

Hepatitis Health

A Day in the Life of an Epidemiologist

By April Crowley

Robyn Kay, MPH, is a regional epidemiologist for the Division of Disease Control, Bureau of Epidemiology (Epi). Robyn, who is based out of the State Laboratory in Jacksonville, is one of three regional epidemiologists located at Bureau of Laboratory locations. Her primary function is to provide epidemiological support and guidance to 28 counties within her region.

This includes facilitating the investigation of notifiable diseases and conditions, acting as a liaison between Florida Department of Health and other agencies, and responding to public health emergencies. In addition, she is tasked with understanding prevention and risk factors for diseases and applying them to ill or at-risk populations.

I had the opportunity to spend some time with Robyn and ask her questions about her job activities and the field of acute disease epidemiology as a whole. First, I asked her to explain the difference between an epidemic and an outbreak. An *epidemic* refers to an increase in the incidence of a disease/condition above what is normally expected in the population. *Outbreaks* of disease are usually limited to a geographic area and a specific period of time. These terms are often used interchangeably; however, *epidemic* is usually used to describe an increase of greater proportion which often occurs less often. Consider the 2009 H1N1 influenza, HIV/AIDs, or obesity epidemics. These illnesses and conditions were not a concern 30 years ago.

Next, Robyn walked me through an epidemiologic investigation for hepatitis A (HAV). Interestingly, Robyn informed me that due to the public health implications, only one case of HAV constitutes the need for immediate public health action. Primarily, the epidemiologist's role is to link people, places and times.

In most scenarios, a person symptomatic due to HAV infection may seek medical attention for their symptoms. The health care provider, based on their diagnosis, may order testing to confirm hepatitis infection. When HAV is identified by the laboratory, the provider **and** the laboratory must report the case to the local county health department (CHD), as stipulated in Florida Administrative Code 64D-3.015. According to F.A.C. 64D-3, hepatitis A and B are designated as sexually transmissible diseases, but only hepatitis A should be reported immediately by telephone. With the inception of electronic laboratory reporting, the positive laboratory report may be automatically reported to the CHD prior to the provider being notified. This greatly reduces reporting delay and allows a more timely public health response.



Robyn Kay



INSIDE THIS ISSUE

- ≈ *A Day in the Life of EPI*
- ≈ *317 Initiative Ending*
- ≈ *HIV Expo*
- ≈ *Shine a Light on Robyn Kay*
- ≈ *DIS Day*
- ≈ *Lab Results Sheet Updated*
- ≈ *Orlando Outreach*



More on page 2

A Day in the Life continued....

The local CHD will then contact the ill individual and/or their provider to collect more information about the clinical illness (including onset of symptoms). The epidemiologist investigating the case will interview the ill person to find out if they know of anyone else with similar signs and symptoms. These might be family members, sexual contacts, or their friends or co-workers.

The investigator determines the possible incubation period based on the onset of symptoms. They also assess for risk factors for hepatitis A. Since hepatitis A is oral-fecal transmission, etiologies include both food and waterborne exposures or sexual exposures. These broad ranges of risk factors highlight the importance of effective interviews to solicit sensitive information.

The epidemiologist implements control and prevention measures. This includes the identification of close contacts of the infected person, assessment of vaccination histories, recommendations for post exposure treatment, and exclusion from sensitive situations until the ill person is no longer considered infectious. All close contacts that the CHD identifies to be at risk, are provided with post exposure prophylaxis, whether it is immune globulin (IG) or the hepatitis A vaccine.

It is then suggested that the CHD summarize the investigation and post it on EpiCom, Florida's secure, moderated epidemiologic information exchange and notification system. EpiCom is the web-based system that notifies other CHDs about diseases and potential outbreaks. This may help neighboring CHDs link cases and/or outbreaks that were seemingly unrelated. Lastly, it is very important for epidemiologists to communicate their findings with their public health partners. Then, says Robyn, "We have enhanced surveillance for additional case findings, and hopefully, we've prevented the disease from spreading."

