TABLE OF CONTENTS

CASE DEFINITIONS FOR REPORTABLE COMMUNICABLE MORBIDITIES

AMEBIASIS 4
ANTHRAX 5
ASEPTIC MENINGITIS 6
BASIDIOBOLOMYCOSIS 7
BOTULISM, FOODBORNE 8
BOTULISM, INFANT 9
BOTULISM, WOUND 10
BOTULISM, OTHER 11
BRUCELLOSIS 12
CAMPYLOBACTERIOSIS 13
CHANCROID 14
CHLAMYDIA TRACHOMATIS INFECTION 15
CHOLERA 16
COCCIDIOIDOMYCOSIS 17
COLORADO TICK FEVER 18
CONJUNCTIVITIS, ACUTE 19
CREUTZFELDT-JAKOB DISEASE 20
CRYPTOSPORIDIOSIS (*Cryptosporidium parvum*) 22
CYCLOSPORAISIS (*Cyclopora cayetanensis*) 23
CYSTICERCOSIS 24
DENGUE FEVER 25
DIARRHEA, NAUSEA, OR VOMITING 26
DIPHTHERIA 27
EHRLICHIOSIS (HGE, HME, other or unspecified) 28
EMERGING OR EXOTIC DISEASE 30
ENCEPHALITIS, VIRAL or PARASITIC 31
ENTEROHEMORRHAGIC *ESCHERICHIA COLI* (*E. coli* O157:H7 or Shiga toxin-producing *E. coli*) 33
ENTEROTOXIGENIC *ESCHERICHIA COLI* (ETEC) 34
FOODBORNE DISEASE OUTBREAK 35
GIARDIASIS 36
GONORRHEA 37
***HAEMOPHILUS INFLUENZAE* (Invasive Disease)** 38
HANSEN'S DISEASE (LEPROSY) 39
HANTAVIRUS DISEASE 40
HEMOLYTIC UREMIC SYNDROME, POST-DIARRHEAL (HUS, TTP) 41
HEPATITIS, VIRAL, ACUTE 42
HEPATITIS B VIRUS INFECTION, CHRONIC 44
HEPATITIS C VIRUS INFECTION, CHRONIC or past infection 45
HEPATITIS, VIRAL, PERINATAL HEPATITIS B VIRUS INFECTION Acquired in the United States or U.S. Territories 46
HERPES GENITALIS 47

HIV (Human Immunodeficiency Virus) 48
INFLUENZA 51
INFLUENZA-ASSOCIATED PEDIATRIC MORTALITY 52
KAWASAKI SYNDROME 53
LEGIONELLOSIS 54
LEPTOSPIROSIS 55
LISTERIOSIS (*Listeria monocytogenes*) 56
LYME DISEASE 57
LYMPHOCYTIC CHORIOMENINGITIS 59
MALARIA 60
MEASLES 61
MENINGOCOCCAL DISEASE 62
METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (INVASIVE) 63
MUMPS 64
PERTUSSIS (WHOOPING COUGH) 65
PLAGUE 66
POLIOMYELITIS (Paralytic) 67
PSITTACOSIS 68
Q FEVER (*Coxiella burnetti*) 69
RABIES, ANIMAL 70
RABIES, HUMAN 71
RELAPSING FEVER 72
RESPIRATORY SYNCYTIAL VIRUS (RSV) 73
REYE SYNDROME 74
ROCKY MOUNTAIN SPOTTED FEVER 75
RUBELLA 76
RUBELLA SYNDROME, Congenital 77
SALMONELLOSIS 78
SCABIES 79
SEVERE ACUTE RESPIRATORY SYNDROME (SARS) 80
SHIGELLOSIS 82
SMALLPOX 83
STREPTOCOCCAL GROUP A: INVASIVE DISEASE 84
STREPTOCOCCAL GROUP B: INVASIVE DISEASE 86
***STREPTOCOCCUS PNEUMONIAE*: INVASIVE DISEASE** 87
SYPHILIS (Primary, Secondary, Latent, Early Latent, Late Latent, Unknown Latent, & Neurosyphilis) 88
SYPHILIS, CONGENITAL 91
TAENIASIS 92
TETANUS 93
TOXIC-SHOCK SYNDROME 94
TRICHINOSIS 95
TUBERCULOSIS 96
TULAREMIA 97
TYPHOID FEVER (*Salmonella typhi*) 98
TYPHUS FEVER 99
UNEXPLAINED DEATH WITH HISTORY OF FEVER 100
VACCINIA-RELATED ADVERSE EVENT 101

VANCOMYCIN-INTERMEDIATE *STAPHYLOCOCCUS AUREUS* (VISA), or VANCOMYCIN-RESISTANT *STAPHYLOCOCCUS AUREUS* (VRSA) 102
VANCOMYCIN-RESISTANT ENTEROCOCCUS (VRE) 103
VANCOMYCIN-RESISTANT *STAPHYLOCOCCUS EPIDERMIDIS* 104
VARICELLA (Chickenpox) and VARICELLA DEATHS 105
VIBRIO INFECTION 106
VIRAL HEMORRHAGIC FEVER 107
WATERBORNE DISEASE OUTBREAK 108
WEST NILE VIRUS INFECTION 109
YELLOW FEVER 111
YERSINIOSIS 112

CASE DEFINITIONS FOR NON-REPORTABLE COMMUNICABLE MORBIDITIES OF PUBLIC HEALTH SIGNIFICANCE

AFRICAN TICK BITE FEVER 113
GENITAL WARTS 114
GRANULOMA INGUINALE (*Calymmatobacterium granulomatis*) (GI) 115
MUCOPURULENT CERVICITIS (MPC) 116
NONGONOCOCCAL URETHRITIS (NGU) 117
PEDICULOSIS 118
PELVIC INFLAMMATORY DISEASE (PID) 119

CASE DEFINITIONS FOR
REPORTABLE COMMUNICABLE MORBIDITIES

AMEBIASIS

- For more information on control measures, see Arizona Administrative Code R9-6-304 (pg 15)

Clinical Description

Infection of the large intestine by *Entamoeba histolytica* may result in an illness of variable severity ranging from mild, chronic diarrhea to fulminant dysentery. Infection may also be asymptomatic.

Extraintestinal infection may also occur. The most common is hepatic abscess.

Laboratory Criteria for Diagnosis

Intestinal amebiasis:

- Demonstration of cysts or trophozoites of *E. histolytica* in stool, or
- Demonstration of trophozoites in tissue biopsy or ulcer scrapings by culture or histopathology

Extraintestinal amebiasis

- Demonstration of *E. histolytica* trophozoites in extraintestinal tissue

Case Classification

Confirmed, intestinal amebiasis: A clinically compatible illness that is laboratory confirmed.

Confirmed, extraintestinal amebiasis: A parasitologically confirmed infection of extraintestinal tissue or among symptomatic persons (with clinical or radiographic findings consistent with extraintestinal infection) demonstration of specific antibody against *E. histolytica* as measured by IHA (indirect hemagglutination), or other reliable immunodiagnostic test such as ELISA (enzyme-linked immunosorbent assay).

Comment

Asymptomatic intestinal carriage of *E. histolytica* should not be reported. Among asymptomatic persons, a positive serologic test does not necessarily indicate extraintestinal amebiasis.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

ANTHRAX

- For more information on control measures, see Arizona Administrative Code R9-6-305 (pg 16)

Clinical Description

An illness with acute onset characterized by several distinct clinical forms including:

Cutaneous -- a skin lesion evolving within 2 to 6 days from a papule, to vesicular stage, to a depressed black eschar

Inhalation -- a brief prodrome resembling a viral respiratory illness followed by development of hypoxia and dyspnea, with x-ray evidence of mediastinal widening

Intestinal -- severe abdominal distress followed by fever and signs of septicemia

Oropharyngeal -- mucosal lesion in the oral cavity or oropharynx, cervical adenopathy and edema, and fever

Laboratory Criteria for Diagnosis

- Isolation of *Bacillus anthracis* from a clinical specimen, or
- Fourfold or greater rise in either the anthrax ELISA (enzyme-linked immunosorbent assay) or EITB (electrophoretic immunotransblot) titer between acute- and convalescent-phase serum specimens obtained $\geq$2 weeks apart, or
- Anthrax ELISA titer $\geq$64 or an EITB reaction to the protective antigen and/or lethal factor bands in one or more serum samples obtained after onset of symptoms, or
- Demonstration of *B. anthracis* in a clinical specimen by immunofluorescence.

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed.

ASEPTIC MENINGITIS

- For more information on control measures, see Arizona Administrative Code R9-6-306 (pg 16)

Clinical Description

A syndrome characterized by acute onset of meningeal symptoms, fever, and cerebrospinal fluid pleocytosis, with bacteriologically sterile cultures.

Laboratory Criteria for Diagnosis

- No evidence of bacterial or fungal meningitis.

Case Classification

Confirmed: A clinically compatible illness diagnosed by a physician as aseptic meningitis with no laboratory evidence of bacterial or fungal meningitis

Comment

Aseptic meningitis is a syndrome of multiple etiologies, but many cases are caused by a viral agent.

BASIDIOBOLOMYCOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-307 (pg 16)

Clinical Description

A disease consistent with clinical presentation and/or:

- Subcutaneous nodules that are firm and painful;
- Nodules that involve the muscle;
- Nodules or inflammatory mass that involves the gastrointestinal tract or other organs

Laboratory Criteria for Diagnosis

- Biopsy with microscopic appearance consistent with *Basidiobolus ranarum* (septate hyphae with eosinophilic infiltration), or
- Isolation of *B. ranarum* from culture of a mass

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

BOTULISM, FOODBORNE

- For more information on control measures, see Arizona Administrative Code R9-6-308 (pg 16)
- Complete *Suspected Botulism Reporting Form* (Forms Section)

Clinical Description

Ingestion of botulinal toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.

Laboratory Criteria for Diagnosis

- Detection of botulinal toxin in serum, stool, or patient's food, or
- Isolation of *Clostridium botulinum* from stool or from the food of a patient with a compatible illness

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed or that occurs among persons who ate the same food as persons with laboratory confirmed botulism.

Comment

Botulism may be diagnosed without laboratory confirmation if the clinical and epidemiologic evidence is overwhelming.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

BOTULISM, INFANT

- For more information on control measures, see Arizona Administrative Code R9-6-308 (pg 16)
- Complete *Infant Botulism Form* (Forms Section)

Clinical Description

An illness among infants characterized by constipation, poor feeding, and "failure to thrive" that may be followed by progressive weakness, impaired respiration, and death.

Laboratory Criteria for Diagnosis

- Detection of botulinal toxin in stool, serum, or
- Isolation of *Clostridium botulinum* from stool

Case Classification

Confirmed: A clinically compatible, laboratory confirmed illness occurring among children <1 year of age.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

BOTULISM, WOUND

- For more information on control measures, see Arizona Administrative Code R9-6-308 (pg 16)
- Complete *Suspected Botulism Reporting Form* (Forms Section)

Clinical Description

An illness resulting from toxin produced *by Clostridium botulinum* that has infected a wound

Laboratory Criteria for Diagnosis

- Detection of botulinal toxin in serum, or
- Isolation of *Clostridium botulinum* from wound

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed among patients with no suspect food exposure and with a history of fresh, contaminated wound in the 2 weeks before onset of symptoms

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

BOTULISM, OTHER

- For more information on control measures, see Arizona Administrative Code R9-6-308 (pg 16)
- Complete *Suspected Botulism Reporting Form* (Forms Section)

Clinical Description

Ingestion of botulinal toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.

Laboratory Criteria for Diagnosis:

- Detection of botulinal toxin in clinical specimen, or
- Isolation of *Clostridium botulinum* from clinical specimen

Case Classification

Confirmed: An illness clinically compatible with botulism that is laboratory confirmed among patients >11 months of age without histories of ingestion of suspect food and without wounds.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

BRUCELLOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-309 (pg 16)
- Complete *Brucellosis Case Surveillance Report Form* (Forms Section)

Clinical Description

An illness characterized by acute or insidious onset of fever, night sweats, undue fatigue, anorexia, weight loss, headache, and arthralgia

Laboratory Criteria for Diagnosis

- Isolation of *Brucella* spp. from a clinical specimen, or
- Fourfold or greater rise in *Brucella* agglutination titer between acute- and convalescent-phase serum specimens obtained greater than or equal to 2 weeks apart and studied at the same laboratory, or
- Demonstration by immunofluorescence of *Brucella* spp. in a clinical specimen

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed

Probable: A clinically compatible case that is epidemiologically linked to a confirmed case or that has supportive serology (i.e., *Brucella* agglutination titer of greater than or equal to 160 in one or more serum specimens obtained after onset of symptoms)

CAMPYLOBACTERIOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-310 (pg 16)
- Complete Campylobacter Investigation Form

Clinical Description

An infection that may result in diarrheal illness of variable severity

Laboratory Criteria for Diagnosis

- Isolation of *Campylobacter* spp. from any clinical specimen

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable: A clinically compatible illness that is epidemiologically linked to a confirmed case.

CHANCROID

- For more information on control measures, see Arizona Administrative Code R9-6-311 (pg 17)
- Complete *Field Record (CDC 73.2936S) Form* (Forms Section)

Clinical Description

A sexually transmitted disease characterized by painful genital ulceration and inflammatory inguinal adenopathy. The disease is caused by infection with *Haemophilus ducreyi.*

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable: A clinically compatible case with one or more painful genital ulcers in which:

a) There is no evidence of *Treponema pallidum* infection by darkfield examination of ulcer exudate or by a serologic test for syphilis performed at least 7 days after onset of ulcers, **and**

b) The clinical presentation of the ulcer(s) is not typical disease caused by HSV (herpes simplex virus) or HSV culture is negative.

CHLAMYDIA TRACHOMATIS INFECTION

- For more information on control measures, see Arizona Administrative Code R9-6-312 (pg 17)
- Complete *Field Record (CDC 73.2936S) Form* (Forms Section)

Clinical Description

Infection with *Chlamydia trachomatis* may result in urethritis, epididymitis, cervicitis, acute salpingitis, or other syndromes when sexually transmitted. Perinatal infections may result in conjunctivitis and pneumonia among newborns. Other syndromes caused by *C. trachomatis* include lymphogranuloma venereum and trachoma.

Laboratory Criteria for Diagnosis

- Isolation of *C. trachomatis* by culture, or
- Demonstration of *C. trachomatis* in a clinical specimen by antigen detection methods

Case Classification

Confirmed: A case that is laboratory confirmed.

LYMPHOGRANULOMA VENEREUM (LGV)

Clinical Description

Infection with L_1, L_2, or L_3 serovars of *Chlamydia trachomatis* may result in a disease characterized by genital lesions, suppurative regional lymphadenopathy, or hemorrhagic proctitis. The infection is usually sexually transmitted.

Laboratory Criteria for Diagnosis

- Isolation of *C. trachomatis*, serotype L_1, L_2, or L_3, from clinical specimen, or
- Demonstration of inclusion bodies by immunofluorescence in leukocytes of an inguinal lymph node (bubo) aspirate, or
- Positive microimmunofluorescent serologic test for a lymphogranuloma venereum strain of *C. trachomatis* in a clinically compatible case

Case Classification

Confirmed: A case that is laboratory confirmed

Probable: A clinically compatible case with one or more tender fluctuant inguinal lymph nodes or characteristic proctogenital lesions with supportive laboratory findings of a single *C. trachomatis* complement fixation (CF) titer of greater than 64

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

CHOLERA

- For more information on control measures, see Arizona Administrative Code R9-6-313 (pg 17)
- Complete *Cholera and Other Vibrio Illness Surveillance Report Form* (Forms Section)

Clinical Description

An illness characterized by diarrhea and/or vomiting. Severity is variable.

Laboratory Criteria for Diagnosis

- Isolation of toxigenic (cholera toxin-producing) *Vibrio cholerae* 01 or 0139 from stool or vomitus, or
- Significant rise in vibriocidal or antitoxic antibodies in acute-and early convalescent-phase sera, or
- Significant fall in vibriocidal antibodies in early-and late convalescent-phase sera among persons not recently vaccinated.

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed.

Comment

When other cases are known to be occurring, a less than four-fold rise in titer between acute-and convalescent-phase serum may be considered significant. Likewise, a less than four-fold fall may be important in these circumstances. Only confirmed cases should be reported nationally. Illnesses due to strains of *V. cholerae* other than toxigenic *V. cholerae* 01 or 0139 should be reported as Vibrio infection rather than cholera. The etiologic agent of a case of cholera should be reported as either *V. cholerae* 01 or *V. cholerae* 0139.

COCCIDIOIDOMYCOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-314 (pg 17)

Clinical Description

Infection may be asymptomatic or may produce an acute or chronic disease. While the disease initially resembles an influenza-like febrile illness primarily involving the bronchopulmonary system, dissemination can occur to virtually any organ system. Confirmation of coccidioidomycosis requires the demonstrated presence of *Coccidioides* histopathologic, cultural or molecular means and/or demonstration of a specific immunologic response: skin test conversion or demonstration of presence of coccidioidal antibody. The results of these immunologic tests must be interpreted in the context of the varied clinical presentations and duration and clinical type of coccidioidomycosis.

Clinical Case Definition

An illness characterized by at least one of the following:

- Influenza-like signs and symptoms, including fever, chest pain, cough, myalgia, arthralgia, headache
- Pneumonia or other pulmonary lesion, by chest X-ray
- Rashes, including erythema nodosum or erythema multiforme
- Involvement of bones, joints, or skin by dissemination
- Meningitis
- Involvement of viscera and lymph nodes

Laboratory Criteria for Diagnosis

Laboratory-confirmed coccidioidomycosis requires at least one of the following:

- Cultural, histopathologic, or molecular evidence of presence of *C. immitis*, or
- Immunologic evidence of infection **(All titers must be ≥ 1:4)**
    1. Serologic (testing of serum, cerebrospinal fluid, or other body fluid):
        a. Detection of coccidioidal IgM by immunodiffusion, enzyme immunoassay (EIA), latex agglutination, or tube precipitin, or
        b. Detection of any titer of coccidioidal IgG by immunodiffusion, enzyme immunoassay (EIA), or complement fixation.
    2. Coccidioidal skin test conversion from negative to positive after the onset of clinical signs and symptoms.

Case Classification

Confirmed: A case that meets the clinical case definition and is laboratory confirmed.

