Archived Document

Archive Disclaimer: The following Health Care Agency document is for historical purposes only. The information provided was accurate at the time it was originally presented. The Health Care Agency does not review past postings to determine whether they remain accurate, and information contained in such postings may have been superseded. We accept no responsibility and specifically disclaim any liability for readers' use of information contained in any archived document. By viewing these archived materials, you acknowledge that you understand this cautionary statement.

CD Connection

Orange County Communicable Disease News

Health Care Agency/Public Health Services - Epidemiology

December 2006

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

Welcome to the inaugural issue of CD Connection, Orange County Communicable Disease News. Our goal is to provide you with timely information about emerging diseases, diseases with updated reporting or testing recommendations, agents of bioterrorism, and resources available to you. To suggest topics for future issues, email epi@ochca.com.

Lyme Disease

- Approximately 1-5 cases of Lyme Disease (LD) are reported annually in Orange County residents, although most of those were acquired outside of the County. Many case reports are received that have not had the appropriate testing done to confirm LD. LD testing is the focus of this issue of *CD Connection.*
- **Transmission**: LD is caused by the spirochete *Borrelia burgdorferi*, which is transmitted to humans by an infected western black-legged tick, *Ixodes pacificus,* and also *Ixodes scapularis* elsewhere in the US. Only 1 tick from OC has tested positive for *B. burgdorferi* since 1987,* although not many ticks are tested and vector-borne diseases may still occur in areas with low rates of vector positivity. (*source Orange County Vector Control District, 12/06)
- **Clinical manifestations** are variable and may include:
  - *Early (days to weeks after tick bite):* erythema migrans (EM) at the site of the tick bite; fever, headache, neckache, myalgia, arthralgia, malaise. Later (several weeks after tick bite) can have multiple EM, cranial nerve palsies (esp. VII), meningitis, conjunctivitis, arthritis, carditis.
  - *Late (weeks, months, or years after tick bite):* Recurrent arthritis, peripheral neuropathy, central nervous system manifestations.
- **Diagnosis**: Erythema migrans is the only manifestation of LD in the US that allows clinical diagnosis of LD in the absence of laboratory confirmation.
  - **Testing:** Testing for LD should only be done in patients with compatible clinical and exposure history (possible tick exposure in a Lyme-endemic area). The CDC and other national expert groups recommend that LD testing be done using a 2-tier testing algorithm for both active disease and confirmation of previous infection in patients with symptoms of late disease.
  - First tier: Lyme (*B. burgdorferi)* enzyme immunoassay (EIA or ELISA) or immunofluorescent assay (IFA). If this first test is negative, further testing is not needed unless it is early (the first few weeks) after infection, when paired acute and convalescent serum may be necessary.
  - Second tier: if and only if EIA/ELISA or IFA is positive or equivocal, Western immunoblot should be done on the same serum specimen. If the patient has had symptoms for ≤4 weeks, both IgM and IgG immunoblots should be done. If > 4 weeks, reactivity must be present on the IgG immunoblot specifically. Immunoblot should only be done in qualified labs that follow the CDC-recommended, evidence based guidelines for immunoblot interpretation.
- **Treatment:** See the latest Infectious Diseases Society of America (IDSA) guidelines in *Clinical Infectious Diseases* 2006;43:1089-134, available at http://www.journals.uchicago.edu/IDSA/guidelines/.
- **Prevention of LD** should focus on prevention of tick bites by avoiding tick-infested areas, use of protective clothing and insect/tick repellents, and frequent tick checks with prompt tick removal. The routine use of antimicrobial prophylaxis or serologic testing after a tick bite is not recommended.
- **For more LD info**: http://www.dhs.ca.gov/ps/dcdc/disb/lymedisease.htm, http://www.cdc.gov/ncidod/dvbid/lyme/index.htm.

Bioterrorism Preparedness News…

- Pediatric Terrorism and Disaster Preparedness: A Resource for Pediatricians: http://www.ahrq.gov/research/pedprep/resource.htm
- Providing Mass Medical Care with Scarce Resources: A Community Planning Guide: http://www.ahrq.gov/research/mce/.

Announcements…

- Shiga Toxin in feces is now reportable in California by healthcare providers and laboratories. For an up-to-date list of reportable diseases: http://www.ochealthinfo.com/epi/report-diseases.htm.

For comments or suggestions on the newsletter, contact Pamela Roa Hipp or Dr. Michele Cheung at (714) 834-8180. To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

Spring 2007

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

VARICELLA – OLD DISEASE, NEW ISSUES

- **Background:** High immunization rates in the U.S. using the one-dose immunization strategy have led to a 71-84% decrease in reported varicella cases, an 88% decrease in varicella-related hospitalizations, and a 92% decrease in varicella-related deaths in 1-4 year old children.[1] Over the past several years outbreaks have been reported among highly immunized populations of school children. Postlicensure studies indicate that one dose of varicella vaccine is about 80-85% effective against any varicella disease.[2] A recent study noted that vaccine-induced immunity to varicella waned over time. The annual rate of breakthrough varicella increased from 1.6 per 1000 person-years within one year after vaccination, to 9.0 per 1000 person-years at 5 years, and 58.2 per 1000 person-years at 9 years after vaccination.[2] Waning of immunity after varicella vaccination may result in increased susceptibility later in life when the risk of severe complications is higher.
- **Breakthrough varicella**: Breakthrough varicella is varicella illness that occurs >42 days after varicella vaccination. It is usually milder than varicella in non-vaccinated persons, with <50 lesions (compared to 250-500 in non-vaccinated persons), lower incidence of fever (10%), and faster recovery.[3] **Lesions may not progress to vesicles, and may resemble insect bites. However, persons with breakthrough varicella are still contagious** and should be excluded from school, daycare, work, and/or public gatherings until no new lesions are appearing.
- **Two doses of varicella vaccine now recommended:** The CDC Advisory Committee on Immunization Practices (ACIP) and the American Academy of Pediatrics (AAP) recommend that all persons ≥ 12 months of age, without evidence of immunity, routinely receive two doses of varicella vaccine.
  - **Children 12 months – 12 years of age** should receive two 0.5 ml doses of varicella vaccine subcutaneously, separated by at least 28 days (preferably at least 3 months). The first dose should be at 12-15 months of age and the second dose at 4-6 years of age, but the second dose can be administered at an earlier age.
  - **People ≥ 13 years of age** without evidence of immunity (see definition of immunity in the ACIP Provisional Recommendations or AAP policy statement) should receive two 0.5 ml doses separated by at least 28 days.
  - **A second dose catch-up** varicella vaccination is recommended for children, adolescents and adults who previously had received one dose.

  To view the ACIP Provisional Recommendations, see http://www.cdc.gov/nip/recs/provisional_recs/. To view the AAP policy statement, see http://www.cispimmunize.org/pro/pdf/Varicella-040907.pdf.
- **Supply difficulties expected with MMRV.** See http://www.cdc.gov/nip/news/shortages/default.htm for more information. Merck expects that the supply of Varivax will be adequate for implementation of the recommendation for the 2nd dose of varicella vaccine. Vaccine providers should begin transitioning from MMRV (ProQuad) to MMR and Varivax according to their current supply of vaccine.
- **Report outbreaks or clusters of chickenpox, including breakthrough cases,** to Orange County Public Health at 714-834-8180.

Public Health Preparedness News…

- State launches public health preparedness website for the public: www.bepreparedcalifornia.ca.gov.
- DVD available to train health care workers who are not respiratory care specialists to provide basic respiratory care and ventilator management to adult patients in any mass casualty event. For a free copy, call 1-800-358-9295 or e-mail ahrqpubs@ahrq.hhs.gov.

References

1. "Prevention of Varicella: Recommendations for Use of Varicella Vaccines in Children, including a Recommendation for a Routine Two-Dose Varicella Immunization Schedule." Available at http://www.cispimmunize.org/pro/pdf/Varicella-040907.pdf.
2. Chaves SS, Gargiullo P, Zhang JX et al. Loss of Vaccine-Induced Immunity to Varicella over Time. N Engl J Med 2007;356:1121-9.
3. American Academy of Pediatrics. *Red Book: 2006 Report of the Committee on Infectious Diseases.* 27th ed., p. 711-725.

Info on chickenpox available at www.ochealthinfo.com/epi and http://www.cdc.gov/nip/diseases/varicella/faqs-clinic-disease.htm.

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

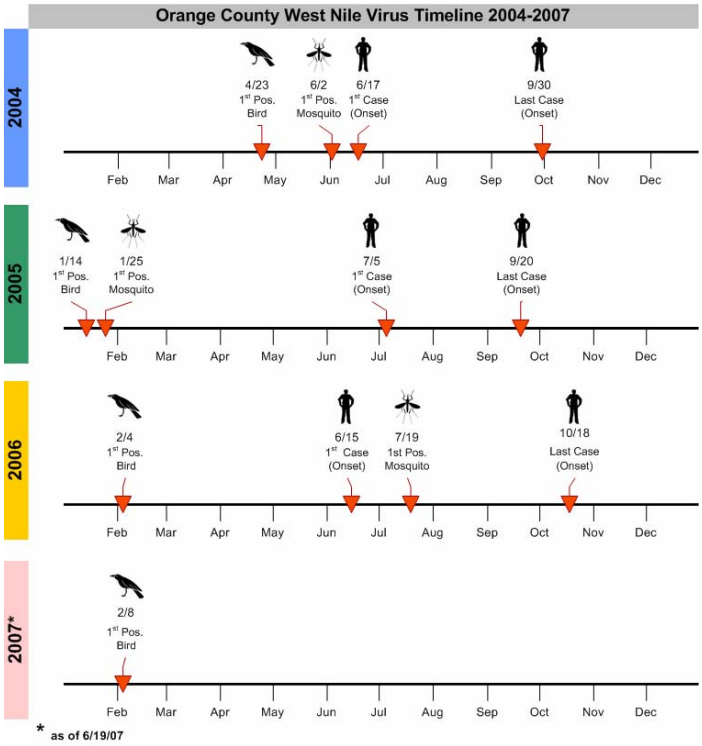
June 19, 2007

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

WEST NILE VIRUS (WNV) SEASON IS HERE!

