

# Epi Center

Palm Beach County Health Department  
Epidemiology & Disease Control Program  
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## An "Old Acquaintance" Drops in for a Visit

By **Belma Andric, MD**

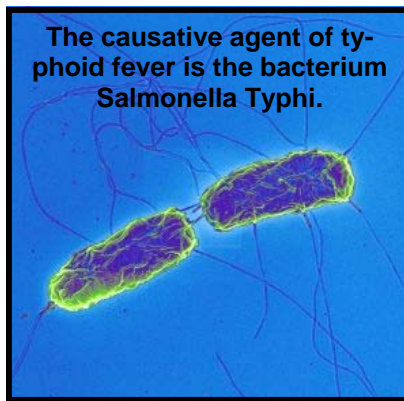
**PBCHD Preventive Medicine/Public Health Resident**

**Trivia question:** *What do Anne Frank, the son of Abraham Lincoln, the mother of Theodore Roosevelt, and Franz Schubert have in common? All of them were victims of typhoid fever!*

During the month of August 2008, typhoid fever made an unexpected landing in Palm Beach County. The Epidemiology and Disease Control Program (Epi) received reports of two state laboratory confirmed cases of *Salmonella* Typhi with matching subtyping. Both cases are adolescents who traveled to Haiti June 15 to July 2, 2008 with a local church group. In both cases, the etiologic agent was recovered from blood cultures. After appropriate antibiotic treatment the cases became symptom free. The cases will be followed until appropriately-timed negative stool specimens are obtained to monitor the end of the carrier state.

Epi staff obtained a list of 50 people, who traveled to Haiti with this group, and conducted interviews to determine the existence of any other symptomatic individuals and/or sensitive situations.

The causative agent of typhoid fever is the bacterium *Salmonella Typhi*.



Typhoid fever is truly a disease well known to human kind. From ancient Greece, where it is believed to have killed a third of Athens' population at some point, to recent outbreaks in the Congo that sickened more than 42,000 and killed over 200 people in 2004-05, typhoid fever has been an almost constant companion in human lives.

Before the advent of public sewage systems, typhoid was common in the United States as well. Perhaps the most famous outbreaks of typhoid fever in the U.S. involved Mary Mallon, a cook in the New York City area in the early 1900s. Most well known as "Typhoid Mary," she was taken into custody in 1907 by local health officials when it was shown that a number of typhoid cases in the area could be traced to kitchens where she worked. She was held for three years on a little island in New York's East River and then released on the condition that she never again work as a cook. About 5 years later, officials found that typhoid outbreaks were again traceable to kitchens where Mary worked. She was then detained until her death in 1938.

Today, about 400 Americans each year acquire typhoid, most of them while traveling in developing countries. Mexico and South America are the most common areas for U.S. citizens to contract typhoid fever. India, Pakistan, and Egypt are also known high-risk areas for developing this disease. The bacteria are deposited in water or food by a human carrier and are then spread to other people by the fecal-oral route. Early symptoms are headache, general weakness, myalgia (muscle pain), and nosebleeds. Constipation is common. Within a few days to a week, the patient may run a high fever. During this time, the patient may develop a rose-colored rash, appearing on the abdomen, chest or back. Untreated, the illness may last for 3 to 4 weeks. Roughly 5 percent of those who contract the illness become chronic carriers-excreting the typhoid bacteria in their stools for more than a year. Treatment usually consists of antibiotics - ampicillin, sulfamethoxazole-trimethoprim (SMX-TMP), or ciprofloxacin. With antibiotic treatment, recovery usually begins within 2 to 3 days, and deaths rarely occur. Untreated, typhoid victims may experience fever for weeks or months. Anywhere from 12 to 30 percent of typhoid victims, who do not receive treatment, eventually die from such complications of the infection as intestinal perforation.



