

## Bedbugs: Scourge of Mankind

### INSIDE

Bedbugs: Scourge of Mankind .....	1
Neisseria Meningitis.....	2
Eastern Equine Encephalitis – Again?.....	2
STDs and Adolescents .....	3
Updated Recommendations from ACIP (Advisory Committee on Immunization Practices), 2010 .....	4
2011 KCHCS TB Clinic Facility Risk Assessment.....	4
Tuberculin Skin Test Training Dates for 2011.....	4

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### Public Health Notes

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*Public Health Notes is a newsletter for  
health care professionals in Kalamazoo  
County.*

**Public Health Notes** is also available online:

[www.kalcounty.com/hsd/phnotes.htm](http://www.kalcounty.com/hsd/phnotes.htm)

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please contact the Epidemiology  
office at*

**269-373-5267**

A patient comes into your office with an itchy rash having just returned from a trip to Metropolis where she stayed in the 5-star Metropolis Excelsior Hotel. The rash consists of small red papules, arranged linearly and in clusters and found on her face, neck, arms and hands. She has no history of eczema or other rashes and is fully immunized. What is it? Likely bedbugs.

These pests are becoming increasingly more common in the United States. The reasons for this is probably multifold including increased international travel, changes in pest control practices, the elimination of DDT and limitation of other stronger pesticides, and increasing resistance of bedbugs to pesticides. Since bedbugs are tough and can go without feeding for long periods of time and can hide well, they may hitchhike in luggage from one place to another and, being about as mobile as a ladybug, can crawl from room to room and from floor to floor.

This gives a clue to where they are found. Most often infestations occur in crowded lodgings that often have high turnover rates. These include hotels, dormitories, homeless shelters, refugee camps, military barracks, and apartment complexes. Cleanliness is not an issue as these bugs hide in crevices of mattresses, furniture, walls under peeling paint, and other convenient places. They feed only on warm-blooded hosts no matter how clean or dirty the environment. A number of luxury hotels have experienced bedbug infestations.

How to look for evidence of bedbugs in the environment? Look for these signs: (1) dark specks of insect feces along mattress and upholstery seam; (2) light brown exoskeletons of mottled bedbugs; and (3) bloody smears on sheets where



engorged bugs have been crushed. The actual bed bug is rarely seen, only coming out at night, but is a 5-7mm brown to red, oval, non-flying insect (see picture) resembling a small cockroach or large tick. When they do bite, they leave small red, itchy macule or papule anywhere on the skin with a predilection for the face, hands, arms, and neck. These can

occur in a line, much like scabies, sometimes termed the “breakfast, lunch and dinner line.” They also occur in small clusters.

How do you get rid of them? This can be very tough as they can live in the environment without feeding for weeks and both bugs and eggs must be eliminated. Vacuuming thoroughly helps but does not eliminate them; washing clothes and sheets in water at least 120°F will kill them as will 20 minutes in a dryer set on ‘high.’ Freezing for several days will also kill both bedbugs and eggs. Isolating mattresses with plastic covers can help but heavy mattress infestation usually requires discarding the mattress.



How do you treat bites? Unless infected, topical corticosteroids and oral Benadryl or other antihistamines help relieve the itch. Prevention is the key to eliminating the spread of this scourge. Don’t leave suitcases on the floor of hotels where bedbugs can enter and hitch a ride. Check seams of mattresses for signs of bedbug feces or shed exoskeletons. Sleep only on mattresses fully enclosed with

plastic covers. Inspect used furniture and mattresses thoroughly before bringing them into your home. Check travel review sites before booking hotel rooms for any reports of bedbugs. A few precautions like these can go a long way to reducing your risk of becoming bedbug food and make your hotel stay enjoyable and prevent uncomfortable nights at home.

Douglas N. Homnick, MD, MPH  
Kalamazoo County Medical Director

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## Neisseria Meningitis

In December 2010, a 16-year-old Kalamazoo County resident had lab-confirmed *Neisseria meningitis*. The age of this case reinforces the importance of giving the meningitis vaccine at the time of the 11- and 12-year-olds' HCP visit schedule.