This year's first human WNV infection in California was reported last week in an asymptomatic blood donor from Kern County. Consider WNV infection in your patients with aseptic meningitis, encephalitis, or prolonged fever and submit specimens for WNV testing.

- WNV testing is recommended for the following individuals:
  - All hospitalized patients with encephalitis
  - All hospitalized patients with aseptic meningitis (consider enterovirus first in children)
  - All hospitalized patients with acute flaccid paralysis
  - Patients with prolonged febrile illness (≥ 7 days) and symptoms compatible with West Nile infection who see a healthcare provider.
- Diagnosis is best made by serology (IgM or paired acute and convalescent IgG) for WNV. WNV IgM may be negative early in the course of the disease and may cross react with other flaviviruses. Repeat serology may be indicated if initial testing is negative in the first 10 days after onset of symptoms.
- WN fever (WNF), West Nile Neuroinvasive Disease (WNND), asymptomatic WNV infection, aseptic meningitis, and encephalitis are all reportable diseases and should be reported within one working day to OC Epidemiology via phone (714-834-8180) or fax (714-834-8196).
- For clinical information, see www.westnile.ca.gov/resources.php under Clinician Information.
- For information about WNV prevention, see www.ochealthinfo.com/epi/wnv/index.htm.



West Nile Virus -- Orange County and California

- No human cases have been reported in OC for 2007. Last year, OC reported seven confirmed WNV infections (4 WNND, 2 WNF, 1 asymptomatic blood donor). 17 WNV infections were reported in 2005 and 64 in 2004.
- Non-human WNV activity has been detected in birds, mosquitoes, and/or horses in 12 of 58 California counties so far this year: Imperial, Kern, Los Angeles, Orange, Riverside, Sacramento, San Bernardino, San Diego, Santa Clara, Shasta, Sonoma and Stanislaus.
- To report dead birds or squirrels, call Orange County Vector Control at 714-971-2421 x117.

RECOMMENDED RESOURCES

Orange County Health Care Agency:
www.ochealthinfo.com/epi/wnv

Orange County Vector Control District:
www.ocvcd.org or Ph: 714-971-2421

California Department of Health Services:
www.westnile.ca.gov

Centers for Disease Control and Prevention:
www.cdc.gov/ncidod/dvbid/westnile

Public Health Preparedness News…

- Suspect bioterrorism diseases (e.g., anthrax, botulism, brucellosis, plague, tularemia, viral hemorrhagic fevers), outbreaks, and unusual diseases are all reportable immediately by phone to Orange County Public Health at 714-834-8180. For a list of reportable diseases: www.ochealthinfo.com/docs/public/epi/forms/diseases.pdf

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

July 26, 2007

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

REPORTABLE DISEASES LIST UPDATED!

The California Department of Public Health (CDPH) was recently given the authority through Assembly Bill (AB) 1091 to modify the list of reportable diseases at any time, after consultation with the Local Health Officers, and without going through the previous administrative regulation and rulemaking process. This will allow public health departments to more quickly respond to the emergence of a new disease, condition, or threat to the public's health. When reports are received, Orange County public health may call the reporting health care provider and/or the patient for more information, depending on the disease. Health care providers should notify patients of their diagnosis and that they may be contacted.

- **What needs to be reported?** As changes may be made periodically to the reportable diseases list, please refer to http://www.ochealthinfo.com/epi/report-diseases.htm for the most up-to-date complete list. Important recent changes include:
  - addition of Avian Influenza (human) – reportable immediately by phone
  - addition of Creutzfeldt-Jakob (CJD) and other Transmissible Spongiform Encephalopathies (TSE) – reportable within seven calendar days
  - addition of Shiga toxin (detected in feces) – reportable immediately by phone
  - modification of *Escherichia coli* reporting to include all shiga-toxin producing *E. coli* (STEC), including *E. coli* O157
  - addition of Influenza deaths (persons under 18 years of age)
  - deletion of nongonococcal urethritis (NGU).

  Some very rarely reported diseases are no longer listed separately (e.g., Anisakiasis, Echinococcosis, Lymphocytic choriomeningitis, Reye syndrome); however, they are still reportable as Unusual Diseases.

- **Who needs to report?** Under Title 17, California Code of Regulations (CCR), §2500, "it shall be the duty of every health care provider, knowing of or in attendance on a case or suspected case of any of the diseases or conditions [on the reportable diseases list], to report to the local health officer for the jurisdiction where the patient resides…" A health care provider includes any of the following:

physician	surgeon	veterinarian	podiatrist	nurse practitioner
physician assistant	registered nurse	nurse midwife	school nurse	medical examiner
coroner	dentist	infection control practitioner		

Reporting makes a difference…

- Hospital calls on-call public health officer on a Saturday afternoon to report 3 *E. coli* O157 cases. Cases were interviewed and Environmental Health dispatched to inspect the implicated restaurant that evening and ensure no ongoing source of infection. Fourteen cases were identified associated with that restaurant.
- Health care provider reports case of paragonimiasis (lung fluke infection) as an unusual disease. Through epidemiologic investigation and public/health care provider education, 18 additional cases identified associated with live crab consumption at two local restaurants.

- **Why report?** Please see the insert for examples of how prompt reporting makes a difference!
  - Your reports form the basis for surveillance of communicable diseases in the County.
  - Reporting of these diseases and conditions is required by law (Title 17, CCR §2500).
  - Failure to comply with required disease reporting may be considered as "unprofessional conduct" and result in a citation and/or fine by the Medical Board of California.

- **How to report:** Consult the reportable diseases list for the timeframe (immediately, within one working day, or within seven calendar days) and manner (by phone, fax, or mail) in which to report. Reports are made to Epidemiology at 714-834-8180 (phone) or 714-834-8196 (fax). Urgent reports after regular work hours, on weekends, or holidays should be made to the public health official on call. See the reportable diseases list for details.

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

July 31, 2007

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

First 2007 Orange County Human West Nile Virus (WNV) Infection Reported!

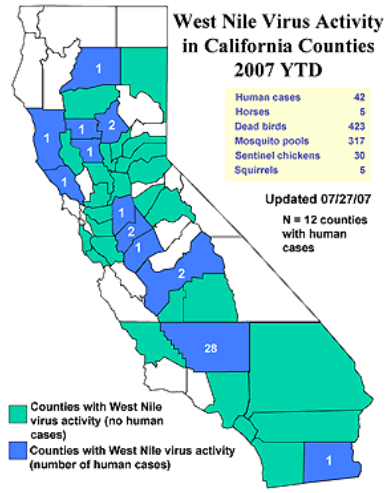
This year's first human WNV infection in Orange County was reported in a south County blood donor tested as part of routine screening to protect the blood supply.

Educate your patients, friends and family about WNV prevention -- avoiding mosquito bites:

- Eliminate standing water on your property as this is where mosquitoes breed. Drain pots, unclog gutters, and keep swimming pools clean and chlorinated or drained and covered.
- Make sure that door and window screens are in good condition to keep the mosquitoes out.
- When outdoors, use an insect repellent containing DEET, oil of lemon eucalyptus or picaridin. Always follow the product directions on the label.
- For more information about how to choose an insect repellent: www.cdc.gov/ncidod/dvbid/westnile/resources/repellent timeline poster041207.pdf.
- For more information about WNV prevention: see www.ochealthinfo.com/epi/wnv/index.htm and www.ochealthinfo.com/epi/wnv/Repellent.pdf.

Consider WNV infection in your patients with aseptic meningitis, encephalitis, or prolonged fever and submit specimens for WNV testing.

- For more information about testing for WNV infection, please see the *CD Connection* newsletter issue from June 2007, available at www.ochealthinfo.com/epi/for-phys.htm - Physicians.
- WN fever (WNF), West Nile Neuroinvasive Disease (WNND), asymptomatic WNV infection, aseptic meningitis, and encephalitis are all reportable diseases and should be reported within one working day to OC Epidemiology via phone (714-834-8180) or fax (714-834-8196).
- For clinical information, see www.westnile.ca.gov/resources.php under Clinician Information.



West Nile Virus -- Orange County and California

- One human WNV infection has been reported in OC this year; note the State totals only include symptomatic cases and thus the OC infection is not represented in the CA map or summary tables available at www.westnile.ca.gov.
- Forty-two (42) human WNV cases and two WNV-related fatalities have been reported in California in 2007. WNV activity has been detected in 38 of 58 CA counties so far this year.
- To report dead birds or squirrels, call Orange County Vector Control at 714-971-2421 x117.

Public Health Preparedness News…

- SAVE THE DATE! **Disaster Readiness for Special Populations forum.** Monday, October 15, 2007. Sponsored by the Orange County Health Care Agency, California Department of Public Health and the City of Costa Mesa. For more information, call 714-834-3105 or email events@ochca.com.

Recommended Resources

Orange County Health Care Agency: www.ochealthinfo.com/epi/wnv

Orange County Vector Control District: www.ocvcd.org or Ph: 714-971-2421

California Department of Public Health: www.westnile.ca.gov

Centers for Disease Control and Prevention: www.cdc.gov/ncidod/dvbid/westnile

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

August 2007

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

Endemic (Flea-Borne) Typhus in Orange County!!

