

West Virginia EPI-LOG



Division of Surveillance & Disease Control

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AIDS Prevention	(304) 558-2195
Cancer Registry	(304) 558-6421
Epidemiology	(304) 558-5358
Immunization	(304) 558-2188
STD Program	(304) 558-2950
TB Control	(304) 558-3669

Statewide Disease Facts & Comparisons

Prevention of Lyme disease stressed during summertime work & recreation

Summer is fast approaching, and those little creatures called ticks are out in full force. Lyme disease continues to increase nationally as well as in West Virginia. In the year 2000, West Virginia reported 34 confirmed cases of Lyme disease, up from 20 cases reported in 1999.

Lyme disease is an infection caused by the bacteria *Borrelia burgdorferi*. It is transmitted by the bite of the deer tick (*Ixodes scapularis*) which is found in the Northeastern United States and the Mid-Atlantic States. The *Ixodes* tick is much smaller than the common dog and cattle ticks. The deer tick is about the size of a pin head. Ticks feed on blood by inserting their mouth parts into the skin of the host animal. As they feed, their bodies slowly enlarge. This takes several days before they fall off of their host. The tick must feed on the individual for a minimum of 24 hours in order for the disease to be transmitted.

Lyme disease can be divided into clinical stages, early and late or, disseminated. The illness in about 90% of the patients presents with a characteristic "bull's eye" rash, erythema migrans, and other nonspecific symptoms such as fever, malaise, fatigue, headache, muscle aches and joint pain. The incubation period from infection to onset of rash ranges from 3 to 30 days. The

mean period is 7 to 10 days.

Lyme disease spirochetes disseminate from the site of the tick bite by cutaneous lymphatic and blood-borne routes. If left untreated a secondary erythema migrans lesion may present as well as neurological, musculoskeletal and cardiac manifestations that may last for years.

The diagnosis of Lyme disease is based on clinical findings, and it is often appropriate to treat patients with early disease solely on the basis of objective signs and a known exposure. Serological testing should be done to support the clinical diagnosis. CDC recommends testing initially with a sensitive first

(See *Lyme*, page 2)



Female deer tick (with dime for size comparison)

Photo courtesy of John VanDyk, Iowa State University Department of Entomology

IN THIS ISSUE

- Lyme Disease Prevention
- WV Cancer Report Available
- Immunization Registry Facts
- Epi-Log Moving to New Format
- Rocky Mountain Spotted Fever
- Summertime and Salmonella

(Lyme, continued from page 1)

test, either an enzyme linked immunosorbent assay (ELISA) or an indirect fluorescent antibody (IFA) test. If the first test is either equivocal or positive, a Western Immunoblot Test should be performed. If the first test is negative, no further testing is necessary. Lyme disease diagnosed early can usually be treated successfully with oral antimicrobials such as Doxycycline or Amoxicillin for 21-30 days.

In 1999, the U.S. Food and Drug Administration approved a vaccine for Lyme disease for use in humans between the ages of 15 and 70 who live in areas of moderate to high risk for Lyme disease and have prolonged contact with tick habitats. The vaccine requires three doses. The second dose is given 30 days after the first dose and a third dose is given one year after the first dose.

Having Lyme disease does not confer immunity. A person bitten by an infected tick may be reinfected with Lyme disease on subsequent tick bites.

Ticks can be found anywhere, in the woods, grassy areas and at the seashore. People are moving into what was once farm land and they are being infected in their back yards.

The peak season in the Northeast and Mid Atlantic area is April through September. To reduce the chance of becoming infected with Lyme disease:

- (1) Avoid tick infested areas.
- (2) Use insect repellent containing DEET.
- (3) Wear light colored clothing so ticks can be easily spotted.
- (4) Wear long sleeved shirts and tuck pants into socks or boots.
- (5) After being out do a full body examination for ticks, paying particular attention to scalp, behind ears and joints and hard-to-see areas such as the back.

Lyme disease is a reportable disease in West Virginia. Diagnostic laboratories are required by law to report all positive Lyme disease test results to the health department where follow-up is made to obtain more clinical and demographic information.

