

# THE PUBLIC'S HEALTH

Newsletter for Medical Professionals in Los Angeles County  
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## Perilous Pets—Modern Zoonoses

Zoonoses are infectious diseases that people contract from animals. In the early part of the 20th century, these infections were most commonly associated with domestic farm animals and included such conditions as brucellosis, anthrax and Q fever.

As the United States has become more urbanized, fewer people have connection with these rural environments; in the modern era, zoonoses are more likely to be associated with



pet ownership and the infections associated with these animals. This article will provide a brief introduction to some of the most common “pet-associated” zoonoses encountered in Los Angeles.

### Animal bite infections

Probably the most common infections associated with animal contact are bite wound infections; in the United States alone, studies suggest that there are over one million ER visits a year due to animal bites.

*Continued on page 2*

## Medical Mission to Sololá, Guatemala

In mid-April 2008, the Los Angeles HELPS International team traveled to Sololá, Guatemala to provide medical care to the local residents who are regularly without medical care. HELPS International is a non-profit organization that has many programs, one of which is its medical missions. Medical/surgical and dental teams from Los Angeles travel once a year to provide care in Guatemala. Twenty-two nurses, seventeen medical doctors, three dentists, and two Public Health professionals were involved in the recent mission. Also involved in the medical excursion were thirty-three ‘Helpers’. These were non-medical personnel who worked in the kitchen or assisted in the clinics, recovery or operating room.



*Continued on page 6*

## THE PUBLIC'S HEALTH



COUNTY OF LOS ANGELES  
**Public Health**  
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## Modern Zoonoses...from page 1

Although most of these encounters do not lead to infection, serious infections can be acquired from animal bites and may sometimes lead to life-threatening consequences. *Pasteurella multocida* is the classic pathogen associated with animal bite infections, especially infection following cat bites.

A recent multicenter study of animal bite infections confirmed this observation but also demonstrated (with careful microbiological studies) that mixed aerobic-anaerobic infections (containing an average of 5 organisms per infection) are common in many cases, reflecting the organisms found in the mouth of the biting animal. *Pasteurella* species remained the most commonly isolated organism, in both cat and dog bites, and must always be covered in any infection associated with an animal bite. These organisms are typically resistant to common antibiotics such as cephalexin, a first-generation cephalosporin. Whenever possible, antibiotic treatment of these infections should include at least one agent (e.g. amoxicillin, doxycycline, ciprofloxacin, trimethoprim-sulfamethoxazole) with activity against *Pasteurella*. Because of the "mixed" nature of these infections, many experts recommend treatment with a broad spectrum antibiotic such as amoxicillin/clavulanic acid (or intravenous ampicillin/sulbactam for patients requiring hospitalization) that will be active against streptococci and oral anaerobes in addition to *Pasteurella* species. In addition to antimicrobial therapy, extensive wounds often require irrigation and secondary closure; some of these decisions are best made by a plastic surgery consultant, especially in cases of hand infections where there might be medicolegal consequences. Although rabies has not been seen in domestic animals within Los Angeles in many years, consider rabies vaccination if the animal attack was unprovoked and the animal cannot be placed under observation.

### Cat-scratch disease

This condition is a bacterial infection (secondary to *Bartonella henselae*) that is typically seen in younger individuals (age < 18 years) with a history of close contact to a cat. Patients present with fever and localized lymphadenopathy, often in axilla or groin. Although not always present by the time the patient is seen, there may be a small papule at the site of the initial "scratch". Along with the exposure history, failure to respond to a penicillin or cephalosporin is another clue to the possibility of the disease—*Bartonella henselae* is an

*Continued on page 3*

## Modern Zoonoses...from page 2



intracellular organism that is typically resistant to B-lactam antibiotics. Confirm the diagnosis with serology (ELISA IgG/IgM for *B. Henselae*) or with lymph node biopsy, looking for the characteristic organism best visualized with a Warthin-Starry silver stain.

The best antimicrobial regimen is not clear; however, antibiotics such as quinolones, doxycycline/rifampin and trimethoprim-sulfamethoxazole have activity in vitro and have been used with success in multiple cases. Patients who fail to respond to therapy—or those with an uncertain diagnosis—may require lymph node excision. In addition to lymph node infection, other clinical syndromes described with *Bartonella henselae* include encephalitis, chorioretinitis, fever of unknown origin (FUO) in pediatric patients and a syndrome in AIDS patients characterized by prolonged fever, hepatosplenomegaly and vascular skin lesions.