We recently received reports of cases of endemic typhus in Orange County residents. Three cases were reported this month, including one child and two adults residing in Westminster and Huntington Beach. In January 2007, two additional cases were reported in Orange County residents. Cases have also been reported in Long Beach and Los Angeles in recent years.

- **Transmission**: Endemic (murine) typhus is usually caused by *Rickettsia typhi,* although *Rickettsia felis* may also cause a typhus-like illness. Humans become infected through inoculation of nonintact skin, mucus membranes or respiratory tract with feces from infected rat or cat fleas. This most commonly occurs at the time of the flea bite or through scratching. Infected persons may not recall a flea bite. There are two distinct transmission cycles, the urban cycle which involves rats and rat fleas, and the suburban cycle which involves cats, cat fleas, and opossums. The suburban cycle appears to be the one accounting for the recent infections in Orange County.
- **Incubation period:** 6-14 days
- **Clinical manifestations**:
  - Fever, headache (can be severe), myalgias, malaise are common.
  - Rash – macular or maculopapular, may start several days after initial symptoms.
  - Nausea, vomiting, cough may also be present.
  - Hepatitis, pneumonia may also be present.
  - Aseptic meningitis, encephalitis, renal failure, respiratory failure are uncommon complications.

- **Laboratory findings** may include: thrombocytopenia, leukopenia (neutropenia), transaminitis (increased AST and ALT).
- **Diagnosis**: Orange County Public Health can facilitate testing for typhus. Please call Epidemiology at 714-834-8180 to discuss any suspect cases.
  - **Serology**: Four-fold rise in *R. typhi* IgG titers in paired acute and convalescent sera is diagnostic; positive *R. typhi* IgM is suggestive of infection. Depending on the laboratory, these may be ordered as Typhus IgM and Typhus IgG, respectively. **Antibody titers may be negative in the first week of illness, so acute and convalescent testing in patients with compatible symptoms may be needed.** Note: Rickettsial antibodies cross-react, so serology may also be positive for the agent of Rocky Mountain Spotted Fever (RMSF) or other ricksettsial species.
  - **Additional testing:** Polymerase chain reaction (PCR) detection of *R. typhi* nuclei acid in whole blood (EDTA tube) during the acute illness or from a biopsy of a skin lesion if rash is present is not readily available but may be arranged through Orange County Public Health if indicated.
- **Treatment:** Doxycycline is the treatment of choice. **If endemic typhus is strongly suspected, empiric treatment should be considered pending laboratory confirmation as testing turnaround may take several days and early treatment can prevent severe and fatal infections.**
- **Prevention:** Flea control for pets and eliminating food sources and accumulation of brush and debris in the yard that may attract or harbor opossums, stray cats, rodents, or other animals.

Reporting

- Typhus is a reportable disease. Please report suspect and confirmed cases to Orange County Epidemiology (phone 714-834-8180; fax 714-834-8196).
- For the newly updated list of reportable diseases, see www.ochealthinfo.com/epi/report-diseases.htm.

FOR MORE INFORMATION:

Orange County Health Care Agency Epidemiology:
www.ochealthinfo.com/epi or 714-834-8180

Orange County Health Care Agency Animal Care Services
www.ochealthinfo.com/regulatory/acs/index.htm or 714-935-6848

Orange County Vector Control District:
www.ocvcd.org or 714-971-2421

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

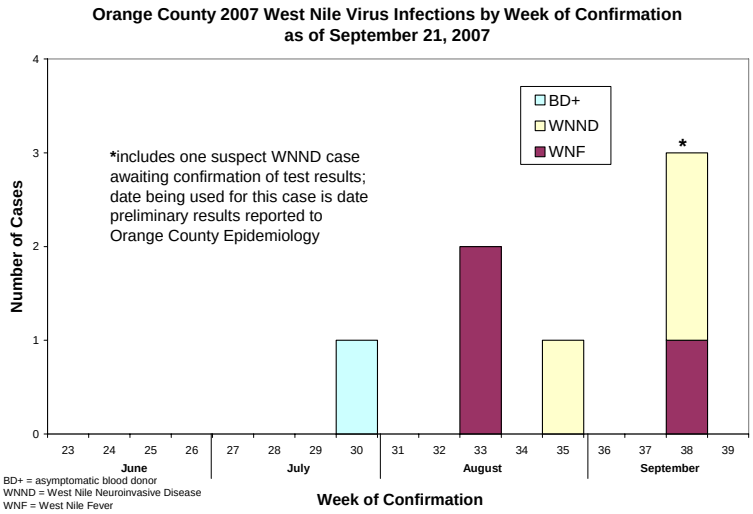
CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

September 21, 2007

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

West Nile Virus (WNV) Update

West Nile Virus activity continues in Orange County, with recent human cases and positive testing in birds and mosquitoes. Consider WNV infection in your patients with aseptic meningitis, encephalitis, or prolonged fever and submit serum for WNV IgM and IgG testing.

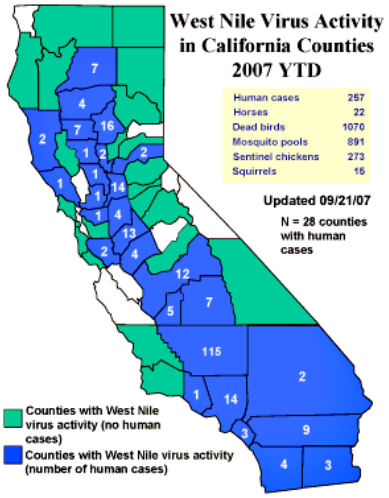


West Nile Virus -- Orange County and California

- Six confirmed WNV infections (2 WNND, 3 WNF, 1 asymptomatic blood donor) have been reported in Orange County in 2007.
- 257 human WNV cases and 14 WNV-related fatalities have been reported in CA to date in 2007. WNV activity has been reported in 50 of 58 CA counties.
- To report dead birds or squirrels, call Orange County Vector Control at 714-971-2421 x117.

Who should get tested for WNV infection?

- WNV testing is recommended for the following individuals:
  - All patients with encephalitis
  - All patients with aseptic meningitis (consider enterovirus first in children)
  - All patients with acute flaccid paralysis
  - Patients with prolonged febrile illness (≥ 7 days) and symptoms compatible with West Nile infection.
- For more information about WNV testing, see the *CD Connection* issue from June 2007, available at www.ochealthinfo.com/epi/for-phys.htm - Physicians.
- For clinical information, see www.westnile.ca.gov/resources.php under Clinician Information.



Recommended Resources

Orange County Health Care Agency:
www.ochealthinfo.com/epi/wnv

Orange County Vector Control District:
www.ocvcd.org or Ph: 714-971-2421

California Department of Public Health:
www.westnile.ca.gov

Centers for Disease Control and Prevention:
www.cdc.gov/ncidod/dvbid/westnile

Public Health Preparedness News…

- Health & Emergency Preparedness Planning Council (HEPPC): next meeting 10/9/07 at Soka University
- Special Populations Forum: 10/15/07 at the City of Costa Mesa Neighborhood Community Center.

Email events@ochca.com or call 714-834-3105 for more information on either of these events.

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

October 31, 2007

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

UPDATED MRSA RESOURCES

Given the continued public interest in MRSA, we have compiled this updated list of resources to assist clinicians and community partners in Orange County.

Resources for physicians and other health care providers

- NEW CDC, AMA, and Infectious Diseases Society of America algorithm: Outpatient management of skin and soft tissue infections in the era of community-acquired MRSA, including options for antimicrobial treatment: http://www.cdc.gov/ncidod/dhqp/pdf/ar/AMA_Flyer_Final.pdf
- NEW CDC presentation on CA-MRSA for clinicians: http://www.emergency.cdc.gov/coca/callinfo.asp
- Strategies for Clinical Management of MRSA in the Community: Summary of an Experts' Meeting Convened by the Centers for Disease Control and Prevention http://www.cdc.gov/ncidod/dhqp/pdf/ar/CAMRSA_ExpMtgStrategies.pdf
- CDC questions and answers on community-associated MRSA for physicians: http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca_clinicians.html
- Orange County Public Health: http://www.ochealthinfo.com/epi/mrsa/providers.htm
- *JAMA* article on incidence of invasive MRSA infections: http://jama.ama-assn.org/cgi/reprint/298/15/1763.pdf

Resources for patients

- NEW California Department of Public Health (CDPH): A Parent's Guide to MRSA in California http://www.cdph.ca.gov/healthinfo/discond/Documents/MRSAParentsGuide.pdf
- Orange County Public Health: http://www.ochealthinfo.com/docs/public/epi/mrsa/MRSA-FactSheet.pdf
- Methicillin-Resistant *Staphylococcus aureus* for Athletes (CDPH): http://www.cdph.ca.gov/healthinfo/discond/Documents/CAMRSAForAthletes.pdf

Resources for schools

- NEW Skin Infections and MRSA for California Schools (CDPH): http://www.cdph.ca.gov/healthinfo/discond/Documents/07MRSAschool.pdf
- Community-Associated (CA-MRSA)/Staph Infections: A Guideline for Athletic Departments (CDPH): http://www.cdph.ca.gov/healthinfo/discond/Documents/CAMRSAInfectionsGuidelineAthleticsDepartment.pdf

General resources

CDC: http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca_public.html
CDPH: http://www.cdph.ca.gov/healthinfo/discond/Pages/MRSA.aspx

Reporting

- Please report any clusters or outbreaks, including those of MRSA, to Orange County Public Health Epidemiology at 714-834-8180.
- Individual cases of MRSA are not reportable.