References:

1. Chin, James, M.D., M.P.H. Editor, Control of Communicable Disease Manual, APH, 17th Edition.
2. MMWR, Vol. 48, No. RR-7, Recommendations for Use of Lyme Disease Vaccine, Recommendations of the Advisory Committee on Immunization Practices (ACIP).
3. <http://www.cdc.gov/ncidod/dvbid/lymeinfo.htm>
4. MMWR, Vol. 49, No. S S-3, Surveillance for Lyme Disease United States, 1992-1998 ●

NOW AVAILABLE

***Cancer in West Virginia:
Incidence and Mortality
1993-1998***

The sixth annual report, *Cancer in West Virginia: Incidence and Mortality 1993-1998* is now available on the West Virginia Department of Health Human Resources web site. You can reach the report directly at <http://www.wvdhhr.org/bph/oehp/sdc/cancerrep.htm>.

Paper copies of this report should be available in May 2001. To order a printed copy of the report, call the West Virginia Cancer Registry at (304)558-6421 or fax a request to (304)558-4463. ●

**What's new with the
West Virginia Epi-Log?**

First, the BAD NEWS ... ☹

Readers of the *West Virginia Epi-Log* may have noticed some missing information in the last issue (First Quarter 2001, Volume 20, Number 1). Because to a printing error beyond our control, some of the demographic categories in our HIV/AIDS surveillance charts were missing. We regret any inconvenience or confusion this problem may have caused.

Now, the GOOD NEWS ... ☺

This publication is not available online. Beginning with this issue, the *West Virginia Epi-Log* will be available on a PDF file on the Division of Surveillance & Disease Control website (<http://www.wvdhhr.org/bph/oehp/sdc>).

Your input is needed! The next (Third Quarter/2001) issue of the *Epi-Log* will include a survey that we encourage you to fill out. Will you wish to continue receiving printed copies of the *Epi-Log*? Can you access it online? We will want to know in the next issue! ●

A fully mature immunization registry is one that records all shots for all children.

Registries also:

- Enable prompt access to immunization information.
- Protect patient confidentiality.
- Ensure security of medical information.
- Recover lost data.
- Provide patients insurance that information is being safely maintained.
- Automatically determine the immunizations a patient needs.
- Consolidate immunization records from multiple providers.

WVSIIS Registry Statistics

Provider Level	Volume	#Sites in State	#Sites Currently Enrolled
Mega	>3,000 doses/site	27	23
High	1,001-3,000 doses/site	106	61
Mid	500-1,000 doses/site	44	16
Low	<500 doses/site	190	0
	Totals	367	100

WVSIIS needs all immunization providers to play an active role in making WV's registry a success.

West Virginia Immunization Program Help Desk 877.408.8930
 Daniel Van Kirk Fax 304.558.1941
 350 Capitol Street, Room 125 DanielVanKirk@wvdhhr.org
 Charleston, WV 25301 www.wvdhhr.org/wvsiis/

Call the WVSIIS specialists today to schedule your office for free software installation. On site training is also available.

County Health Departments Enrolled

Barbour	Fayette	Jefferson	Mercer	Pleasants	Taylor
Berkeley	Gilmer	Kanawha	Mineral	Pocahontas	Tucker
Boone	Grant	Lewis	Mingo	Preston	Upshur
Braxton	Greenbrier	Lincoln	Monongalia	Putnam	Wayne
Brooke	Hampshire	Logan	Monroe	Raleigh	Webster
Cabell	Hancock	McDowell	Morgan	Randolph	Wirt
Calhoun	Hardy	Marion	Nicholas	Ritchie	Wood
Clay	Harrison	Marshall	Ohio	Roane	Wetzel/Tyler
Doddridge	Jackson	Mason	Pendleton	Summers	Wyoming

Private Providers Enrolled

- ABC Pediatrics
- Alpha & Omega
- Belington Clinic
- Miniya Berhane, MD
- Borchert, Christopher
- Mary S. Boyd, MD
- Comm. Health Foundation
- EA Hawse Health Center
- Family Health Care
- Family Medical Center
- Grant Memorial Pediatrics
- Gilmer Primary Care
- Afifs Habash, MD
- Huntington Pediatrics Clinic
- Farukh A Khan, MD
- Kiddy Korner
- Lincoln Primary Care Cent.
- Kimberly Martin, MD
- McDowell Co. Head Start
- Minnie Hamilton Health Care
- Minor Family Practice
- Monongalia Pediatrics & Youth Assoc. Inc.
- Monongalia Valley Association of Health Centers
- H Moradi, MD
- Pediatric a& Adolescent Gr.
- Pediatric Care Wheeling
- Pendleton Comm. Care
- Princeton Pediatrics
- Pineville Childrens Clinic
- Raleigh/Boone Med. Center
- Ravenswood Family Medical Center
- Joung Rhee, MD
- Robert C Byrd Clinic
- Romano, Judith, MD
- Rojas, Samuel P., MD
- Summersville Pediatrics
- Tug River Health Assoc.
- United Health Professionals
- University Pediatrics (Huntington)
- University Pediatrics (Hurricane)
- University Pediatrics (Teays)
- Valley Health Care Inc
- Valley Health Systems
- Milton Family Physicians



West Virginia Department of Health and Human Resources
Information for Physicians on
Rocky Mountain Spotted Fever

Does Rocky Mountain Spotted Fever (RMSF) occur in West Virginia?