**Doctor administering a typhoid vaccination at a school in San Augustine County, Texas, April 1943.**

Today, typhoid fever is rare in the United States, so routine typhoid vaccination is not recommended. However, CDC recommends typhoid vaccination for travelers to areas where this disease is endemic. In the past, old inactivated whole-cell vaccine was used; but during the past 15 years, two typhoid vaccines licensed in the U.S. have been widely used globally: an oral live, attenuated vaccine and a polysaccharide vaccine for intramuscular use. Primary vaccination with oral vaccine consists of four capsules, one taken every other day. This regimen should be completed 1 week before potential exposure and a booster dose is needed every 5 years for people who remain at risk. A booster dose for intramuscular vaccine is needed every 2 years. Both vaccines protect 50%-80% of recipients, so **travelers need to be advised that watching what they eat and drink when traveling is as important as being vaccinated. The Golden Rule is "Boil it, cook it, peel it, or forget it".**

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## *Hepatitis A.....At a Glance*

*By Anthony Stidham, MPH, DHSc©*

There were two reported case of hepatitis A in late August/early September of 2008 in Palm Beach County. The first case was a four year old, who had traveled to Haiti for one week and stayed with family members. This case attended child care in Palm Beach County. Mandatory prophylaxis which included the hepatitis A vaccine for the children was required for continued attendance for this child's classrooms and the classrooms that shared the bathroom with this child's class. Hepatitis A vaccine was recommended for all teachers aged 40 years and younger, who taught in specific classrooms; and hepatitis A immune globulin was recommended for teachers, who were older than 40 years of age who also taught in specific classrooms. Prophylaxis was recommended for five family members.

The second case was a child who had traveled to Guatemala and stayed with family members, one of whom was a confirmed case of hepatitis A. Hepatitis A vaccine was recommended for seven family members, who were between the ages of 1-40 years.

Thirteen cases of hepatitis A have been reported to the Epidemiology and Disease Control Program of the Palm Beach County Health Department thus far in 2008. Eleven of these cases were confirmed and two cases were probable cases. Out of these cases, ten were either children or young adults. Three cases were epidemiologically-linked to a laboratory confirmed hepatitis A case.

In the prior ten year period (1998-2007), the lowest number of hepatitis A cases in Palm Beach County was 8 in 2007 and the highest number was 81 in 2000. Statewide, 2007 had the lowest total number of hepatitis A cases at 105 and the highest total number of hepatitis A cases in Florida was 1051 in 2002. The average number of cases during this 10 year period for Palm Beach County was 35.3 and for Florida was 528.7.

HEPATITIS A CASES 1998-2007		
YEAR	Palm Beach County Cases	Florida Cases
2007	8	105
2006	36	233
2005	21	289
2004	19	295
2003	21	389
2002	38	1051
2001	55	847
2000	81	612
1999	35	855
1998	39	611
<b>Total Cases for 98-07</b>	<b>353</b>	<b>5287</b>
<b>Average # per year</b>	<b>35.3</b>	<b>528.7</b>

Hepatitis A is a viral infection of the [liver](#) caused by the [hepatitis A virus](#), or HAV; and has an incubation period of approximately 28 days (range: 15–50 days). HAV replicates in the liver and is shed in high concentrations in feces from 2 weeks before to 1 week after the onset of clinical illness. HAV infection produces a self-limited disease that does not result in chronic infection or chronic liver disease. Antibody produced in response to HAV infection persists for life and grants protection against reinfection.

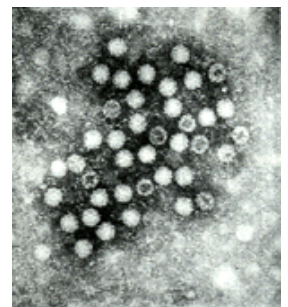
Symptoms of hepatitis A can occur two to seven weeks after infection with the virus. The symptoms are usually mild. Low energy is the most common symptom. Others may include fever, loss of appetite, nausea, fatigue, headache, muscle soreness, pain near the liver and [jaundice](#) (a yellowing of the skin and whites of the eyes). The symptoms almost always go away within two months. Children may not have any symptoms, even though they can spread the infection to others.