COLORADO TICK FEVER

- For more information on control measures, see Arizona Administrative Code R9-6-315 (pg 17)

Clinical Description

An acute viral disease characterized by fever, chills, lethargy, headache and myalgias with infrequent macular or maculopapular rash. After initial onset, a remission is usual, followed by a second bout of fever lasting 2-3 days.

Laboratory Criteria for Diagnosis

- Isolation of CTF virus from blood or CSF, or
- Fourfold or greater change in serum antibody

Case Classification

Confirmed: A case that is laboratory confirmed with symptoms and history as above.

Probable: A compatible history of tick or outdoor exposure, plus clinical symptoms with supportive laboratory results (demonstration of single serological test result suggestive of recent infection with no history of previous infection, by use of hemagglutination, IFA or ELISA).

CONJUNCTIVITIS, ACUTE

O Report OUTBREAKS only

- For more information on control measures, see Arizona Administrative Code R9-6-316 (pg 17)

Clinical Description

An acute inflammation of the conjunctiva involving redness and burning or itching of the eyes. Drainage from the eyes may be present as clear and watery fluid or white or yellowish pus.

Laboratory Criteria for Diagnosis

- Cultures of purulent drainage or conjunctival swabs may be used to identify the specific infectious agent in cases of bacterial conjunctivitis.

Case Classification

Confirmed: A case that meets the clinical case description

Comment

Only outbreaks of acute conjunctivitis should be reported. An outbreak consists of

- three or more cases,
- diagnosed or detected within a one-week period,
- all of whom have a common exposure, AND
- not from the same household or family.

CREUTZFELDT-JAKOB DISEASE

- For more information on control measures, see Arizona Administrative Code R9-6-317 (pg 17)

Clinical Description

Creutzfeldt-Jakob Disease (CJD) is a fatal disease characterized by rapid onset of dementia and a variety of other neurological symptoms including jerking movements and difficulty ambulating. CJD is typified by development of spongy spaces in brain tissue where cells have died. Incubation periods range from 15 months to 30 years.

Where possible, each case of CJD should be classified into one the following types according to mode of transmission:

- Classical (Sporadic or Spontaneous) CJD: CJD of unexplained origin and presumably autochthonous. The prevalence of classical CJD is about 1 case per 1,000,000 population/year. This type of CJD typically strikes older individuals with the vast majority of cases occurring in those over 65 years of age (median = 68 years). Median duration of illness is 4-5 months.
- (New) Variant CJD: Associated with consumption of Bovine Spongiform Encephalopathy-(BSE, *aka* "Mad Cow Disease") infected beef. Only one case with this form of CJD has been found in the U.S. and the patient was a former resident of the U.K., where acquisition of the disease almost certainly occurred. The typical age of onset of Variant CJD is much younger than Classical CJD (median = 28 years). Median duration of illness is 13-14 months.
- Iatrogenic CJD: Occurs as a result of exposure to infectious prions during a medical procedure. Corneal transplants, dura mater grafts, brain surgery, and growth or gonadotropic hormones made from human pituitary glands have all been implicated in iatrogenic CJD cases.
- Familial (Genetic) CJD: Same general characteristics as classical CJD, but a case may be given this classification when the patient has a known family history of rapid-onset dementia.
- Human cases of CJD associated with consumption of venison contaminated with Chronic Wasting Disease (CWD) prions have not been documented. If such a situation were to occur, it would most likely be classified as a new type of CJD.

Laboratory Criteria for Diagnosis

- Detection of characteristic lesions by examination of frozen brain tissue. This diagnosis can be made in the U.S. only by the National Prion Disease Pathology Surveillance Center (NPDPSC) in Cleveland, Ohio.
- Detection of 14-3-3 protein in CSF.
- Detection of abnormal prion protein by Western blot testing performed on frozen brain tissue, or by immunohistochemistry (IHC)/histology performed on fixed tissue.
- Genetic analysis suggestive of the presence of the mutation associated with CJD.
- Detection of characteristic patterns by EEG or MRI.

Case Classification

Confirmed: Detection of characteristic lesions by examination of frozen brain tissue, with or without other laboratory criteria, and only when performed by the NPDPSC.

Probable: A clinically compatible illness coupled with one or more of the laboratory criteria listed above other than the detection of characteristic lesions in frozen brain tissue performed by NPDPSC.

Suspect: A clinically compatible illness without supporting lab testing where other morbidities have been effectively ruled out.

Additional information and forms may be obtained by visiting the website for the National Prion Disease Pathology Surveillance Center at Case Western Reserve University in Cleveland, Ohio (www.cjdsurveillance.com). CJD is reportable in Arizona but is not yet a nationally notifiable condition. ADHS should be notified of all pending case investigations involving possible CJD and may coordinate shipment of specimens to the NPDPSC.

CRYPTOSPORIDIOSIS (*Cryptosporidium parvum*)

- For more information on control measures, see Arizona Administrative Code R9-6-318 (pg 18)
- Complete *Cryptosporidiosis Investigational Form* (Forms Section)

Clinical Description

An illness caused by the protozoan *Cryptosporidium parvum* and characterized by diarrhea, abdominal cramps, loss of appetite, low-grade fever, nausea, and vomiting. Infected persons may be asymptomatic. The disease can be prolonged and life-threatening in severely immunocompromised persons.

Laboratory Criteria for Diagnosis

Laboratory-confirmed cryptosporidiosis shall be defined as the detection—in symptomatic or asymptomatic persons—of *Cryptosporidium*

- Oocysts in stool by microscopic examination, or
- In intestinal fluid or small-bowel biopsy specimens, or
- Oocysts or sporozoite antigens by immunodiagnostic methods, e.g., ELISA, or
- By PCR techniques when routinely available, or
- Demonstration of reproductive stages in tissue preparations.

Case Classification

Confirmed, symptomatic: A laboratory-confirmed case associated with one of the symptoms described above

Confirmed, asymptomatic: A laboratory-confirmed case associated with none of the above symptoms

CYCLOSPORAISIS (*Cyclopora cayetanensis*)

- For more information on control measures, see Arizona Administrative Code R9-6-319 (pg 18)
- A Cyclosporaisis Surveillance Case Report Form is available.

Clinical Description

An illness of variable severity caused by the protozoan *Cyclospora cayetanensis* and commonly characterized by watery diarrhea, loss of appetite, weight loss, abdominal bloating and cramping, increased flatus, nausea, fatigue, and low-grade fever. Vomiting also may be noted. Relapses and asymptomatic infections can occur.

Laboratory Criteria for Diagnosis

Laboratory-confirmed cyclosporiasis shall be defined as the detection—in symptomatic or asymptomatic persons—of *Cyclospora*

- Oocysts in stool by microscopic examination, or
- In intestinal fluid or small bowel biopsy specimens, or
- Demonstration of sporulation, or
- DNA (by polymerase chain reaction) in stool, duodenal/jejunal aspirates or small bowel biopsy specimens.

Case Classification

Confirmed, symptomatic: A laboratory-confirmed case associated with one of the symptoms described above

Confirmed, asymptomatic: A laboratory-confirmed case associated with none of the above symptoms

CYSTICERCOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-320 (pg 18)

Clinical Description

Cysticercosis is a tissue infection with the larval stage of the pork tapeworm, *Taenia solium*. When tapeworm eggs or proglottids are swallowed, the hatching eggs release larvae which can migrate from the intestine into tissues (including muscle, organs or central nervous system (CNS)) where they form cysts or cysticerci. The occurrence of cysticerci in the CNS (neurocysticercosis) can present with headache, epileptiform seizures, signs of intracranial hypertension, or psychiatric disturbances.

Laboratory Criteria for Diagnosis

Diagnosis can be made from:

- Microscopic examination of excised cysticerci from tissues, or
- Recognition of cysticerci by CAT scan, MRI, or, when calcified, X-ray, or
- Specific serologic tests.

Case Classification

Confirmed: A case with cysticerci in tissues or CNS identified by microscopy

Probable: A clinically compatible case with suspected cysticerci visualized in CAT scan, MRI, or X-ray, or positive serologic tests.

DENGUE FEVER

- For more information on control measures, see Arizona Administrative Code R9-6-321 (pg 18)

Clinical Description

An acute febrile illness characterized by frontal headache, retro-ocular pain, muscle and joint pain, and rash. Dengue is transmitted through mosquito bites from specific *Aedes* species, primarily *Aedes aegypti* and *Aedes albopictus* mosquitoes in the Americas. *Aedes aegypti* mosquitoes have been found in southern and central Arizona. Dengue fever cases are more common in tropical countries, and outbreaks have been reported in recent years in the Caribbean countries, Mexico, and Central and South America. Severe manifestations (dengue hemorrhagic fever and dengue shock syndrome) are rare, but may be fatal.

Laboratory Criteria for Diagnosis

- Isolation of dengue virus from serum and/or autopsy tissue samples, or
- Demonstration of a fourfold or greater rise or fall in reciprocal IgG or IgM (ELISA ONLY) antibody titers in paired serum samples to one or more dengue virus antigens, or
- Demonstration of dengue virus antigen in autopsy tissue samples by immunofluorescence or by hybridization probe

Case Classification

Confirmed: A case that is laboratory confirmed

Probable: A clinically compatible illness with supportive serology (a reciprocal IgG antibody titer of >1280 or a positive IgM antibody test on a single convalescent-phase serum specimen to one or more dengue virus antigens)

Comment

Dengue hemorrhagic fever is defined as acute onset of fever with nonspecific symptoms. This is followed by hemorrhagic manifestations and/or minor or major bleeding phenomena, thrombocytopenia (platelets <1000,000/mm^3), and hemoconcentration (hematocrit increased by >20%), or other objective evidence of increasing capillary permeability; or decreasing hematocrit after severe frank hemorrhage, such as upper gastrointestinal bleeding.

The definition for dengue shock syndrome follows all of the above criteria for dengue hemorrhagic fever and also includes hypotension or narrow pulse pressure (<20 mm Hg.)

DIARRHEA, NAUSEA, OR VOMITING

O Report OUTBREAKS only

- For more information on control measures, see Arizona Administrative Code R9-6-322 (pg 18)

Clinical Description

Possible outbreaks of disease come to the attention of public health officials in various ways. Often, an astute clinician, infection control nurse, or clinical laboratory worker first notices an unusual disease or an unusual number of cases of a disease and alerts public health officials. Frequently, it is the patient (or someone close to the patient) who first suspects a problem, as is often the case in foodborne outbreaks after a shared meal.

Outbreak Definition for Diarrhea, Nausea, or Vomiting

An outbreak of D,N,V is defined as two or more people not from the same household or family diagnosed or detected within a one-week period with similar illness consisting of a new onset of diarrhea, nausea and/or vomiting all of whom have a common exposure (ingestion of common food, residence in common location, or other exposure or event common to those ill).

Case Definition of Gastroenteritis (D,N,V)

A case of gastroenteritis is defined as a person with new onset of nausea, diarrhea and/or vomiting. Diarrhea is defined as two or more loose stools per 24 hour period or an unexplained increase in the number of bowel movements.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

DIPHTHERIA

- For more information on control measures, see Arizona Administrative Code R9-6-323 (pg 18)
- Complete *CDC Diptheria Worksheet* (Forms Section)

Clinical Description

An upper respiratory tract illness typically characterized by sore throat, low grade fever, and an adherent membrane of the tonsil(s), pharynx, and/or nose

Laboratory Criteria for Diagnosis

- Isolation of *Corynebacterium diphtheriae* from a clinical specimen.
- Histopathologic diagnosis of diphtheria.

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed, or is epidemiologically linked to a laboratory-confirmed case.

Probable: A clinically compatible case that is not laboratory confirmed, and is not epidemiologically linked to a laboratory-confirmed case.

Comment

Cutaneous diphtheria should not be reported. Disease due to nontoxigenic *C. diphtheria* should be reported as diphtheria. All diphtheria isolates, whether associated with disease or not, should be forwarded to the Arizona State Laboratory.

EHRLICHIOSIS (HGE, HME, other or unspecified)

- For more information on control measures, see Arizona Administrative Code R9-6-324 (pg 19)
- Complete *Tick-Borne Rickettsial Disease Case Report Form* (Forms Section)

Clinical Description

A tick-borne illness characterized by acute onset of fever, headache, myalgia, and/or malaise. Nausea, vomiting, or rash may be present in some cases. Clinical laboratory findings may include thrombocytopenia, leukopenia, and/or elevated liver enzymes. Intracytoplasmic bacterial aggregates (morulae) may be visible in the leukocytes of some patients.

Three categories of confirmed or probable ehrlichiosis should be reported:

1) Human ehrlichiosis caused by *E. chaffeensis* (Human Monocytic Ehrlichiosis (HME))
2) Human ehrlichiosis caused by *E. phagocytophila* (Human Granulocytic Ehrlichiosis (HGE)), and
3) Human ehrlichiosis (other or unspecified agent), which includes cases that cannot be easily classified by available laboratory techniques, and cases caused by novel *Ehrlichia* species such as *E. ewingii.*

Laboratory Criteria for Diagnosis

HME:

- Demonstration of a four-fold change in antibody titer to *E. chaffeensis* antigen by indirect immunofluorescence assay (IFA) in paired serum samples, or
- Positive polymerase chain reaction (PCR) assay and confirmation of *E. chaffeensis* DNA, or
- Identification of morulae in leukocytes, and a positive IFA titer to *E. chaffeensis* antigen (based on cutoff titers established by the laboratory performing the assay), or
- Immunostaining of *E. chaffeensis* antigen in a biopsy or autopsy sample, or
- Culture of *E. chaffeensis* from a clinical specimen.

HGE:

- Demonstration of a four-fold change in antibody titer to *E. phagocytophila* antigen by IFA in paired serum samples, or
- Positive PCR assay and confirmation of *E. phagocytophila* DNA, or
- Identification of morulae in leukocytes, and a positive IFA titer to *E. phagocytophila* antigen (based on cutoff titers established by the laboratory performing the assay), or
- Immunostaining of *E. phagocytophila* antigen in a biopsy or autopsy sample, or
- Culture of *E. phagocytophila* from a clinical specimen.

EHRLICHIOSIS, HUMAN, OTHER OR UNSPECIFIED AGENT:

- Demonstration of a four-fold change in antibody titer to more than one *Ehrlichia* species by IFA in paired serum samples, in which a dominant reactivity cannot be established, or
- Identification of an *Ehrlichia* species other than *E. chaffeensis* or *E. phagocytophila* by PCR, immunostaining, or culture.

Case Classification

Confirmed: A clinically compatible illness that is laboratory-confirmed

Probable: A clinically compatible illness with either a single positive IFA titer (based on cutoff titers established by the laboratory performing the test) or the visualization of morulae in leukocytes.

Comment

Due to recent debate involving Rickettsia taxonomy, the etiologic agent for HGE is considered by some taxonomists to be *Anaplasma phagocytophilum* or *A. equi*. As a result, HGE cases are sometimes reported as “Anaplasmosis” or “Human Granulocytic Anaplasmosis (HGA)”.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

EMERGING OR EXOTIC DISEASE

- For more information on control measures, see Arizona Administrative Code R9-6-325 (pg 19)

Definition

Emerging or Exotic Diseases are defined as those meeting one of the following definitions:

- A disease which is newly appeared in the population, or
- A disease whose incidence in humans has increased in the past two decades or threatens to increase in the near future, or
- A disease with increasing incidence in a defined time period and location

Examples may include:

- New infections resulting from changes or evolution of existing organisms
- Known infections spreading to new geographic areas or populations
- Previously unrecognized infections appearing in areas undergoing ecologic transformation
- Old infections reemerging as a result of antimicrobial resistance in known agents or breakdown in public health measures

Case reports of emerging or exotic disease should specify the morbidity and etiological agent, if known, and may be subject to additional clinical or laboratory criteria for classification.

ENCEPHALITIS, VIRAL or PARASITIC

- For more information on control measures, see Arizona Administrative Code R9-6-326 (pg 19)
- Complete *West Nile Encephalitis Case Investigation Form* (Forms Section)

Report immediately to local health dept or Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

Clinical Description

Arboviral infections may be asymptomatic or may result in illnesses of variable severity sometimes associated with central nervous system (CNS) involvement. When the CNS is affected, clinical syndromes ranging from febrile headache to aseptic meningitis to encephalitis may occur, and these are usually indistinguishable from similar syndromes caused by other viruses. Arboviral meningitis is characterized by fever, headache, stiff neck, and pleocytosis. Arboviral encephalitis is characterized by fever, headache, and altered mental status ranging from confusion to coma with or without additional signs of brain dysfunction (e.g., paresis or paralysis, cranial nerve palsies, sensory deficits, abnormal reflexes, generalized convulsions, and abnormal movements).

Clinical Criteria for Diagnosis

Neuroinvasive disease requires the presence of fever and at least one of the following, as documented by a physician and in the absence of a more likely clinical explanation:

- Acutely altered mental status (e.g., disorientation, obtundation, stupor, or coma), or
- Other acute signs of central or peripheral neurologic dysfunction (e.g., paresis or paralysis, nerve palsies, sensory deficits, abnormal reflexes, generalized convulsions, or abnormal movements), or
- Pleocytosis (increased white blood cell concentration in cerebrospinal fluid [CSF]) associated with illness clinically compatible with meningitis (e.g., headache or stiff neck).

Laboratory Criteria for Diagnosis

- Fourfold or greater change in virus-specific serum antibody titer, or
- Isolation of virus from or demonstration of specific viral antigen or genomic sequences in tissue, blood, cerebrospinal fluid (CSF), or other body fluid, or
- Virus-specific immunoglobulin M (IgM) antibodies demonstrated in CSF by antibody-capture enzyme immunoassay (EIA), or
- Virus-specific IgM antibodies demonstrated in serum by antibody-capture EIA and confirmed by demonstration of virus-specific serum immunoglobulin G (IgG) antibodies in the same or a later specimen by another serologic assay (e.g., neutralization or hemagglutination inhibition), or
- Confirmation of the parasite by a method approved by ADHS and/or CDC.

Case Classification

Confirmed: An encephalitis or meningitis case that is laboratory confirmed

Probable: An encephalitis or meningitis case occurring during a period when arboviral transmission is likely, and with the following supportive serology: 1) a single or stable (less than or equal to twofold change) but elevated titer of virus-specific serum antibodies; or 2) serum IgM antibodies detected by antibody-capture EIA but with no available results of a confirmatory test for virus-specific serum IgG antibodies in the same or a later specimen.