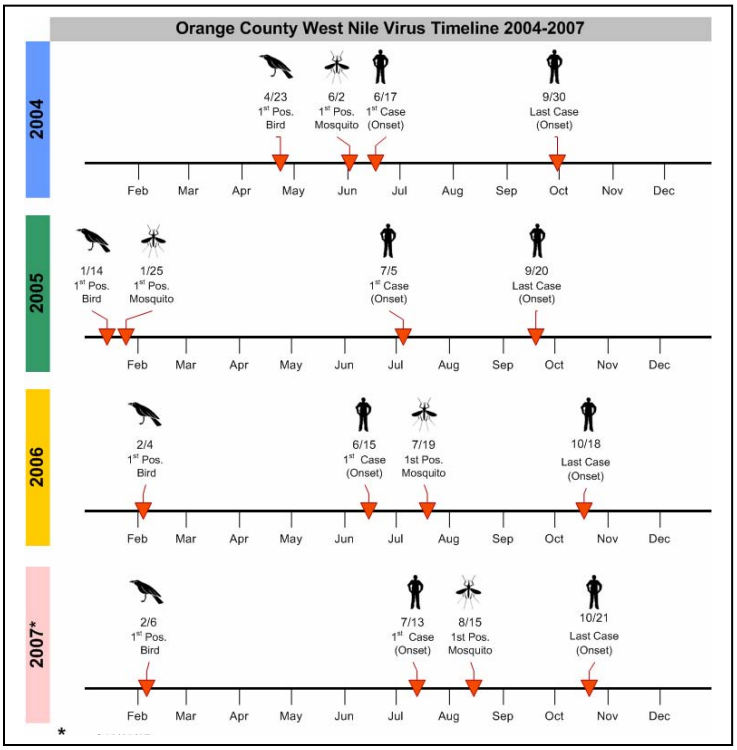
For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

January 7, 2008

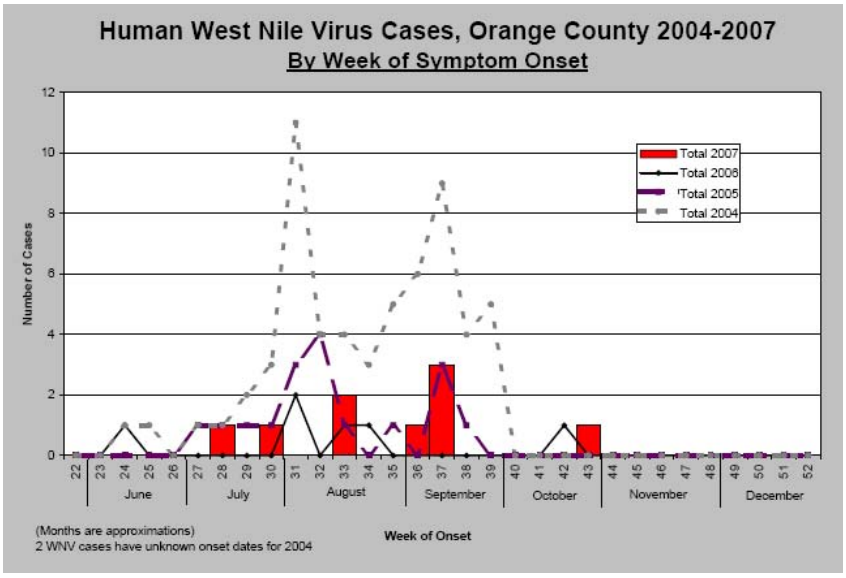
1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

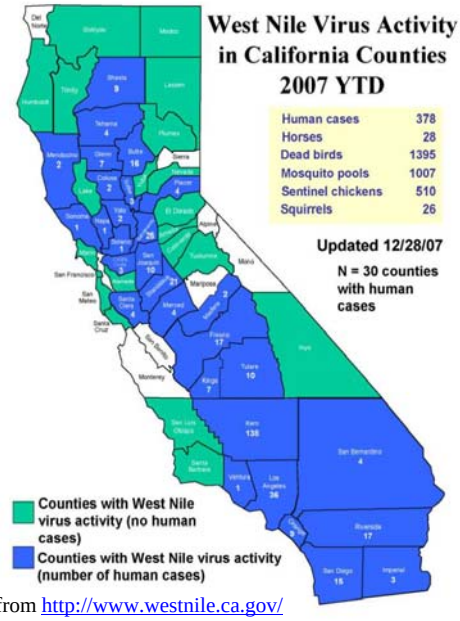
Summary Report for the 2007 West Nile Virus (WNV) Season



This will be the last West Nile Virus update this season. If additional cases are reported this season, a revised summary will be posted on our website: http://www.ochealthinfo.com/epi/for-phys.htm#Physicians.

- **2007 cases:** As of January 7, 2008, ten WNV infections (nine symptomatic cases and one asymptomatic blood donor) have been reported in Orange County residents for the 2007 WNV season. Of the nine symptomatic cases reported this season, three had West Nile fever (WNF), and six had West Nile Neuroinvasive Disease (WNND). In comparison, there were seven WNV infections reported in 2006, 17 in 2005, and 64 in 2004.
- **Seasonality:** In the past 4 years, human WNV cases have occurred in Orange County between June and October. However, positive birds and/or mosquitoes were detected throughout the year. WNV is endemic in Orange County and human cases are to be expected each year.
- **Age for all cases, 2004-2007:** The median age for all cases reported in 2004-2007 was 57 years (range, 6-88). The median age of WNF cases was 54 years (range, 13-76), of WNND meningitis cases was 54 years (range, 18-84) and of WNND encephalitis cases was 71 years (range, 6-88).
- **Gender of all cases, 2004-2007:** Males accounted for the majority of WNV cases [N=66 (70.2%)].
- **For CDC updates:** See http://www.cdc.gov/ncidod/dvbid/westnile/index.htm.
- **For State updates:** See http://www.westnile.ca.gov/.





from http://www.westnile.ca.gov/

If you have any comments about the flyer, contact Suvas Patel, MPH or Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

February 19, 2008

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

SEVERE *STAPHYLOCOCCUS AUREUS* INFECTIONS REPORTABLE

Effective February 13, 2008, severe *Staphylococcus aureus* infections, resulting in death or admission to an intensive care unit of a person without history of hospitalization, surgery, dialysis, or residency in a long-term care facility in the past year, and without an indwelling catheter or percutaneous medical device at the time of culture, are reportable in California.

- **Who needs to report?** Under Title 17, California Code of Regulations (CCR), §2500, "it shall be the duty of every health care provider, knowing of or in attendance on a case or suspected case of any of the diseases or conditions [on the reportable diseases list], to report to the local health officer for the jurisdiction where the patient resides…". A health care provider includes any of the following:

physician	surgeon	veterinarian	podiatrist	nurse practitioner
physician assistant	registered nurse	nurse midwife	school nurse	medical examiner
coroner	dentist	infection control practitioner		

- **How to report:** Severe *Staphylococcus aureus* infections (as defined above) are reportable immediately to Orange County Public Health by phone (714-834-8180) or fax (714-834-8196). Please fax a completed Confidential Morbidity Report (CMR) (available on-line at www.ochealthinfo.com/docs/public/epi/forms/diseases.pdf) and copy of the laboratory report(s) from positive *S.aureus* culture(s) and the antimicrobial susceptibilities, if available. Please indicate on the CMR in the Remarks section at the very bottom what antibiotic(s) the patient was on at the time of diagnosis and the date(s) started. A specific case report form should be available in the near future.

- **For information about MRSA**, see www.ochealthinfo.com/epi/mrsa/index.htm. A list of resources for MRSA is also available in the 10/31/07 edition of *CD Connection*, available at www.ochealthinfo.com/epi/cd_news/index.htm.

- **For the most up-to-date reportable diseases list, see:** www.ochealthinfo.com/epi/report-diseases.htm.

OTHER DISEASE NEWS

- **Influenza:** Influenza season is well underway. To receive our *Eye on Influenza* newsletter, email epi@ochca.com.
- **Measles:** An ongoing measles outbreak involving San Diego County is a reminder to consider measles in patients with febrile rash illness and assure that patients, their families, and your staff members are fully vaccinated. For more information, see www.ochealthinfo.com/epi/measles/index.htm.
- **Typhus:** Six cases of endemic flea-borne typhus have been reported in Orange County thus far in 2008. Prior to 2006, no reports of typhus were received since 1993. For more information on typhus, see www.ochealthinfo.com/epi/typhus/index.htm.

Public Health Preparedness News

- **Radiation Event Medical Management**, Guidance on Diagnosis & Treatment for Health Care Providers: a new website from the US Department of Health & Human Services is available at http://remm.nlm.gov/.
- **Health & Emergency Preparedness Planning Council (HEPPC):** For information on joining local planning activities and/or to receive the HEPPC newsletter, email events@ochca.com.

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

May 21, 2008

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

West Nile Virus season is here. West Nile Virus (WNV) activity has been detected in mosquito pools, dead birds, and sentinel chickens in California thus far in 2008. In Orange County, 17 WNV-positive dead birds and a positive mosquito pool have been reported. Although no human cases of WNV infection have been reported yet in California, the recent increase in WNV activity in Orange County suggests that human cases could soon follow. Human cases have already been reported in Arizona, Mississippi, and Tennessee.

Consider WNV infection in your patients with aseptic meningitis, encephalitis, acute flaccid paralysis or prolonged fever and submit specimens for testing.