### Toxoplasmosis

Another zoonosis classically associated with cat exposure is toxoplasmosis—in the life cycle of *Toxoplasmosis gondii*, the cat (the definitive host) acquires the organism following ingestion of infected muscle (usually from mice or small rodents) leading to the development of potentially infective oocysts within the cat intestine. Once infected, cats may intermittently excrete oocysts in the stool. Exposure to these cysts via a number of activities (gardening, changing cat litter) may lead to acute infection in previously unexposed individuals. Although usually minimally symptomatic, a primary infection may be

especially dangerous in pregnant women and can lead to congenital toxoplasmosis, a potentially devastating infection. Pregnant women who own cats should be advised to minimize direct cat exposure, especially activities (changing cat litter, gardening) that might lead to exposure to infective oocysts. Despite the genuine risks associated with animals, most human infections are not directly linked to cat exposure, but rather, are due to ingestion of poorly cooked meat which contains infective tissue cysts. Clinically significant toxoplasmosis usually represents a reactivation of previous, latent infection such as occurs in AIDS patients with CNS toxoplasmosis. Such infections are not directly linked to recent cat exposure and there is no need for individuals to “get rid of the cat” or deliberately limit their exposure to pets and animals.

### Psittacosis

This condition follows human infection with *Chlamydia psittaci*, an avian pathogen that causes “ornithosis”, a disease classically associated with domestic bird breeding operations. Pet birds are also at risk for the infection which causes a number of symptoms (e.g. cough, diarrhea, failure to thrive, inability to perch and unexplained death) that can be quite non-specific. In some cases, birds are asymptomatic carriers of the organism and become symptomatic when they are placed in stressful environments such as crowded conditions. Patients with psittacosis present with the abrupt onset of fever accompanied by respiratory symptoms and pneumonitis. Headache is an especially prominent complaint and some patients undergo lumbar puncture because of a suspicion of CNS infection (CSF results are usually normal). Up to 50% of patients have splenomegaly on abdominal examination; in the patient with unexplained pneumonia, the presence

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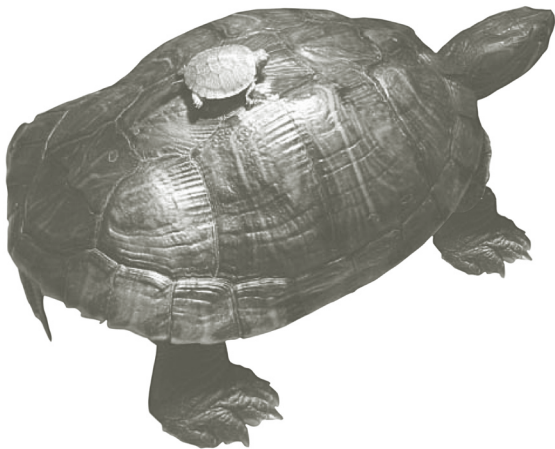


## Modern Zoonoses...from page 3

of this finding should suggest the possibility of psittacosis. In most cases, the diagnosis of psittacosis can be suspected based on the clinical presentation (e.g., pneumonitis, headache, splenomegaly) and a history of bird exposure. The organism is difficult to grow on standard laboratory media and the condition is usually confirmed by demonstration of seroconversion on acute and convalescent serology. Tetracyclines are the drug of choice for treatment of psittacosis. Although macrolides (e.g. erythromycin) have in vitro activity against *C. psittaci*, they are unreliable for therapy and may sometimes lead to therapeutic failure. Because psittacosis can be responsible for outbreaks, recognition of the condition has important public health implications and every effort should be made to confirm the diagnosis and report to public health.

