

**Weekdays:** (561) 840-4566  
**Weekends/Evenings:** (561) 840-4500

**Website:** <http://www.pbchd.com>  
**Fax:** (561) 845-4496

June 2007

## Epidemiology Staff

**Alina M. Alonso, MD**  
Assistant Director  
Palm Beach County Health Department

**Edwin Afamefuna, BS**  
Senior Human Services Program  
Analyst

**JoEllen Alvarez, RN, MPH**  
Nursing Program Specialist

**Judith M. Cobb, RN, MSPH**  
Community Health Nursing Consultant

**Andre Erich Correa, MD**  
Senior Human Services Program  
Analyst

**Vanessa P. Hightower**  
Staff Assistant/Coordinator

**Barbara F. Johnson, RN, BSN**  
Senior Community Health Nursing  
Supervisor

**Diane King, RN, MSPH**  
Senior Community Health Nurse

**Savita Kumar, MD, MSPH**  
Medical Epidemiologist/Consultant

**Shiela Lott**  
Staff Assistant

**Shamilla Lutchman**  
Senior Clerk

**Denise Pagán**  
Human Services Program Consultant  
and *EpiCenter* editor  
[DeniseA\\_Pagan@doh.state.fl.us](mailto:DeniseA_Pagan@doh.state.fl.us)

**Ginger A. Stanley, BHS**  
Human Services Program Analyst

**Anthony Stidham, MPH, DHS<sup>c</sup>**  
Human Services Program Specialist

**Holli Tietjen, MS**  
Human Services Program Consultant

## IS MONKEY BUSINESS OUR BUSINESS?



On Saturday, March 24, 2007, the Palm Beach County Health Department (PBCHD) Divisions of Epidemiology and Disease Control (Epi) and Environmental Health and Engineering (EHE) were notified of a monkey bite. The patient was bitten on the left hand by a spider or guereza monkey on Thursday, March 22, 2007. The spider monkey is owned by the patient's friend. The patient, a student at a local university, went to an on-campus clinic on Friday, March 23, 2007, and received wound care, a tetanus shot, antibiotic injection, oral penicillin and acyclovir.

An investigation was performed by Epi, EHE, and Palm Beach County Animal Care and Control to determine whether or not the pet monkey should be euthanized and tested for rabies. Since it was found that the three year old pet monkey was raised by its owner since it was a baby and had no exposure to wild animals, the pet spider monkey was quarantined and observed for approximately one month to make sure it did not exhibit any signs or symptoms of rabies. The pet spider monkey was released to the custody of its owner alive and well one month later.

The patient did not need to receive rabies post-exposure prophylaxis (PEP), which includes Human Rabies Immune Globulin (HRIG) and a series of five rabies vaccine injections over the course of 28 days.

Rabies has been recognized as a disease of man and mammals since antiquity. Rabies is a deadly viral disease that can be prevented but not cured. The virus attacks the nerves and brain tissue of warm-blooded animals including people. When an animal is sick with rabies, the virus is shed in the saliva and can be passed to another animal or a person, usually through a bite. It is also possible, but rare, that transmission may occur if this saliva or the animal's nervous tissue enters an open wound, the mouth, nose or eyes of another animal or person.

Across the United States, millions of exotic animals, including spider monkeys, are kept captive in private homes and in roadside zoos and menageries. The trade in exotic animals is a multi-billion dollar industry; and exotic animals are bred, sold, and traded in large numbers.

*Continued on page 3....*

# ***Lions and Tigers and Bears and Bed Bugs, OH NO!!!*** ***(Perhaps More than You Want to Know)***

Bed bugs have been documented as pests in the United States since the 17<sup>th</sup> century. They were common in the United States prior to World War II; but after the war, use of insecticides such as DDT greatly reduced their numbers. The pests remained in other regions of the world including Asia, Africa, Central/South America and Europe. In recent years bed bugs have made a comeback in the United States due in part to the use of less toxic insecticide sprays.

International travel and commerce are thought to facilitate the spread of bedbugs, because eggs, young and adult bedbugs are easily transported in luggage, clothing, bedding and furniture. Bed bugs can infest airplanes, ships, trains and buses. They are most frequently found in dwellings with a high rate of occupant turnover, such as hotels, motels, hostels, dormitories, shelters and prisons.

Bed bugs are blood feeding parasites found throughout the United States, the most common one being *Cimex lectularius*. The tropical bed bug, *Cimex hemipterus*, can be found in Florida. Adult bed bugs are brown to reddish-brown, oval-shaped, flattened and about ¼ inch long. Their flat shape enables them to hide in cracks and crevices. Bed bugs do not fly, but move quickly over floors. They feed mostly at night when their host is asleep. After using their sharp beak to pierce the skin of a host, they inject a salivary fluid containing an anticoagulant that helps them obtain blood. An adult bug usually feeds for ten to fifteen minutes. After a blood meal, the bug becomes more elongated, swollen and dark red. They crawl away to a hiding place to digest the meal and return when hungry to again search for a host.