- **Clinical description of WNV infection:**
  - The incubation period for WNV infection ranges from 2 to 14 days after a bite from an infected mosquito. Most infections in humans are asymptomatic.
  - Clinical syndromes range from febrile headache to aseptic meningitis, encephalitis, or acute flaccid paralysis. Rash, myalgia, lymphadenopathy, and muscle weakness may also be prominent.
  - People over the age of 50 years are at risk for more severe disease from WNV infection.
- **Diagnosis** is made by serology (IgM or paired acute and convalescent IgG) for WNV. Testing is available through commercial laboratories and through OC Public Health on a case-by-case basis (714-834-8180).
  - WNV IgM may be negative early in the course of the disease and serology may cross react with other flaviviruses (e.g., dengue, St. Louis Encephalitis, or yellow fever, including yellow fever vaccine).
  - Repeat serology may be indicated if initial testing is negative in the first 10 days after onset of symptoms.
- **Treatment** is mainly supportive care. For clinical trials: www.cdc.gov/ncidod/dvbid/westnile/clinicalTrials.htm.
- **For clinical guidance**: http://www.cdc.gov/ncidod/dvbid/westnile/clinicians/.
- **Reporting:** WN fever (WNF), West Nile Neuroinvasive Disease (WNND), asymptomatic WNV infection, aseptic meningitis, and encephalitis are all reportable diseases and should be reported within one working day to OC Epidemiology via phone (714-834-8180) or fax (714-834-8196).

National West Nile Virus Activity, as of May 6, 2008:

Recommended Resources

Orange County Health Care Agency:
www.ochealthinfo.com/epi/wnv

Orange County Vector Control District:
www.ocvcd.org or Ph: 714-971-2421

California Department of Public Health:
www.westnile.ca.gov

Centers for Disease Control and Prevention:
www.cdc.gov/ncidod/dvbid/westnile

Educate your patients, friends and family about WNV prevention -- avoiding mosquito bites:

- Eliminate standing water on your property, as this is where mosquitoes breed. Drain pots, unclog gutters, and keep swimming pools clean and chlorinated or drained and covered.
- Make sure that door and window screens are installed and in good condition to keep mosquitoes out.
- When outdoors, use an insect repellent containing DEET, picaridin, oil of lemon eucalyptus, or IR3535. Always follow the product directions on the label.
- Avoid being outdoors during dusk and dawn which are prime mosquito biting times and wear long sleeves and long pants while outdoors.

For comments or suggestions on this newsletter, please contact Suvas Patel, MPH or Dr. Michele Cheung at (714) 834-8180. To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection

Orange County Communicable Disease News

Health Care Agency/Public Health Services - Epidemiology

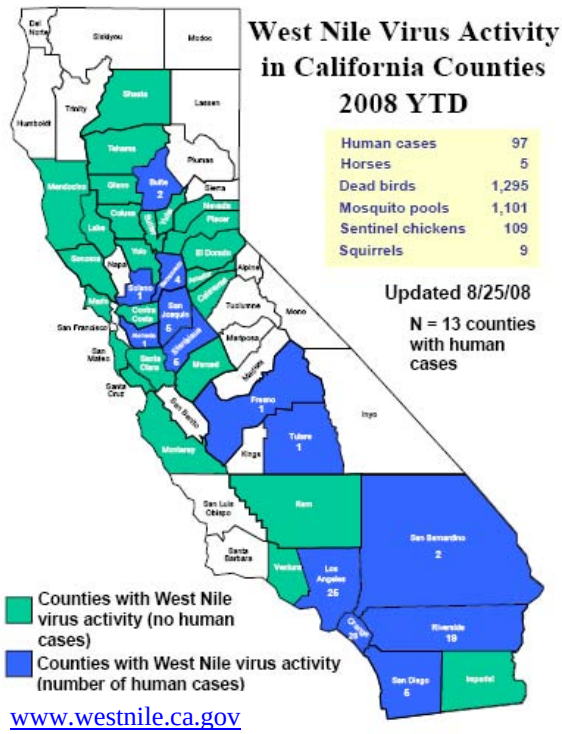
August 25, 2008

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

West Nile Virus activity is high in Orange County. To date, we have received almost as many reports of confirmed human West Nile Virus (WNV) infections in Orange County in 2008 as in the past three years (2005-2007) combined. It is too early to predict whether the 2008 totals will exceed the number seen in our previous peak year 2004 when we had 64 confirmed WNV infections, but human cases to date are more numerous than at the same time in 2004. The first confirmed WNV death in Orange County this season reminds us of the potential severity of the illness and the need to use precautions to avoid WNV infection.

Consider WNV infection in your patients with aseptic meningitis, encephalitis, acute flaccid paralysis or prolonged fever and submit specimens for testing. In previous seasons, Orange County has continued to have WNV cases with symptom onset through September or October.

- **Diagnosis** is made by serology (IgM or paired acute and convalescent IgG) for WNV. Testing is available through commercial laboratories and through OC Public Health on a case-by-case basis.
- **To report a suspect or confirmed WNV case:** Call 714-834-8180 or fax 714-834-8196.
- **For more information about WNV infection, diagnosis, and reporting, see the May 2008 issue of *CD Connection,* available at** www.ochealthinfo.com/epi/cd_news/index.htm.



West Nile Virus -- Orange County, California, & U.S.

- Twenty-six symptomatic WNV cases (21 West Nile Neuroinvasive Disease and 5 West Nile Fever), including one death, and four asymptomatic WNV-positive blood donors (BD+) have been confirmed in OC as of 8/25/08.
- CA totals: 97 human WNV cases and 15 BD+
- US totals: 236 WNV cases, including two deaths, and 37 BD+ (as of 8/19/08).

Recommended Resources

Orange County Health Care Agency:
www.ochealthinfo.com/epi/wnv

Orange County Vector Control District:
www.ocvcd.org or Ph: 714-971-2421

California Department of Public Health:
www.westnile.ca.gov

Centers for Disease Control and Prevention:
www.cdc.gov/ncidod/dvbid/westnile

PREVENTION is key – avoiding mosquito bites. Educate your patients, friends and family to:

- Eliminate standing water on your property, as this is where mosquitoes breed. Drain pots, unclog gutters, and keep swimming pools clean and chlorinated or drained and covered.
- Make sure that door and window screens are installed and in good condition to keep mosquitoes out.
- When outdoors, use an insect repellent containing DEET, picaridin, oil of lemon eucalyptus, or IR3535. Always follow the product directions on the label.
- Avoid being outdoors during dusk and dawn which are prime mosquito biting times and wear long sleeves and long pants while outdoors.

For comments or suggestions on this newsletter, please contact Dr. Michele Cheung at (714) 834-8180. To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

December 2008

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

Two Diseases You Don't Want to Get for the Holidays!

Norovirus

Noroviruses are common causes of viral gastroenteritis and are involved in outbreaks in families, schools and day cares, long term care facilities, and cruise ships. At least 50% of foodborne outbreaks are thought to be due to noroviruses and the CDC estimates that 64,000 episodes of diarrhea requiring hospitalization and 900,000 clinic visits among children occur each year due to noroviruses in industrialized countries (*Source EID 2008;14:1224-1231).*

Transmission: Noroviruses are highly contagious and even minute amounts of infected fecal matter or aerosolized vomitus can transmit the infection. People can become infected with noroviruses by:

- touching contaminated surfaces or objects, and then placing their hand in their mouth;
- having direct contact with another person who is infected; OR
- eating food or drinking liquids that are contaminated with norovirus.

Once infected, people can shed virus for weeks, even though symptoms usually resolve after a few days.

Diagnosis is usually clinical, based on symptoms of watery diarrhea and/or vomiting consistent with a viral gastroenteritis. Specific testing for norovirus is not usually done, although stool tests for norovirus are commercially available in some laboratories. Stool testing to rule out other causes of gastroenteritis may be indicated, such as stool culture for enteric bacterial pathogens, antigen testing for rotavirus, or examination stains for ova & parasites. During an outbreak or foodborne illness investigation, Orange County Public Health can facilitate norovirus testing. **Please report any outbreaks, clusters, or suspected foodborne illness (≥2 persons from separate households with same suspected source of illness) immediately to Orange County Public Health at 714-834-8180.**

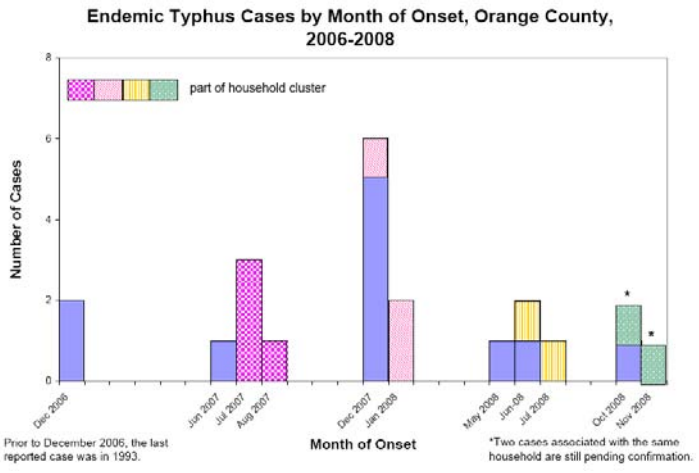
Treatment consists of supportive care through replacing fluid losses and correcting electrolyte imbalances. No specific therapy for norovirus exists.

Prevention: No vaccine is available. Prevention of person-person transmission is mainly through hygiene (strict handwashing after using the toilet and before handling food), environmental disinfection and cleaning, and staying home and away from others while ill. Foodhandlers should not handle food for at least 72 hours after symptoms resolve; stricter precautions may be recommended during an outbreak.

Resources: See fact sheets on "Viral Gastroenteritis, including Norovirus Infections" and "Norovirus Infections, Questions and Answers about Cleaning and Disinfection", at www.ochealthinfo.com/epi/viral.htm.