To find out why Robyn became an epidemiologist, see the article on page 8.

New Meeting for Co-Infected in Broward County

Every Tuesday evening from 7:30-9:00pm, the Wellness Center of South Florida holds a meeting for people who are co-infected with HIV and hepatitis C. They invite everyone to join them for weekly conversation and information updates. This group is free and anonymous.

Contacts

Phil Younger
954-260-2448

Lorenzo D'Oria
954-536-5414

The Wellness Center
2921 NE 6th Avenue
Wilton Manors, Florida 33334
(954)568-0152
Email wcsflink@cs.com



Adult Hepatitis 317 Vaccine Initiative Comes to an End

By Phil Reichert

After three years of access to over 100,000 doses of adult hepatitis B and combination A/B vaccine in Florida, the 317 Hepatitis Vaccine Initiative ended on October 31, 2010. These 317 Program vaccines were available because of a partnership between the Centers for Disease Control and Prevention's (CDC) Division of Viral Hepatitis and the National Center for Immunization and Respiratory Diseases. The good news: Florida's county health departments were able to order enough adult hepatitis B and A/B combination vaccine in September to fill their needs for the next six to eight months.

In late 2007, the Florida Hepatitis Prevention Program (HPP) was invited to submit a plan to CDC to receive free adult hepatitis B vaccine for individuals at risk. We were asked to help advance the CDC concept of eliminating hepatitis B in adults in the United States.

In a *Morbidity and Mortality Weekly Report* (MMWR) dated December 2006, CDC stated that hepatitis B vaccine availability in infants, children and adolescents for the past twenty-plus years had significantly lowered the number of cases of hepatitis B in Americans under 25 years of age. Now, we needed to provide vaccine to adults at risk to achieve the goal of eliminating hepatitis B in the US.

The 317 Initiative provided states and several large cities in the US with access to free hepatitis B vaccine. There was no infrastructure money for supplies, positions or equipment. The 2006 MMWR provided information on the best venues to find adults at risk: STD clinics, jails and prisons, and substance abuse treatment facilities. In 2008, Florida provided vaccine to adults at risk who accessed STD and HIV services in the county health departments (CHD). The HPP also partnered with an agency that provides health care to eight county jails. In 2009, the HPP partnered with six substance abuse treatment agencies that had the capacity to provide hepatitis B and A/B combination vaccine to adults at risk. There were also two community-based, non-profit hepatitis service organizations and a university health center added as partners in 2009.

Through memorandums of agreement, the non-Department of Health agencies claimed the capacity to provide vaccines with their current resources. The HPP had access to \$786,000 in hepatitis B vaccine in 2008. In 2009 and 2010, the program had access to \$1.1 million in B and A/B combination vaccine each year.

Through the county health departments and the community-based partners, we provided 36,652 hepatitis B and A/B combination vaccines in 2008. In 2009, we provided 35,738 doses. By comparison, the program provided 20,214 doses in 2006 and 31,304 doses in 2007. It should be noted that in 2007, before the CDC vaccine became available, the HPP had access to \$400,000 in Florida Immunization Program 317 vaccine which enhanced our efforts. The 317 Initiative provided more at-risk adults with the opportunity to be vaccinated against hepatitis B virus.

An unintended positive consequence of the 317 Vaccine Initiative was that the number of hepatitis tests done in the health departments increased as follows: In 2006, there were 14,230 tests performed; in 2007, there were 24,842 tests performed; and, in 2008, there were 34,608 tests done. This represents a 143.2% increase in testing during this three-year period from January 2006 through December 2008. We determined there were four probable reasons for the significant increase in testing compared to the 81.3% increase in hepatitis B and A/B vaccine delivery during the same three-year period: 1) Public health care workers often prefer to see test results before starting clients on vaccine, 2) county health departments already draw blood to test for HIV and syphilis, and clients consent to a hepatitis test at the same time, 3) testing is easier than providing vaccine for health care workers due to time constraints and, 4) health care workers are often opposed to providing vaccine to clients before they know if the client will benefit.