From 1996 through 2000, 13 cases of RMSF were reported in our state, including one fatality. However, the disease is often not reported or diagnosed. During this time period, cases were reported from Berkeley, Cabell, Hampshire, Hardy, Jefferson, Mercer, Roane, and Wirt counties.

What are the signs and symptoms of RMSF?

Signs of the disease usually begin two to 12 days after a tick bite. Initially, patients have fever and headache followed by rash, myalgias, nausea, vomiting or abdominal pain. Severe infection may compromise respiratory, CNS, cardiac and renal system function.

The rash characteristically begins on the wrists and ankles, then spreads to the palms and soles, followed by proximal extremities and trunk. Initially, the rash is macular, and blanches with pressure. Over time, the rash evolves into petechiae and purpura. Gangrenous areas may develop on the fingers, toes, nose, ears, scrotum or vulva.

Risk factors for fatal RMSF include age >40, nonwhite race, male gender, absence of headache, lack of history of tick attachment, delay in treatment, gastrointestinal symptoms and no treatment by the fifth day of illness.

What's the best way to make the diagnosis?

Diagnosis is difficult, and is based on clinical suspicion. *Systemic illness during tick season is the most important clue.* The triad of headache, fever and rash occurs in only 3% of patients at presentation. Most patients with RMSF develop a skin rash after about 3-5 days of illness, but 10-15% never develop a skin rash. Finally, only 50-70% of patients recall a tick bite.

Laboratory findings may include normal peripheral WBC count, thrombocytopenia, elevated aminotransferase levels, hyponatremia, anemia, increased bilirubin, increased creatinine kinase level, elevated CSF WBC with a monocytic predominance and negative serologic tests until convalescence.

A fourfold increase in titer by any of several serologic methods is diagnostic. Of course, serologic diagnosis is retrospective, and therapy should not be delayed pending results.

More rapid diagnostic tests are available in some centers. Tissue culture can be used to culture *Rickettsia rickettsii*. Immunofluorescent or peroxidase staining of skin biopsy can yield a diagnosis within 24 hours. PCR results can be available the same day.

(Continued on back, page 5)



How can I help my patients prevent infection with tick-related disease?

Persons in tick-infested areas should wear long-sleeved shirts and pants that fit tightly around the wrists and ankles, use a tick repellent, and inspect themselves and their children at least twice daily for ticks. Risk of disease transmission increases with the length of tick attachment.

If a tick is identified, it should be removed immediately with tweezers. The tick should be grasped as close to the skin as possible and pulled away gently. If tweezers are not available, the hands should be covered with a piece of tissue or toilet paper while attempting to remove the tick. Hot objects such as cigarettes and matches should not be used, nor should vaseline or similar methods be employed. After handling ticks, hands should be washed with soap and water.

