FLORIDA DEPARTMENT OF HEALTH

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Miami-Dade County HEALTH DEPARTMENT

Listeriosis and Prevention

Background

Between September 20 and October 16, turkey ham lunch meat was served in 120 Miami-Dade County Schools. Since this time, the meat has been recalled because it was produced at the same plant as that which produced lunch meat associated with a large listeriosis outbreak in the northeastern region of the United States. The Miami-Dade County School system has notified parents of children at the affected schools that this meat was served in the school lunches. Since October 23, 2002, Miami-Dade County Health Department has set up a hot line to answer questions from concerned parents. To date, we have identified no cases of listeriosis linked to the recalled meat. The following information is condensed from the Centers for Disease Control and Prevention's web site and Morbidity and Mortality Weekly Reports.

Disease General Information

Listeriosis, a serious infection caused by eating food contaminated with the bacterium *Listeria monocytogenes*, has recently been recognized as an important public health problem in the United States. The disease primarily affects pregnant women, newborns, and adults with weakened immune systems.

In the United States, an estimated 2,500 persons become seriously ill with listeriosis each year. Of these, 500 die. At increased risk are:

- Pregnant women - They are about 20 times more likely than other healthy adults to get listeriosis. About one-third of listeriosis cases happen during pregnancy.
- Newborns - Newborns rather than pregnant women themselves suffer the serious effects of infection during pregnancy.
- Persons with weakened immune systems
- Persons with cancer, diabetes, or kidney disease
- Persons with AIDS - They are almost 300 times more likely to get listeriosis than people with normal immune systems.
- Persons who take glucocorticosteroid medications
- The elderly

Inside this issue:

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Healthy adults and children occasionally get infected with *Listeria*, but they rarely become seriously ill.

Listeria monocytogenes is found in soil and water. Vegetables can become contaminated from the soil or from manure used as fertilizer. Animals can carry the bacterium without appearing ill and can contaminate foods of animal origin such as meats and dairy products. The bacterium has been found in a variety of raw foods, such as uncooked meats and vegetables, as well as in processed foods that become contaminated after processing, such as soft cheeses and cold cuts at the deli counter. Unpasteurized (raw) milk or foods made from unpasteurized milk may contain the bacterium.

Eating food contaminated with *Listeria* causes listeriosis. Babies can be born with listeriosis if their mothers eat contaminated food during pregnancy. Although healthy persons may consume contaminated foods without becoming ill, those at increased risk for infection can probably get listeriosis after eating food contaminated with even a few bacteria. Persons at risk can prevent *Listeria* infection by avoiding certain high-risk foods and by handling food properly.

The incubation period is typically 1 to 6 weeks. A person with listeriosis has fever, muscle aches, and sometimes gastrointestinal symptoms such as nausea or diarrhea. If infection spreads to the nervous system, symptoms such as headache, stiff neck, confusion, loss of balance, or convulsions can occur.

Infected pregnant women may experience only a mild, flu-like illness; infections during pregnancy can lead to premature delivery, infection of the newborn, or even stillbirth.

The risk of an individual person developing listeriosis after consumption of a contaminated product is low. The Miami-Dade County Health Department recommends the following:

- People in high-risk groups who have eaten the contaminated product and become ill with fever or any of the above symptoms within 2 months should contact their physician and inform him or her about this exposure.
- People who are not in high-risk groups who develop fever, headache, stiff neck, confusion, or any other serious symptoms should contact their physician.
- People who have eaten a contaminated product and do not have any symptoms do not usually need any tests or treatment even if they are in a high-risk group.

Diagnosis of listeriosis is best made by routine bacterial culture of specimens from usually sterile sites such as blood or CSF. Stool cultures are not reliable because many persons have enteric colonization with *L. monocytogenes* without invasive disease. Serologic testing is not useful in diagnosing listeriosis. Health-care providers should therefore 1) consider listeriosis in ill patients at risk for the disease, 2) obtain blood cultures and, when appropriate, CSF or amniotic cultures from ill patients at risk for listeriosis, including pregnant women with fever, and 3) disseminate dietary recommendations to high-risk persons.

If you suspect or diagnosis a case of listeriosis, please call the Office of Epidemiology and Disease Control, Miami-Dade County Health Department (305) 324-2413 during business hours and (305) 377-6751 evenings, holidays and weekends.

Prevention

The general guidelines for preventing listeriosis are similar to those for preventing other foodborne illnesses. The general recommendations are

- Thoroughly cook raw food from animal sources, such as beef, pork, or poultry.
- Wash raw vegetables thoroughly before eating.