Comment

Because closely related arboviruses exhibit serologic cross-reactivity, positive results of serologic tests using antigens from a single arbovirus can be misleading. In some circumstances (e.g., in areas where two or more closely related arboviruses occur, or in imported arboviral disease cases), it may be epidemiologically important to attempt to pinpoint the infecting virus by conducting cross-neutralization tests using an appropriate battery of closely related viruses. This is essential, for example, in determining that antibodies detected against St. Louis encephalitis virus are not the result of an infection with West Nile (or dengue) virus, or vice versa, in areas where both of these viruses occur.

The seasonality of arboviral transmission is variable and depends on the geographic location of exposure, the specific cycles of viral transmission, and local climatic conditions. Reporting should be etiology-specific (see below; the six encephalitides/meningitides printed in bold are nationally reportable to CDC):

St. Louis encephalitis/meningitis

West Nile encephalitis/meningitis

Powassan encephalitis/meningitis

Eastern equine encephalitis/meningitis

Western equine encephalitis/meningitis

California serogroup viral encephalitis/meningitis (includes infections with the following viruses: La Crosse, Jamestown Canyon, snowshoe hare, trivittatus, Keystone, and California encephalitis viruses)

Other viral CNS infections transmitted by mosquitos, ticks, or midges (e.g., Venezuelan equine encephalitis/meningitis and Cache Valley encephalitis/meningitis)

ENTEROHEMORRHAGIC *ESCHERICHIA COLI* (*E. coli* O157:H7 or Shiga toxin-producing *E. coli*)

- For more information on control measures, see Arizona Administrative Code R9-6-327 (pg 19)
- Complete *E. coli O157:H7 Investigation Form* (Forms Section)

Report immediately to local health dept or Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

Clinical Description

An infection of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Illness may be complicated by hemolytic uremic syndrome (HUS) or thrombotic thrombocytopenic purpura (TTP); asymptomatic infections also may occur.

Laboratory Criteria for Diagnosis

- Isolation of *Escherichia coli* O157:H7 from a specimen, or
- Isolation of Shiga toxin-producing *E. coli* from a clinical specimen

Case Classification

Confirmed: A case that meets the laboratory criteria for diagnosis

Probable:

- A case with isolation of *E. coli* O157 from a clinical specimen, pending confirmation of H7 or Shiga toxin production, or
- A clinically compatible case that is epidemiologically linked to a confirmed or probable case, or
- Identification of Shiga toxin in a specimen from a clinically compatible case, or
- Definitive evidence of an elevated antibody titer to a known EHEC serotype from a clinically compatible case

Suspect: A case of post-diarrheal HUS or TTP (see HUS case definition)

Comment

Laboratory-confirmed isolates are reported via the Public Health Laboratory Information System (PHLIS), which is managed by the Foodborne and Diarrheal Diseases Branch, Division of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC. Both probable and confirmed cases are reported to the National Notifiable Diseases Surveillance System (NNDSS), but only confirmed cases are reported to PHLIS. Confirmation is based primarily on laboratory findings.

ENTEROTOXIGENIC *ESCHERICHIA COLI* (ETEC)

- For more information on control measures, see Arizona Administrative Code R9-6-328 (pg 20)

Report immediately to local health dept or Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

Clinical Description

Diarrhea caused by enterotoxigenic E. coli or ETEC is a self-limited illness lasting 1 to 5 days of moderate severity with watery stools and abdominal cramps. Vomiting, dehydration, and low grade fever may also be present.

Laboratory Criteria for Diagnosis

Demonstration of production of enterotoxin in an *E. coli* isolate by a technique that is able to identify heat-labile toxin (LT) and heat-stable toxin (ST).

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed

Probable: A clinically compatible case that is epidemiologically linked to a probable or confirmed case

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

FOODBORNE DISEASE OUTBREAK

- Complete *Investigation of a Foodborne Outbreak Form* (Forms Section)
- **If Suspected Norovirus**: Complete *Suspected Viral Gastroenteritis Outbreak Form*

Clinical Description

Symptoms of illness depend upon etiologic agent. Please see Appendix B, "Guidelines for Confirmation of Foodborne-Disease Outbreaks" in the MMWR 2000; 49(No. SS-1).

Laboratory Criteria for Diagnosis

Dependent upon the etiologic agent. Please see Appendix B, "Guidelines for Confirmation of Foodborne-Disease Outbreaks" in the MMWR 2000; 49(No. SS-1).

Definition

An incident in which two or more persons experience a similar illness after ingestion of a common food, and epidemiologic analysis implicates the food as the source of the illness.

Comment

There are two exceptions: one case of botulism or chemical poisoning constitutes an outbreak.

GIARDIASIS

- For more information on control measures, see Arizona Administrative Code R9-6-329 (pg 20)
- Complete *Giardia Investigation Form* (Forms Section)

Clinical Description

An illness caused by the protozoan *Giardia lamblia* and characterized by diarrhea, abdominal cramps, bloating, weight loss, or malabsorption. Infected persons may be asymptomatic.

Laboratory Criteria for Diagnosis

- Demonstration of *G. lamblia* cysts in stool, or
- Demonstration of *G. lamblia* trophozoites in stool, duodenal fluid, or small bowel biopsy, or
- Demonstration of *G. lamblia* antigen in stool by a specific immunodiagnostic test such as enzyme-linked immunosorbent assay (ELISA)

Case Classification

Confirmed, symptomatic: A laboratory-confirmed case associated with one or more of the symptoms described above

Confirmed, asymptomatic: A laboratory-confirmed case associated with none of the above symptoms

GONORRHEA

- For more information on control measures, see Arizona Administrative Code R9-6-330 (pg 20)
- Complete *Field Record (CDC 73.2936S) Form* (Forms Section)

Clinical Description

A sexually transmitted infection commonly manifested by urethritis, cervicitis, or salpingitis. Infection may be asymptomatic.

Laboratory Criteria for Diagnosis

- Isolation of *Neisseria gonorrhoeae* from a clinical specimen, or
- Observation of gram-negative intracellular diplococci in a urethral smear obtained from a man

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable: Demonstration of gram-negative intracellular diplococci in an endocervical smear obtained from a woman or a written (morbidity) report of gonorrhea submitted by a physician.

HAEMOPHILUS INFLUENZAE (Invasive Disease)

- For more information on control measures, see Arizona Administrative Code R9-6-331 (pg 20)
- Complete *Bacterial Meningitis and Bacteremia Case Report Form* (Forms Section)
- **If < 15 yrs of age**: Complete *Expanded Case Report:* Haemophilus influenzae *Type B Form* (Forms Section)

Clinical Description

Invasive disease due to *Haemophilus influenzae* may produce any of several clinical syndromes, including meningitis, bacteremia, epiglottitis, or pneumonia.

Laboratory Criteria for Diagnosis

- Isolation of *H. influenzae* from a normally sterile site

Case Classification

Confirmed: A clinically compatible illness that is culture-confirmed

Probable: A clinically compatible illness with detection of *H. influenzae* type b antigen in cerebrospinal fluid.

Comment

Antigen test results in urine or serum are unreliable for diagnosis of *H. influenzae* disease.

HANSEN'S DISEASE (LEPROSY)

- For more information on control measures, see Arizona Administrative Code R9-6-332 (pg 21)
- Complete *Leprosy Surveillance Form* (Forms Section)

Clinical Description

A chronic bacterial disease characterized by the involvement of skin, peripheral nerves, and the mucosa of the upper airway. Clinical forms of Hansen's disease represent a spectrum reflecting the cellular immune response to *Mycobacterium leprae.* Typical of the major forms of the disease are the following characteristics:

- Tuberculoid. One or a few well-demarcated, hypopigmented, and anesthetic skin lesions, frequently with active, spreading edges and a clearing center: peripheral nerve swelling or thickening may also occur.

- Lepromatous. A number of erythematous papules and nodules or an infiltration of the face, hands, and feet with lesions in a bilateral and symmetrical distribution that progress to thickening of the skin.

- Borderline (demorphous). Skin lesions characteristic of both the tuberculoid and lepromatous forms.

- Indeterminate. Early lesions, usually hypopigmented macules without developed tuberculoid or lepromatous features.

Laboratory Criteria for Diagnosis

Demonstration of acid-fast bacilli in skin or dermal nerve obtained from the full-thickness skin biopsy of a lepromatous lesion.

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed.

HANTAVIRUS DISEASE

- For more information on control measures, see Arizona Administrative Code R9-6-333 (pg 21)
- Complete *Hantavirus Pulmonary Syndrome Case Report Form* and *Questionnaire* (Forms Section)

Clinical Description

Hantavirus pulmonary syndrome, commonly referred to as Hantavirus disease, is a febrile illness characterized by bilateral interstitial pulmonary infiltrates and respiratory compromise requiring supplemental oxygen and simulating adult respiratory distress syndrome (ARDS). The typical prodrome consists of fever, chills, myalgias, headaches, and gastrointestinal symptoms. Typical clinical laboratory findings include hemoconcentration, left shift, neutrophilic leucocytosis, thrombocytopenia, and circulating immunoblasts.

Clinical Case Definition

An illness characterized by at least one of the following clinical features:

- A febrile illness (temperature >101°F [38.30^{o}C]) occurring in a previously healthy person characterized by unexplained adult respiratory distress syndrome, or bilateral interstitial pulmonary infiltrates with respiratory compromise requiring supplemental oxygen, developing within 72 hours of hospitalization.

- An unexplained respiratory illness resulting in death with an autopsy examination demonstrating non-cardiogenic pulmonary edema without an identifiable cause.

Laboratory Criteria for Diagnosis

- Detection of hantavirus-specific immunoglobulin M or rising titers of hantavirus-specific immunoglobulin G, or

- Detection of hantavirus-specific ribonucleic acid sequence by polymerase chain reaction in clinical specimens, or

- Detection of hantavirus antigen by immunohistchemistry.

Case Classification

Confirmed: A clinically-compatible case with laboratory criteria for diagnosis

Comment

Laboratory testing must be performed or confirmed at the Arizona State Laboratory or CDC. Because the clinical illness is non-specific and adult respiratory distress syndrome is common, a screening case definition should be used to determine which patients to test. In general, a predisposing medical condition (e.g. chronic pulmonary disease, malignancy, trauma, burn, surgery, etc.) is a much more likely cause of ARDS than Hantavirus and patients with the underlying conditions and ARDS should not be tested for Hantavirus.

HEMOLYTIC UREMIC SYNDROME, POST-DIARRHEAL (HUS, TTP)

- For more information on control measures, see Arizona Administrative Code R9-6-334 (pg 21)
- Complete *E. coli O157:H7 Investigation Form* (Forms Section)

Report immediately to local health dept or Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

Clinical Description

Hemolytic uremic syndrome (HUS) is characterized by the acute onset of microangiopathic hemolytic anemia, renal injury, and low platelet count. Thrombotic thrombocytopenic purpura (TTP) also is characterized by these features but can include central nervous system (CNS) involvement and fever and may have a more gradual onset. Most cases of HUS (but few cases of TTP) occur after an acute gastrointestinal illness (usually diarrheal).

Laboratory Criteria for Diagnosis

The following are both present at some time during the illness:

- Anemia (acute onset) with microangiopathic changes (i.e., schistocytes, burr cells, or helmet cells) on peripheral blood smear, and

- Renal injury (acute onset) evidenced by either hematuria, proteinuria, or elevated creatinine level (i.e., greater than or equal to 1.0 mg/dL in a child aged less than 13 years or greater than or equal to 1.5 mg/dL in a person aged greater than or equal to 13 years, or greater than or equal to 50% increase over baseline)

Note: A low platelet count can usually, but not always, be detected early in the illness, but it may then become normal or even high. If a platelet count obtained within 7 days after onset of the acute gastrointestinal illness is not less than 150,000/mm3, other diagnoses should be considered.

Case Classification

Confirmed: An acute illness diagnosed as HUS or TTP that both meets the laboratory criteria and began within 3 weeks after onset of an episode of acute or bloody diarrhea

Probable:

- An acute illness diagnosed as HUS or TTP that meets the laboratory criteria in a patient who does not have a clear history of acute or bloody diarrhea in preceding 3 weeks, or

- An acute illness diagnosed as HUS or TTP, that a) has onset within 3 weeks after onset of an acute or bloody diarrhea and b) meets the laboratory criteria except that microangiopathic changes are not confirmed

Comment

Some investigators consider HUS and TTP to be part of a continuum of disease. Therefore, criteria for diagnosing TTP on the basis of CNS involvement and fever are not provided because cases diagnosed clinically as post-diarrheal TTP also should meet the criteria for HUS. These cases are reported as post-diarrheal HUS.

HEPATITIS, VIRAL, ACUTE

- For more information on control measures, see Arizona Administrative Code R9-6-335, 336, 337, 338 (pg 22)
- Complete *Acute Hepatitis A Case Report; Acute Hepatitis B and D Report; Acute Hepatitis C Case Report Form* (Forms Section)

Clinical Description

An acute illness with a) discrete onset of symptoms and b) jaundice or elevated serum aminotransferase levels*

Laboratory Criteria for Diagnosis

- Hepatitis A:
  - Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV) positive
- Hepatitis B:
  - IgM antibody to hepatitis B core antigen (anti-HBc) positive or hepatitis B surface antigen (HBsAg) positive
  - IgM anti-HAV negative (if done)
- Hepatitis C:
  - Serum alanine aminotransferase levels greater than 7 times the upper limit of normal, and
  - IgM anti-HAV negative, and
  - IgM anti-HBc negative (if done) or HBsAg negative, and
  - Antibody to hepatitis C virus (anti-HCV) positive, verified by a n additional more specific assay
- Hepatitis D:
  - HBsAg-positive or IgM anti-HBc positive and antibody to hepatitis delta virus positive
- Hepatitis E:
  - IgM or IgG to hepatitis E virus, or
  - Detection of hepatitis E virus by nucleic acid testing in a clinical specimen

*Note: Unless otherwise specified, elevated serum aminotransferase levels should be considered as greater than 2.5 times the upper limit of normal.

Case Classification

Confirmed: A case that meets the clinical case definition and is laboratory confirmed or, for hepatitis A or E, a case that meets the clinical case definition and occurs in a person who has an epidemiologic link with a person who has laboratory-confirmed hepatitis A or E (i.e., household or sexual contact with an infected person during the 15-50 days before the onset of symptoms)

Probable: For acute hepatitis B, a case that meets the laboratory criteria for diagnosis but for which information on clinical illness is unavailable. If an investigation indicates the absence of clinical illness, the case should be ruled out rather than classified as probable.

Comment

- Persons who have chronic hepatitis or persons identified as HBsAg positive or anti-HCV positive should not be reported as having acute viral hepatitis unless they have evidence of an acute illness compatible with viral hepatitis (with the exception of perinatal hepatitis B infection). (See Hepatitis, Viral, Perinatal Hepatitis B Virus Infection Acquired in the United States or U.S. Territories.)

- Up to 20% of acute hepatitis C cases will be anti-HCV negative when reported and will be classified as non-A, non-B hepatitis because some (5%-10%) have not yet seroconverted and others (5%-10%) remain negative even with prolonged follow-up (6).

- Available serologic tests for anti-HCV do not distinguish between acute and chronic or past infection. Thus, other causes of acute hepatitis should be excluded for anti-HCV positive patients who have an acute illness compatible with viral hepatitis.

- Hepatitis D is not a nationally notifiable disease.

HEPATITIS B VIRUS INFECTION, CHRONIC

- For more information on control measures, see Arizona Administrative Code R9-6-336 (pg 22)
- Complete *Chronic Hepatitis B and D Case Report Form* (Forms Section)

Clinical Description

Persons with chronic HBV infection may have no evidence of liver disease or may have a spectrum of disease ranging from chronic hepatitis to cirrhosis or liver cancer. Persons with chronic infection may be asymptomatic.

Laboratory Criteria for Diagnosis

- IgM anti-HBc negative AND a positive result on one of the following tests: HBsAg, HBeAg, or HBV DNA, OR
- HBsAg positive or HBV DNA positive or HBeAg positive two times at least 6 months apart (Any combination of these tests performed 6 months apart is acceptable.)

Case Classification

Confirmed: A case that meets either laboratory criteria for diagnosis

Probable: A case with a single HBsAg positive or HBV DNA positive or HBeAg positive lab result when no IgM anti-HBc results are available

Comment

Multiple laboratory tests indicative of chronic HBV infection may be performed simultaneously on the same patient specimen as part of a “hepatitis panel”. Testing performed in this manner may lead to seemingly discordant results, e.g. HBsAg-negative AND HBV DNA-positive. For the purposes of this case definition, any positive result among the three laboratory tests mentioned above is acceptable, regardless of other testing results. Negative HBeAg results and HBV DNA levels below positive cutoff level do not confirm the absence of HBV infection.

In the United States, an estimated 1.25 million persons have chronic hepatitis B virus (HBV) infection. Fifteen to 25% of these persons will develop the complications of cirrhosis or hepatocellullar carcinoma. In addition, chronically infected persons are a major reservoir of transmission to others. Persons who test positive for the presence of hepatitis B surface antigen (HBsAg), HBeAg or HBV DNA are potentially infectious to household, sexual, and needle-sharing contacts. In order for a person to meet the current case definition for chronic HBV infection, the state or local health department must receive the positive results from two HBsAg tests conducted at least 6 months apart. For many health departments, only a small percentage of reported persons meet this criteria, resulting in a potentially significant undercount of chronic HBV cases in their jurisdiction. States and counties need a case definition that will accurately identify true cases of chronic infection in order to monitor the disease burden, develop prevention programs, and provide educational follow-up and referral for infected patients.

HEPATITIS C VIRUS INFECTION, CHRONIC or past infection

- For more information on control measures, see Arizona Administrative Code R9-6-337 (pg 22)
- Complete *Hepatitis C Chronic Case Report Form* (Forms Section)

Clinical Description

Most HCV-infected persons are asymptomatic. However, many have chronic liver disease, which can range from mild to severe including cirrhosis and liver cancer.

Laboratory Criteria for Diagnosis

- Anti-HCV positive (repeat reactive) by EIA, verified by an additional more specific assay (e.g. RIBA for anti-HCV or nucleic acid testing for HCV RNA); or
- HCV RIBA Positive; or
- Nucleic acid test for HCV RNA Positive; or
- Report of HCV genotype; or
- Anti-HCV screening-test-positive with a signal to cut-off ratio predictive of a true positive as determined for the particular assay (e.g., ≥3.8 for the enzyme immunoassays) as determined and posted by CDC.

Case Classification

Confirmed: A case that is laboratory confirmed and that does not meet the case definition for acute hepatitis C.