It is important to also note that all close contacts of a *Neisseria meningitis* case are to receive chemoprophylaxis regardless of their meningococcal immunization status. Dosing guidelines are always available from KCHCS Disease Surveillance. Call us at 269-373-5267.

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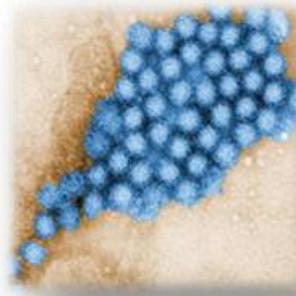
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## Norovirus Update

The current norovirus season kicked-off with two successive phone calls on an otherwise quiet Friday afternoon late last October. It was then that the director of a local child care program called to report that 15 students and 3 staff were ill with nausea, vomiting and diarrhea. Mere minutes later, a long-term care ICP reported 12 ill residents and 2 ill staff with the same symptoms. Several of the ill residents also had headaches and low-grade fevers. Both facilities cooperated with specimen collection for lab confirmation, and by the end of the working day, 8 stool sample kits were distributed. These were picked up the following Monday and delivered to the MDCH Regional Lab at Nazareth for testing. Of the 8 submitted specimens, 4 of 4 child care samples, and 3 of 4 long-term care samples were lab-confirmed positive for norovirus.

KCHCS follow-up provided up-to-date MDCH norovirus cleaning and disinfection guidelines with requisite instruction as well as daily telephone contact with both facilities until the outbreaks resolved. In addition, a joint visit with an HCS environmental health specialist and nurse epidemiologist was made to optimize the long-term care facility's response. Generally, both HCS Environmental Services and HCS Epi are available for on-site collaboration during GI illness outbreaks. Optimally, there will be a drop in the facility's numbers of new ills once cleaning and control measures are implemented.

Over the winter, other GI outbreaks followed. These all had similar illness characteristics: diarrhea, nausea, and vomiting. Less frequently, there were additional symptoms of headaches and low-grade fevers.



This season, several adults had to be treated for dehydration. Fortunately, norovirus is generally self-limiting with symptoms abating after 18 to 48 hours. But please be aware that the virus can continue to be shed in stool upwards of 72 hours after diarrhea subsides.

The last two Kalamazoo County norovirus outbreaks were reported on January 31, 2011. Total numbers to date since October 29, 2010: 13 long-term care facilities and 4 child care programs. As we go to print, our regional MDCH Lab here at Nazareth reports that it continues to receive specimens from outbreaks elsewhere across the state.

Mike Phillips, RN  
KCHCS Epidemiology

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## Eastern Equine Encephalitis – Again?

In the summer and early fall of 2010, southwestern Michigan experienced significant Eastern Equine Encephalitis Virus (EEEV) disease activity. By October, there were 55 confirmed cases and 77 suspect cases in horses in southern Lower Michigan. EEEV is one of the very serious illnesses that can be spread by mosquitoes. In Kalamazoo and Barry counties, there were three confirmed cases in humans.

Mosquitoes responsible for transmitting the virus are found in swamps, cattail marshes, and cedar bogs. Lower Michigan's landscape provides excellent habitat for the vectors of EEEV. The hot, wet weather in the spring and summer of 2010 favored the population growth of mosquitoes and EEEV transmission. It is unknown at this time if weather conditions will favor them again in 2011.

EEEV is a rare illness in humans. Most individuals who contract the virus have no symptoms. In a few cases, infected persons will develop headache, high fever, chills, and vomiting. The illness may progress to disorientation, seizures, or coma. Approximately a third of patients who develop severe EEEV die, and many of those who survive may have lasting neurological complications. There is no specific treatment for EEEV. Severe illness is managed by supportive therapy which may include hospitalization, respiratory support, IV fluids, and prevention of other infections.

