

# Medical News

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**We'd Like to Hear from You**

The vast majority of feature articles that appear in our *Infectious Disease Update* come about because somebody asked for them.

Often at meetings or during informal conversations, somebody will say: "Why don't you write something about this particular subject?" Invariably, if it's important enough for one person to be interested in it, then there's an excellent chance that additional readers would like to hear about that subject.

Additionally, you might come across an article in a journal that you feel should be brought to the attention of other professionals. Just let us know the name of the journal, the volume, the month, and the page and we'll try to include it in a forthcoming issue.

To contact the Editor, just click [here](#).

**Varicella-Zoster Infections - An Overview**

**Historical**

In 1888, an Austrian physician by the name of Janos von Bokay noticed that there appeared to be a relationship between chickenpox and shingles. In those days, there was absolutely no such thing as nursing homes, rest homes or assisted living. Elderly parents who needed assistance moved in with one of their children. As a consequence, many homes at that time contained multi-generational families.

Bokay had observed on a number of occasions that whenever one of the grand-parents or another elderly person in the household came down with shingles, it was not unusual for young children in the home to come with chickenpox very soon thereafter. He speculated, therefore, (and quite rightly) that there might be some kind of relationship between these two diseases.

Early in the 20th century, scientists came to realize the connection between these diseases and speculated that they were caused by the same viral etiologic agent. As late as 1949, however, some scientists weren't completely convinced that these two diseases were really two different manifestations of the same viral agent.

The name "Shingles" does **not** refer in any way to those shingles used in roofing a house. In this case, the word is derived from the Latin and French words for belt or girdle. This refers to the fact that the rash is usually confined to a single broad band - usually on one side of the body. This band follows a "dermatome" (a single sensory nerve). The picture on the next page is good example.



**William F. Vincent, Ph.D.**  
 Senior Editor

## All about This Publication

You may access *Infectious Disease Update* on our website by clicking [here](#).

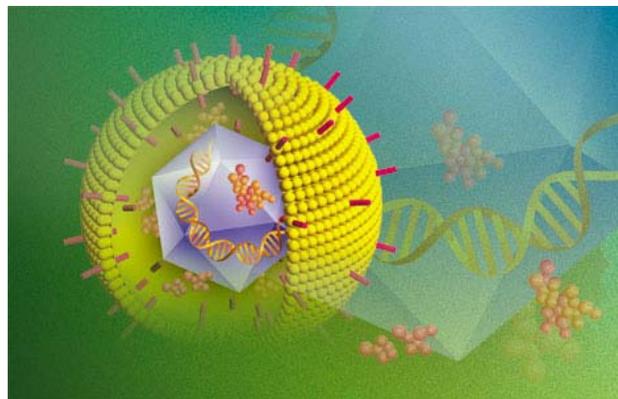
In addition to back issues of *Infectious Disease Update*, other publications of Quest Diagnostics, such as *Physicians Update*, are also available on our website. To visit *Physicians Update*, click [here](#).

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VZV was first visualized under the electron microscope in 1948. At that time, it was noted that the viruses associated with chickenpox and shingles looked remarkably the same.

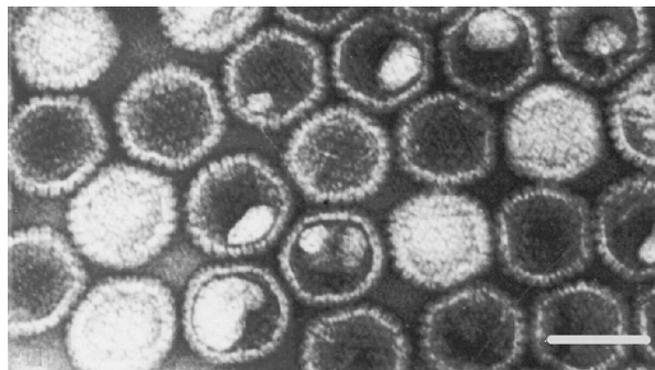
It wasn't for several more years, however, that investigators began to speculate that the viruses were one and the same.



An artist's rendition of the Varicella-Zoster virus  
Courtesy of CDC



A classic example of Shingles  
Courtesy of CDC



Electron micrograph of purified VZV  
Courtesy of Dr. Fran Fenner, John Curtin School of Medicine,  
Australia National University, Canberra, Australia

In 1952, Welter and Stoddard isolated the virus from both diseases and the evidence became overwhelming that the viral agent causing both diseases was one-in-the same and the argument was closed. In 1958, Varicella and Zoster became the Varicella-zoster virus (VZV). One, however, still hears the old designations.