Probable: A case that is anti-HCV positive (repeat reactive) by EIA and has alanine aminotranferase (ALT or SGPT) values above the upper limit of normal, but the anti-HCV EIA result has not been verified by an additional more specific assay or the signal to cutoff ratio is unknown.

Comment

Only 25-30% of acutely infected persons are asymptomatic. Regardless of whether symptoms are present, the vast majority of persons who are infected with HCV become chronically infected (≥85%). Chronic liver disease develops in most (≥70%) of those infected, including cirrhosis and hepatocellular carcinoma. Persons with chronic HCV infection are a major reservoir for transmission of HCV infections. Most people do not know that they are infected. It is essential that infected persons are counseled regarding ways to prevent transmission of HCV to others and to avoid hepatotoxic substances, especially alcohol, which may worsen the course of liver disease. Infected persons need to be evaluated for the presence of liver disease and referred for treatment if indicated. The <15% of acutely infected persons who clear the virus and persons who clear the virus due to treatment may show evidence of past infection by testing positive for antibodies to HCV (EIA or RIBA) even if they are not chronically infected.

See also:

Case definition for Hepatitis, Viral, Acute

HEPATITIS, VIRAL, PERINATAL HEPATITIS B VIRUS INFECTION Acquired in the United States or U.S. Territories

- For more information on control measures, see Arizona Administrative Code R9-6-336 (pg 22)
- Complete *Perinatal Hepatitis B Form* (Forms Section)

Clinical Description

Perinatal hepatitis B in the newborn may range from asymptomatic to fulminant hepatitis.

Laboratory Criteria for Diagnosis

- Hepatitis B surface antigen (HBsAg) positive

Case Classification

Confirmed: HBsAg positivity in any infant aged >1-24 months who was born in the United States or in U.S. territories to an HBsAg-positive mother

Comment

Infants born to HBsAg-positive mothers should receive hepatitis B immune globulin (HBIG) and the first dose of hepatitis B vaccine within 24 hours of birth, followed by the second and third doses of vaccine at 1 and 6 months of age, respectively. Postvaccination testing for antibody to HBsAg and HBsAg is recommended from 3 to 6 months following completion of the vaccine series. If HBIG and the initial dose of vaccine are delayed for >1 month after birth, testing for HBsAg may determine if the infant is already infected.

HERPES GENITALIS

- Complete *Field Record (CDC 73.2936S) Form* (Forms Section)

Clinical Description

An illness characterized by visible, painful genital or anogenital lesions

Laboratory Criteria for Diagnosis

- Isolation of herpes simplex virus from cervix, urethra, or anogenital lesion, or
- Demonstration of virus by antigen detection technique in clinical specimens from cervix, urethra, or anogenital lesion, or
- Demonstration of multinucleated giant cells on a Tzanck smear of scrapings from an anogenital lesions

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed

Probable: A clinically compatible case (in which primary and secondary syphilis have been ruled out by serology and darkfield microscopy, when available) with either a diagnosis of genital herpes based on clinical presentation (without laboratory confirmation) or a history of one or more previous episodes of similar genital lesions.

Comment

Herpes should be reported only once per patient. The first diagnosis for a patient with no previous diagnosis should be reported.

HIV (Human Immunodeficiency Virus)

- For more information on control measures, see Arizona Administrative Code R9-6-339 (pg 22)

I. In adults, adolescents, or children aged **greater than or equal to 18 months**,** a reportable case of HIV infection must meet at least one of the following criteria:

Laboratory Criteria

Positive result on a screening test for HIV antibody (e.g., repeatedly reactive enzyme immunoassay), followed by a positive result on a confirmatory (sensitive and more specific) test for HIV antibody (e.g., Western blot or immunofluorescence antibody test)

OR

Positive result or report of a detectable quantity on any of the following HIV virologic (nonantibody) tests:

- HIV nucleic acid (DNA or RNA) detection (e.g., DNA polymerase chain reaction [PCR] or plasma HIV-1 RNA)***
- HIV p24 antigen test, including neutralization assay
- HIV isolation (viral culture)

OR

Clinical or Other Criteria (if the above laboratory criteria are not met)

Diagnosis of HIV infection, based on the laboratory criteria above, that is documented in a medical record by a physician

OR

Conditions that meet criteria included in the case definition for AIDS (17-19)

II. In a child **aged less than 18 months,** a reportable case of HIV infection must meet at least one of the following criteria:

Laboratory Criteria

Definitive

Positive results on two separate specimens (excluding cord blood) using one or more of the following HIV virologic (nonantibody) tests:

- HIV nucleic acid (DNA or RNA) detection
- HIV p24 antigen test, including neutralization assay, in a child greater than or equal to 1 month of age
- HIV isolation (viral culture)

OR

Presumptive

A child who does not meet the criteria for definitive HIV infection but who has:

- Positive results on only one specimen (excluding cord blood) using the above HIV virologic tests and no subsequent negative HIV virologic or negative HIV antibody tests

OR

Clinical or Other Criteria (if the above definitive or presumptive laboratory criteria are not met)

Diagnosis of HIV infection, based on the laboratory criteria above, that is documented in a medical record by a physician

OR

Conditions that meet criteria included in the 1987 pediatric surveillance case definition for AIDS (17,19)

III. A child aged **less than 18 months** born to an HIV-infected mother will be categorized for surveillance purposes as "**not infected with HIV**" if the child does not meet the criteria for HIV infection but meets the following criteria:

Laboratory Criteria

Definitive

At least two negative HIV antibody tests from separate specimens obtained at greater than or equal to 6 months of age

OR

At least two negative HIV virologic tests* from separate specimens, both of which were performed at greater than or equal to 1 month of age and one of which was performed at greater than or equal to 4 months of age

AND

No other laboratory or clinical evidence of HIV infection (i.e., has not had any positive virologic tests, if performed, and has not had an AIDS-defining condition)

OR

Presumptive

A child who does not meet the above criteria for definitive "not infected" status but who has:

- One negative EIA HIV antibody test performed at greater than or equal to 6 months of age and NO positive HIV virologic tests, if performed

  OR
- One negative HIV virologic test* performed at greater than or equal to 4 months of age and NO positive HIV virologic tests, if performed

  OR
- One positive HIV virologic test with at least two subsequent negative virologic tests****, at least one of which is at greater than or equal to 4 months of age; or negative HIV antibody test results, at least one of which is at greater than or equal to 6 months of age

AND

No other laboratory or clinical evidence of HIV infection (i.e., has not had any positive virologic tests, if performed, and has not had an AIDS-defining condition).

OR

Clinical or Other Criteria (if the above definitive or presumptive laboratory criteria are not met)

Determined by a physician to be "not infected", and a physician has noted the results of the preceding HIV diagnostic tests in the medical record

AND

NO other laboratory or clinical evidence of HIV infection (i.e., has not had any positive virologic tests, if performed, and has not had an AIDS-defining condition)

IV. A child aged **less than 18 months** born to an HIV-infected mother will be categorized as having **perinatal** exposure to HIV infection if the child does not meet the criteria for HIV infection (II) or the criteria for "not infected with HIV" (III).

* Draft revised surveillance criteria for HIV infection were approved and recommended by the membership of the Council of State and Territorial Epidemiologists (CSTE) at the 1998 annual meeting (11).

** Children aged greater than or equal to 18 months but less than 13 years are categorized as "not infected with HIV" if they meet the criteria in **III**.

*** In adults, adolescents, and children infected by other than perinatal exposure, plasma viral RNA nucleic acid tests should **NOT** be used in lieu of licensed HIV screening tests (e.g., repeatedly reactive enzyme immunoassay). In addition, a negative (i.e., undetectable) plasma HIV-1 RNA test result does not rule out the diagnosis of HIV infection.

**** HIV nucleic acid (DNA or RNA) detection tests are the virologic methods of choice to exclude infection in children aged less than 18 months. Although HIV culture can be used for this purpose, it is more complex and expensive to perform and is less well standardized than nucleic acid detection tests. The use of p24 antigen testing to exclude infection in children aged less than 18 months is not recommended because of its lack of sensitivity

INFLUENZA

Reportable by laboratories ONLY

Clinical Description

Influenza-like illness with a reported fever >100°F AND cough and/or sore throat, in the absence of a known cause other than influenza.

Laboratory Criteria for Diagnosis

- Isolation of influenza virus in tissue cell culture from respiratory specimens;
- Positive reverse-transcriptase polymerase chain reaction (RT-PCR) from respiratory specimens;
- Positive immunofluorescent antibody staining (direct or indirect) of respiratory specimens;
- Positive rapid influenza diagnostic test of respiratory specimens;
- Demonstration of immunohistochemical (IHC) staining for influenza viral antigens in respiratory tract tissue from autopsy specimens;
- Four-fold rise in influenza hemagglutination inhibition (HI) antibody titer in paired acute and convalescent sera*.

Case Classification

Confirmed: A case that meets the laboratory criteria for diagnosis

Comment

The sensitivity and specificity of rapid diagnostic test kits vary and the predicative value positive may be low outside the time of peak influenza activity. Therefore, Arizona prefers to obtain culture or RT-PCR confirmation for reporting the first laboratory- confirmed case of influenza of the season. After a culture- or PCR-confirmed case has been reported in the state, Arizona will consider all cases that meet the above laboratory criteria to be lab-confirmed.

*Serologic testing for influenza is available in a limited number of laboratories, and should only be considered as evidence of recent infection if a four-fold rise in influenza (HI) antibody titer is demonstrated in paired sera. Single serum samples are not interpretable.

INFLUENZA-ASSOCIATED PEDIATRIC MORTALITY

Clinical Description

An influenza-associated death is defined for surveillance purposes as a death resulting from a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test. There should be no period of complete recovery between the illness and death. Influenza-associated deaths in all persons aged <18 years should be reported.

A death should not be reported if:

- There is no laboratory confirmation of influenza virus infection.
- The influenza illness is followed by full recovery to baseline health status prior to death.
- The death occurs in a person 18 years or older.
- After review and consultation there is an alternative agreed upon cause of death.

Laboratory Criteria for Diagnosis

See laboratory criteria for Influenza. Laboratory testing for influenza virus infection may be done on pre- or post-mortem clinical specimens.

Case Classification

Confirmed: A death meeting the clinical case definition that is laboratory confirmed

Laboratory or rapid diagnostic test confirmation is required as part of the case definition; therefore, all reported deaths will be classified as confirmed.

KAWASAKI SYNDROME

- For more information on control measures, see Arizona Administrative Code R9-6-340 (pg 23)
- Complete *Kawasaki Syndrome Case Reporting Form* (Forms Section) (Click here for a fillable form.)

Clinical Description

A febrile illness of greater than or equal to 5 days' duration, with at least four of the five following physical findings and no other more reasonable explanation for the observed clinical findings:

- Bilateral conjunctival injection
- Oral changes (erythema of lips or oropharynx, strawberry tongue, or fissuring of the lips)
- Peripheral extremity changes (edema, erythema, or generalized or periungual desquamation)
- Rash
- Cervical lymphadenopathy (at least one lymph node greater than or equal to 1.5 cm in diameter)

Laboratory Criteria for Diagnosis

None

Case Classification

Confirmed: A case that meets the clinical case definition

Comment

If fever disappears after intravenous gamma globulin therapy is started, fever may be of less than 5 days' duration, and the clinical case definition may still be met.

LEGIONELLOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-341 (pg 23)
- Complete *Legionellosis Case Report Form* (Forms Section)

Clinical Description

Legionellosis is associated with two clinically and epidemiologically distinct illnesses: Legionnaires' disease, which is characterized by fever, myalgia, cough, and clinical or radiographic pneumonia; and Pontiac fever, a milder illness without pneumonia.

Laboratory Criteria for Diagnosis

Confirmed:

- By culture: isolation of any *Legionella* organism from respiratory secretions, lung tissue, pleural fluid, or other normally sterile fluid.
- By detection of *Legionella pneumophila* serogroup 1 antigen in urine using validated reagents.
- By seroconversion: fourfold or greater rise in specific serum antibody titer to *Legionella pneumophila* serogroup 1 using validated reagents.

Suspect:

- By seroconversion: fourfold or greater rise in antibody titer to specific species or serogroups of *Legionella* other than *L. pneumophila* serogroup 1 (e.g., *L. micdadei*, *L. pneumophila* serogroup 6).
- By seroconversion: fourfold or greater rise in antibody titer to multiple species of *Legionella* using pooled antigen and validated reagents.
- By the detection of specific *Legionella* antigen or staining of the organism in respiratory secretions, lung tissue, or pleural fluid by direct fluorescent antibody (DFA) staining, immunohistochemstry (IHC), or other similar method, using validated reagents.
- By detection of *Legionella* species by a validated nucleic acid assay.

Case Classification

Confirmed: A clinically compatible case that meets at least one of the confirmatory laboratory criteria.

> *Travel-associated*: A case that has a history of spending at least one night away from home, either in the same country of residence or abroad, in the ten days before onset of illness.

Suspect: A clinically compatible case that meets at least one of the presumptive (suspect) laboratory criteria.

> *Travel-associated*: A case that has a history of spending at least one night away from home, either in the same country of residence or abroad, in the ten days before onset of illness.

LEPTOSPIROSIS

- For more information on control measures, see Arizona Administrative Code R9-6-342 (pg 23)
- Complete *Leptospirosis Case Investigation Report Form* (Forms Section)

Clinical Description

An illness characterized by fever, headache, chills, myalgia, conjunctival suffusion, and less frequently by meningitis, rash, jaundice, or renal insufficiency. Symptoms may be biphasic.

Laboratory Criteria for Diagnosis

- Isolation of *Leptospira* from a clinical specimen, or
- Fourfold or greater increase in *Leptospira* agglutination titer between acute and convalescent-phase serum specimens obtained ≥2 weeks apart and studied at the same laboratory, or
- Demonstration of *Leptospira* in a clinical specimen by immunofluorescence

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed.

Probable: A clinically compatible case with supportive serology (i.e., a *Leptospira* agglutination titer of ≥200 in one or more serum specimens).

LISTERIOSIS (*Listeria monocytogenes*)

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

- For more information on control measures, see Arizona Administrative Code R9-6-343 (pg 24)
- Complete *Bacterial Meningitis and Bacteremia Case Report Form* (Forms Section)

Clinical Description

In adults, invasive disease caused by *Listeria monocytogenes* manifests most commonly as meningitis or bacteremia; infection during pregnancy may result in fetal loss through miscarriage or stillbirth, or neonatal meningitis or bacteremia. Other manifestations can also be observed.

Laboratory Criteria for Diagnosis

- Isolation of *L. monocytogenes* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid)

- In the setting of miscarriage or stillbirth, isolation of *L. monocytogenes* from placental or fetal tissue

Case Classification

Confirmed: A clinically compatible case that is laboratory-confirmed

Comment

The usefulness of other laboratory methods such fluorescent antibody testing or polymerase chain reaction to diagnose invasive listeriosis has not been established.

LYME DISEASE

- For more information on control measures, see Arizona Administrative Code R9-6-344 (pg 24)
- Complete *Lyme Disease Report Form* (Forms Section)

Clinical Description

A systemic, tick-borne disease with protean manifestations, including dermatologic, rheumatologic, neurologic, and cardiac abnormalities. The best clinical marker for the disease is the initial skin lesion, erythema migrans, that occurs among 60%-80% of patients.

Clinical Case Definition

- Erythema migrans, **or**
- At least one late manifestation, as defined below, and laboratory confirmation of infection

Laboratory Criteria for Diagnosis

- Isolation of *Borrelia burgdorferi* from clinical specimen, or
- Two step process:
  1) Positive or equivocal EIA or IFA test followed by,
  2) Positive Western blot test (IgM and IgG if within the first four weeks of disease onset. After four weeks of disease onset, only IgG immunoblot.)
- Significant change in IgM or IgG antibody response to *B. burgdorferi* in paired acute- and convalescent-phase serum samples

Case Classification

Confirmed: A case that meets one of the clinical case definitions above

Comment

This surveillance case definition was developed for national reporting of Lyme disease; it is **NOT** appropriate for clinical diagnosis.

The definition of terms in the clinical description and case definition are as follows:

A. Erythema migrans (EM)

For purpose of surveillance, EM is defined as skin lesion that typically begins as a red macule or papule and expands over a period of days to weeks to form a large round lesion, often with partial central clearing. A solitary lesion must reach at least 5 cm in size. Secondary lesions may also occur. Annular erythematous lesions occurring within several hours of a tick bite represent hypersensitivity reactions and do not qualify as EM. For most patients, the expanding EM lesion is accompanied by other acute symptoms; particularly fatigue, fever, headache, mild stiff neck, arthralgia, or myalgia. These symptoms are typically intermittent. The diagnosis of EM must be made by a physician. Laboratory confirmation is recommended for persons with no known exposure.

B. Late Manifestations

Late manifestations include any of the following when an alternate explanation is not found:

- Musculoskeletal system.
  Recurrent, brief attacks (weeks or months) of objective joint swelling in one or a few joints, **sometimes** followed by chronic arthritis in one or a few joints. Manifestation not considered as criteria for diagnosis include chronic progressive arthritis not preceded by brief attacks and chronic symmetrical polyarthritis. Additionally, arthralgia, myalgia, or fibromyalgia syndromes alone are not criteria for musculoskeletal involvement.

- Nervous system.
  Any one of the following, alone or in combination: lymphocytic meningitis; cranial neuritis, particularly facial palsy (may be bilateral); radiculoneuropathy; or, rarely, encephalomyelitis. Encephalomyelitis must be confirmed by showing antibody production against *B. burgdorferi* in the CSF (cerebrospinal fluid) demonstrated by a higher titer of antibody in CSF than in serum. Headache, fatigue, paresthesia, or mild stiff necks alone are not criteria for neurologic involvement.

- Cardiovascular system.
  Acute onset, high-grade (2 or 3) atrioventricular conduction defects that resolve in days to weeks and are sometimes associated with myocarditis. Palpitations, bradycardia, bundle branch block, or myocarditis alone are not criteria for cardiovascular involvement.

C. Exposure

Exposure is defined as having been in wooded, brushy, or grassy areas (potential tick habitats) in a county in which Lyme disease is endemic $\leq$30 days before onset of EM. A history of tick bite is NOT required.