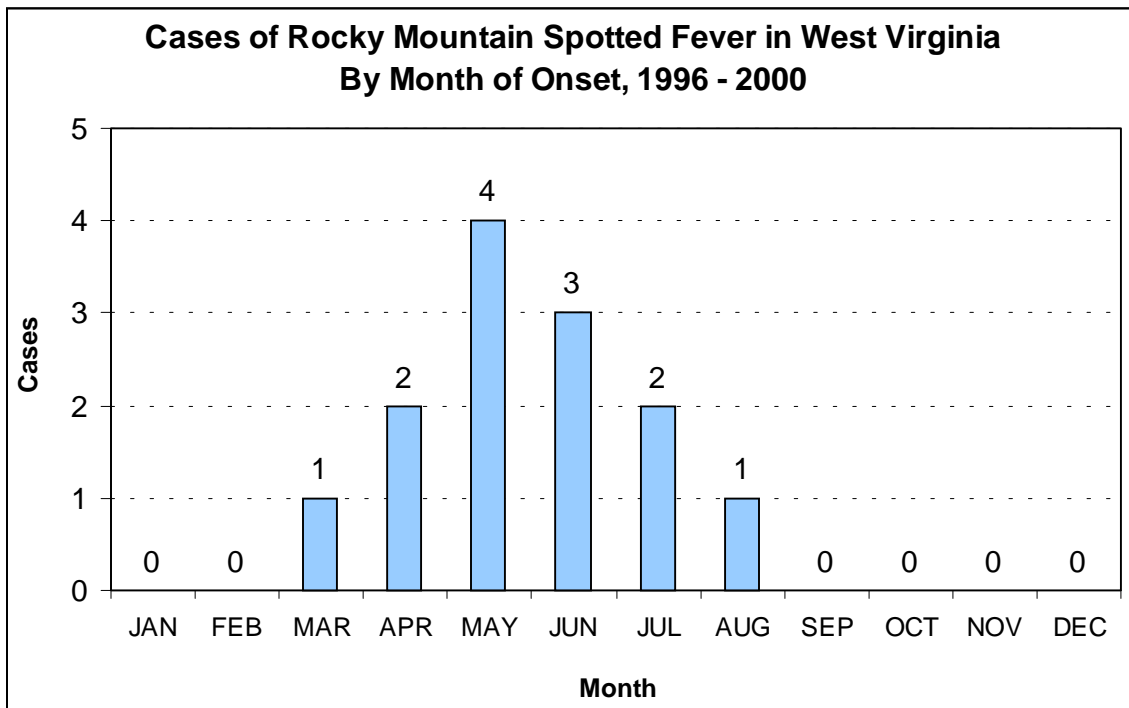
Finally, patients can be warned about the symptoms of tick-related disease.

What is the best treatment for RMSF?

In adults and children eight years of age and older: doxycycline 100 mg every 12 hours or tetracycline 25-50 mg/kg/day in four divided doses. Chloramphenicol given at 50 mg/kg/day in four divided doses is also an effective agent. In children, chloramphenicol is preferred by some experts. The American Academy of Pediatrics lists doxycycline as an option for children under age eight because staining of the teeth is dose-related, is less than with tetracycline, and tetracycline is active against both RMSF and erlichiosis whereas chloramphenicol is not. Therapy is continued until the patient has been afebrile for 2-3 days, usually for 7-10 days total.

Should I report RMSF to my local health department?

Yes. Reporting helps us all understand how this disease behaves in our state. From reporting, we can learn when to watch for cases of RMSF and where the disease occurs. ●



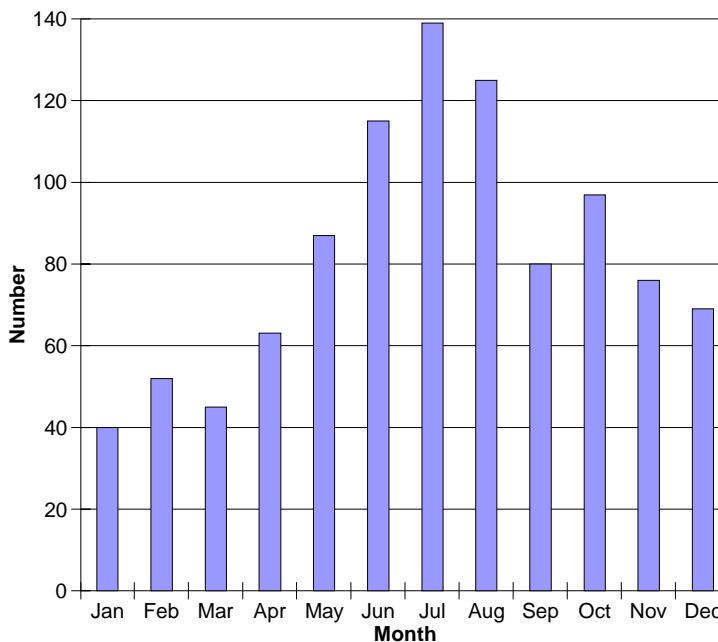
A reminder about Salmonella

Summer is almost here. Along with the nice, warm weather that summer brings comes an increase in the number of food borne diseases. One of the most common of these is Salmonella. The number of Salmonella cases starts to increase in May and peaks in July. The most commonly found Salmonella serotypes are *S.enteritidis* and *S.typhimurium*.

Salmonella serotyping was not done in 17% of the cases in 1999 and 13% of the cases in 2000. We would like to encourage all local health departments to take special care to assure that all isolates are rapidly sent to the Office of Laboratory Services in Charleston for serotyping and Pulse Field Gel Electrophoresis (PFGE), free of charge. ●

Salmonella Cases Distributed By Month

1995 - 2000



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West Virginia EPI-LOG

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