- Keep uncooked meats separate from vegetables and from cooked foods and ready-to-eat foods.
- Avoid raw (unpasteurized) milk or foods made from raw milk.
- Wash hands, knives, and cutting boards after handling uncooked foods.
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Recommendations for persons at high risk, such as pregnant women and persons with weakened immune systems, in addition to the recommendations listed above:

- Avoid soft cheeses such as feta, Brie, Camembert, blue-veined, and Mexican-style cheese. (Hard cheesed, processed cheeses, cream cheese, cottage cheese, or yogurt need not be avoided.)
- Left-over foods or ready-to-eat foods, such as hot dogs, should be cooked until steaming hot before eating.
- Although the risk of listeriosis associated with foods from deli counters is relatively low, pregnant women and immunosupressed persons may choose to avoid these foods or thoroughly reheat cold cuts before eating.

References

1. Listeriosis General Information http://www.cdc.gov/ ncidod/dbmd/ diseaseinfo / listeriosis_g.htm#howget.
2. Update: Foodborne Listeriosis -- United States, 1988-1990 . CDC MMWR. April 17, 1992 / 41(15); 251, 257-258
3. Multistate Outbreak of Listeriosis -- United States, 1998. CDC MMWR weekly December 25, 1998 / 47(50); 1085-6
4. Multistate Outbreak of Listeriosis --- United States, 2000. CDC MMWR weekly April 17, 1992 / 41(15); 251,257-258

New Hand Hygiene Recommendations for Health Care Settings

The Centers for Disease Control and Prevention (CDC) has released new hand hygiene recommendations in health-care settings. The complete recommendations as well as an opportunity to take an exam for CME, CNE, CEU, and CHES credit are available on the Internet: http://www.cdc.gov/ handhygiene. The following are some of the highlights:

- Improved adherence to hand hygiene (i.e. hand washing or use of alcohol-based hand rubs) has been shown to terminate outbreaks in health care facilities, to reduce transmission of antimicrobial resistant organisms (e. g. methicillin resistant S*taphylococcus aureus*) and reduce overall infection rates.
- CDC is releasing guidelines to improve adherence to hand hygiene in health care settings. In addition to traditional handwashing with soap and water, CDC is recommending the use of alcohol-based handrubs by health care personnel for patient care because they address some of the obstacles that health care professionals face when taking care of patients.
- Handwashing with soap and water remains a sensible strategy for hand hygiene in non-health care settings and is recommended by CDC and other experts.
- When health care personnel's hands are visibly soiled, they should wash with soap and water.
- The use of gloves does not eliminate the need for hand hygiene. Likewise, the use of gloves does not eliminate the need for gloves. Gloves reduce hand contamination

by 70 percent to 80 percent, prevent cross-contamination and protect patients and health care personnel from infection. Handrubs should be used before and after each patient just as gloves should be changed be fore and after each patient.

- When using an alcohol-based handrub, apply product to palm of one hand and rub hands together, covering all surfaces of hands and fingers, until hands are dry. Note that the volume needed to reduce the number of bacteria on hands varies by product.

- Alcohol-based handrubs significantly reduce the number of microorganisms on skin, are fast acting and cause less skin irritation.

- Health care personnel should avoid wearing artificial nails and keep natural nails less than one quarter of an inch long if they care for patients at high risk of acquiring infections (e.g. Patients in intensive care units or in transplant units).

- When evaluating hand hygiene products for potential use in health care facilities, administrators or product selection committees should consider the relative efficacy of antiseptic agents against various pathogens and the acceptability of hand hygiene products by personnel. Characteristics of a product that can affect acceptance and therefore usage include its smell, consistency, color and the effect of dryness on hands.

- As part of these recommendations, CDC is asking health care facilities to develop and implement a system for measuring improvements in adherence to these hand hygiene recommendations. Some of the suggested performance indicators include: periodic monitoring of hand hygiene adherence and providing feedback to personnel regarding their performance, monitoring the volume of alcohol-based handrub used/1000 patient days, monitoring adherence to policies dealing with wearing artificial nails and focused assessment of the adequacy of health care personnel hand hygiene when outbreaks of infection occur.

- Allergic contact dermatitis due to alcohol hand rubs is very uncommon. However, with increasing use of such products by health care personnel, it is likely that true allergic reactions to such products will occasionally be encountered.

- Alcohol-based hand rubs take less time to use than traditional hand washing. In an eight-hour shift, an estimated one hour of an ICU nurse's time will be saved by using an alcohol-based handrub.