D. Disease Endemic to County

A county in which Lyme disease is endemic is one where at least two definite cases have been previously identified, or in which a known tick vector has been shown to be infected with *B. burgdorferi.*

E. Laboratory Confirmation

Laboratory confirmation of infection with *B. burgdorferi* is established when a laboratory isolates the spirochete from tissue or body fluid, detects diagnostic levels of IgM or IgG antibodies to the spirochete in serum or CSF using the two-step process (EIA or IFA followed by Western blot), or detects a significant change in antibody levels in paired acute-and convalescent-phase serum samples. Syphilis and other known causes of biologic false-positive serologic test results should be excluded when laboratory confirmation has been based on serologic testing alone.

LYMPHOCYTIC CHORIOMENINGITIS

- For more information on control measures, see Arizona Administrative Code R9-6-345 (pg 24)

Clinical Description

Lymphocytic choriomeningitis virus (LCMV) is a rodent-borne arenavirus which is endemic in house mice throughout the world. Infection has also been documented in pet rodents such as mice, guinea pigs and hamsters. Transmission to humans can occur through direct contact with infected rodents or rodent-contaminated environments. LCMV infection in humans can range from asymptomatic to mild self-limited illness characterized by any or all of the following symptoms: fever, malaise, lack of appetite, muscle aches, headache, nausea, and vomiting. Aseptic meningitis can also occur in some patients. Orchitis, parotitis, arthritis, myocarditis, and rash occasionally occur. Lab findings can include leucopenia and thrombocytopenia.

Laboratory diagnosis

Confirmatory tests:

- Isolation of the lymphocytic choriomeningitis virus
- Polymerase chain reaction (PCR) for LCMV

Additional tests:

- Serology indicating a positive IgM or a four-fold increase in IgG
- Complete blood count showing leucopenia and thrombocytopenia
- Cerebral spinal fluid analysis indicating increased protein or an increase in white blood cells with an increase in lymphocytes

Case Classification

Confirmed: A clinically-compatible illness that is laboratory confirmed by culture or PCR

Probable: A clinically-compatible illness that has at least one of the additional tests listed

MALARIA

- For more information on control measures, see Arizona Administrative Code R9-6-346 (pg 24)
- Complete *Malaria Case Surveillance Report Form* (Forms Section)

Clinical Description

Signs and symptoms are variable, but most patients will experience fever. In addition to fever, common associated symptoms include headache, back pain, chills, sweats, myalgias, nausea, vomiting, diarrhea, and cough. Untreated *Plasmodium falciparum* infection may lead to coma, renal failure, pulmonary edema, and death. The diagnosis should be considered for any person with these symptoms who has traveled to an area with malaria transmission. Asymptomatic parasitemia may occur among persons who have been long-term residents of malaria endemic areas.

Laboratory Criteria for Diagnosis

- Demonstration of malaria parasites in blood films.

Case Classification

Confirmed: Any person (symptomatic or asymptomatic) with microscopically-confirmed malaria parasitemia that occurs in the United States, regardless of whether the person has experienced previous attacks of malaria while outside the country

Comment

A subsequent attack experienced by the same person but caused by a different *Plasmodium* species is counted as an additional case. A subsequent attack experienced by the same person and caused by the same species in the United States may indicate a relapsing infection or treatment failure due to drug resistance.

Blood smears from doubtful cases should be referred to the National Malaria Repository, CDC, for confirmation of the diagnosis.

In addition, cases are classified according to the following World Health Organization categories:

Autochthonous:

- Indigenous. Malaria acquired by mosquito transmission in an area where malaria is a regular occurrence.
- Introduced. Malaria acquired by mosquito transmission from an imported case in an area where malaria is not a regular occurrence.
- Imported. Malaria acquired outside a specific area (the United States and its territories).
- Induced. Malaria acquired through artificial means (e.g., blood transfusion, common syringes, or malariotherapy).
- Relapsing. Renewed manifestation (of clinical symptoms and or/parasitemia) of malaria infection that is separated from previous manifestations of the same infection by an interval greater than any interval due to the normal periodicity of the paroxysms.
- Cryptic. An isolated case of malaria not associated with secondary cases, as determined by appropriate epidemiologic investigations.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

MEASLES

- For more information on control measures, see Arizona Administrative Code R9-6-347 (pg 24)
- Complete *Measles Surveillance Worksheet Form* (Forms Section)
- Complete *Rash Illness Investigation Form* (Forms Section)

Case Definition

An *Imported* case has its source outside the state. Rash onset occurs within 18 days of entering the state and illness cannot be linked to local transmission. Imported cases are to be classified as:

- International. Importation from another country.
- Out-of-State. Rule out carefully any chance of exposure within the home state. Therefore, the patient either must have been out-of-state continuously for the entire period of possible exposure (at least 7 to 18 days prior to rash onset) or have had one of the following types of exposure while out-of-state:
    - Face-to-face contact with a probable or confirmed case: or
    - Present in the same institution as a case of measles (e.g., school, classroom, or day-care center.)

An *Indigenous* case is defined as a case of measles within a state unrelated to an imported case or with onset occurring more than two generations after an imported case to which it is epidemiologically linked. Any case that cannot be proven as imported or spread from an imported case should be classified as indigenous.

Clinical Description

An illness characterized by all the following:

- A generalized rash lasting $\geq$3 days
- A temperature $\geq$38.3^{o}C (101°F)
- Cough, or coryza, or conjunctivitis

Laboratory Criteria for Diagnosis

- Isolation of measles virus from a clinical specimen, or
- Significant (four-fold) rise in measles antibody level by any standard serologic assay, or
- Positive serologic test for measles IgM antibody

Case Classification

Confirmed: A case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a confirmed case. A laboratory-confirmed case does not need to meet the clinical case definition.

Probable: Meets the clinical case definition, has noncontributory or no serologic or virologic testing, and is not epidemiologically linked to a probable or confirmed case.

Suspect: Any rash illness with fever.

Report immediately to local health dept or Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

MENINGOCOCCAL DISEASE

- For more information on control measures, see Arizona Administrative Code R9-6-348 (pg 25)
- Complete *Bacterial Meningitis and Bacteremia Case Report Form* (Forms Section)

Clinical Description

Meningococcal disease presents most commonly as meningitis and/or meningococcemia that may progress rapidly to purpura fulminans, shock, and death. However, other manifestations may be observed.

Laboratory Criteria for Diagnosis

- Isolation of *Neisseria meningitidis* from a normally sterile site (e.g., blood or CSF or, less commonly, synovial, pleural, or pericardial fluid) or skin scrapings of purpuric lesions.

Case Classification

Confirmed: A clinically compatible case that is culture confirmed.

Probable: A clinically compatible case that has either:

- Evidence of *N. meningitidis* DNA using a validated PCR, obtained from a normally sterile site (e.g., blood or CSF), OR
- Evidence of *N. meningitidis* antigen by IHC on formalin-fixed tissue or latex agglutination of CSF.

Suspect:

- Clinical purpura fulminans in the absence of a positive blood culture, OR
- A clinically compatible case with gram negative diplococci from a normally sterile site (e.g., blood or CSF)

Comment

Antigen test results in urine or serum are unreliable for diagnosing meningococcal disease.

Reportable by laboratories ONLY

METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (INVASIVE)

Clinical Description

Staphylococcus aureus can produce a variety of presentations, ranging from skin or soft tissue infection to bacteremia or the involvement of various organs (e.g., endocarditis, pneumonia, osteomyelitis). Methicillin-resistant *Staphylococcus aureus* (MRSA) is resistant to beta-lactam antibiotics. Only MRSA from normally sterile sites (invasive disease) is reportable.

Laboratory Criteria for Diagnosis

- Isolation of *Staphylococcus aureus* from a normally sterile site. Examples of sterile sites include but are not limited to: CSF, blood, peritoneal fluid, pericardial fluid, or pleural fluid.

AND

- Intermediate or high level resistance of *Staphylococcus aureus* isolate to methicillin, detected and defined according to the standards and guidelines approved by the National Committee for Clinical Laboratory Standards (NCCLS) (MIC: 4-8 mg/L for intermediate and >16 mg/L for high (NCCLS 2006)).

Case Classification

Confirmed: A case that meets the laboratory criteria for diagnosis

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

MUMPS

- For more information on control measures, see Arizona Administrative Code R9-6-349 (pg 25)
- Complete *Mumps Surveillance Worksheet Form* (Forms Section)

Clinical Description

An illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting greater than or equal to 2 days, and without other apparent cause

Laboratory Criteria for Diagnosis

- Isolation of mumps virus from clinical specimen, or
- Significant rise between acute- and convalescent-phase titers in serum mumps immunoglobulin G (IgG) antibody level by any standard serologic assay, or
- Positive serologic test for mumps immunoglobulin M (IgM) antibody

Case Classification

Confirmed: A case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a confirmed or probable case. A laboratory-confirmed case does not need to meet the clinical case definition.

Probable: A case that meets the clinical case definition, has noncontributory or no serologic or virologic testing, and is not epidemiologically linked to a confirmed or probable case.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

PERTUSSIS (WHOOPING COUGH)

- For more information on control measures, see Arizona Administrative Code R9-6-351 (pg 26)
- Complete *Active Laboratory-Based Surveillance Pertussis Form* (Forms Section)

Clinical Description

A cough illness lasting at least 2 weeks with one of the following: paroxysms of coughing, inspiratory "whoop," or post-tussive vomiting, without other apparent cause (as reported by a health professional)

Laboratory Criteria for Diagnosis

- Isolation of *Bordetella pertussis* from clinical specimen
- Positive polymerase chain reaction (PCR) for *B. pertussis*

Case Classification

Confirmed: A case that is culture-positive and in which an acute cough illness of any duration is present; or a case that meets the clinical case definition and is confirmed by positive PCR; or a case that meets the clinical case definition and is epidemiologically linked directly to a case confirmed by either culture or PCR

Probable: A case that meets the clinical case definition, is not laboratory confirmed, and is not epidemiologically linked to a laboratory-confirmed case

Comment

The clinical case definition above is appropriate for endemic or sporadic cases. In outbreak settings, a case may be defined as a cough illness lasting at least 2 weeks (as reported by a health professional). Because direct fluorescent antibody testing of nasopharyngeal secretions has been demonstrated in some studies to have low sensitivity and variable specificity, such testing should not be relied on as a criterion for laboratory confirmation. Serologic testing for pertussis is available in some areas but is not standardized and, therefore, should not be relied on as a criterion for laboratory confirmation.

Both probable and confirmed cases should be reported nationally.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

PLAGUE

- For more information on control measures, see Arizona Administrative Code R9-6-352 (pg 26)
- Complete *Plague Case Investigation Report Form* (Forms Section)

Clinical Description

A disease characterized by fever and leukocytosis that presents in one or more of the following principal clinical forms:

- Regional lymphadenitis (bubonic plague)
- Septicemia without an evident bubo (septicemic plague)
- Plague pneumonia resulting from hematogenous spread in bubonic or septicemic cases (secondary plague pneumonia) or inhalation of infectious droplets (primary plague pneumonia)
- Pharyngitis and cervical lymphadenitis resulting from exposure to larger infectious droplets or ingestion of infected tissues (pharyngeal plague)
- Plague is transmitted to humans by fleas or by direct exposure to infected tissues or respiratory droplets.

Laboratory Criteria for Diagnosis

- Isolation of *Yersinia pestis* from a clinical specimen, or
- Fourfold or greater change in serum antibody titers to *Y. pestis*

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable: A clinically compatible illness with supportive laboratory results (demonstration of a single test result suggestive of recent infection with no history of immunization, or demonstration of a Fraction I antigen in blood, bubo aspirate, or tissue by antigen detection - ELISA (enzyme-linked immunosorbent assay) or FA (Fluorescent assay).

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

POLIOMYELITIS (Paralytic)

- For more information on control measures, see Arizona Administrative Code R9-6-353 (pg 27)
- Complete *Suspected Polio Case Worksheet Form* (Forms Section)

Clinical Description

Acute onset of a flaccid paralysis of one or more limbs with decreased or absent tendon reflexes in the affected limbs, without other apparent cause, and without sensory or cognitive loss (as reported by a physician).

Laboratory Criteria for Diagnosis

None

Case Classification

Confirmed: A case that meets the clinical case definition and in which the patient has a neurologic deficit 60 days after onset of initial symptoms, has died, or has unknown follow-up status.

Probable: A case that meets the clinical case definition.

Comment

All suspected cases of paralytic poliomyelitis are reviewed by a panel of expert consultants before final classification occurs. Confirmed cases are then further classified based on epidemiologic and laboratory criteria (classification described in Sutter RW, *et al*. 1989. AJPH: 79(4):495-498).

I. SPORADIC: A case of paralytic poliomyelitis not linked epidemiologically to another case of paralytic poliomyelitis
- A. Wild virus poliomyelitis: Virus characterized as wild virus
- B. Vaccine-associated poliomyelitis
  - 1. Recipient—OPV was received 4 to 30 days before onset of illness
  - 2. Contact—illness onset was 4 to 75 days after OPV was fed to a recipient in contact with patient and contact occurred within 30 days before onset of illness
  - 3. Community—No history of receiving OPV or of contact with an OPV recipient, as defined in 1 and 2, and virus isolated and characterized as vaccine-related
- C. Poliomyelitis with no history of receiving OPV or of contact with an OPV recipient, as defined in BI and B2, and virus not isolated or not characterized

II. EPIDEMIC: A case of paralytic poliomyelitis linked epidemiologically to another case of paralytic poliomyelitis.
- A. Not a recipient of OPV
  - 1. Virus characterized as wild virus
  - 2. Virus characterized as vaccine-related
  - 3. Virus not isolated or not characterized
- B. OPV recipient—OPV received 4 to 30 days before onset of illness
  - 1. Virus characterized as wild virus
  - 2. Virus characterized as vaccine-related
  - 3. Virus not isolated or not characterized

III. IMMUNOLOGICALLY ABNORMAL: Proven or presumed
- A. Wild virus poliomyelitis—Virus characterized as wild virus
- B. Vaccine-associated poliomyelitis
  - 1. Recipient—OPV was received 4 to 30 days before onset of illness
  - 2. Contact—Illness onset was 4 to 75 days after OPV was fed to a recipient in contact with patient and contact occurred within 30 days before onset of illness
  - 3. Community—No history of receiving OPV or of contact with an OPV recipient, as defined in 1 and 2, and virus isolated and characterized as vaccine-related
- C. Poliomyelitis with no history- of receiving OPV or of contact with an OPV recipient, as defined in BI and B2, and virus not isolated or not characterized

IV. IMPORTED: Poliomyelitis in a person (US resident or other) who has entered the United States
- A. Virus characterized as wild virus
- B. Virus characterized as vaccine-related
- C. Indeterminate—Virus not isolated or characterized

PSITTACOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-354 (pg 27)
- Complete *Psittacosis Case Surveillance Report Form* (Forms Section)

Clinical Description

An illness characterized by fever, chills, headache, photophobia, lower or upper respiratory disease, and myalgia.

Laboratory Criteria for Diagnosis

- Isolation of *Chlamydia psittaci* from a clinical specimen, or
- Fourfold or greater increase in psittacosis CF (complement-fixing) antibody titer ($\geq$32) between two serum specimens obtained $\geq$2 weeks apart and studied at the same laboratory

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed.

Probable: A clinically compatible illness that is epidemiologically linked to a confirmed case or with supportive serology (i.e., a psittacosis CF titer $\geq$32 in one or more serum specimens obtained after onset of symptoms).

Comment

The serologic findings noted above may also occur as a result of infection with *Chlamydia trachomatis or Chlamydia pneumoniae.*

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

Q FEVER (*Coxiella burnetti*)

- For more information on control measures, see Arizona Administrative Code R9-6-355 (pg 27)
- Complete *Q Fever Case Report Form* (Forms Section)

Clinical Description

Acute infection: A febrile illness usually accompanied by rigors, myalgia, malaise, and retrobulbar headache. Severe disease can include acute hepatitis, pneumonia, and meningoencephalitis. Clinical laboratory findings may include elevated liver enzyme levels and abnormal chest film findings. Asymptomatic infections may also occur.

Chronic infection: Potentially fatal endocarditis may evolve months to years after acute infection, particularly in persons with underlying valvular disease. A chronic fatigue-like syndrome has been reported in some Q fever patients.

Laboratory Criteria for Diagnosis

- Fourfold or greater change in antibody titer to *C. burnetii* phase II or phase I antigen in paired serum specimens ideally taken 3-6 weeks apart, or,
- Isolation of *C. burnetii* from a clinical specimen by culture, or
- Demonstration of *C. burnetti* in a clinical specimen by detection of antigen or nucleic acid.

Case Classification

Confirmed: A clinically compatible or epidemiologically linked case that is laboratory confirmed.

Probable: A clinically compatible or epidemiologically linked case with a single supportive Immunoglobulin G (IgG) or Immunoglobulin M (IgM) titer. Cutoff titers are determined by individual laboratories. CDC tests for IgG antibodies with an indirect immunofluorescence assay (IFA), and uses a titer of 1:128 as the cutoff for significant antibody.

RABIES, ANIMAL

Laboratory Criteria for Diagnosis

- A positive direct fluorescent antibody test (preferably performed on central nervous system tissue)
- Isolation of rabies virus (in cell culture or in a laboratory animal)

Case Classification

Confirmed: A case that is laboratory confirmed

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

RABIES, HUMAN

- For more information on control measures, see Arizona Administrative Code R9-6-356 (pg 27)

Clinical Description

Rabies is an acute encephalomyelitis that almost always progresses to coma or death within 10 days of the first symptom.

Laboratory Criteria for Diagnosis

- Detection by direct fluorescent antibody of viral antigens in a clinical specimen (preferably the brain or the nerves surrounding hair follicles in the nape of the neck), or
- Isolation (in cell culture or in a laboratory animal) of rabies virus from saliva, CSF (cerebrospinal fluid) or central nervous system tissue, or
- Identification of a rabies-neutralizing antibody titer $\geq$5 (complete neutralization) in the serum or CSF of an unvaccinated person.

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed.

Comment

Laboratory confirmation by all of the above methods is strongly recommended.

RELAPSING FEVER

- For more information on control measures, see Arizona Administrative Code R9-6-357 (pg 27)

Clinical Description

An acute febrile disease with headache, fever, shaking chills, and myalgia. Symptoms may relapse after a febrile periods of 2-4 days.

Laboratory Criteria for Diagnosis

- Demonstration of visible spirochetes in a peripheral blood smear, or
- Demonstration of spirochetemia in inoculated swiss mice, or
- Serological evidence of non-treponemal spirochetes in persons not visiting endemic Lyme disease area.