Most cases of hepatitis A are caused by consuming food or water contaminated with fecal matter that contains the virus. Common causes of transmission include:

- Poor personal hygiene among people involved in food or meal preparation
- Eating raw or undercooked shellfish that came from waters polluted by sewage
- Failure to wash hands after changing a diaper or after using the bathroom

Hepatitis A infection is likely to occur wherever hygiene may be a problem. Workers and children at daycare centers may contract and/or spread the virus through fecal-oral contamination due to diaper changing. Outbreaks have also occurred at military installations, institutions for the disabled, and prisons. Occasionally, hepatitis A spreads within households or at restaurants.

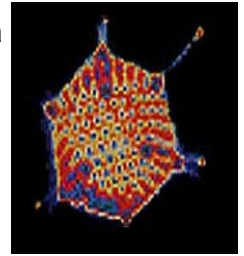
Hepatitis A is diagnosed with a blood test. If you think you have hepatitis A, it is important to see a doctor right away to get a diagnosis. Symptoms of hepatitis A are similar to those of other liver diseases that can be potentially more serious.



Practicing good hygiene - including washing your hands often - is one of the best ways to protect against hepatitis A. However, if you are not vaccinated and may have been recently exposed to the hepatitis A virus, tell your doctor immediately. He or she should give you a single dose of hepatitis A vaccine or immune globulin as soon as possible.

This treatment is intended to help boost your immunity and reduce your risk of developing a full-blown infection.

- For healthy persons ages 12 months to 40 years a single dose of hepatitis A vaccine is recommended.
- For persons over 40 years of age, immune globulin is recommended.
- For children under 1 year of age, immunocompromised individuals, and those with chronic liver disease, immune globulin is recommended.



Hepatitis A is highly contagious. Preventing the spread of the virus involves protecting both yourself and others from infection. The following measures can help protect you from hepatitis A infection:

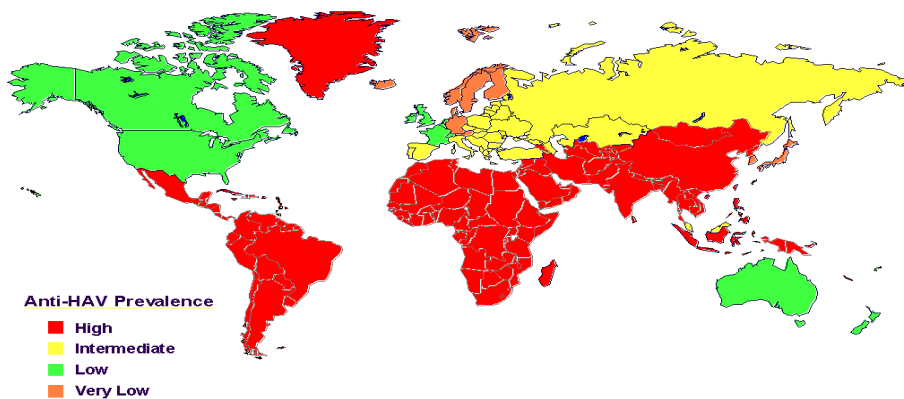
- **Receive immune globulin or a hepatitis vaccine.** One way to protect yourself is to receive an injection of immune globulin - a preparation of antibodies - or hepatitis A vaccine.
- **Practice good hygiene.** Simply washing your hands well and often can help protect you from infection with a number of viruses and bacteria. Wash after using the toilet, before preparing food or eating, and after changing a child's diaper. In addition, don't share towels, eating utensils or toothbrushes.

If you have hepatitis A, the following measures can help prevent you from passing the virus to others:

- **Avoid sexual activity.** Because many kinds of sexual activity, including oral-anal and digital-anal contact, can expose your partner to hepatitis A infection, condoms do not offer adequate protection.
- **Wash your hands thoroughly after using the toilet.** Scrub vigorously for at least 10 seconds and rinse well. If possible, dry your hands with a disposable towel.
- **Use clean eating utensils.** Keep your eating utensils separate from those used by other members of your household. Wash utensils and dishes in a dishwasher or with plenty of hot, soapy water.
- **Don't prepare food for others while you're actively infected.** You can easily pass this highly contagious infection to other people.