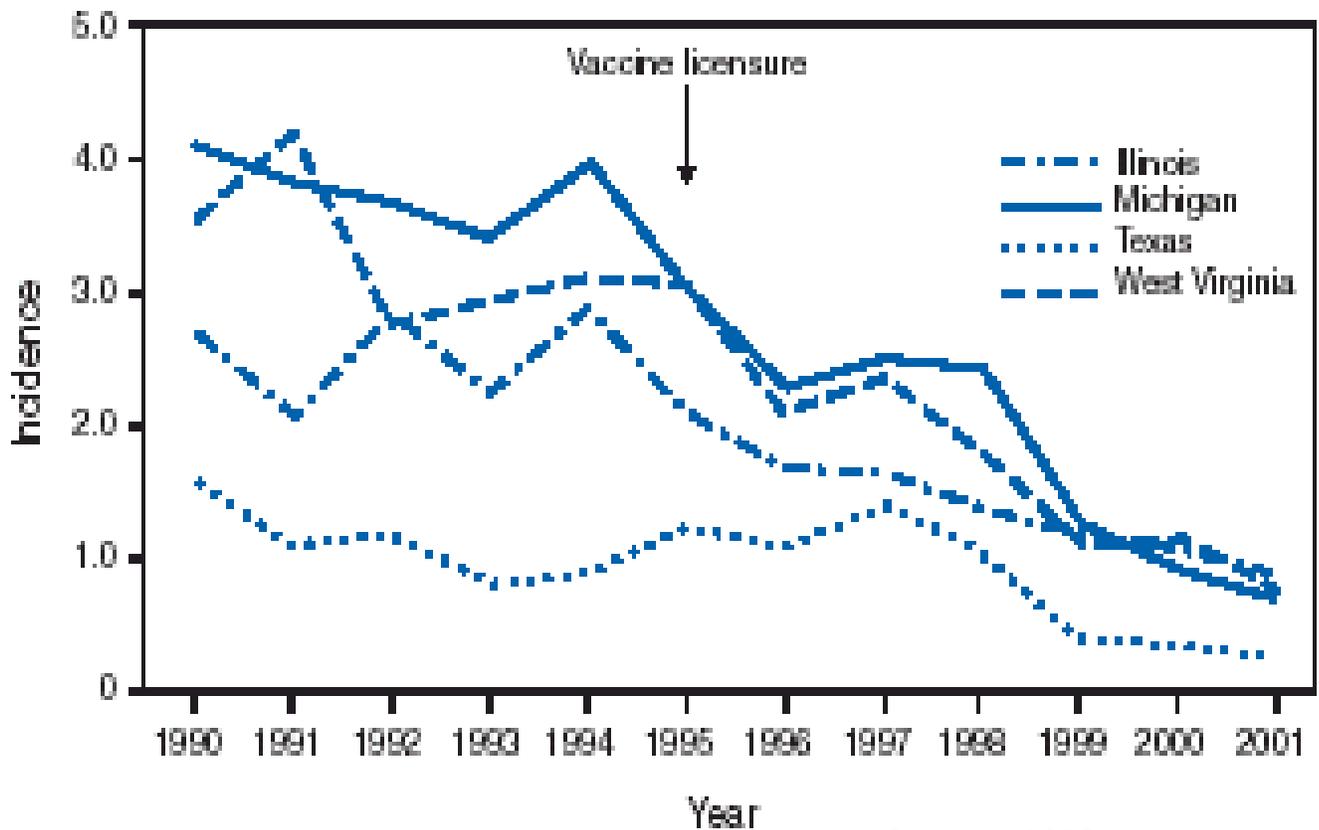
## The Virus

VZV is a DNA virus whose genome codes for about 60 proteins. In 1986, the complete genome of the virus was worked out. The genome is actually the smallest of any of the human herpesviruses. The official name of this virus is human (alpha) herpesvirus 3.

## Relationship Between The Diseases

After the initial attack of chickenpox, which usually occurs during childhood, the Varicella-Zoster virus (VZV), instead of disappearing from the body as is the usual case with an infectious agent, travels down along the nerve cells (the dorsal ganglion neurons) and remains there totally dormant for years or decades. At some point, it may become re-activated for any one of number of reasons.