- These guidelines should not be construed to legalize product claims that are not allowed by an FDA product approval by FDA's Over-the-Counter Drug Review. The recommendations are not intended to apply to consumer use of the products discussed.

Investigations of West Nile Virus Infections in Recipients of Blood Transfusions

[The following article was selected from CDC MMWR October 28, 2002 / 51(CDC Dispatch);1-2. The full article can be downloaded from http://www.cdc.gov/mmwr/pdf/wk/CDC_Dispatch_10-28-02.pdf]

CDC, the Food and Drug Administration (FDA), and the Health Resources and Services Administration (HRSA), in collaboration with blood collection agencies and state and local health departments, continue to investigate West Nile virus (WNV) infections in recipients of blood transfusions. During August 28–October 26, CDC received reports of 47 persons with possible transfusion-related WNV infection. Investigations showed that 14 of these persons either did not have WNV infection or did not acquire WNV infection through transfusion. The remaining 33 cases, reported from 17 states, occurred among persons who had confirmed or probable WNV infection and had received blood components in the month before illness onset. To date, evidence that WNV can be transmitted through blood transfusion has been found in six of the 33 cases; investigations are ongoing for the other 27 cases.

Among the six cases with evidence that WNV can be transmitted through blood transfusion, three have been previously summarized (*1*,*2*). Two patients developed confirmed West Nile virus meningoencephalitis (WNME) after receiving different blood components derived from the same blood donation, which was subsequently found to have evidence of WNV (*2*). In follow-up testing, the donor associated with these components had WNV-specific IgM antibody. On interview, this donor reported having a fever and a rash 2 and 5 days after donation, respectively. In a third case, WNV was isolated from an untransfused unit of fresh frozen plasma (FFP) derived from the suspected donation, indicating that the virus can survive in some blood components (*1*). The donor of this unit sought medical care 4 days after donation for an illness of 1–2 weeks duration characterized by nasal congestion, sinus pain, headache, malaise, and fatigue and was treated for sinusitis. On follow-up, the donor tested positive for WNV-specific IgM antibody.

Investigations of three additional patients found evidence that these persons acquired WNV infection by transfusion. An adolescent with a hematologic malignancy who had been hospitalized continuously for 65 days developed WNME after receiving 93 blood components in the month before illness onset. Of 72 retention segments* available from these donations, one tested positive for WNV by kinetic quantitative polymerase chain reaction assay (Taqman®) and negative for WNV-specific IgM antibody. The donor of the unit associated with the Taqman®-positive retention segment reported fever, chills, headache, painful eyes, and generalized weakness beginning 2 days after donation in early September and subsequently developed WNV IgM antibody.

Two additional patients had WNME diagnosed after each had received a component derived from the same blood donation. The first patient, a man aged 60 years with a malignancy, received 4 units of red blood cells during September 18–30, and subsequently developed encephalitis. Serum and cerebrospinal fluid samples tested positive for WNV-specific IgM antibody on October 8 and 16, respectively; the patient subsequently died. One of four retention segments associated with the units the patient received tested positive for WNV by Taqman® and negative for WNV-specific IgM antibody. A unit of FFP associated with this Taqman®-positive donation had been administered on October 6 to the second patient, a woman aged 40 years with a malignancy; 3 days later, this patient had fever. Serum collected from the patient 1 day before transfusion was negative for WNV by Taqman® and WNV-specific IgM antibody. Serum collected from the patient 9 days after transfusion tested positive for WNV by reverse transcription polymerase chain reaction and negative for WNV-specific IgM antibody; serum collected 6 days later tested positive for WNV by Taqman® and positive for WNV-specific IgM antibody. The donor of the Taqman®-positive unit subsequently developed WNV IgM antibody. During follow-up interview, the donor reported having fever, chills, headache, eye pain, and myalgias 5 days before donation and a rash 4 days after donation in late August.

Cases of WNV infection in patients who have received blood transfusions within the month preceding illness onset should be reported to CDC through state and local public health authorities. Serum or tissue samples should be retained for later studies. In addition, cases of WNV infection occurring in persons who have illness onset within 2 weeks after blood donation should be reported. Prompt reporting of these cases will facilitate withdrawal of potentially infectious blood components.

FDA has issued a guidance document for deferral of donors with suspect or diagnosed WNV infection who have illness onset before or after donation (*3*). In addition, the document provides recommendations for retrieval and quarantine of blood and blood components in such donors. FDA, in collaboration with CDC, the National Institutes of Health, and HRSA, is sponsoring a workshop on development of donor-screening assays for WNV. Additional information on this workshop is available at http://www.fda.gov/cber/meetings/wnv110402.htm.

