptible persons.  |
| <b>Norovirus<br/>Viral diarrhea</b>                                  | 12-50 hours, average 24-48 hours.  | Person-to-person and fecal oral transmission. Ingestion of ready to eat food, such as salads, sandwiches, ice, cookies, and fruit that are handled by infected persons; poorly cooked shellfish.                         | Communicable during acute stage of disease and up to 48 hours after diarrhea stops.   | Exclude ill food handlers, healthcare providers and child care staff and attendees from work and child care for 48 hours after diarrhea and vomiting stops; everyone else, 24 hours.   | Education on prevention of spread. The State Hygienic Laboratory at the University of Iowa is the only laboratory in the state that can identify norovirus, a common cause of foodborne outbreaks.  |
| <b>Ringworm (Tinea corporis-body)</b>                                | 4-10 days.   | Direct contact with lesions or indirect contact with contaminated surfaces or with infected animals.   | As long as lesions are present and viable spores persist on contaminated materials.   | Exclude from gymnasium, swimming pools, and contact sports. Wash gym mats with detergent solution and sanitize with fungicidal agent between uses. Launder clothes using hot water and dryer.  | Education to families and patients on prevention of spread.   |

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| <b>Respiratory syncytial virus (RSV)</b>                      | 2-8 days, average 4-6 days.   | Droplet spread through coughing and sneezing or contact with nasal or oral secretions, or with articles contaminated with respiratory discharges.   | About 1 day prior to, and throughout, illness.   | Good hand washing. Cover nose and mouth with disposable tissue when coughing and sneezing and proper disposal of tissue. Or cough and sneeze into your upper arm. Exclusion from school or child care will probably not decrease transmission.  | Education to families, teachers, and classmates on prevention of spread by hand washing, proper use and disposal of tissues.   |
| <b>Rubella * (German measles)</b>                             | 14-21 days, average 14-17 days.   | Person-to-person by droplets and discharges from nose and throat and via articles contaminated by secretions.   | About 7 days before and at least 4 days after rash appears. Infants with congenital rubella syndrome may shed virus for months after birth via urine or pharyngeal secretions. | Exclude children from school and adults from work for 7 days after onset of rash. Pregnant contacts should be serologically tested for susceptibility and advised according to results.   | IgM is necessary to confirm diagnosis. Contact investigation by PH. Recommend immunization with MMR for all appropriate susceptible persons.   |
| <b>Salmonella *</b>   | 6-72 hours, average 12-36 hours. (Up to 16 days has been documented.)   | Ingestion of contaminated food (commonly eggs, poultry, and meat); contact with infected animals or person-to-person spread by fecal-oral route.  | Variable: usually several days to several weeks. A temporary carrier state may continue for months, especially in infants but transmission from carriers is very uncommon.     | Exclude symptomatic persons from food handling, patient care, and child care until diarrhea has ceased. Thorough hand washing by staff and child after bowel movements or diapering, and before eating or preparing food.   | Patient interview, assessment, and contact investigation by PH. Education on prevention of spread. Advise no reptiles in classrooms, child care or in homes with children < 5 years of age or with immunocompromised people. |
| <b>Scabies</b>  | 2-6 weeks for first exposure. 1-4 days after re-exposure.   | Prolonged direct contact with an infested person, sexual contact. Less frequently indirectly, by immediate contact with contaminated personal articles.   | Until mites and their eggs have been destroyed through treatment.  | Exclude infested children from school and child care until after first treatment. Treat all close, intimate (skin to skin) contacts including household members and sexual contacts. Launder bedding and clothing used by infected person within the 72 hours before treatment with hot water and dryer.  | Education on appropriate control measures.   |
| <b>Shigella *</b>   | 12-96 hours, average 1-3 days.  | Person-to-person by fecal-oral route. Ingestion of contaminated food or water.  | During acute infection and up to 4 weeks after onset of illness.   | Same as <i>E. coli</i> O157:H7.   | Same as <i>E. coli</i> O157:H7.  |
| <b>Shingles (Herpes zoster)</b>                               | Varicella (chickenpox) virus lies dormant in someone who has had chickenpox. Reactivation of virus.   | Person-to-person by direct contact with drainage from blisters. Only infectious to persons who have not had chickenpox or chickenpox vaccine. Susceptible contacts get chicken pox, not shingles. | While drainage from blisters is present.   | Cover lesions. No exclusion from school or child care if blisters can be covered.   | Education on prevention of spread. Recommend immunization for appropriate persons.   |
| <b>Streptococcal infections (Strep throat, Scarlet fever)</b> | 1-3 days.   | Person-to-person by direct or intimate contact with an infected person (case or carrier); rarely by contaminated articles, food or water.   | 10-21 days in untreated cases: until 24 hours after start of appropriate antimicrobial therapy.  | Exclude from school until 24 hours after start of appropriate antibiotic therapy (usually penicillin). Antibiotic prophylaxis of high-risk persons, i.e.; those with a history of rheumatic fever. Symptomatic contacts should be tested. Cover nose and mouth with disposable tissue when coughing or sneezing and proper disposal of tissue. Or cough and sneeze into your upper arm. | Education on prevention of spread.   |
| <b>Tuberculosis ** (TB) (pulmonary and laryngeal)</b>         | 2-10 weeks after exposure for skin test (PPD) conversion. 5-10% of persons with latent TB infection (+ skin test but clear chest x-ray) go on to develop disease in their lifetime. | Airborne transmission of tuberculosis bacteria in droplet nuclei from infectious person. Prolonged close contact usually needed for spread.   | Probably not communicable after 2-4 weeks on effective drug regimen. Extra-pulmonary TB is not communicable.   | If communicable, exclude from school and work until patient meets criteria for non-infectiousness. Evaluate contacts with significant exposure. Prophylactic therapy or treatment as indicated.   | Patient interview and contact investigation and follow-up by PH. Directly observed therapy (DOT) by PH. PH give personnel recommendations on return to community.  |
| <b>Vancomycin-resistant Enterococci (VRE)</b>                 | Unknown due to carrier state.   | Same as MRSA and from contaminated equipment or environment.  | Same as MRSA.  | Same as MRSA plus thorough environmental cleaning.  | As above with MRSA plus the importance of keeping the environment clean.   |

\* Disease is reportable to Center for Acute Disease Epidemiology (CADE)

**\*\* Disease is IMMEDIATELY reportable to CADE: 1-800-362-2736**

**Revised June 2013**

**# Disease for which isolates are required to be sent to State Hygienic Laboratory at the University of Iowa: 319-335-4500**

**Contact public health of any suspected outbreak.**

**Immediately report any disease when there is reasonable suspicion that it may be the result of a deliberate act such as terrorism.**

**REMEMBER: HANDWASHING IS THE MOST IMPORTANT ACT A PERSON CAN DO TO PREVENT TRANSMISSION OF DISEASE!**