**FIGURE. Varicella incidence\*, by year — Illinois, Michigan, Texas, and West Virginia, 1990–2001**



Courtesy of CDC

\* Per 1,000 population.

## Chickenpox

### History

The Persian physician, Muhammad ibn Zakariya ar-Razi (865-925 AD) first described chickenpox. In the West the disease became known as "Rhazes". He was able to distinguish chickenpox clearly from smallpox and measles. A more detailed description of chickenpox was later provided by Giovanni Filippo (1510-1580).

### Epidemiology

Chickenpox is an extremely communicable disease. It has been speculated that if one put a person in the infectious state in an enclosed room with a 100 susceptible persons, about 80 to 90 % of those susceptible would come down with chicken pox. This writer can remember, as a small child, how fast it would go through the first grade class (we didn't have any kindergarten to help spread these diseases).

An infected person is most communicable during the one or two days immediately preceding the onset of symptoms. This is called the "prodromal period". The person will remain infectious until **all** of the blisters have scabbed over.

Most cases of chickenpox are transmitted via aerosol droplet inhalation generated when an infected person sneezes or coughs.

In industrialized nations, approximately 90 % of all adults have demonstrable antibodies against VZV. Of adults who claim that they have never had chickenpox or are not sure, the vast majority will test seropositive for IgG antibodies.

Prior to the introduction of the live, attenuated vaccine in 1976, there were about 4 million cases annually in the U.S. That number has dropped by about 90 % with the introduction of an effective vaccine. At the top of this page is a graph prepared by CDC demonstrating the decrease in incidence in four states between 1990 and 2001.

Chickenpox is a worldwide disease. In industrialized nations, where the VZV vaccine has been introduced, there has been a dramatic decrease in incidence similar to that seen in the U.S.

### The Disease

Chickenpox is characterized by a rash that first appears on the trunk and face and then spreads in crops over the entire body.

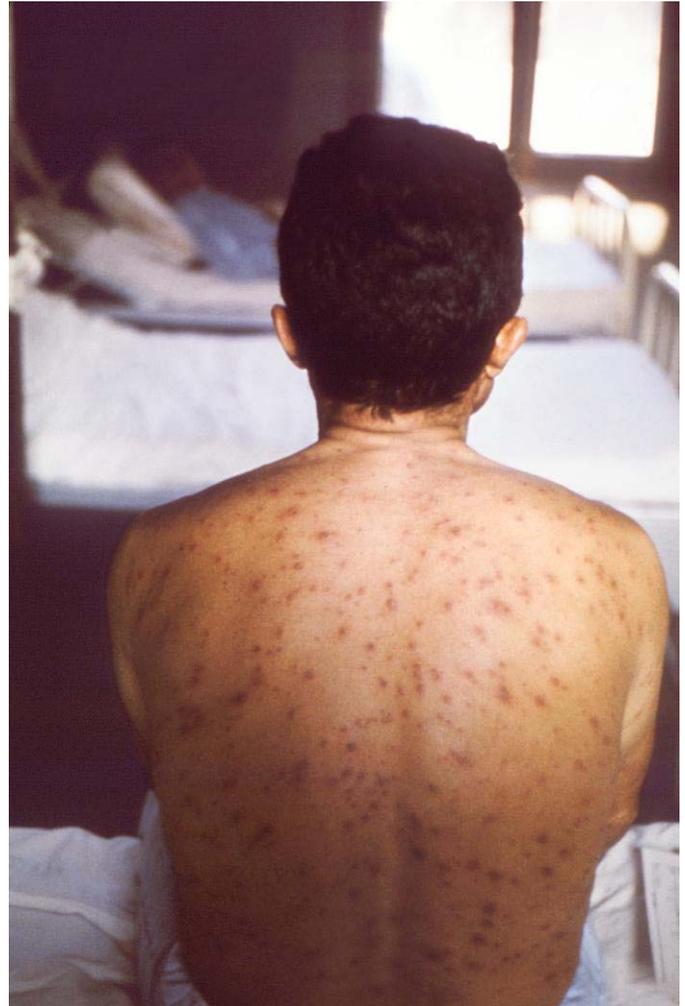
About one out of every ten children will develop some complication from the infection. The most common type is skin infections (from scratching).