The Hepatitis Prevention Program is working with the Bureau of Immunization and the Bureau of Epidemiology to secure funding so that adults at risk of both hepatitis A and B can continue to rely on CHD Hepatitis 09 Programs for free vaccine.

According to Dena Hall, the HPP staff person currently in charge of Hepatitis 09 Program vaccine accountability, with current stock piles and certain funding availability, we should have plenty of vaccine to carry us through 2011. "The CHDs must carefully track their adult hepatitis vaccine usage and work a bit more conservatively than they have during the past three to four years," says Hall.

HIV Expo in Broward County

Submitted by Edith Garcia

On Saturday, September 25, 2010, the Broward County Health Department (BCHD) co-sponsored *In the Know HIV Expo* at the Pride Center at Equality Park in Wilton Manors, Florida. Health professionals and organizations came together to bridge the gap between lesbian, gay, bisexual and transgender (LGBT) persons and healthcare knowledge.

The expo was the beginning of a larger outreach to minority and at-risk persons nationwide. The mission is to connect people with the knowledge and services they need for better health.

Our hepatitis outreach, testing and vaccination efforts at this event were a great success. We vaccinated 22 people and tested 21 persons. We also distributed 200 hepatitis palm cards and other hepatitis educational information. Great feedback was received, and the community expressed a lot of appreciation for our efforts.



Left to right: Cynthia Rouse, Audrey Meares, Allen Robinson, Pamela Carreras and Johnnie McCray



Allen Robinson, BCHD/CRUSHH Program, preps for a blood draw. CRUSHH stands for Collaborative to Reduce the Use of Substances, HIV and Hepatitis.



Dorinda Petrisko - Tobacco Prevention Program

DIS Recognition Day, October 6th The Florida Department of Health Salutes the State's TB DIS Workforce!



Cheryl Adams



Marie Irvine Ade



Lucretia Andress



Andrea Antione-Pierre



Andre Belidor



Joe Brueggen



Philip Carter



Jacqueline Clarke



Penny Crews



Jessica Dillon



Yvon Duchatelier



Marie Fabre



Maria Figueroa



Luc Germain



Ismael Gonzalez



Richard Goode



Chimela Graham



Lena Heeny

"I am a proud Disease Intervention Specialist, a highly skilled health professional who stops at nothing to prevent the consequences of communicable disease among those so unfortunate to be infected or exposed. My greatest reward is knowing I make a difference."



Ester Huron



Antonio James



Ruth Jimenez



Michael Kellman



Cyrena Lang



Edith Leon



Miguel Martinez



Alfonso Mendez



Juanita Morris-Ford



Sheri Moss



Abdullah Muftic



Kristen Pate



Rhoda Pate



Marie Mona Paul



Francis Perez



Jean-Baptiste Pierre



Iris Quinn



Vivetta Ramkissoon



Ozzie Renwick



Gloria Reyes



June Robinson



Diana Ruiz



Theophile Sainvil



Deloris Samuel-Wyatt



Barbara Thomas



Diana Thomas



Reina Thompson



Rudy Tirado



Virginia Webbe



Aliene Weisenburg

Hepatitis 101 Training

On December 8, 2010, from 2:00-3:00pm eastern time, the Florida Hepatitis Prevention Program will offer "Hepatitis 101: for Nurses, Counselors and Outreach Workers."

The course is presented in a telephone conference call format, and provides an introduction to hepatitis A, hepatitis B and hepatitis C. Prior to the course date, the toll-free call phone number, along with the PowerPoint Presentation, is emailed to all registrants.

Any healthcare or social worker can participate in Hepatitis 101. Continuing education credit of one (1) contact hour is available for all licensed nurses in the state of Florida.