Typhus Update

Since our last typhus update, we have continued to receive reports of typhus cases in Orange County residents. Although typhus is typically seen in April through October, in Orange County we saw an increase in cases with onset in the winter months of 2006 and 2007 and expect a similar trend over the next few months. For more information about typhus, see http://www.ochealthinfo.com/epi/typhus/index.htm for our previous updates and newsletters.



For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

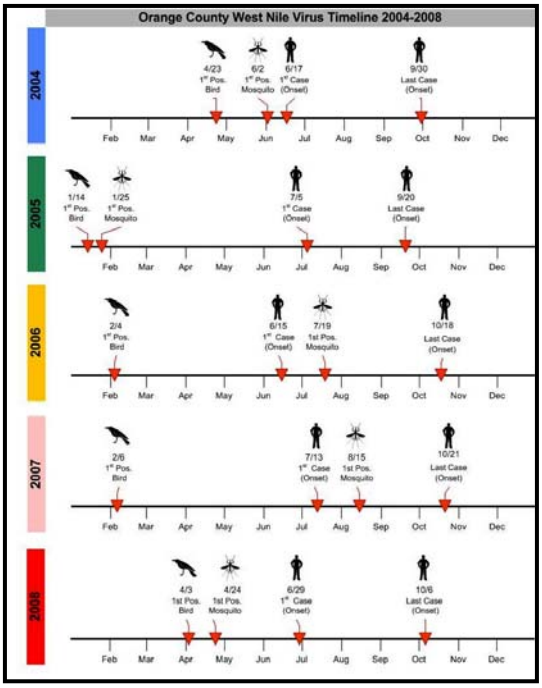
March 20, 2009

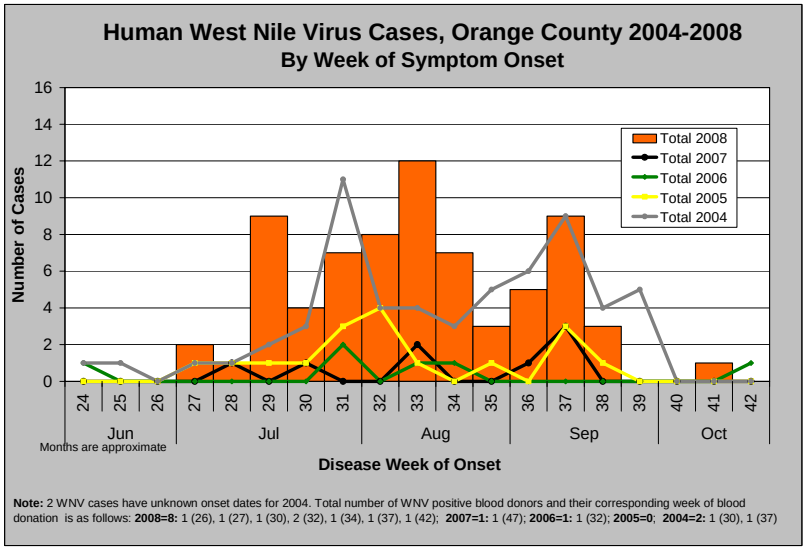
1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

Summary Report for the 2008 West Nile Virus (WNV) Season

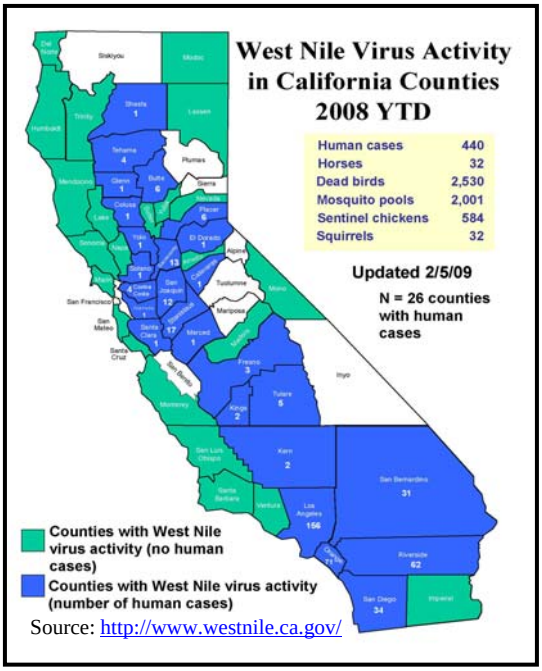
If additional cases are reported from 2008, a revised summary will be posted on our website: http://www.ochealthinfo.com/epi/for-phys.htm#Physicians.

- **2008 infections:** As of March 20, 2009, 79 WNV infections (71 symptomatic cases and 8 asymptomatic blood donors) have been reported in Orange County residents for the 2008 WNV season. Of the 71 symptomatic cases, 17 (24%) were West Nile fever (WNF), and 54 (76%) were West Nile neuroinvasive disease (WNND). There were three (4%) deaths. Among the WNND cases, 25 (46%) were WNND encephalitis, 24 (44%) were WNND meningitis, and 5 (9%) were WNND acute flaccid paralysis. In comparison, there were a total of 10 WNV infections reported in 2007, seven in 2006, 17 in 2005, and 64 in 2004.[1]
- **Seasonality:** In the past five seasons, human WNV cases have occurred in Orange County from June through October. However, positive birds and/or mosquitoes have been detected throughout the year. WNV is endemic in Orange County and human cases are to be expected each year.
- **Age for symptomatic cases, 2008:** The median age for all symptomatic cases reported in 2008 was 53 years (range 4-90 years). The median age of WNF and WNND cases was 56 years (range 27-80 years) and 53 years (range 4-90 years) respectively. The median age for WNND encephalitis cases was 62 years (range 4-86 years), WNND meningitis cases was 50 years (range 21-90 years), and WNND acute flaccid paralysis cases was 64 years (range 38-74 years).
- **Gender, race, and ethnicity for symptomatic cases, 2008:** Males accounted for the majority of WNV cases in 2008 (47, 66.2%). Race and ethnicity information was known for 57 (80%) cases, of which 35 (61%) were Non-Hispanic White, 16 (28%) were Hispanic White, 3 (5%) were Non-Hispanic Other, 2 (4%) were Non-Hispanic Black, and 1 (2%) was Hispanic Other.
- **For CDC updates:** See www.cdc.gov/ncidod/dvbid/westnile/.
- **For State updates**: See http://www.westnile.ca.gov/.





Note: 2 WNV cases have unknown onset dates for 2004. Total number of WNV positive blood donors and their corresponding week of blood donation is as follows: **2008=8:** 1 (26), 1 (27), 1 (30), 2 (32), 1 (34), 1 (37), 1 (42); **2007=1:** 1 (47); **2006=1:** 1 (32); **2005=0**; **2004=2:** 1 (30), 1 (37)



[1] West Nile Virus-positive blood donors were not included in official California statistics until 2006.

If you have any comments about the flyer, contact Suvas Patel, MPH or Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection

Orange County Communicable Disease News

Health Care Agency/Public Health Services - Epidemiology

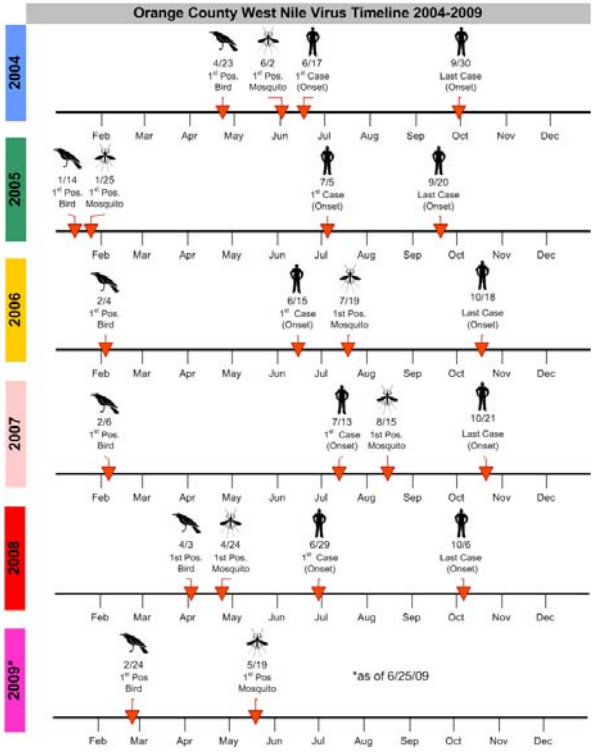
June 25, 2009

1719 W. 17th St. Santa Ana, CA 92706, (714) 834-8180

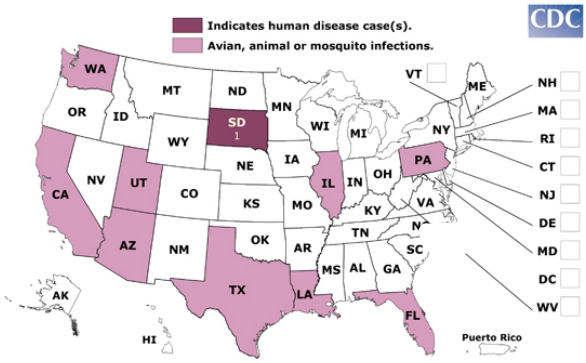
Summer is here, and so is West Nile Virus season! West Nile Virus (WNV) activity has been detected in humans, mosquito pools, dead birds, and sentinel chickens in California thus far in 2009. One human infection has been reported from Los Angeles County in an asymptomatic blood donor. In Orange County, four WNV-positive dead birds and one positive mosquito pool have been reported to date this season. Although no human cases of WNV infection have been reported yet in Orange County, WNV is endemic and we expect to see cases every year. In previous years, the first WNV cases in Orange County had onsets starting in mid-June to mid-July. For a summary of the 2008 WNV season see http://www.ochealthinfo.com/epi/for-phys.htm#wnv.