Worldwide, hepatitis A transmission patterns correlate with socioeconomic and hygienic conditions. In many developing countries where environmental sanitation generally is poor, nearly all children <9 years of age have evidence of prior HAV infection. In these areas, distinct outbreaks rarely occur and clinical disease related to HAV infection is uncommon. As hygienic conditions improve, transmission shifts to older age groups and the incidence of clinically evident disease increases. The relatively high prevalence of prior HAV infection among older age groups in these areas is likely to be related to the presence of lower socioeconomic and hygienic conditions in the past. Because most of the population is susceptible to HAV infection, disease outbreaks are relatively common in most of these countries.

### Geographic Distribution of HAV Infection





**PALM BEACH COUNTY HEALTH DEPARTMENT  
2008 REPORTED COMMUNICABLE DISEASES  
WEEK 40, 2008 (ENDING DATE 10/04/08)**

**This Week    This Year    Same Time Last Year**

**CENTRAL NERVOUS SYSTEM AND INVASIVE DISEASES:**

Haemophilus influenzae invasive disease	0	15	17
Meningococcal disease	0	3	0
Listeriosis	0	6	6
Streptococcus pneumoniae invasive disease, drug-resistant	2	34	25
Streptococcus pneumoniae invasive disease, susceptible	2	32	19
Streptococcal disease, invasive Group A	0	21	21
Meningitis, bacterial, cryptococcal, mycotic	1	11	11
Encephalitis, other (non-arboviral)*	0	1	0
Creutzfeldt-Jakob Disease (CJD)	0	2	0
Staphylococcus aureus (GISA/VISA)	0	1	0

**VACCINE PREVENTABLE DISEASES:**

Congenital rubella syndrome	0	0	0
Rubella (German measles)	0	0	0
Rubeola (measles)	0	0	0
Mumps	0	1	0
Pertussis	0	4	10
Tetanus	0	0	0
Varicella	0	118	120

**HEPATITIS:**

Hepatitis A	1	14	9
Hepatitis B, acute	0	13	12
Hepatitis B, chronic	0	309	292
Hepatitis B (HBsAg+) in pregnant women	2	49	61
Hepatitis B, perinatal	0	0	0
Hepatitis C, acute	0	1	0
Hepatitis C, chronic	7	2293	912

**ENTERIC DISEASES:**

Giardiasis	5	78	53
Campylobacteriosis	1	71	57
Shigellosis	0	64	90
Salmonellosis	18	255	229
Cryptosporidiosis	0	30	32
Cyclosporiasis	0	12	10
Typhoid fever	0	4	1
Escherichia coli, Shiga toxin producing	0	14	14
Due to Vibrio cholera 01	0	0	0
Due to Vibrio cholera non-01	0	0	0
Due to Vibrio fluvialis	0	0	0
Due to Vibrio alginolyticus	0	1	2
Due to Vibrio hollisae	0	0	0
Due to Vibrio mimicus	0	0	0
Due to Vibrio vulnificus	0	1	0
Due to Vibrio parahaemolyticus	0	0	2
Due to Vibrio, other	0	0	1

**OTHER DISEASES:**

Rabies, possible exposure	3	88	51
Animal rabies	0	3	2
Monkey bite	0	0	1
Ciguatera	0	11	11
Dengue fever	0	3	3
Ehrlichiosis, human monocytic	0	1	0
Hansen's disease (Leprosy)	0	1	2
Hemolytic uremic syndrome	0	1	0
Lead poisoning	0	49	13
Legionellosis	0	16	13
Lyme disease	0	6	3
Malaria	0	4	4
Mercury poisoning	1	17	10
Rocky mountain spotted fever	0	1	0