To register for this course, please visit our website at: www.FlaHepatitis.org. It's recommended that you allow 15 minutes during registration to take the mandatory pretest.



Hepatitis Lab Interpretations

The Hepatitis Prevention Program recently updated its *Hepatitis Test Results and Interpretations* chart. This one-page, two-sided diagram features results for hepatitis A (HAV), hepatitis B (HBV) and hepatitis C (HCV).

The major change was in the HCV interpretations replacing PCRs with NAT for HCV RNA, along with the definitions for these acronyms. These graphic images are available on the following website: www.FlaHepatitis.org. They are also attached as the last two pages of this newsletter.

Acronyms

- Anti-HCV: Antibody to HCV
- NAT: Nucleic Acid Testing
- RIBA: Recombinant Immunoblot Assay
- S/CO: Signal to Cut-Off Ratio
- RNA: Ribonucleic Acid
- ALT: Alanine Aminotransferase

To order lab interpretation sheets online, go to: www.FlaHepatitis.org and click on the [Hepatitis Educational Materials Order Form](#).



Come out With Pride Orlando

By Lori Theisen, RN

On Sunday, October 10, 2010, the Orange County Health Department (CHD), along with partners from the Seminole CHD and the HEP Team, participated in *Come Out with Pride Orlando*. This is Central Florida's signature Lesbian, Gay, Bisexual and Transgender (LGBT) Pride event. HEP Team is an outreach program that goes all over the country to help make sure at-risk adults are protected against hepatitis A and hepatitis B.

Free hepatitis A and B vaccines were provided at this event, as well as information about viral hepatitis. A total of 152 vaccines were administered! This could not have been accomplished without the help of our partners and great teamwork. Many of the clients were repeat customers, with 11 patients completing their hepatitis B vaccine series that day. Approximately 29 people who had previously completed the series received their first dose of hepatitis A vaccine.



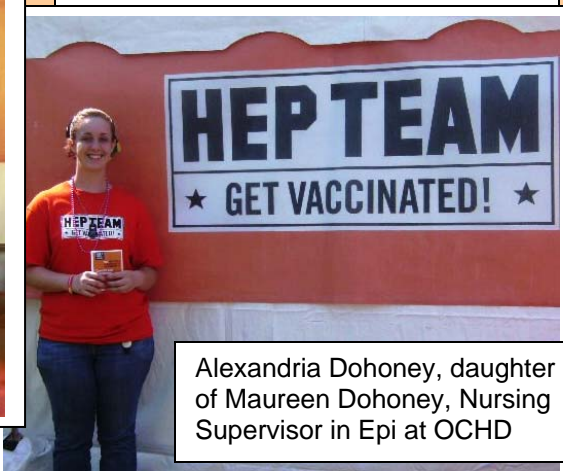
Lori Theisen with her son, Joel Botet



Joanne Weller, RN Nursing Supervisor, Immunology Clinic OCHD, at the end of the day!



L to R: Debbie Andrews (in sunglasses), LPN, (Rabies Nurse OCHD), Tania Harper (Epidemiologist OCHD), Donna Walsh, RN (Epidemiology Manager OCHD) and Brandi Teegarden, (Fiscal Dept OCHD)



Alexandria Dohoney, daughter of Maureen Dohoney, Nursing Supervisor in Epi at OCHD

Thanks to Enid Santiago-Cruz, Seminole CHD, for taking these pictures!

Shine a Light on Robyn Kay

By April Crowley

As previously mentioned, Robyn Kay, MPH, is a regional epidemiologist for the Florida Department of Health, Bureau of Epidemiology. Her region includes 28 counties, from Liberty to Seminole.



Robyn Kay

Robyn grew up in Plantation, Florida. She was always fascinated with diseases, and fell in love with the science of epidemiology in her junior year of college at the University of Florida. At the time, she was pursuing a major in microbiology and cell science and a minor in sociology. She felt this mix provided an understanding of both populations as a whole and as individuals.