Consider WNV infection in your patients with aseptic meningitis, encephalitis, acute flaccid paralysis or prolonged fever and submit serum specimens for testing.

- **Diagnosis** is made by serology (IgM or paired acute and convalescent IgG) for WNV. Testing is available through commercial laboratories and through OC Public Health on a case-by-case basis (714-834-8180).
  - WNV IgM may be negative early in the course of the disease and serology may cross react with other flaviviruses (e.g., dengue, St. Louis Encephalitis, or yellow fever, including yellow fever vaccine).
  - Repeat serology may be indicated if initial testing is negative in the first 10 days after onset of symptoms.
- **Treatment** is mainly supportive care. For clinical trials: www.cdc.gov/ncidod/dvbid/westnile/clinicalTrials.htm.
- **For clinical guidance**: http://www.cdc.gov/ncidod/dvbid/westnile/clinicians/.
- **Reporting:** WN fever (WNF), West Nile Neuroinvasive Disease (WNND), asymptomatic WNV infection, aseptic meningitis, and encephalitis are all reportable diseases and should be reported within one working day to Public Health via phone (714-834-8180) or fax (714-834-8196).



National West Nile Virus Activity, as of June 24, 2009:



Educate your patients, friends and family about WNV prevention -- avoiding mosquito bites:

- Eliminate standing water on your property, as this is where mosquitoes breed.
- Make sure that door and window screens are installed and in good condition.
- When outdoors, use an insect repellent containing DEET, picaridin, oil of lemon eucalyptus, or IR3535.
- Avoid being outdoors during dusk and dawn and wear long sleeves and long pants while outdoors.

Recommended Resources

Orange County Health Care Agency:
www.ochealthinfo.com/epi/wnv

Orange County Vector Control District:
www.ocvcd.org or Ph: 714-971-2421

California Department of Public Health:
www.westnile.ca.gov

Centers for Disease Control and Prevention:
www.cdc.gov/ncidod/dvbid/westnile

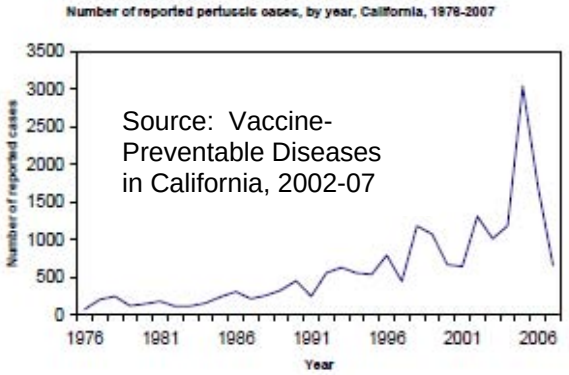
For comments or suggestions on this newsletter, please contact Suvas Patel, MPH or Dr. Michele Cheung at (714) 834-8180. To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

August 27, 2009

1719 W. 17th St., Santa Ana, CA 92706, (714) 834-8180

We continue to get frequent questions about and reports of PERTUSSIS in the community; many with delayed diagnosis. Although infants have the greatest morbidity and mortality from pertussis, it is often the older children, adolescents and adults who have an atypical presentation and go unrecognized.



Pertussis

- **Description:** Pertussis, or whooping cough, is a very contagious, vaccine-preventable disease that has three stages:
  - **Catarrhal stage:** similar to common cold with mild upper respiratory tract symptoms and progresses to cough.
  - **Paroxysmal stage:** paroxysms of cough with inspiratory whoop (in some) and often followed by vomiting. *Cough can be mild in immunized children and adults.*
  - **Convalescent stage:** symptoms resolve gradually over weeks to months.

  Infants younger than 6 months of age may have gagging or apnea as presenting symptoms and may not have a whoop. Patients generally appear well between coughing paroxysms, and there is often a household member with a cough. Presentation with fever, rash, wheezing, lymphadenopathy or atypical ("reactive") lymphocytes is less likely pertussis.
- **Cause:** *Bordetella pertussis*, a Gram-negative bacteria. The incubation period is usually 7-10 days (range, 5-21 days). Pertussis is spread through respiratory secretions.
- **Complications:** Pertussis is most severe in infants younger than 6 months of age, especially in those who are preterm or unimmunized. Complications among infants include pneumonia (22%), seizures (2%), encephalopathy (<0.5%), malnutrition, and death (1% in infants < 2 months of age and <0.5% in infants 2-11 months of age). In adolescents and adults, complications include syncope, sleep disturbance, incontinence, rib fractures and pneumonia.
- **Differential diagnosis:** *Bordetella parapertussis*, *Mycoplasma pneumoniae*, *Chlamydia trachomatis*, *Chlamydophila pneumoniae*, and viruses such as adenovirus, and respiratory syncytial virus can also cause similar cough illnesses.
- **Diagnosis:** ***Pertussis is often a clinical diagnosis based on the symptoms noted above.*** Nonspecific findings that may be seen in pertussis include an increased absolute white blood cell count with lymphocytosis (normal lymphocytes), especially in infants and young children. Culture and polymerase chain reaction (PCR) testing are recommended for confirming the diagnosis.
  - **Culture**: Culture is 100% specific, but a negative culture does not exclude pertussis. A nasopharyngeal (NP) specimen should be obtained by aspiration or use of Dacron or calcium alginate swabs and placed in special transport media. Cultures may be falsely negative if antimicrobial therapy has been started, the person has been previously immunized, or it is more than 3 weeks since cough onset.
  - **PCR**: PCR has improved sensitivity and more rapid results when compared to culture, but false-positive results have been reported and there is no FDA-licensed test or standardized protocols for PCR testing available. PCR testing requires collection of a NP specimen by nasal wash or use of Dacron swab.
  - **Direct fluorescent antibody (DFA):** DFA testing is no longer recommended.
  - **Serology:** There are no FDA-licensed serology tests or standardized cutoff points available.
- **Treatment:** Macrolides (azithromycin, erythromycin, and clarithromycin) are the drugs of choice for pertussis. Both suspect and confirmed cases should be treated if within 21 days of onset. Treatment, unless given in the catarrhal stage, does not usually affect the course of the illness but is still recommended to limit transmission to others. For dosages, see: http://ochealthinfo.com/epi/pertussis.htm. Trimethoprim-sulfamethoxazole is an alternative for some patients.
- **Prevention:** Universal vaccination against pertussis is recommended using DTaP in children <7 years of age and Tdap for adolescents and adults. Tdap is especially important for adolescents and adults who have contact with young infants. See http://www.cdc.gov/vaccines/. Household and close contacts of a suspect or a confirmed case of pertussis should receive preventive treatment if within 21 days of the last exposure. See http://ochealthinfo.com/epi/pertussis.htm.
- **Reporting:** Pertussis, including clinical and laboratory confirmed pertussis, is reportable to Orange County Epidemiology (phone 714-834-8180 or fax 714-834-8196) within one working day.
- **For more information:** **AAP Red Book** and http://www.cdc.gov/ncidod/dbmd/diseaseinfo/pertussis_t.htm.

For comments or suggestions on this newsletter, please contact Dr. Michele Cheung at (714) 834-8180. To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

December 21, 2009

1719 W. 17th St., Santa Ana, CA 92706, (714) 834-8180

Reportable Diseases List Updated! Diseases That Cause or Contribute to the Cause of Death should be Included on the Death Certificate!

Please review the updated reportable disease list and share with your staff. When reports are received, Orange County Public Health may call the reporting health care provider and/or the patient for more information, depending on the disease. Health care providers should notify patients of their diagnosis and that they may be contacted.

- **What needs to be reported?** Refer to http://www.ochealthinfo.com/epi/report-diseases.htm for the most up-to-date complete list. Rarely reported diseases (e.g. Paragonimiasis, Anisakiasis, Echinococcus) are not listed but are still reportable as Unusual Diseases. Important recent changes include:
  - addition of Anaplasmosis to Ehrlichiosis – reportable within 7 calendar days.
  - specification of species of *Chlamydia* to be reported: "*Chlamydia trachomatis* infections including Lymphogranuloma Venereum (LGV)" – reportable within 7 calendar days.
    Note: *Chlamydophila (Chlamydia) pneumoniae* infections do not need to be reported and *Chlamydophila (Chlamydia) psittaci* infections are reportable under Psittacosis.
  - change in reporting timeframe for severe *Staphylococcus aureus* infections from "immediately by telephone" to "within one (1) working day of identification."
  - deletion of Toxoplasmosis.
- **Who needs to report?** Under Title 17, California Code of Regulations (CCR), §2500, "it shall be the duty of every health care provider, knowing of or in attendance on a case or suspected case of any of the diseases or conditions [on the reportable diseases list], to report to the local health officer for the jurisdiction where the patient resides…" A health care provider includes any of the following: physician, surgeon, physician assistant, nurse practitioner, registered nurse, infection control practitioner, nurse midwife, school nurse, medical examiner, coroner, veterinarian, podiatrist, dentist.

- **How to report:** Consult the reportable diseases list for the timeframe (immediately, within one working day, or within seven calendar days) and manner (by phone, fax, or mail) in which to report. Reports are made to Epidemiology at 714-834-8180 (phone) or 714-834-8196 (fax). Urgent reports after regular work hours, on weekends, or holidays should be made to the public health official on call.

- **Why report?**
- Your reports form the basis for surveillance of communicable diseases in the County.
- Reporting of these diseases and conditions is required by law (Title 17, CCR §2500).
- Failure to comply with disease reporting may be considered "unprofessional conduct" and result in citation and/or fine by the Medical Board of California.