Case Classification

Confirmed: A case that is laboratory confirmed with a consistent history of exposure or epidemiologically linked to confirmed case.

Probable: A compatible history of exposure to soft ticks in rustic cabins, caves, or firewood, and at least three of the major symptoms.

RESPIRATORY SYNCYTIAL VIRUS (RSV)

Reportable by laboratories ONLY

Laboratory Criteria for Diagnosis

- RSV isolation in tissue cell culture from nasopharyngeal secretions;
- Reverse-transcriptase polymerase chain reaction (RT-PCR) testing of respiratory specimens;
- Immunofluorescent antibody staining (direct or indirect) of respiratory specimens;
- Rapid RSV diagnostic testing of respiratory specimens;
- Four-fold rise in antibody titer in paired acute and convalescent sera.

Case Classification

Lab-confirmed: A case that meets the laboratory criteria for diagnosis.

REYE SYNDROME

- For more information on control measures, see Arizona Administrative Code R9-6-358 (pg 27)
- Complete *CDC Reye Syndrome Case Investigation Report Form* (Forms Section)

Clinical Description

An illness that meets all of the following criteria:

- Acute, noninflammatory encephalopathy that is documented clinically by:
  a) An alteration in consciousness and, if available
  b) A record of the CSF containing 8 leukocytes/mm^3 or a histologic specimen demonstrating cerebral edema without perivascular or meningeal inflammation.

- Hepatopathy documented by either:
  a) A liver biopsy or an autopsy considered to be diagnostic of Reye syndrome or
  b) A threefold or greater increase in the levels of the serum glutamic- oxaloacetic transaminase (SGOT), serum glutamic-pyruvic transaminase (SGPT), or serum ammonia.

- No more reasonable explanation for the cerebral and hepatic abnormalities.

Laboratory Criteria for Diagnosis

None

Case Classification

Confirmed: A case that meets the clinical case definition

ROCKY MOUNTAIN SPOTTED FEVER

- For more information on control measures, see Arizona Administrative Code R9-6-359 (pg 28)
- Complete *Tick-Borne Rickettsial Disease Case Report Form* (Forms Section)

Clinical Description

An illness most commonly characterized by acute onset and fever, usually accompanied by myalgia, headache, and rash (on the palms and soles in two-thirds of the cases). Rash usually occurs 3 to 5 days after onset, and usually begins as maculopapular before becoming petechial.

Laboratory Criteria for Diagnosis

- Fourfold or greater rise in antibody titer to the spotted fever group antigen by IFA (immunofluorescent antibody), CF (complement fixation), LA (latex agglutination), MA (microagglutination), or IHA (indirect hemagglutination) test, or a single titer $\geq$64 by IFA or $\geq$16 by CF.

- Demonstration of positive immunofluorescence of skin lesion (biopsy) or organ tissue (autopsy).

- Isolation of *Rickettsia rickettsii* from clinical specimen.

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable: A clinically compatible case with supportive serology (fourfold rise in titer or a single titer $\geq$320 by *Proteus* OX-19 or X-2, or a single titer $\geq$128 by LA, IHA, or MA test).

Comment

The characteristic rash may appear late or not at all. Also, some RMSF cases resent with acute respiratory distress syndrome (ARDS) and thrombocytopenia.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

RUBELLA

- For more information on control measures, see Arizona Administrative Code R9-6-360 (pg 28)
- Complete *Rubella Surveillance Worksheet Form* (Forms Section)

Clinical Description

An illness with all of the following characteristics

- Acute onset of generalized maculopapular rash
- Temperature >37.2^{o} C (>99°F), if measured
- Arthralgia/arthritis, or lymphadenopathy, or conjunctivitis

Cases meeting the measles case definition are excluded. Also excluded are cases with serology that is compatible with recent measles virus infection.

Laboratory Criteria for Diagnosis

- Isolation of rubella virus, or
- Significant rise in rubella antibody level by any standard serologic assay, or
- Positive serologic test for rubella IgM antibody

Case Classification

Confirmed: A case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a laboratory-confirmed case.

Probable: A case that meets the clinical case definition, has noncontributory or no serologic or virologic testing, and is not epidemiologically linked to a laboratory-confirmed case.

Suspect: Any generalized rash illness of acute onset.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

RUBELLA SYNDROME, Congenital

- For more information on control measures, see Arizona Administrative Code R9-6-361 (pg 28)
- Complete *Congenital Rubella Syndrome Case Report Form* (Forms Section)

Clinical Description

Presence of any defect(s) or laboratory data consistent with congenital rubella infection. Infants with congenital rubella syndrome usually present with more than one sign or symptom consistent with congenital rubella infection. However, infants may present with a single defect. Deafness is most common single defect.

Laboratory Criteria for Diagnosis

- Isolation of rubella virus, or
- Demonstration of rubella-specific immunoglobulin M (IgM) antibody, or
- Infant rubella antibody level that persists at a higher level and for a longer period than expected from passive transfer of maternal antibody (i.e., rubella titer that does not drop at the expected rate of a twofold dilution per month).
- PCR positive rubella virus

Clinical case definition

An illness, usually manifesting in infancy, resulting from rubella infection *in utero* and characterized by signs or symptoms from the following categories:

a) Cataracts/congenital glaucoma, congenital heart disease (most commonly patent ductus arteriosus or peripheral pulmonary artery stenosis), hearing impairment, pigmentary retinopathy.
b) Purpura, hepatosplenomegaly, jaundice, microcephaly, developmental delay, meningoencephalitis, radiolucent bone disease.

Case Classification

Confirmed: A clinically consistent case that is laboratory confirmed.

Probable: A case that is not laboratory confirmed and that has any two complications listed in paragraph "a" of the clinical case definition or one complication from paragraph "a" and one from paragraph "b", and lacks evidence of any other etiology.

Suspected: A case with some compatible clinical findings but not meeting the criteria for a probable case

Infection only: A case that demonstrates laboratory evidence of infection, but without any clinical symptoms or signs.

Comment

In probable cases, either or both of the eye-related findings (cataracts and congenital glaucoma) count as a single complication. In cases classified as infection only, if any compatible signs or symptoms (e.g., hearing loss) are identified later, the case is reclassified as confirmed.

SALMONELLOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-362 (pg 29)
- Complete *Salmonellosis/Yersiniosis Investigation Form* (Forms Section)

Clinical Description

An illness of variable severity commonly manifested by diarrhea, abdominal pain, nausea, and sometimes vomiting. Asymptomatic infections may occur and the organism may cause extraintestinal infections.

Laboratory Criteria for Diagnosis

- Isolation of *Salmonella* from a clinical specimen

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable: A clinically compatible illness that is epidemiologically linked to a confirmed case.

SCABIES

O Report OUTBREAKS only

- For more information on control measures, see Arizona Administrative Code R9-6-363 (pg 29)

Clinical Description

A parasitic disease of the skin caused by a mite whose penetration is visible as papules, vesicles, or tiny linear burrows containing the mites and their eggs. Lesions are prominent around finger webs, anterior surfaces of wrists and elbows, anterior axillary folds, belt line, thighs, and external genitalia in men, nipples, buttocks, and abdomen in women.

Laboratory Criteria for Diagnosis

- Recovery of *Sarcoptes scabiei* mite or parts of the mite or eggs by scraping.

Case Classification

Confirmed: A laboratory confirmed case

Probable: An infested individual with rash occurring as above.

Comment

Report outbreaks only

SEVERE ACUTE RESPIRATORY SYNDROME (SARS)

- For more information on control measures, see Arizona Administrative Code R9-6-364 (pg 29)

Report immediately to local health dept or Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

Clinical Description

Early illness

- Presence of two or more of the following features: fever (might be subjective), chills, rigors, myalgia, headache, diarrhea, sore throat, or rhinorrhea

Mild-to-moderate respiratory illness

- Temperature of >100.4° F (>38° C) and
- One or more clinical findings of lower respiratory illness (e.g., cough, shortness of breath, or difficulty breathing)

Severe respiratory illness

- Meets clinical criteria of mild-to-moderate respiratory illness and
- One or more of the following findings:
    - Radiographic evidence of pneumonia, or
    - Acute respiratory distress syndrome, or
    - Autopsy findings consistent with pneumonia or acute respiratory distress syndrome without an identifiable cause

Epidemiologic Criteria

Possible exposure to SARS-associated coronavirus (SARS-CoV)

One or more of the following exposures in the 10 days before onset of symptoms:

- Travel to a foreign or domestic location with documented or suspected recent transmission of SARS-CoV, OR
- Close contact with a person with mild-to-moderate or severe respiratory illness and history of travel in the 10 days before onset of symptoms to a foreign or domestic location with documented or suspected recent transmission of SARS-CoV

Likely exposure to SARS-CoV

One or more of the following exposures in the 10 days before onset of symptoms:

- Close contact with a person with confirmed SARS-CoV disease, OR
- Close contact with a person with mild-to-moderate or severe respiratory illness for whom a chain of transmission can be linked to a confirmed case of SARS-CoV disease in the 10 days before onset of symptoms

Laboratory Criteria for Diagnosis

Tests to detect SARS-CoV are being refined and their performance characteristics assessed; therefore, criteria for laboratory diagnosis of SARS-CoV are changing. The following are general criteria for laboratory confirmation of SARS-CoV:

- Detection of serum antibody to SARS-CoV by a test validated by CDC (e.g., enzyme

immunoassay), OR

- Isolation in cell culture of SARS-CoV from a clinical specimen, OR
- Detection of SARS-CoV RNA by a reverse transcription polymerase chain reaction test validated by CDC and with subsequent confirmation in a reference laboratory (e.g., CDC).
- Information about the current criteria for laboratory diagnosis of SARS-CoV is available at http://www.cdc.gov/ncidod/sars/labdiagnosis.htm.

Exclusion Criteria

A case may be excluded as a SARS report under investigation (SARS RUI), including as a CDC-defined probable SARSCoV case, if any of the following apply:

- An alternative diagnosis can explain the illness fully, OR
- Antibody to SARS-CoV is undetectable in a serum specimen obtained >28 days after onset of illness, OR
- The case was reported on the basis of contact with a person who was excluded subsequently as a case of SARS-CoV disease; then the reported case also is excluded, provided other epidemiologic or laboratory criteria are not present.

Case Classification

SARS RUI

Reports in persons from areas where SARS is not known to be active

- SARS RUI-1: Cases compatible with SARS in groups likely to be first affected by SARS-CoV if SARS-CoV is introduced from a person without clear epidemiologic links to known cases of SARS-CoV disease or places with known ongoing transmission of SARS-CoV

Reports in persons from areas where SARS activity is occurring

- SARS RUI-2: Cases meeting the clinical criteria for mild-to-moderate illness and the epidemiologic criteria for possible exposure (spring 2003 CDC definition for suspect cases)
- SARS RUI-3: Cases meeting the clinical criteria for severe illness and the epidemiologic criteria for possible exposure (spring 2003 CDC definition for probable cases)
- SARS RUI-4: Cases meeting the clinical criteria for early or mild-to-moderate illness and the epidemiologic criteria for likely exposure to SARS-CoV

SARS-CoV disease

- *Confirmed case of SARS-CoV disease*: clinically compatible illness (i.e., early, mild-to-moderate, or severe) that is laboratory confirmed
- *Probable case of SARS-CoV disease*: meets the clinical criteria for severe respiratory illness and the epidemiologic criteria for likely exposure to SARS-CoV

Comments

See the MMWR report from December 12, 2003 / 52(49); 1202-1206 for more information.

SHIGELLOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-365 (pg 29)
- Complete *Shigella Disease Investigation Form* (Forms Section)

Clinical Description

An illness of variable severity characterized by diarrhea, fever, nausea, cramps, and tenesmus. Asymptomatic infections occur.

Laboratory Criteria for Diagnosis

- Isolation of *Shigella* species from a clinical specimen

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable: A clinically compatible illness that is epidemiologically linked to a confirmed case.

SMALLPOX

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

- For more information on control measures, see Arizona Administrative Code R9-6-366 (pg 30)

Clinical Description

An illness with acute onset of fever ≥101º F (≥38.3 º C) followed by a rash characterized by firm, deep seated vesicles or pustules in the same stage of development without other apparent cause. Clinically consistent cases are those presentations of smallpox that do not meet this classical clinical case definition: a) hemorrhagic type, b) flat type, and c) *variola sine eruptione*. (Detailed clinical description is available on the CDC web site, see URL: http://www.bt.cdc.gov/agent/smallpox/index.asp).

Laboratory Criteria for Diagnosis

Polymerase chain reaction (PCR) identification of variola DNA in a clinical specimen, OR
Isolation of smallpox (variola) virus from a clinical specimen (Level D laboratory only; confirmed by variola PCR)

Note: Indications for laboratory testing of patients with suspected smallpox should be followed as described in detail in Guide A of the CDC Smallpox Response Plan. Laboratory diagnostic testing for variola virus should be conducted in Level C or D laboratories only.

Generic orthopox PCR and negative strain electron microscopy (EM) identification of a pox virus in a clinical specimen are suggestive of an orthopox virus infection but not diagnostic for smallpox.

*Case Classification**

Confirmed: Case of smallpox that is laboratory confirmed, or a case that meets the clinical case definition that is epidemiologically linked to a laboratory confirmed case.

Probable: A case that meets the clinical case definition, or a clinically consistent case that does not meet the clinical case definition and has an epidemiological link to a confirmed case of smallpox.

Suspected: A case with a generalized, acute vesicular or pustular rash illness with fever preceding development of rash by 1-4 days.

**Exclusion Criteria*: A case may be excluded as a suspect or probable smallpox case if an alternative diagnosis fully explains the illness or appropriate clinical specimens are negative for laboratory criteria for smallpox.

Comment

The smallpox case definition is to be used only during post-event surveillance. The case definition described in Guide A of the Smallpox Response Plan and Guidelines (Version 3) on the CDC bioterrorism preparedness website (URL: http://www.bt.cdc.gov/agent/smallpox/response-plan/index.asp) includes different criteria for a suspected case than the smallpox case definition the Council of State and Territorial Epidemiologists approved for use in the National Notifiable Diseases Surveillance System (NNDSS). The smallpox case definition on the CDC bioterrorism web site is more sensitive and less specific than the case definition for the NNDSS, in that a "suspect" case is defined as: "a case with febrile rash illness with fever preceding the development of rash by 1-4 days."

STREPTOCOCCAL GROUP A: INVASIVE DISEASE

- For more information on control measures, see Arizona Administrative Code R9-6-367 (pg 30)

Clinical Description

Invasive group A streptococcal infections may present with any of several clinical syndromes including pneumonia, bacteremia in association with cutaneous infection (cellulitis, erysipelas, or infection of a surgical or nonsurgical wound), deep soft tissue infection (myositis or necrotizing fasciitis), meningitis, peritonitis, osteomyelitis, septic arthritis, postpartum sepsis (puerperal fever), neonatal sepsis, and non-focal bacteremia.

Streptococcal Toxic Shock Syndrome (STSS)

The streptococcal toxic shock syndrome is a severe illness associated with invasive or noninvasive group A streptococcal *(Streptococcus pyogenes)* infection. STSS may occur with infection at any site, but most often occurs in association with infection of a cutaneous lesion. Signs of toxicity and a rapidly progressive clinical course are characteristic, and the case fatality rate may exceed 50 percent.

An illness with the following clinical manifestations occurring within the first 48 hours of hospitalization or, for a nosocomial case, within the first 48 hours of illness.

- Hypotension defined by a systolic blood pressure 90 mm Hg for adults or less than the fifth percentile by age for children <16 years of age.
- Multiorgan involvement - two or more of the following:
    - Renal impairment: Creatinine two mg/dl ($\geq$177 μmol/L) for adults or greater than or equal to twice the upper limit of normal for age. In patients with pre-existing renal disease, a two-fold elevation over the baseline level.
    - Coagulopathy: Platelets 100,000/mm^3 (100 x 10^6/L) or disseminated intravascular coagulation defined by prolonged clotting times, low fibrinogen level, and the presence of fibrin degradation products.
    - Liver involvement: Alanine aminotransferase (SGOT) aspartate aminotransferase (SGPT), or total bilirubin levels greater than or equal to twice the upper limit of normal for age. In patients with pre-existing liver disease, a 2-fold increase over the baseline level.
    - Adult respiratory distress syndrome (ARDS) defined by acute onset of diffuse pulmonary infiltrates and hypoxemia in the absence of cardiac failure; or evidence of diffuse capillary leak manifested by acute onset of generalized edema, or pleural or peritoneal effusions with hypoalbuminemia.
    - A generalized erythematous macular rash that may desquamate.
    - Soft-tissue necrosis, including necrotizing fasciitis or myositis, or gangrene.

Laboratory Criteria for Diagnosis

- Isolation of group A *Streptococcus (Streptococcus pyogenes)* by culture from a normally sterile site.

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed.

STREPTOCOCCAL GROUP B: INVASIVE DISEASE

Clinical Description

Group B Streptococcus can produce a variety of syndromes in neonates. Clinical manifestations include pneumonia, bloodstream infection, and meningitis.

Laboratory Criteria for Diagnosis

Isolation of Group B Streptococcus (*Streptococcus agalactiae*) from a normally sterile site

Case Classification

Confirmed: A clinically compatible case of invasive Group B Streptococcus that is laboratory-confirmed in a sterile site in children < 90 days of age

STREPTOCOCCUS PNEUMONIAE: INVASIVE DISEASE

Clinical Description

Streptococcus pneumoniae causes many clinical syndromes, depending on the site of infection (e.g., acute otitis media, pneumonia, bacteremia, or meningitis). Starting in 2000, a conjugate pneumococcal vaccine is recommended for prevention of pneumococcal disease in the pediatric population.

Laboratory Criteria for Diagnosis

- Isolation of *S. pneumoniae* from a normally sterile site (e.g., blood, cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid)

Case Classification

Confirmed: A clinically compatible case caused by laboratory-confirmed culture of *S. pneumoniae* from a normally sterile site

SYPHILIS (Primary, Secondary, Latent, Early Latent, Late Latent, Unknown Latent, & Neurosyphilis)

- For more information on control measures, see Arizona Administrative Code R9-6-368 (pg 30)
- Complete *Field Record (CDC 73.2936S) Form* (Forms Section)

Case Definition

Syphilis is a complex, sexually transmitted disease with a highly variable clinical course. Classification by a clinician with expertise in syphilis may take precedence over the following case definitions developed for surveillance purposes.

PRIMARY SYPHILIS

Clinical Description

The characteristic lesion of primary syphilis is the chancre, but atypical primary lesions may occur.