Sociology is a social science that studies society. The first class Robyn took was “Marriage and the Family.” The course focused on understanding the view of marriage and family over time, from the 1950s to the 1990s, and how it’s changed. She became very interested in medical sociology. According to Robyn, “It is very interesting to study the changes in health behaviors and attitudes as populations change over time.”

Robyn went on to get a master’s degree in public health from Emory University in Atlanta while studying infectious disease epidemiology. She worked at the Marcus Institute as a research assistant on a fetal alcohol syndrome study and then interned at the Centers for Disease Control and Prevention (CDC) in the STD branch. She joined the Florida Department of Health as a Florida Epidemic Intelligence Service (FL-EIS) Officer in 2003.

Robyn feels that to be a successful epidemiologist, you must have empathy and a compassionate side. Many times, you’re dealing with sensitive topics, so it helps to understand different populations. In addition, you must be both analytical and creative. This allows you to think outside the box when you are conducting investigations, and then analytically test your hypotheses. “It is our core mission to improve the health of all Floridians,” she said.

Robyn’s job is exciting, dynamic, and challenging. On any given day she may be dealing with different diseases or engaging in a public health response. Every day is completely different, and some days she has to do a lot of rumor control. However, in the end, the most rewarding investigations and public health surveillance activities are the ones that lead to public health action and healthy people!

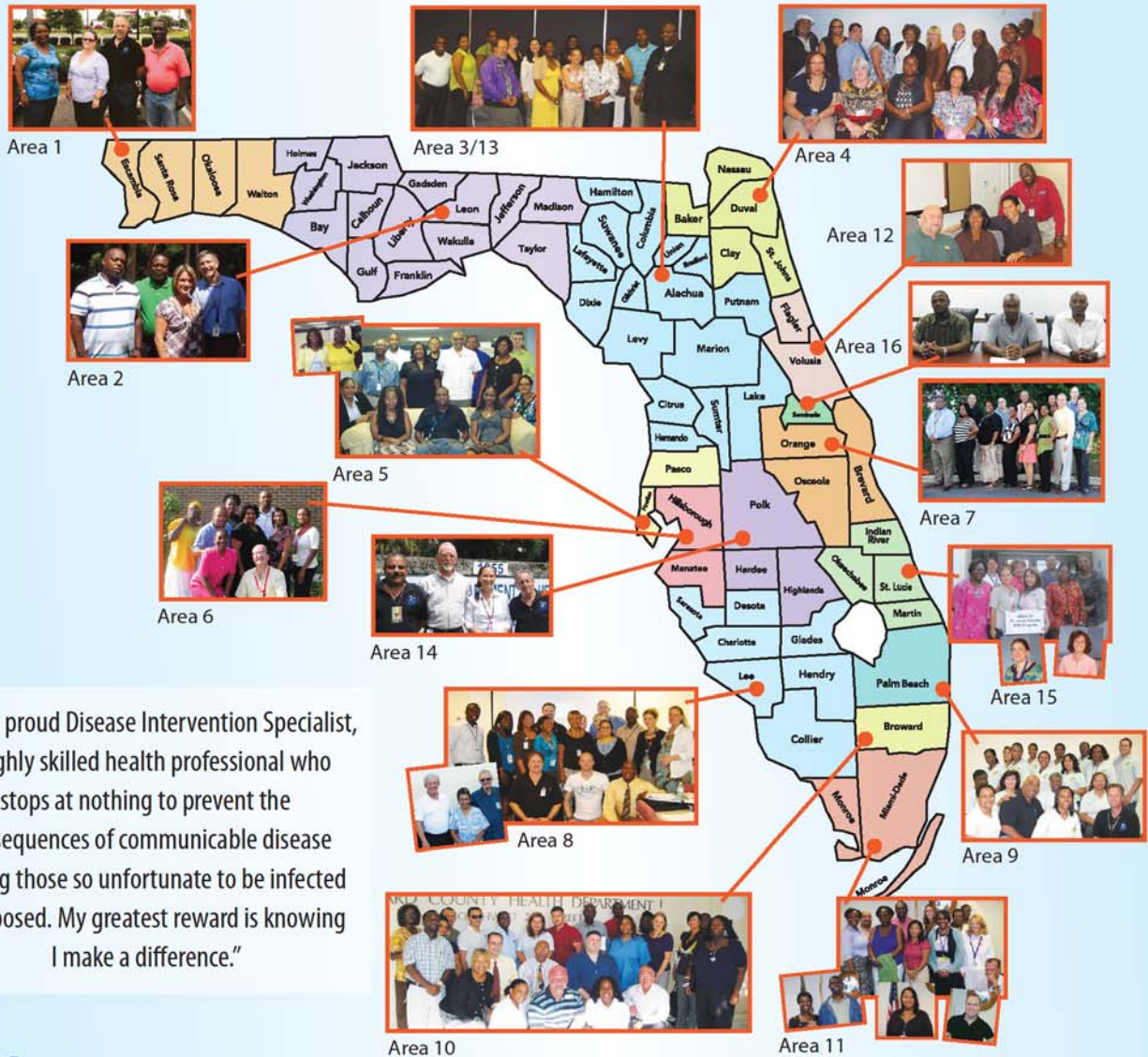
Robyn explained that the science of epidemiology can be applied to every aspect of public health: chronic disease, environmental health, maternal child health, bioterrorism, and vital statistics since we are all looking at the same thing—how to improve the health of populations by identifying risk factors and making recommendations for healthy lifestyles.