What to include on the death certificate? Deaths associated with reportable diseases are monitored in the County. The underlying cause of death, which is the last listed cause in Box 107 of the death certificate, is defined as the disease, abnormality, or injury that led to death. Up to 4 causes of death can be listed in Box 107 (only 1 cause on each line) and should be in chronological and pathological order, no matter how long the time interval, such that the most immediate cause of death is listed in A, any cause listed in B led to and preceded A, any cause in C led to and preceded B, and any cause in D led to and preceded C. Box 112 should be reserved for conditions contributing to death but not one of the causes.

	107. DEATH WAS CAUSED BY: (ENTER ONLY ONE CAUSE PER LINE FOR A, B, C, AND D)		TIME INTERVAL BETWEEN ONSET AND DEATH	108. DEATH REPORTED TO CORONER
CAUSE OF DEATH	IMMEDIATE CAUSE	(A) acute respiratory distress syndrome	1 day	☐ YES ☒ NO REFERRAL NUMBER
	DUE TO	(B) influenza A novel H1N1 infection	5 days	109. BIOPSY PERFORMED ☐ YES ☒ NO
	DUE TO	(C) chronic myelogenous leukemia	3 mos	110. AUTOPSY PERFORMED ☐ YES ☒ NO
	DUE TO	(D)		111. USED IN DETERMINING CAUSE ☐ YES ☒ NO
	112. OTHER SIGNIFICANT CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO CAUSE GIVEN IN 107: Diabetes mellitus, hypertension, coronary artery disease			
	113. WAS OPERATION PERFORMED FOR ANY CONDITION IN ITEM 107 OR 112? IF YES, LIST TYPE OF OPERATION AND DATE.			

See http://ochealthinfo.com/public/bd/physicians.htm for more information on completion of death certificates.

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

February 22, 2010

1719 W. 17th St., Santa Ana, CA 92706, (714) 834-8180

MEASLES, MUMPS, AND RUBELLA

On February 2, 2010, *The Lancet* fully retracted the 1998 paper[1] that is widely thought to be the basis for claims that measles-mumps-rubella (MMR) vaccination causes autism. *The Lancet* acted in response to a recent finding by the General Medical Council of the United Kingdom that the lead author, Dr. Andrew Wakefield, was dishonest and irresponsible in arranging and carrying out the research. Unfortunately, these unsubstantiated claims that MMR causes autism have resulted in lower immunization rates in many parts of the world, continuing cases of measles, and outbreaks both abroad and in the U.S.

Measles, mumps, and rubella are reportable diseases. To report, call 714-834-8180 or fax 714-834-8196.

Measles: While California had only 9 cases of measles in 2009, there have already been 4 cases in 2010. These cases illustrate a number of important points in the recognition and prevention of measles:

1) A 54 year-old adult had recently traveled to the United Kingdom (UK) and Belgium.
   - Even though people born before 1957 are presumed to be immune to measles, he was not. Approximately, 5% of people born before 1957 will be susceptible to measles.
2) A 22 month-old unvaccinated child was presumably infected on a flight from Ireland in which three infectious Irish siblings were passengers.
   - The mother of this child was positive the child had been vaccinated for measles, but the child had not been. This was a missed opportunity for routine vaccination as well as before travel to a country that is experiencing measles outbreaks. It also serves as a reminder that parents are not always good historians about vaccination status.
3) A 13 month-old unvaccinated child traveled to India and flew to the U.S. while infectious.
   - This infant could have been vaccinated for measles before extended travel to India. For information on early vaccination of infants before travel to an endemic area, see the recommendations of the Advisory Committee on Immunization Practices (ACIP) on use of MMR vaccine (p. 20) at: http://www.cdc.gov/mmwr/PDF/rr/rr4708.pdf.
4) A 30 year-old unvaccinated adult (possible exposure venues still being investigated).

Delays in investigation and contact tracing also occurred with two of these cases—one was not reported to the health department promptly and another did not have a travel history elicited nor was measles suspected. While the likelihood that an individual clinician will see a case of measles is very low, these cases are a reminder that there are situations in which measles should be considered. For more information about measles see the attached flyer and http://www.ochealthinfo.com/epi/measles/index.htm.

Mumps: Beginning in June 2009 in New York, the largest mumps outbreak in the United States since 2006 began with an 11 year-old boy who returned from the UK where an ongoing mumps outbreak involves over 7,400 cases. The index case infected summer camp attendees and staff who then returned to their hometowns mainly in New York and New Jersey and continued the transmission cycle, with over 1,521 cases reported as of January 29, 2010. The outbreak has mainly affected the tradition-observant Jewish community, in particular older children (61% aged 7-18 years) and boys (76%). Similar to mumps outbreaks in other highly vaccinated populations, most cases in this outbreak have been previously vaccinated, and clinicians should be aware that mumps can occur in vaccinated persons. Nevertheless, maintenance of high 2-dose MMR vaccine coverage remains the most effective way to prevent and limit the size of mumps outbreaks. A third dose of MMR vaccine is currently under study during this outbreak. See www.cdc.gov/mmwr, 2/12/10 edition. Given that there are other causes of parotitis, laboratory confirmation and epidemiologic history should be obtained. See http://ochealthinfo.com/epi/mumps.htm.

Rubella: For more information, see http://www.cdc.gov/vaccines/vpd-vac/rubella/default.htm.

[1] Wakefield AJ, Murch SH, Anthony A, et al. Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. *Lancet* 1998; 351: 637–41.

CD Connection
Orange County Communicable Disease News
Health Care Agency/Public Health Services - Epidemiology

April 30, 2010

1719 W. 17th St., Santa Ana, CA 92706, (714) 834-8180

Animal Bites in Orange County; Updated Rabies Post-Exposure Prophylaxis Regimen

Every year in the U.S. millions of animal bites occur, with most (approximately 80%, or 4.7 million bites) due to dogs, resulting in hundreds of thousands of medical visits.[1] The highest injury rate is among children 5-9 years of age.[2] In addition to the potentially serious trauma inflicted, there is a risk of infection, including, in some situations, rabies.

Orange County (OC) data for 2009:

- Over 3,000 animal bites were reported to animal care agencies serving OC.
  - Most (77%) of the animal bites were by dogs and 14% were by cats.
  - Over 250 bites by wild animals were reported.
- Of the 519 animals tested for rabies by the OC Public Health Laboratory, 10 bats were positive.
- 189 persons were evaluated by OC Epidemiology for potential exposure to rabies and the need for post-exposure prophylaxis (PEP).
  - 36 were recommended to receive rabies PEP.

All animal bites should be reported to local animal control authorities, even if medical care is not needed, so that the need for testing of the animal for rabies or other interventions can be assessed. Any stray animals or bats should be reported to local animal control authorities. Potential human exposure to a bat or other wild animal should be reported promptly to OC Epidemiology at 714-834-8180 so that the risk of rabies can be evaluated. Animal bites that occurred in another country should also be reported.

Infection following animal bites: The microbiologic make-up of animal bite wounds includes both aerobic and anaerobic bacteria, such as *Pasteurella* species, streptococci, *Staphylococcus aureus* and *S. intermedius, Bacteroides, Prevotella,* and *Porphyromonas* species, fusobacteria and peptostreptococci.[3] Other pathogens of concern include rabies (see below), *Capnocytophaga canimorsus* (sepsis associated with dog bites in immunocompromised); *Francisella tularensis* (tularemia; can be transmitted by cat bites), herpes B virus (monkey bites); and *Streptobacillus moniliformis* or *Spirillum minus* (rat-bite fever).

Rabies: Rabies, a viral infection of the nervous system, is almost universally fatal. The rabies virus is found in an animal's saliva and is usually transmitted to people by a bite from a rabid animal. Although very rare, contamination of the eyes, mouth or an open wound by the saliva of a rabid animal can also transmit rabies. In Orange County, bites from dogs and cats are not usually considered a risk for rabies. Bites from wildlife, including bats, raccoons, skunks, and coyotes, are considered at risk. Bites from small rodents (squirrels, hamsters, chipmunks, rats) and lagomorphs (rabbits) are very unlikely to transmit rabies and rabies PEP would not typically be recommended.

Rabies Postexposure Prophylaxis (PEP) – Updated Regimen: The PEP course for a previously unvaccinated person after a bite from a potentially rabid animal has been reduced from 5 doses of rabies vaccine to 4 doses (days 0, 3, 7, and 14), except in immunocompromised persons for whom the course remains 5 doses.[4] Rabies PEP (including HRIG) should be initiated as soon as possible after the bite, but if indicated should still be given regardless of the interval since exposure. HRIG should be administered at day 0 when PEP is initiated but can be administered up to and including 7 days after initiation of the vaccine series. Recommendations for prompt wound care and tetanus vaccination (if needed) remain unchanged.

---

1 Weiss HB, Friedman DJ, Cohen JH. Incidence of dog bite injuries treated in emergency departments. JAMA 1998;279:51-53.
2 CDC. Nonfatal Dog-Bite-Related Injuries Treated in Hospital Emergency Department --- United States, 2001. MMWR 2003;52:605-610.
3 Bites. In: Mandell GH, Bennett JE, Dolin R, eds.. *Principles and Practice of Infectious Diseases*, 6th ed. Philadelphia, PA: Elsevier, Inc; 2005:3552-6.
4 CDC. Use of a Reduced (4-Dose) Vaccine Schedule for Postexposure Prophylaxis to Prevent Human Rabies. *MMWR Recommendations and Reports* 2010;59(RR-2):1-9.

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.
To receive this newsletter by email, please contact us at epi@ochca.com.