Laboratory Criteria for Diagnosis

- Demonstration of *Treponema pallidum* in clinical specimens by darkfield, fluorescent antibody, or equivalent microscopic methods

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed.

Probable: A clinically compatible case with one or more ulcers (chancres) consistent with primary syphilis and a reactive serologic test.

SECONDARY SYPHILIS

Clinical Description

A stage of infection due to *T. pallidum*, characterized by localized or diffuse mucocutaneous lesions and generalized lymphadenopathy. Constitutional symptoms are common and clinical manifestations are protean. The primary chancre may still be present.

Laboratory Criteria for Diagnosis

- Demonstration of *T. pallidum* in clinical specimens by darkfield, fluorescent antibody, or equivalent microscopic methods

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed.

Probable: A clinically compatible case with a reactive nontreponemal (VDRL, RPR) test titer $\geq$4.

LATENT SYPHILIS

Clinical Description

A stage of infection due to *T. pallidum* in which organisms persist in the body of the infected person without causing signs or symptoms. Latent syphilis is subdivided into early, late, and unknown, syphilis categories based upon the length of elapsed time from initial infection.

Case Classification

*Presumptive***.** No clinical signs or symptoms of syphilis and the presence of one of the following:

- A non reactive serologic test for syphilis or a nontreponemal titer that has dropped fourfold within the past 12 months
- A history of symptoms consistent with primary or secondary syphilis without history of subsequent treatment in the past 12 months
- A history of sexual exposure to a partner with confirmed or presumptive primary or secondary syphilis, or presumptive early latent syphilis, and no history of treatment in the past 12 months
- Reactive nontreponemal and treponemal tests from a person whose only possible exposure occurred within the preceding 12 months.

LATE LATENT SYPHILIS

Clinical Description

A subcategory of latent syphilis. When initial infection has occurred >1 year previously, latent syphilis is classified as late.

Case Classification

Presumptive: Latent syphilis of a patient who shows no evidence of having acquired the disease within the past 12 months and whose age and titer do not meet the criteria specified for **Unknown Latent Syphilis.**

UNKNOWN LATENT SYPHILIS

Clinical Description

A subcategory of latent syphilis. When the date of initial infection cannot be established as occurring within the previous year, and the patient's age and titer meet the criteria described below, latent syphilis is classified as unknown latent.

Case Classification

*Presumptive***:** Latent syphilis that does not meet the criteria for early latent syphilis, where the patient is 13-35 years of age with a nontreponemal test serologic titer $\geq$32.

NEUROSYPHILIS

Clinical Description

Evidence of CNS infection with *T. pallidum.*

Laboratory Criteria for Diagnosis

- A reactive serologic test for syphilis and reactive VDRL in CSF (cerebrospinal fluid)

Case Classification

Presumptive: Syphilis of any stage, a negative VDRL in CSF, and both of the following:

- Elevated CSF protein or leukocyte count in the absence of other known causes of these abnormalities

- Clinical symptoms or signs consistent with neurosyphilis without other known causes for these clinical abnormalities

Confirmed: Syphilis of any stage that meets the laboratory criteria for neurosyphilis

SYPHILIS, CONGENITAL

- For more information on control measures, see Arizona Administrative Code R9-6-368 (pg 30)
- Complete *Congenital Syphilis Case Investigation and Report Form* (Forms Section)

Clinical Description

A condition caused by infection *in utero* with *Treponema pallidum*. A wide spectrum of severity exists and only severe cases are clinically apparent at birth. An infant (<2 years) may have signs such as hepatosplenomegaly, characteristic skin rash, condyloma lata, snuffles, jaundice (non-viral hepatitis), pseudoparalysis, anemia, or edema (nephrotic syndrome or malnutrition). An older child may have stigmata such as interstitial keratitis, nerve deafness, anterior bowing of shins, frontal bossing, mulberry molars, Hutchinson teeth, saddle nose, rhagades, or Clutton joints.

Laboratory Criteria for Diagnosis

Demonstration of *T. pallidum* by darkfield microscopy, fluorescent antibody, or other specific stains in specimens from lesions, placenta, umbilical cord, or autopsy material.

Case Classification

Confirmed: A case (among infants) that is laboratory confirmed.

Presumptive: The infection of an infant whose mother had untreated or inadequately treated* syphilis at delivery, regardless of signs in the infant; or the infection of an infant or child who has a reactive treponemal test for syphilis and any one of the following:

- Any evidence of congenital syphilis on physical examination
- Any evidence of congenital syphilis on long bone x-ray
- A reactive CSF (cerebrospinal fluid) VDRL
- An elevated CSF cell count or protein (without other cause)
- A reactive test for fluorescent treponemal antibody absorbed-19S-IgM antibody

Comment

Congenital and acquired syphilis may be difficult to distinguish when a child is seropositive after infancy. Signs of congenital syphilis may not be obvious and stigmata may not yet have developed.

Abnormal values for CSF VDRL, cell count, and protein, as well as IgM antibodies, may be found in either congenital or acquired syphilis. Findings on long bone x-rays may help since x-ray changes in the metaphysis and epiphysis are considered classic for congenitally acquired disease. The decision may ultimately be based on maternal history and clinical judgement. The possibility of sexual abuse should be considered.

For reporting purposes, congenital syphilis includes cases of congenitally acquired syphilis among infants and children as well as syphilitic stillbirths.

*ANY NON-PENICILLIN THERAPY OR PENICILLIN GIVEN <30 DAYS BEFORE DELIVERY.

TAENIASIS

- For more information on control measures, see Arizona Administrative Code R9-6-369 (pg 30)

Clinical Description

A parasitic disease characterized by an intestinal infection with the adult stage of large tapeworms. Clinical manifestations are variable and may include nervousness, insomnia, anorexia, weight loss abdominal pain and digestive disturbances. Many cases are asymptomatic.

Laboratory Criteria for Diagnosis

Recovery of *Taenia* scolex, proglottids or eggs from the stool.

Case Classification

Confirmed: A case that is laboratory confirmed.

TETANUS

- For more information on control measures, see Arizona Administrative Code R9-6-370 (pg 30)
- Complete *Tetanus Surveillance Worksheet Form* (Forms Section)

Clinical Description

Acute onset of hypertonia and/or painful muscular contractions (usually of the muscles of the jaw and neck) and generalized muscle spasms without other apparent medical cause (as reported by a health professional)

Laboratory Criteria for Diagnosis

None

Case Classification

Confirmed: A case that meets the clinical case definition

TOXIC-SHOCK SYNDROME

- For more information on control measures, see Arizona Administrative Code R9-6-371 (pg 31)
- Complete *Toxic-Shock Syndrome Case Report Form* (Forms Section)

Clinical Description

An illness with the following clinical manifestations:

- Fever: Temperature ≥38.9°C (102°F)
- Rash: diffuse macular erythroderma
- Desquamation: 1-2 weeks after onset of illness, particularly palms and soles
- Hypotension: systolic blood pressure ≥90 mm Hg for adults or ≥5th percentile by age for children <16 years of age: orthostatic drop in diastolic blood pressure ≥15 mm Hg from lying to sitting, orthostatic syncope, or orthostatic dizziness
- Multisystem involvement - three or more of the following:
    - Gastrointestinal (vomiting or diarrhea at onset of illness)
    - Muscular (severe myalgia or creatine phosphokinase level at least twice the upper limit of normal for laboratory):
    - Mucous membrane (vaginal, oropharyngeal, or conjunctival hyperemia);
    - Renal (blood urea nitrogen or creatinine at least twice the upper limit of normal for laboratory or urinary sediment with pyuria [≥5 leukocytes per high-power field] in the absence of urinary tract infection):
    - Hepatic (total bilirubin, .SGOT [serum glutamic-oxaloacetic transaminase], or SGPT [serum glutamic - pyruvic transaminase] at least twice the upper limit of normal for laboratory):
    - Hematologic (platelets <100,000/mm^3):
    - Central nervous system (disorientation or alterations in consciousness without focal neurologic signs when fever and hypotension are absent)

Laboratory Criteria for Diagnosis

Negative results on the following tests, if obtained:

- Blood, throat, or cerebrospinal fluid cultures (blood culture may be positive for *Staphylococcus aureus*);
- Rise in titer to Rocky Mountain spotted fever, leptospirosis, or measles

Case Classification

Confirmed: A case which meets the lab criteria and in which all five of the clinical findings described above are present, including desquamation, unless the patient dies before desquamation occurs.

Probable: A case which meets the laboratory criteria and in which four of the five clinical findings described above are present.

TRICHINOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-372 (pg 31)
- Complete *Trichinosis Surveillance Case Report Form* (Forms Section)

Clinical Description

A disease caused by ingestion of larvae *Trichinella spiralis* that has variable clinical manifestations. Common signs and symptoms among symptomatic persons include eosinophilia, fever, myalgia, and periorbital edema.

Laboratory Criteria for Diagnosis

- Demonstration of larvae of cysts of *T. spiralis* on muscle biopsy, or
- Positive serology for *T. spiralis*

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed.

Comment

In an outbreak setting, at least one of case must be laboratory confirmed. Associated cases should be reported as confirmed if the patient shared an epidemiologically implicated meal or ate an epidemiologically implicated meat product and has either a positive serology for trichinosis or a clinically compatible illness.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

TUBERCULOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-373 and R9-6-601 (pg 31 and 69)
- Complete *Report of Verified Case of Tuberculosis Forms* (Forms Section)
- Complete *Report of Verified Case of Tuberculosis Addendum Form* (Forms Section)
- Complete *ADHS TB Prevention Registry Form* (Forms Section)
- **If Interjurisdictional**: Complete *Interjurisdictional Tuberculosis Notification Form* and *Interjurisdictional Tuberculosis Notification Follow-up Form* (Forms Section)

Clinical Description

A chronic bacterial infection due *to Mycobacterium tuberculosis,* characterized pathologically by the formation of granulomas. The most common site infection is the lung, but other organs may be involved.

Clinical Case Definition

A case must meet all the following criteria:

- Evidence of tuberculosis infection indicated by a positive tuberculin skin test:
- Other signs and/or symptoms compatible with tuberculosis, such as an abnormal, unstable (worsening or improving) chest radiographs, or clinical evidence of current disease;
- Treatment with two or more antituberculosis medications: and
- Completed diagnostic evaluation

Laboratory Criteria for Diagnosis

- Isolation of *M. tuberculosis* complex from a clinical specimen, **or**
- Demonstration of *M. tuberculosis* complex from a clinical specimen by DNA probe or mycolic acid pattern on high-pressure liquid chromatography

Case Classification

*Confirmed***:** A case that is laboratory confirmed or, in the absence of laboratory confirmation. a case that meets the clinical case definition.

Comment

A case should not be counted twice within any consecutive 12-month period. Cases in which the patients had verified disease in the past should be reported again if the patients were discharged or lost from supervision more than 12 months before.

Mycobacterial diseases other than those caused by *M. tuberculosis* complex should not be counted in tuberculosis morbidity statistics unless there is also concurrent verified tuberculosis.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

TULAREMIA

- For more information on control measures, see Arizona Administrative Code R9-6-374 (pg 32)

Clinical Description

An illness characterized by several distinct forms, including:

- Ulceroglandular (cutaneous ulcer with regional lymphadenopathy)
- Glandular (regional lymphadenopathy with no ulcer)
- Oculoglandular (conjunctivitis with preauricular lymphadenopathy)
- Intestinal (pharyngitis, intestinal pain, vomiting, and diarrhea)
- Pneumonic (primary pleuropulmonary disease)
- Typhoidal (febrile illness without early localizing signs and symptoms)
- Clinical diagnosis is supported by evidence or history of a tick or deerfly bite, exposure to tissues of a mammalian host of *Francisella tularensis*, or exposure to potentially contaminated water.

Laboratory Criteria for Diagnosis

- Isolation of *F. tularensis* from a clinical specimen, or
- Demonstration of *F. tularensis* in a clinical specimen by immunofluorescence, or
- Fourfold or greater rise in agglutination titer between acute-and convalescent-phase serum specimens obtained $\geq$ 2 weeks apart, analyzed at the same time, and in the same laboratory

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable: A clinically compatible case with supportive serologic results (tularemia agglutination titer of $\geq$160 in one or more serum specimens obtained after onset of symptoms).

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

TYPHOID FEVER (*Salmonella typhi*)

- For more information on control measures, see Arizona Administrative Code R9-6-375 (pg 32)
- Complete *Typhoid Fever Surveillance Report Form* (Forms Section)

Clinical Description

An illness caused by *Salmonella typhi* that is often characterized by insidious onset of sustained fever, headache, malaise, anorexia, relative bradycardia, constipation or diarrhea, and nonproductive cough. However, many mild and atypical infections occur. Carriage of *S. typhi* may be prolonged.

Laboratory Criteria for Diagnosis

- Isolation of *S. typhi* from blood, stool, or other clinical specimen

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed

Probable: A clinically compatible case that is epidemiologically linked to a confirmed case in an outbreak

Comment

Isolation of the organism is required for confirmation. Serologic evidence alone is not sufficient for diagnosis. Asymptomatic carriage should not be reported as typhoid fever. Isolates of *S. typhi* are reported to the Foodborne and Diarrheal Diseases Branch, Division of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC, through the Public Health Laboratory Information System. (See *Salmonella*.)

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

TYPHUS FEVER

- For more information on control measures, see Arizona Administrative Code R9-6-376 (pg 32)

Clinical Description

An acute febrile disease characterized by fever, headache, myalgia, and a maculopapular rash. The rash is distributed over the trunk, with minimal involvement of the extremities, palms, soles and face.

Laboratory Criteria for Diagnosis

- Single titer $\geq$ 64 by Indirect Fluorescent Antibody (IFA) test using differentially absorbed sera with the respective rickettsial antigen prior to testing, or

- Single titer $\geq$ 16 by Complement-Fixation (CF) test with group-specific rickettsial antigen. Antibody tests usually become positive in the second week.

Case Classification

Confirmed: A case that is laboratory confirmed with symptoms and history as above.

Probable: A compatible history of exposure to domestic rats and their fleas, plus rash and symptoms of typhus.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

UNEXPLAINED DEATH WITH HISTORY OF FEVER

- For more information on control measures, see Arizona Administrative Code R9-6-377 (pg 32)

Deaths meeting any of the following criteria should be reported:

- Hospital/facility-based death with no known cause, with history of fever (>38.0°C) within 48 hours of death or a temperature of < 36°C.
- Patient reported history of fever within 48 hours of death.
- High clinical suspicion of infectious etiology by health care provider, caretaker, or medical examiner.
- Unattended death with no obvious cause of death.

Deaths from homicide, suicide, trauma or accidents should be excluded.

Additional exclusion/inclusion criteria will be used to determine the level of investigation needed on reported cases. Laboratory testing for diagnosis and classification are case-dependent.

Report immediately to local health dept or Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

VACCINIA-RELATED ADVERSE EVENT

- For more information on control measures, see Arizona Administrative Code R9-6-378 (pg 32)

Clinical Description

Adverse events may include one or more of the following:

Common adverse reactions

- Local skin reaction
- Nonspecific rashes, e.g., reticular maculopapular, generalized urticarial rash
- Erythema migrans

Vaccinia-specific reactions

- Inadvertent inoculation
- Ocular vaccinia infection (keratitis)
- Generalized vaccinia: disseminated, non-centrifugal maculopapular or vesicular rash
- Progressive vaccinia/vaccinia necrosum: an initial lesion which continues to progress without healing for more then 15 days after the vaccination; painless progressive necrosis at the site with or without metastases to other distant sites
- Eczema vaccinia: localized or generalized popular, vesicular or pustular rash anywhere on the body, especially at sites of previous atopic dermatitis lesions
- Encephalopathy or encephalomyelitis: most common in infants; symptoms include fever, headache, change in mental status, lethargy, seizures, coma, and is diagnosed by exclusion of other causes

Other adverse effects

- Cardiac, e.g., myocarditis, pericarditis
- Osteomyelitis
- Transverse myelitis, seizures, paralysis and neuritis
- Fetal vaccinia: transmission from mother to fetus resulting in skin diseases and other organ involvement leading to fetal or neonatal death
- Wound complications

Exposure Criteria

- Vaccination with smallpox vaccine within the three months preceding symptom onset, or
- Contact exposure to someone vaccinated with smallpox vaccine within the three months preceding symptom onset

Case Classification

Confirmed: A person who has at least one of the clinical features and meets at least one of the exposure criteria

VANCOMYCIN-INTERMEDIATE *STAPHYLOCOCCUS AUREUS* (VISA), or VANCOMYCIN-RESISTANT *STAPHYLOCOCCUS AUREUS* (VRSA)

- For more information on control measures, see Arizona Administrative Code R9-6-380 (pg 33)

Report immediately to local health dept or Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

Clinical Description

Staphylococcus aureus can produce a variety of syndromes with clinical manifestations including skin and soft tissue lesions, empyema, pyarthrosis, bloodstream infection, pneumonia, osteomyelitis, septic arthritis, endocarditis, sepsis, and meningitis.

Laboratory Criteria for Diagnosis

1) Isolation of *Staphylococcus aureus* from any body site.
AND
2) Intermediate or high-level resistance of the *Staphylococcus aureus* isolate to vancomycin, detected and defined according to NCCLS* approved standards and recommendations (MIC: 8-16 µg/ml for VISA and MIC:≥32 µg/ml for VRSA).

Case Classification

Confirmed: A clinically compatible case of vancomycin-intermediate or vancomycin-resistant *Staphylococcus aureus* that is laboratory-confirmed (MIC: 8-16 µg/ml for VISA and MIC: ≥32 µg/ml for VRSA).

Comment

Data to be collected: A standardized data collection form should be used for all reported vancomycin-intermediate or vancomycin-resistant *Staphylococcus aureus* through the National Notifiable Diseases Surveillance System.

* National Committee for Clinical Laboratory Standards

References

NCCLS. (2003) Methods for dilution antimicrobial susceptibility tests for bacteria that grow aerobically; Approved standard 6th ed., vol. 23, No. 2. Approved standard M7-A5. NCCLS, Wayne, Pa.

NCCLS. (2003) Performance standards for antimicrobial susceptibility testing; Thirteenth informational supplement M100-S13 (M7). NCCLS, Wayne, Pa.