### Salmonellosis and reptiles

*Salmonella* species are normal inhabitants of intestinal flora in reptiles and related animals. In the 1960's, a large outbreak of human salmonellosis was associated with handling of infected pet turtles. Recognition of this outbreak led to a ban interstate sale of these animals. More recently in the 1990's, an upswing of interest in pet iguanas and lizards followed the release of the movie "Jurassic Park"—this led to an increase in salmonella infections associated with handling these animals. In one documented outbreak in Los Angeles, a cluster of cases following a



children's birthday party was linked to the presence of a pet iguana at the party with possible contamination of food. In most cases, patients infected with *Salmonella* species suffer from a self-limited diarrheal illness; however, the organism may cause bacteremia and can be especially dangerous in immunocompromised patients or those receiving immunosuppressive agents such as corticosteroids. Following the handling of any animal, children (and adults) should be encouraged to wash their hands. Likewise, all salmonella infections should be reported to public health—identification of unusual *Salmonella* species may lead to early recognition of a food-borne or animal-associated outbreak.

### Summary

This is a brief summary of some of the more common infectious disease conditions that have been associated with pet ownership. While these conditions are often self limited, they can be especially serious in immunocompromised patients (e.g., neutropenic, post-transplant, post-splenectomy, corticosteroid use) or those with underlying diseases such as diabetes or cirrhosis. Public interest in more exotic pets has led to even more unusual infections—a recent outbreak of monkeypox was linked to infected prairie dogs that were kept as pets. These cases have taken on additional significance since zoonotic pathogens may falsely raise the specter of a biological weapons attack (monkeypox is clinically similar to smallpox). When evaluating unexplained fever or infection, healthcare workers should always inquire about pet or animal exposure—such information can help broaden the differential and may prove life-saving in selected cases.

### Glenn Mathisen, MD

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# Greetings from Mexico City and HIV Testing in LA County:

*Reflections from an HIV Provider for World AIDS Day*

The International AIDS Conference this year was held in Mexico City during the first week of August. This year's theme was "Universal Action Now." This was the first International AIDS Conference held in Latin America and attendance exceeded over 25,000 delegates. The theme sought to remind all providers about the continued urgency of the HIV pandemic, and how we all need to work together in a coordinated way, and at all levels (communities, national, regional, and globally) to address this crisis.

## Prevention

As was emphasized at the convention, prevention must stay at the top of the agenda, and is critical for people not yet infected, for populations at risk, and for people already infected with HIV. Prevention includes education, risk reduction, testing and the reduction of stigma.

## Routine Testing not being Addressed

In March of 2007, I published a paper with Dr. Solorio from UCLA entitled, "The Sexually Transmitted Infections (STI) and HIV Testing Patterns of Primary Care Providers Practicing in Latino Communities in Los Angeles County" in *The Journal of the National Medical Association* 2007;99(3):1-6. The paper revealed low rates of sexual history taking, STI, and HIV testing among 85 provider respondents.

Very troubling was the fact that despite the low number of HIV tests offered (57% of providers ordered less than 20 HIV tests over a six-month period), 36% of providers reported at least one positive HIV test in the prior six months. This reveals a multitude of missed opportunities for intervention and prevention.

## So how are we doing?

In September 2006, the CDC published revised recommendations for HIV Testing of Adults and Adolescents (Routine HIV screening for all patients aged 13-64 years of age, in all health-care settings). In January 2008, California adopted opt-out screening, or performing HIV testing utilizing a patient's general informed consent for medical care, the same as for other screening and diagnostic tests. A separate consent specifically for HIV testing is no longer recommended. There has certainly been a coordinated effort to facilitate more HIV testing, yet testing rates and stigma surrounding HIV seems to remain steadfast. Everyone knows the benefits of testing in terms of curbing our epidemic, yet the challenge remains.

As I listened to the various challenges experienced by developing nations at the conference, I realized that despite all the treatment advances and resources we have in LA county, the perception and barriers surrounding HIV will require more leadership, accountability, and a longer sustainable commitment.

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Area Medical Director

Service Planning Area 8

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## Medical Mission to Sololá, Guatemala...from page 1



The team left Los Angeles with an extensive supply of medical supplies and equipment and arrived on a Sunday. Within one day, the team was able to set up a make-shift hospital, clinic, and pharmacy on the University of Guatemala campus. Families and individuals were already lined up outside the campus gates to be seen. Many of these families had traveled five hours or more by foot and bus to get to our site. From Monday April 14 to Friday April 18, the team saw 855 patients. The Dental Clinic saw 121 patients and the staff performed 125 surgeries. The majority of the surgical patients had undergone vaginal hysterectomies, inguinal hernia repairs, cholecystectomies, and cleft lip/palate repairs. Thirteen nurses were assigned to work eight hour rotating shifts, but the majority worked over time to handle the patient load. There were eight teenage Spanish translators to assist in interpretation,

however, all the patients where Mayan and many only spoke Mayan. This presented a challenge to our interpreters who then needed to rely on family members for translation assistance.