Robyn and her husband, Steven, live in Jacksonville. They are expecting their first child in November.

Sign at the State Lab

The most exciting phrase to hear in science, the one that heralds new discoveries, is not "Eureka!" but "That's Funny...."

DIS Recognition Day, October 6th The Florida Department of Health Salutes the State's STD Prevention DIS Work Force!



"I am a proud Disease Intervention Specialist, a highly skilled health professional who stops at nothing to prevent the consequences of communicable disease among those so unfortunate to be infected or exposed. My greatest reward is knowing I make a difference."



New and Improved Test Results Sheets



Here's a smaller version of the lab interpretations sheet for hepatitis C and hepatitis A to give you an idea of what it looks like. Hepatitis B is on the next page. (Since hepatitis B results are more involved, they get their own page.)

Special thanks to Susanne Crowe with the State Lab in Jacksonville for her help and expertise in developing these materials.



Susanne Crowe



Hepatitis Test Results "Profiles" and Interpretations*

Exposure Type or Risk Factors	Approximate Time from Exposure	Hepatitis C (anti-HCV)	Interpretation
Hepatitis C Risk Factor OR Blood Donor OR Abnormal ALT OR Acute Hepatitis	>6 months	Negative	Indicates immunocompetent patient without acute infection or possible immunosuppressed patient with acute infection.
	2-26 weeks	Negative or Indeterminate	Possible incubation stage. Retest 6 months after exposure.
	>6 months	Positive S/CO < 8.0	Supplemental testing recommended. (Automatic supplemental testing by the Bureau of Laboratories—results forwarded when available.)
	>6 months	Positive S/CO ≥ 8.0	Indicates past or present infection. High s/co ratios usually confirm positive (≥95%) when supplemental testing is performed. Routine supplemental testing is not recommended for these samples. (Supplemental NAT for HCV RNA or RIBA testing performed by the Bureau of Laboratories ONLY on a case by case basis at the written request of provider.)
ACRONYMS Anti-HCV: Antibody to HCV NAT: Nucleic Acid Testing RIBA: Recombinant Immunoblot Assay S/CO: Signal To Cut-Off Ratio RNA: Ribonucleic Acid ALT: Alanine Aminotransferase	>6 months	Anti-HCV Positive NAT for HCV RNA Positive	Indicates past or present HCV infection. The detection of HCV RNA may be desired in evaluating patients for treatment and/or monitoring antiviral therapy.
	>6 months	Anti-HCV Positive NAT for HCV RNA Negative RIBA Positive	Indicates past or present HCV infection. NAT for HCV RNA is not detectable during all stages of infection.
	>6 months	Anti-HCV Positive NAT for HCV RNA Negative RIBA Negative	Antibody to HCV detected but not confirmed by a more specific assay. Possible false positive or virus at undetectable limit. Repeat in 6 months.
Exposure Type or Risk Factors	Approximate Time from Exposure	Hepatitis A (anti-HAV) Antibody	Interpretation
Hepatitis A Known Exposure OR Risk Factors	2-9 weeks	IgM Positive Total Antibody Positive	Early acute hepatitis A infection. Patient potentially infectious.
	3-6 months	IgM Positive Total Antibody Positive	Acute hepatitis A infection. No need for vaccine.
	Months to Years	Total Antibody Positive	Recovery state. Patient immune to hepatitis A. No need for vaccine.
Vaccine	Months to Years	Total Antibody Positive	Antibody to hepatitis A detected. Patient immune. Post-vaccination testing usually not recommended.