**Bed bug on a human hand**



**Bed bug close up**

Bed bugs hide during the day in dark areas. They seem to prefer fabric, wood and paper surfaces. They can be found in tufts, seams and folds of mattresses, as well as in crevices in the bedstead. In heavy infestations, they may hide in window and door frames, electrical boxes, floor cracks, baseboards, furniture and along the edge of carpeting. A bed bug infestation can be recognized by blood stains from crushed bugs or spots of excrement on sheets and mattresses, bed clothes and walls. Also present will be eggs and eggshells, molted skins of maturing nymphs and the bugs themselves.

Bed bugs usually bite at night while a person is sleeping. The person seldom knows they are being bitten. An itchy red welt or localized swelling may develop sometimes a day or so after the bite. The bite may be located on any exposed skin while sleeping (face, neck, shoulders, arms, hands, etc.). The possibility that bed bugs caused the bite increases if the affected individual has been traveling or had acquired used beds or furnishings before symptoms appeared. Confirmation requires finding and identifying the bugs themselves.

If confirmed, management requires a multifaceted approach that includes cleaning and vacuuming and insecticide treatment by professionals. Pest control professionals treat all areas where the bugs are discovered or tend to crawl or hide. Eliminating bed bugs from beds, however, can be difficult. Pest control professionals often recommend that beds be discarded.

Although incidence of bed bugs in the United States is increasing, it is possible to prevent these unwelcome pests from invading your home. To prevent bed bug infestation, be increasingly cautious while traveling. Concerned travelers may want to elevate suitcases off the floor by using a luggage stand, usually available. Check your hotel bed sheets and upper and lower seams of the mattress for tell-tale fecal spots. If bed bugs are detected, travelers can request another room (or perhaps find another hotel). If signs of bed bugs are observed or suspected, there is the possibility that you may have transported bed bugs or their eggs in your luggage into your own home. Clothing should be laundered and dried at high heat temperature in order to kill bugs and their eggs before or as soon as these items are brought into the home. Suitcases should be carefully inspected, scrubbed and thoroughly vacuumed.

Be cautious when acquiring used furniture, especially beds and couches. Curbside items should definitely be avoided and secondhand beds, bedding and furniture should be closely examined before being brought into your home.

A common concern with bed bugs is whether they transmit diseases. Although bed bugs can harbor pathogens in their bodies, transmission to humans is highly unlikely. For this reason they are not considered a serious disease threat. Their medical significance is mainly limited to the itching and inflammation of their bites. Antihistamines and corticosteroids may be used to reduce allergic reactions, and antiseptic or antibiotic ointments to prevent infection. Infestation by bed bugs may also cause anxiety, embarrassment and loss of sleep.

**(Information in this article is from the U.S. Centers for Disease Control and Prevention; Harvard School of Public Health; University of Kentucky Entomology; and Ohio State University Entomology.)**

## Time is of the ESSENCE

When it comes to detecting outbreaks, particularly those associated with bioterrorism activity, saving time can mean saving lives. Thanks to the development of automated syndromic surveillance systems, such as ESSENCE (the Electronic Surveillance System for the Early Notification of Community-based Epidemics), the Palm Beach County Health Department can now detect possible outbreaks before diagnoses are made or lab results are available. This will allow public health officials to get an earlier start on investigations and, therefore, an earlier start on preventing the spread of disease.



Syndromic surveillance is a biosurveillance approach where data is acquired from local hospitals at intervals via an automated computer system and is analyzed to monitor disease indicators in order to detect outbreaks of diseases earlier and more completely than might otherwise be possible with traditional public health methods. Hospitals have access to data from their own facility, while county health department staff has access to data from all participating hospitals/facilities. Some specific syndrome categories that are monitored are influenza-like illness, botulism-like, gastrointestinal and neurological among others.

Palm Beach County now joins Broward and Miami-Dade Counties in the use of ESSENCE. Each day epidemiology staff monitors data for deviations. As each hospital comes on board and begins transferring data, the health department will get a better overall picture of illness occurrences in the county. Periodic reports will be routinely provided to participating entities as a feedback mechanism.

Timely communication is essential to safeguarding the county's health. For example, long-term-care facilities currently report influenza cases weekly by fax to the county health department. Hospitals and healthcare providers fax influenza activity to the county health department on a case-by-case basis. If there is a large outbreak of influenza occurring in the community, the county health department will become aware of the situation little-by-little as each report arrives. With ESSENCE reporting, however, a sudden spike in influenza activity will be noted in 24 hours. Given that South Florida is an international gateway that could allow for the importation of a novel strain of influenza, it is essential that the health department be alerted as quickly as possible to any significant increase in cases. Health department staff can take swift action to alert community leaders, healthcare providers, other community partners and the general public, leading to increased influenza awareness and education, as well as the possibility for provision of immunizations or mass medication throughout Palm Beach County. Disease outbreaks can be more rapidly contained, reducing suffering and saving lives!