Families came in large numbers to stay with the patients. Typically, there would be three to five family members who would spend the night in the recovery room, sleep on the floor, or wait outside in order to help their family members.

One week into the mission, a small team traveled to the nearby small town of San Jorge – La Laguna to set up a walk-in clinic there. The walk-in clinic was set up in a local church hall and 40 adults and 51 children were seen in six and one-half hours. Complaints among adults mostly consisted of headaches, body pain (shoulder,

*Continued on page 7*



## Medical Mission to Sololá, Guatemala...from page 6



back, knees), stomach pain, and high blood pressure. Minor medications were given such as NSAIDS, antacids, asthma inhalers, and antibiotics. Those who needed follow-up were referred to a nearby clinic where two doctors from Guatemala City come twice a month. Others that needed minor surgeries were referred to future HELPS sites.

Many of the lessons learned from this experience can be compared to working in a clinical setting or to an emergency setting. These include: teamwork, flexibility, leadership and respect for patients. Many volunteers come back year after year.

For more info on HELPS International, visit:

<http://www.helpsinternational.com/programs/medical.php>



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Los Angeles County Department of Public Health



# Physician Registry

## Become a Member of the Health Alert Network

The Los Angeles County Department of Public Health urges all local physicians to register with the Health Alert Network (HAN). By joining, you will receive periodic email updates alerting you to the latest significant local public health information including emerging threats such as pandemic influenza. Membership is free. All physician information remains private and will not be distributed or used for commercial purposes.

Registration can be completed online at [www.lahealthalert.org](http://www.lahealthalert.org) or by calling 323-890-8377.

**Be aware of public health emergencies! Enroll now!**

## This Issue...

*Modern Zoonoses.....1*

*Medical Mission.....1*

*Reflections from an HIV Provider...5*

# THE PUBLIC'S HEALTH

Newsletter for Medical Professionals in Los Angeles County



COUNTY OF LOS ANGELES

**Public Health**

313 North Figueroa Street, Room 806  
Los Angeles, CA 90012

## Selected Reportable Diseases (Cases)<sup>1</sup> — JUNE/JULY 2008

Disease	THIS PERIOD June-July 2008	SAME PERIOD LAST YEAR June-July 2007	YEAR TO DATE -JUNE-JULY		YEAR END TOTALS		
			2008	2007	2007	2006	2005
AIDS <sup>1</sup>	269	220	986	823	1,430	1,368	1,503
Amebiasis	17	21	67	72	122	94	114
Campylobacteriosis	261	201	638	536	827	775	725
Chlamydial Infections	7288	6,901	25,557	24,180	40,935	39,876	38,862
Encephalitis	9	5	13	25	65	46	72
Gonorrhea	1360	1,554	4,896	5,537	9,319	10,430	10,494
Hepatitis Type A	6	9	38	50	78	364	480
Hepatitis Type B, acute	9	8	35	26	52	62	57
Hepatitis Type C, acute	0	0	0	1	6	4	3
Measles	0	0	1	0	0	1	0
Meningitis, viral/aseptic	58	92	178	194	395	373	527
Meningococcal Infect.	3	4	27	18	24	46	37
Mumps	0	0	5	4	5	10	10
Pertussis	12	6	37	38	69	150	439
Rubella	0	0	1	0	0	0	1
Salmonellosis	219	255	510	580	1,081	1,217	1,085
Shigellosis	101	134	253	218	463	524	710
Syphilis (prim. and sec.)	116	133	396	517	846	789	644
Syphilis Early latent	110	125	411	471	794	764	570
Tuberculosis	150	126	352	294	816	885	906
Typhoid fever, Acute	2	5	8	11	17	17	12

1. Case totals are provisional and may vary following periodic updates of the database.