*Note: These results and interpretations are for serum tests for hepatitis, as performed by the State Lab. This chart was developed by the Florida Department of Health, Bureau of Laboratories and the Hepatitis Prevention Program. 8/2010

Test Results Sheet for Hepatitis B



Hepatitis Test Results and Interpretations*

Exposure Type or Risk Factors	Approximate Time from Exposure	Hepatitis B Surface Antigen (HBsAg)	Hepatitis B Surface Antibody (HBsAb)	Hepatitis B core-Total Antibody (anti-HBc)	Hepatitis B core-IgM Antibody (anti-HBc) IgM	Interpretation
Hepatitis B Vaccine	1-2 months after 3rd vaccine	Not done	Negative	Not done	Not done	Presumptive non-immunity to infection with HBV.
		Not done	Indeterminate	Not done	Not done	Indeterminate levels. Further assess patient's immune status by considering other clinical information.
		Not done	Positive	Not done	Not done	Hepatitis B surface antibody (HBsAb) detected at ≥ 10 mIU/mL. Indicates immunity to infection with HBV.
Hepatitis B Known Exposure OR Risk Factors	< 3 months	Negative	Negative	Negative	Negative	Incubation period. Vaccinate. HBIG may be indicated.
	1-3 months	Positive	Negative	Negative	Negative	Indicates early acute stage of infection or late incubation. Diagnose with aid of clinical presentation. Patients may be infectious.
	3 months	Positive	Negative	Positive	Positive	Indicates hepatitis B early acute infection. Patients may be infectious.
	3-6 months	Negative	Positive	Positive	Positive	Indicates early recovery and immunity. Infectivity unknown.
	≥ 6 months	Positive	Negative	Positive	Negative	Indicates chronic infection (chronic carriers).
	6-12 months	Negative	Positive	Positive	Negative	Indicates previous HBV infection and immunity; infectivity unknown.
	> 6 months	Negative	Negative	Positive	Negative	"Core Alone" may be a false positive result; window phase of resolving acute infection; late immunity stage; or unresolved infection in late or low grade state. Patient should not give blood.
	Years	Negative	Positive	Positive	Negative	Indicates recovery. Immune to reinfection.

*Note: These results and interpretations are for serum tests for hepatitis, as performed by the State Lab. This chart was developed by the Florida Department of Health, Bureau of Laboratories and the Hepatitis Prevention Program. 8/2010

From the Editor

Hepatitis Health is brought to you by the Hepatitis Prevention Program, Bureau of HIV/AIDS, Division of Disease Control, at the Florida Department of Health.

We want to know what you're doing in your community to help prevent viral hepatitis. Submit your articles and photos to: April.Crowley@doh.state.fl.us