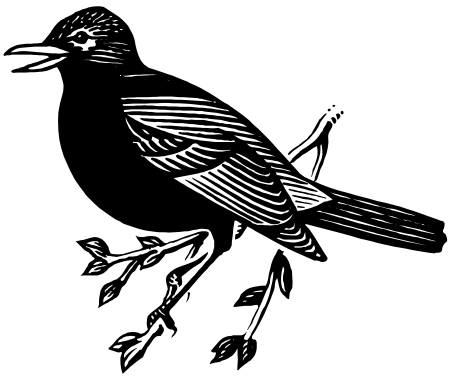
References

1. CDC. Update: investigations of West Nile virus infections in recipients of organ transplantation and blood transfusion. MMWR 2002;51:833–6.

2. CDC. Update: investigations of West Nile Virus infections in recipients of organ transplantation and blood transfusion—Michigan, 2002. MMWR 2002;51:879.

3. Food and Drug Administration. Guidance for industry: recommendations for the assessment of donor suitability and blood and blood product safety in cases of known or suspected West Nile virus infection, October 2002. Available at http://www.fda.gov/cber/gdlns/wnvguid.htm.

*Blood samples from tubing that had been attached to the original donor collection bag or from the packed red blood cell component prepared from the whole blood collection.



To report diseases or for information:

Office of Epidemiology and Disease Control

Childhood Lead Poisoning Prevention Program	(305) 324-2414
Hepatitis	(305) 324-2490
Other diseases and outbreaks	(305) 324-2413
HIV/AIDS Program	(305) 324-2459
STD Program	(305) 325-3242
Tuberculosis Program	(305) 324-2470
Special Immunization Program	(305) 376-1976
Nights, weekends, and holidays	**(305) 377-6751**

Monthly Report
Selected Reportable Diseases/Conditions in Miami-Dade County, September 2002

Diseases/Conditions	2002 this Month	2002 Year to Date	2001 Year to Date	2000 Year to Date	1999 Year to Date	1998 Year to Date
AIDS *Provisional	107	917	997	1053	1097	1276
Campylobacteriosis	5	73	91	117	109	54
Chancroid	0	0	0	0	0	2
Chlamydia trachomatis	188	3079	2784	2365	3176	1585
Ciguatera Poisoning	4	6	0	2	0	0
Cryptosporidiosis	2	6	12	15	16	8
Cyclosporosis	1	0	0	0	0	1
Diphtheria	0	0	0	0	0	0
E. coli , O157:H7	0	0	2	3	4	2
E. coli , Other	0	1	1	1	0	1
Encephalitis	0	0	0	0	0	0
Giardiasis, Acute	15	154	206	177	107	59
Gonorrhea	96	1381	1437	1606	2148	1341
Granuloma Inguinale	0	0	0	0	0	0
Haemophilus influenzae B (invasive)	0	0	1	1	1	1
Hepatitis A	1	97	134	56	69	99
Hepatitis B	10	33	46	42	18	62
HIV *Provisional	166	1422	1109	1087	1135	1336
Lead Poisoning	35	234	198	Not available	Not available	Not available
Legionnaire's Disease	0	1	2	0	0	1
Leptospirosis	0	0	0	0	0	0
Lyme disease	1	2	6	4	0	2
Lymphogranuloma Venereum	0	0	0	0	0	0
Malaria	2	10	14	21	14	19
Measles	0	0	0	0	0	0
Meningitis (except aseptic)	0	8	15	17	24	14
Meningococcal Disease	0	10	13	23	15	11
Mumps	0	0	0	1	2	0
Pertussis	0	3	1	7	10	14
Polio	0	0	0	0	0	0
Rabies, Animal	0	0	0	0	0	1
Rubella	0	0	0	1	0	0
Salmonellosis	39	232	225	208	227	140
Shigellosis	28	195	114	167	146	159
Streptococcus pneumoniae, Drug Resistant	6	81	138	154	145	64
Syphilis, Infectious	20	160	155	100	54	20
Syphilis, Other	61	674	626	552	574	488
Tetanus	0	0	1	1	0	0
Toxoplasmosis	0	14	11	0	1	0
Tuberculosis *Provisional	12	156	167	203	201	209
Typhoid Fever	0	2	0	2	15	3
Vibrio , *cholera*	0	1	0	0	0	0
Vibrio , Other	0	0	0	0	0	0

* Data on AIDS are provisional at the county level and are subject to edit checks by state and federal agencies.
** Data on tuberculosis are provisional at the county level.