Through the use of ESSENCE, injury and illness data can be accessed and monitored during and after a natural disaster, such as a hurricane or wildfire, or after an intentional act of violence or terrorism. **When time is of the essence, ESSENCE surveillance can make a difference!**

*Monkey Business continued from front page....*

Compounding the risk to the public, many exotic animals are carriers of diseases, such as herpes B, salmonellosis, monkeypox, and rabies, which are communicable and can be fatal to humans. In addition to rabies, the risk of zoonotic diseases (those that can be transmitted from animals to humans) from exotic animals is of special importance. While the diseases may be somewhat harmless in their natural context, their introduction into populations that have not evolved to be resistant poses special dangers. For example, herpes B virus is harmless in monkeys, yet fatal in humans.

In many states, people are allowed to keep exotic animals in their homes and backyards without restrictions or with only minimal oversight. Every year people are attacked and injured by exotic "pets."



**Monkey Kept as a "Pet"**

According to Florida state law, it is unlawful for a person to possess any Class I Wildlife unless the animal was in possession prior to August 1, 1980. Class I Wildlife includes, but is not limited to: chimpanzees, gorillas, orangutans, baboons, leopards, jaguars, tigers, lions, bears, elephants, and crocodiles. Individuals may possess Class II Wildlife if he or she obtains a permit from the Florida Fish & Wildlife Conservation Commission. Class II Wildlife includes, but is not limited to: guereza and howler monkeys, macaques, cougars, bobcats, cheetahs, ocelots, servals, coyotes, wolves, hyenas, and alligators (Animal Protection Institute, 2007). Palm Beach County does have a specific ordinance that indicates that no person shall keep, possess or maintain any live animal within a town other than domesticated household "pets" or domesticated animals.

REFERENCE: Animal Protection Institute (2007). Summary of State Laws Relating to Private Possession of Exotic Animals. Accessed and retrieved on May 12, 2007 from: [http://www.api4animals.org/b4a2\\_exotic\\_animals\\_summary.php](http://www.api4animals.org/b4a2_exotic_animals_summary.php)

**PALM BEACH COUNTY HEALTH DEPARTMENT  
2007 REPORTED COMMUNICABLE DISEASES  
WEEK 22 (ENDING DATE 06/02/07)**



	This Week	This Year	Same Time Last Year
<b><u>CENTRAL NERVOUS SYSTEM AND INVASIVE DISEASES:</u></b>			
Haemophilus influenzae primary bacteremia	0	7	13
Haemophilus influenzae pneumonia	1	4	0
Meningococcal disease	0	0	3
Group B Streptococcus meningitis	0	1	0
Listeria monocytogenes meningitis	0	1	1
Listeriosis	0	2	4
Streptococcus pneumoniae meningitis	0	2	3
Streptococcus pneumoniae invasive disease, drug-resistant	0	14	33
Streptococcus pneumoniae invasive disease, susceptible	0	14	18
Streptococcal disease, invasive Group A	0	7	11
Bacterial meningitis, other	1	3	4
Creutzfeldt-Jakob Disease (CJD)	0	0	1
<b><u>VACCINE PREVENTABLE DISEASES:</u></b>			
Congenital rubella syndrome	0	0	0
Rubella (German measles)	0	0	0
Rubeola (measles)	0	0	0
Mumps	0	0	0
Pertussis	0	4	3
Tetanus	0	0	0
Varicella	0	81	0
<b><u>HEPATITIS:</u></b>			
Hepatitis A	1	5	16
Hepatitis B, acute	0	4	15
Hepatitis B, chronic	0	189	98
Hepatitis B (HBsAg+) in pregnant women	1	33	38
Hepatitis B, perinatal	0	0	0
Hepatitis C, acute	0	0	0
Hepatitis C, chronic	5	467	319
<b><u>ENTERIC DISEASES:</u></b>			
Giardiasis	1	28	22
Campylobacteriosis	0	29	43
Shigellosis	6	57	18
Salmonellosis	8	104	96
Cryptosporidiosis	0	7	3
Cyclosporiasis	0	5	2
Typhoid fever	0	1	1
Enterohemorrhagic E. coli (EHEC) O157:H7	0	1	0
E. coli shiga toxin + (serogroup non-O157)	0	1	0
E. coli shiga toxin + (not serogrouped)	0	4	9
Vibrio cholera 01	0	0	0
Vibrio cholera non-01	0	0	0
Vibrio fluvialis	0	0	0
Vibrio alginolyticus	0	0	2
Vibrio hollisae	0	0	0
Vibrio mimicus	0	0	0
Vibrio vulnificus	0	0	0
Vibrio parahaemolyticus	0	1	0
Vibrio, other	0	0	0
<b><u>OTHER DISEASES:</u></b>			
Human exposure to a potentially rabid animal	2	24	38
Animal rabies	1	1	3
Monkey bite	0	1	0
Brucellosis	0	0	0
Ciguatera	0	0	0
Dengue fever	0	1	0
Hansen's disease (Leprosy)	0	2	0
Lead poisoning	2	4	10
Legionellosis	0	3	8
Lyme disease	0	0	0
Malaria	1	1	1
Mercury poisoning	0	5	2
Q fever	0	0	0
Rocky mountain spotted fever	0	0	0
Toxoplasmosis	0	0	0