If EEEV returns to Michigan this summer, as evidenced by cases in horses or humans, then patients hospitalized with meningitis should be tested for mosquito-borne viruses. Diagnosis is based on tests of blood and/or spinal fluid. Please be aware that arboviral testing done at most labs is not

sensitive to EEEV. The CSF needs to be sent to the MDCH Laboratory for testing specific to EEEV.

Highly effective EEEV vaccines are available for horses, and horses residing in EEEV-endemic areas should be routinely inoculated. There is no vaccine for humans. A person's best protection against EEEV is to prevent mosquito bites. General measures for avoiding mosquito bites include using insect repellent, wearing protective clothing, and staying away from biting mosquitoes during peak hours (dusk/dawn). More information can be found at [www.cdc.gov/EasternEquineEncephalitis/gen/qa.html](http://www.cdc.gov/EasternEquineEncephalitis/gen/qa.html) and [www.michigan.gov/emergingdiseases](http://www.michigan.gov/emergingdiseases).

Lynne Norman, RN  
KCHCS Epidemiology



## STDs and Adolescents

In the U.S., prevalence rates of many sexually acquired infections are highest among adolescents, as reported in the Sexually Transmitted Disease Treatment Guidelines for 2010. The reported rates of chlamydia and gonorrhea are highest among females aged 15-19 years of age. Many adolescents acquire HPV infection during their adolescent years. Persons who initiate sexual activities early in adolescence are at higher risk for STDs. Factors contributing to this increased risk during adolescence include having multiple sexual partners, not using condoms or another barrier method, increased biologic susceptibility to infection, and experiencing multiple obstacles to accessing health care. All 50 states allow minors to consent for their own health services for STDs. No state requires parental consent for STD care or requires that providers notify parents that an adolescent minor has received STD services, except in limited circumstances.

It is important that healthcare providers inquire about sexual behaviors, assess STD risks, and provide risk reduction counseling. For more information on taking a sexual history, go to **A Guide to Taking a Sexual History** at [www.cdc.gov/stds/see/HealthCareProviders/SexualHistory.pdf](http://www.cdc.gov/stds/see/HealthCareProviders/SexualHistory.pdf).

**Screening Recommendations for common STDs are indicated for sexually active adolescents.** The following screening recommendations summarize published federal agency and medical professional organizations' clinical guidelines for sexually active adolescents:

- Routine screening for *C.trachomatis* of all sexually active females aged <25 years is recommended annually.
- Routine screening for *N.gonorrhoeae* in all sexually active women at risk for infection is recommended annually. Women aged <25 years are at highest risk for gonorrhea infection.
- HIV screening should be discussed with all adolescents and encouraged for those who are sexually active and those who use injection drugs.
- Young Men Who Have Sex with Men and pregnant adolescent females should be screened for STDs.
- Guidelines from USPSTF (United States Preventive Services Task Force) and ACOG (American Congress of Obstetricians and Gynecologists) recommend that cervical cancer screening begin at age 21 years. However, the American Cancer Society recommends that women start cervical screening with Pap tests 3 years after initiating sexual activity, but by no later than age 21 years.

**Primary Prevention Recommendations of STDs** (i.e., vaccination and counseling) are based on published federal agency and medical professional organizations' clinical guidelines for sexually active adolescents:

- The HPV vaccine, either Cervarix or Gardasil, is recommended for 11- and 12-year-old females. The vaccine series can be started at 9 years of age. The quadrivalent (Gardasil) vaccine can also be used in males and females aged 9-26 years to prevent genital warts.
- The HBV and HAV vaccine series is recommended for all adolescents.
- Information regarding HIV infection, testing, transmission, and implications of infection should be regarded as an essential component of all adolescent healthcare.
- Healthcare providers who care for adolescents should integrate sexuality education into clinical practice. Providers should counsel adolescents about the sexual behaviors that are associated with risk for acquiring STDs and educate patients using evidence-based prevention strategies, all of which include a discussion about abstinence and other risk-reduction behaviors such as consistent and correct use of condoms.