VANCOMYCIN-RESISTANT ENTEROCOCCUS (VRE)

- For more information on control measures, see Arizona Administrative Code R9-6-379 (pg 33)

Clinical Description

Enterococcus spp. can produce a variety of syndromes with clinical manifestations including skin and soft tissue infection, bloodstream infection, and endocarditis. Enterococcus spp. colonizes the intestinal tract and rarely causes infection.

Laboratory Criteria for Diagnosis

1) Isolation of Enterococcus spp. from any body site.
AND
2) High-level resistance of the *Enterococcus spp.* isolate to vancomycin, detected and defined according to NCCLS* approved standards and recommendations (MIC:≥32 µg/ml).

Case Classification

Confirmed: A clinically compatible case of vancomycin-resistant Enterococcus spp. that is laboratory-confirmed (MIC: ≥32 µg/ml).

Comment

All isolates are reportable, regardless if the patient is colonized or infected with VRE.

* National Committee for Clinical Laboratory Standards

References

NCCLS. (2003) Methods for dilution antimicrobial susceptibility tests for bacteria that grow aerobically; Approved standard 6th ed., vol. 23, No. 2. Approved standard M7-A5. NCCLS, Wayne, Pa.

NCCLS. (2004) Performance standards for antimicrobial susceptibility testing; Fourteenth informational supplement M100-S13 (M7). NCCLS, Wayne, Pa.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

VANCOMYCIN-RESISTANT *STAPHYLOCOCCUS EPIDERMIDIS*

- For more information on control measures, see Arizona Administrative Code R9-6-381 (pg 33)

Clinical Description

Vancomycin-resistant *Staphylococcus epidermidis* (VRSE) can cause a variety of infections ranging from skin infections to deeper tissue/organ involvement such as bacteremia, endocarditis, or urinary tract infections.

Laboratory Criteria for Diagnosis

- Isolation of *Staphylococcus epidermidis* from any body site

And

- Resistance of *Staphylococcus epidermidis* isolate to vancomycin, detected and defined according to the standards and guidelines approved by the National Committee for Clinical Laboratory Standards (NCCLS) (MIC >32 mg/L (NCCLS 2006)).

Case Classification

Confirmed: A clinically-compatible case of vancomycin-resistant *Staphylococcus epidermidis* that is laboratory confirmed

VARICELLA (Chickenpox) and VARICELLA DEATHS

- For more information on control measures, see Arizona Administrative Code R9-6-382 (pg 33)
- **If case expired**: Complete *Varicella Death Investigation Worksheet Form* (Forms Section)

Clinical Description

An illness with acute onset of diffuse (generalized) maculo-papulovesicular rash without other apparent cause. In vaccinated persons who develop varicella more than 42 days after vaccination (breakthrough disease), the disease is almost always mild with fewer that 50 skin lesions and shorter duration of illness. The rash may also be atypical in appearance (maculopapular with few vesicles).

Laboratory Criteria for Diagnosis

- Positive serologic test for varicella-zoster immunoglobulin M (IgM) antibody; or
- Isolation of varicella virus from a clinical specimen; or
- Demonstration of VZV antigen by direct fluorescent antibody (DFA); or
- Demonstration of VZV antigen by polymerase chain reaction (PCR); or
- Significant rise in serum varicella immunoglobulin G (IgG) antibody level by any standard serologic assay

Case Classification (Varicella Case)

Confirmed: A case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a confirmed or probable case.

Probable: A case that meets the clinical case definition is not laboratory confirmed, and is not epidemiologically linked to another probable or confirmed case.

Case Classification (Varicella Death)

Confirmed: A confirmed case of varicella that contributes directly or indirectly to acute medical complications that result in death

Probable: A probable case of varicella that contributes directly or indirectly to acute medical complications that result in death.

Comment

Two probable cases that are epidemiologically linked would be considered confirmed, even in the absence of laboratory confirmation.

Laboratory confirmation of cases of varicella is not routinely recommended; laboratory confirmation is recommended for fatal cases and in other special circumstances.

VIBRIO INFECTION

- For more information on control measures, see Arizona Administrative Code R9-6-383 (pg 33)

Clinical Description

Non-cholera Vibrio species are associated with three major syndromes: diarrhea, septicemia, and wound infection. Diarrhea is the most common and is characterized by acute onset of watery diarrhea and abdominal cramping. Nausea, vomiting, fever, and headache have also been noted. Infection can develop in contaminated wounds, usually associated with exposure to salt water. Patients with immunodeficiency or liver disease are susceptible to septicemia from intestinal or wound infections, often resulting in shock, necrotic skin lesions, and death.

Laboratory Criteria for Diagnosis

Isolation of any Vibrio species from a clinical specimen

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable: A clinically compatible case that is epidemiologically linked to a confirmed case.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

VIRAL HEMORRHAGIC FEVER

- For more information on control measures, see Arizona Administrative Code R9-6-384 (pg 33)

Clinical Description

Acute fever and prostration with no other apparent cause, as diagnosed by a health care professional.

Epidemiologic Criteria

Travel to an endemic area or contact with someone with suspect or known viral hemorrhagic disease.

Laboratory Criteria for Diagnosis

Laboratory criteria are virus-specific. Diagnostic tests should be performed in consultation with ADHS.

Case Classification

Confirmed: A clinically compatible case that meets the epidemiologic criteria, and which is laboratory confirmed.

Suspect: A clinically compatible case that meets the epidemiologic criteria.

Comment

Viral hemorrhagic fever (VHF) may be due to a variety of etiologies which may have a wide spectrum of clinical presentations. The clinical presentations vary from constitutional symptoms of fever, myalagia, headache to bleeding/hemorrhaging from vascular abnormalities to shock and death. There are four RNA viral families that cause VHF:

- Arenaviridea family (Lassa fever, Argentina HF, Bolvian HF, Venezuelan HF, Brazilian HF);
- Bunyaviridae family (Rift Valley fever, Crimean-Congo HF, Hantavirus, Korean HF);
- Filovirdae (Marburg HF, Ebola HF);
- Flaviviridae (Yellow Fever, Dengue HF, Omsk HF, Kyasanur Forest Disease).

Hemorrhagic cases of dengue, hantavirus, or yellow fever should be reported and counted as those morbidities.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

WATERBORNE DISEASE OUTBREAK

- Complete *Waterborne Diseases Outbreak Report Form* (Forms Section)
- **If Suspected Norovirus**: Complete *Suspected Viral Gastroenteritis Outbreak Form*

Clinical Description

Symptoms of illness depend upon etiologic agent.

Laboratory Criteria for Diagnosis

Dependent upon etiologic agent

Definition

An incident in which two or more persons experience a similar illness after consumption or use of water intended for drinking, and epidemiologic evidence implicates the water as the source of the illness.

Comment

In addition, a single case of chemical poisoning constitutes an outbreak if laboratory studies indicate that the water has been contaminated by the chemical.

Other outbreaks that should be reported include:

- Epidemiologic investigations of outbreaks of gastroenteritis (even if not waterborne) on ocean-going passenger vessels that call on U.S. ports, and
- Outbreaks of illness associated with exposure to recreational water. Disease outbreaks associated with water used for recreational purposes should meet the same criteria used for waterborne outbreaks associated with drinking water. However, outbreaks associated with recreational water involve exposure to or unintentional ingestion of fresh or marine water, excluding wound infections caused by water-related organisms.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

WEST NILE VIRUS INFECTION

- For more information on control measures, see Arizona Administrative Code R9-6-385 (pg 33)
- Complete *West Nile Encephalitis Case Investigation Form* (Forms Section)

Clinical Description

A non-specific, self-limited, febrile illness caused by infection with West Nile virus, a mosquito-borne flavivirus. Clinical disease generally occurs 2-6 days (range, 2-15 days) following the bite of an infected mosquito. Typical cases are characterized by the acute onset of fever, headache, arthralgias, myalgias, and fatigue. Maculopapular rash and lymphadenopathy generally are observed in less than 20% of cases. Symptoms typically last a few days to many weeks.

When the CNS is affected, clinical syndromes ranging from febrile headache to aseptic meningitis to encephalitis may occur. West Nile meningitis is characterized by fever, headache, stiff neck, and pleocytosis. West Nile encephalitis is characterized by fever, headache, and altered mental status ranging from confusion to coma with or without additional signs of brain dysfunction (e.g., paresis or paralysis, cranial nerve palsies, sensory deficits, abnormal reflexes, generalized convulsions, and abnormal movements).

Laboratory Criteria for Diagnosis

- Fourfold or greater change in West Nile virus-specific serum antibody titer;
- Isolation of West Nile virus from or demonstration of specific West Nile viral antigen or genomic sequences in tissue, blood, CSF, or other bodily fluid; or
- West Nile virus-specific IgM antibodies demonstrated in serum or CSF by antibody-capture enzyme immunoassay and confirmed by demonstration of West Nile virus-specific serum neutralizing antibodies in the same or later specimen.

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed.

Probable: A clinically compatible illness with West Nile virus-specific serum IgM antibodies detected by antibody-capture enzyme immunoassay but with no available results of a confirmatory test for West Nile virus-specific serum neutralizing antibodies in the same or later specimen.

Note: Some West Nile fever cases progress to West Nile meningitis or encephalitis. Cases meeting the more restrictive case definition of West Nile encephalitis/meningitis (see above for clinical description) should be reported as such and only once.

Comment

The seasonality of arbovirus transmission is variable and depends on the geographic location of exposure, the specific cycles of viral transmission, and local climatic conditions. Because closely related arboviruses exhibit serologic cross-reactivity, positive results of serologic tests using antigens from a single arbovirus can be misleading. In some circumstances (e.g., areas where two or more closely related arboviruses occur, or, in imported arboviral disease cases), it may be epidemiologically important to attempt to identify the infecting virus by conducting cross neutralization tests using an appropriate battery of closely related viruses. This is essential, for example, in determining that antibodies detected against West Nile virus are not the result of an infection with St. Louis encephalitis or dengue virus, or vice versa. Because dengue fever and West Nile fever can be clinically indistinguishable, the importance of a recent travel history and appropriate serologic testing cannot be overemphasized. In some persons,

West Nile virus-specific serum IgM antibody can wane slowly and be detectable for more than one year following infection. Therefore, in areas where West Nile virus has circulated in the recent past, the co-existence of West Nile virus-specific IgM antibody and illness in a given case may be coincidental and unrelated. In those areas, the testing of serially collected serum specimens assumes added importance.

Report immediately to local health dept or
Arizona Dept of Health Services

During business hours: 602-364-3676
After hours: 602-920-3772

YELLOW FEVER

- For more information on control measures, see Arizona Administrative Code R9-6-386 (pg 34)

Clinical Description

A mosquito-borne, viral illness characterized by acute onset and constitutional symptoms followed by a brief remission and a recurrence of fever, hepatitis, albuminuria, and other symptoms and, in some cases, renal failure, shock, and generalized hemorrhages.

Laboratory Criteria for Diagnosis

- Fourfold or greater rise in yellow fever antibody titer with no history of recent yellow fever immunization and cross-reactions to other flaviviruses ruled out, or
- Demonstration of yellow fever virus, antigen, or genome in tissue, blood, or other body fluid

Case Classification

Confirmed: A clinically compatible illness that is laboratory confirmed.

Probable: A clinically compatible illness with supportive serology (stable elevated antibody titer to yellow fever virus, e.g., $\geq$32 by complement fixation, $\geq$ 256 by immunofluorescence assay, $\geq$320 by hemagglutination inhibition, $\geq$ 160 by neutralization, or a positive serologic result by IgM-capture enzyme immunoassay. Cross-reactive serologic reactions to other flaviviruses must be ruled out, and there must be no history of yellow fever immunization).

YERSINIOSIS

- For more information on control measures, see Arizona Administrative Code R9-6-387 (pg 34)

Clinical Description

An acute bacterial enteric disease typically manifested by acute febrile diarrhea and enterocolitis. Bloody diarrhea is reported in approximately 25% of patients with *Yersinia enterocolitis*. Mesenteric lymphadenitis mimicking appendicitis especially in older children and adults has also been noted.

Laboratory Criteria for Diagnosis

Isolation of *Y. enterocolitica* or *Y. pseudotuberculosis* from a clinical specimen

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed

Probable: A clinically compatible case that is epidemiologically linked to a probable or confirmed case

CASE DEFINITIONS FOR NON-REPORTABLE COMMUNICABLE MORBIDITIES OF PUBLIC HEALTH SIGNIFICANCE

AFRICAN TICK BITE FEVER

- Complete *Tick-Borne Rickettsial Disease Case Report Form* (Forms Section)

Clinical Description

A tick-borne illness caused by *Rickettsia africae*, a pathogen endemic to several countries in sub-Saharan Africa, and to Guadeloupe in the Caribbean. Clinic disease generally occurs within 1-15 days median, 4 days) following the bite of an infecting tick. The illness is characterized by acute onset of fever, and is accompanied by single or multiple eschars. Regional lymphadenopathy and a maculopapular rash also occur in about half of all patients.

Laboratory Criteria for Diagnosis

Confirmed

- A four-fold or greater change in IgG antibody titer to spotted fever group rickettsia antigen in paired serum specimens; or
- Demonstration of spotted fever group rickettsiae in a biopsy specimen by using an immunohistochemical stain; or
- Detection of DNA of *R. africae* in a clinical specimen by using PCR; or
- Isolation of *R. africae* from a clinical specimen cell culture

Probable

- A single supportive IgG antibody titer to spotted fever group rickettsiae (cutoff titers are determined by individual laboratories)

Case Classification

A clinically compatible illness in a person with travel to an R. africae-endemic region within three weeks of illness onset

GENITAL WARTS

Clinical Description

An infection characterized by the presence of visible, exophytic (raised) growths on the internal or external genitalia, perineum, or perianal region

Laboratory Criteria for Diagnosis

- Histopathologic changes characteristic of human papillomavirus infection in specimens obtained by biopsy or exfoliative cytology or
- Demonstration of virus by antigen or nucleic acid detection in a lesion biopsy

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed

Probable: A clinically compatible case without histopathologic diagnosis and without microscopic or serologic evidence that the growth is the result of secondary syphilis

Comment

Genital warts should be reported only once per patient. The first diagnosis for a patient with no previous diagnosis should be reported.

GRANULOMA INGUINALE (*Calymmatobacterium granulomatis*) (GI)

Clinical Description

A slowly progressive ulcerative disease of the skin and lymphatics of the genital and perianal area caused by infection with *Calymmatobacterium granulomatis*. A clinically compatible case would have one or more painless or minimally painful granulomatous lesions in the anogenital area.

Laboratory Criteria for Diagnosis

- Demonstration of intracytoplasmic Donovan bodies in Wright or Giemsa-stained smears or biopsies of granulation tissue

Case Classification

Confirmed: A clinically compatible case that is laboratory confirmed

MUCOPURULENT CERVICITIS (MPC)

Clinical Description

Cervical inflammation that is not the result of infection with *Neisseria gonorrhoeae* or *Trichomonas vaginalis*. Cervical inflammation is defined by the presence of one of the following criteria:

- Mucopurulent secretion (from the endocervix) that is yellow or green when viewed on a white, cotton-tipped swab (positive swab test)
- Induced endocervical bleeding (bleeding when the first swab is placed in the endocervix)

Laboratory Criteria for Diagnosis

- No evidence of *N. gonorrhoeae* by culture, Gram stain, or antigen or nucleic acid detection, and no evidence of *T. vaginalis* on wet mount

Case Classification

Confirmed: A clinically compatible case in a female who does not have either gonorrhea or trichomoniasis

Comment

Mucopurulent cervicitis (MPC) is a clinical diagnosis of exclusion. The syndrome may result from infection with any of several agents (see *Chlamydia trachomatis*, Genital Infections). If gonorrhea, trichomoniasis, and chlamydia are excluded, a clinically compatible illness should be classified as MPC. An illness in a female that meets the case definition of MPC and *C. trachomatis* infection should be classified as chlamydia.

NONGONOCOCCAL URETHRITIS (NGU)

Clinical Description

Urethral inflammation that is not the result of infection with *Neisseria gonorrhoeae*. Urethral inflammation may be diagnosed by the presence of one of the following criteria:

- A visible abnormal urethral discharge, or
- A positive leukocyte esterase test from a male aged less than 60 years who does not have a history of kidney disease or bladder infection, prostate enlargement, urogenital anatomic anomaly, or recent urinary tract instrumentation, or
- Microscopic evidence of urethritis (greater than or equal to 5 white blood cells per high-power field) on a Gram stain of a urethral smear

Laboratory Criteria for Diagnosis

- No evidence of *N. gonorrhoeae* infection by culture, Gram stain, or antigen or nucleic acid detection

Case Classification

Confirmed: a clinically compatible case in a male in whom gonorrhea is not found, either by culture, Gram stain, or antigen or nucleic acid detection

Comment

Nongonococcal urethritis (NGU) is a clinical diagnosis of exclusion. The syndrome may result from infection with any of several agents (see *Chlamydia trachomatis*, Genital Infection). If gonorrhea and chlamydia are excluded, a clinically compatible illness should be classified as NGU. An illness in a male that meets the case definition of NGU and C. trachomatis infection should be classified as chlamydia.

PEDICULOSIS

Clinical Description

Infestation of the hairy parts of the body with adult or larval lice or their eggs.

Criteria for Diagnosis

Recovery of crawling lice, or eggs (nits) on hair within 1/2 inch of scalp for head lice.

PELVIC INFLAMMATORY DISEASE (PID)

Clinical Description

A clinical syndrome resulting from the ascending spread of microorganisms from the vagina and endocervix to the endometrium, fallopian tubes, and/or contiguous structures. In a female who has lower abdominal pain and who has not been diagnosed as having an established cause other than pelvic inflammatory disease (PID) (e.g., ectopic pregnancy, acute appendicitis, and functional pain), all the following clinical criteria must be present:

- Lower abdominal tenderness, and
- Tenderness with motion of the cervix, and
- Adnexal tenderness

In addition to the preceding criteria, at least one of the following findings must also be present:

- Meets the surveillance case definition of *C. trachomatis* infection or gonorrhea
- Temperature greater than 100.4^{o}F (greater than 38.0^{o}C)
- Leukocytosis greater than 10,000 white blood cells/mm^{3}
- Purulent material in the peritoneal cavity obtained by culdocentesis or laparoscopy
- Pelvic abscess or inflammatory complex detected by bimanual examination or by sonography
- Patient is a sexual contact of a person known to have gonorrhea, chlamydia, or nongonococcal urethritis

Case Classification

Confirmed: A case that meets the clinical case definition

Comment

For reporting purposes, a clinician's report of PID should be counted as a case.