### Educational and Training Resources

- NNPTC [www.nnptc.org](http://www.nnptc.org)
- 2010 STD Treatment Guidelines [www.cdc.gov/std/treatment/2010](http://www.cdc.gov/std/treatment/2010)
- CDC Division of STD Prevention [www.cdc.gov/std/training](http://www.cdc.gov/std/training)
- [stdtraining@cdc.gov](mailto:stdtraining@cdc.gov) or 404.639.8360

- Get Yourself Talking, Get Yourself Testing Campaign  
[www.gyt.org](http://www.gyt.org)
- Kalamazoo County Health & Community Services  
website [www.kalcounty.com](http://www.kalcounty.com)

**References:**

Centers for Disease Control and Prevention, Sexually Transmitted Disease Treatment Guidelines 2010, Vol. 59, No. RR-12

Julie Beeching, RN  
KCHCS STD/Imms Clinic Supervisor

## Updated Recommendations from ACIP (Advisory Committee on Immunization Practices), 2010

### ✓ Use of Tetanus Toxoid, Reduced Diphtheria Toxoid, and Acellular Pertussis Vaccine (Tdap)

*MMWR Weekly, January 14, 2011 / 60(01);13-15*

Despite sustained high coverage for childhood pertussis vaccination, pertussis remains poorly controlled in the United States. In October 2010, ACIP recommended expanded use of Tdap. This link provides the updated recommendations, summarizes the safety and effectiveness data considered by ACIP, and provides guidance for implementing the recommendations:

[www.cdc.gov/mmwr/preview/mmwrhtml/mm6001a4.htm?s\\_cid=mm6001a4\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6001a4.htm?s_cid=mm6001a4_w)

### ✓ Use of Meningococcal Conjugate Vaccines

*MMWR Weekly, January 28, 2011 / 60(03);72-76*

This link summarizes two new recommendations approved by ACIP: 1) routine vaccination of adolescents, preferably at age 11 or 12 years, with a booster dose at age 16 years; and 2) a 2-dose primary series administered 2 months apart for persons aged 2 through 54 years with persistent complement component deficiency (e.g., C5--C9, properidin, factor H, or factor D) and functional or anatomic asplenia, and for adolescents with human immunodeficiency virus (HIV) infection. CDC guidance for vaccine providers regarding these updated recommendations also is included:

[www.cdc.gov/mmwr/preview/mmwrhtml/mm6003a3.htm?s\\_cid=mm6003a3\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6003a3.htm?s_cid=mm6003a3_e)

## 2011 KCHCS TB Clinic Facility Risk Assessment

Every winter, the HCS TB Clinic does an annual facility TB risk assessment. This is useful to both the clinic and the surrounding medical community in gauging tuberculosis

transmission as well as developing exposure control plans. Risk level may vary from year to year depending upon the annual population served, whether HIV infection or multi-drug resistant TB is present, the number of cases, facility controls, and other factors. Reviewing information from the previous year, this facility's current risk for TB transmission to its employees is *low*.

In 2010, there was one new active TB case in Kalamazoo County. Based upon 2009 census information, there are estimated to be 248,407 county residents. This would give a preliminary rate of 0.4 TB cases per 100,000 persons.

Michael Phillips, RN  
Epidemiology/TB

## Tuberculin Skin Test Training Dates for 2011

Medical personnel involved in TB skin testing are welcome to attend our free workshops for certification or recertification.

Classes are held in Conference Room D, Health and Community Services building, Nazareth. Once the 4-hour Certification course has been passed, a 2-hour Recertification can be taken every 2 years. Our 2011 class schedule follows:

### Training – 8:00–Noon

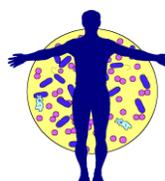
April 14  
July 14  
November 10

### Recertification – 8:30–10:30

April 21  
July 21  
November 17

The workshops are free and continuing education credit is offered. Registration is required.

If you would like to attend one of these classes, please call 269-373-5267. Recertification is recommended every two years.



Clinical Services Division  
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