Chickenpox lesions on this child's face  
Courtesy of CDC



Lesions on the same child's back  
courtesy of CDC



Chickenpox lesions on the back of an adult. The man had originally been diagnosed with smallpox and placed in a smallpox unit  
Courtesy of CDC

Other complications include:

- Encephalitis - a serious but rare complication
- Pneumonia
- Reye's syndrome
- Myocarditis
- Transient arthritis
- Cerebellar ataxia - this may appear during the recovery phase or later and is characterized by a very unsteady gate

In the case of pregnant women, infection is a very serious problem due to the damage that can occur to the fetus. Antibody testing and immunization, if necessary, has been recommended for healthcare workers who are in contact with chickenpox and shingles patients.

## Diagnosis

Chickenpox is relatively easy to diagnose based on clinical findings and even by nonmedical persons (*i.e.* Dr. "Moms"). However, in recent years, due to the dramatic decrease in the number of cases as a result of mass vaccination, many young parents have never seen a case of chickenpox. It is estimated that about half the cases of chickenpox are seen by a physician.

In questionable cases, a VZV IgM antibody titer (EIA) should be performed. Active or recent cases of VZV infection will show a significant IgM antibody titer.

In addition antibody titers, we also have a number of other tests that can aid in the diagnosis of VZV infections. These include:

- Varicella-Zoster virus antigen detection, DFA - this test is performed on scrapings from vesicular lesions, vesicular swabs or eye swabs,
- Varicella-Zoster virus, rapid method, culture - performed on throat, eye, CSF, tissues or body fluids,
- Varicella-Zoster virus DNA, quantitative real-time PCR - performed on blood specimens

For more information concerning these tests or any other tests offered by Quest Diagnostics, the reader should contact his or her Quest Diagnostics representative.

## Treatment

The only treatment generally provided is supportive treatment. Warm soaks, baths with cornmeal and oatmeal often reduce the itching and can be used to provide some comfort to the child. Topical lotions, such as calamine, should not be used since they may produce excessive drying and itching leading to secondary bacterial infections.

Generally speaking, antiviral agents, such as acyclovir, are not recommended for children. However, in the case of children who have skin conditions (*e.g.* eczema or recent sunburn, or lung conditions (*e.g.* asthma), antiviral drugs may be definitely indicated. This is true also in the case of children receiving aspirin therapy on a continuous basis in order to prevent Reyes syndrome.

When secondary bacterial infections develop at the site of the lesions, antimicrobial therapy is usually necessary.

## Infection Control Practices

Because of the high level of communicability with VZV, traditional infection control practices usually fall woefully short in controlling outbreaks.

The use of the live, attenuated VZV vaccines has become the ***most effective*** means of preventing the transmission of chickenpox.

The vaccine is considered to be about 85 % effective and studies thus far have indicated that immunity should persist for more than 20 years after immunization.

Persons who have been vaccinated but later become infected usually have much milder infections.

A recent report published by investigators at CDC in *Pediatrics* compared mortality rates during 1990 to 1994 with those during 2005 to 2007. These are shown below:

- 97 % in those up to 19 years-old (0.65 *versus* 0.02 per million, respectively),
- 90 % in those 20 to 49 years-old (0.30 *versus* 0.03 per million respectively),
- 67 % in those 50 and older (0.33 *versus* 0.11 per million respectively)

Since the vaccine contains a live, attenuated virus, one problem occasionally encountered is "breakthrough". This occurs in about 2 % of immunized persons and results in a mild infection occurring at least 42 days ***after*** immunization. The risk of transmission from these infections is about the same as that associated with naturally occurring ones. When it is transmitted in this manner, however, the symptoms are usually milder and the infection is of shorter duration.

CDC recommends that healthcare workers in institutional setting be tested for the presence of VZV antibodies and that they be immunized if test results are negative.

## Shingles

### Epidemiology

First of all, one does ***not*** "catch" shingles. This disease is nothing more or less than an old case of chickenpox that has been lying dormant for many years and has become "reactivated" when the conditions are right

Although shingles can occur at any age, ***most*** cases are found in persons over the age of 50 years. The exact nature of the forces that lead to the reactivation of VZV 40 or 50 years after the initial case of chickenpox are still ***not*** completely known.

Below are some of the "high-risk" factors believed to play a role in reactivating the virus (the list does not necessarily indicate the order of importance):

- "Getting old" - most cases occur among persons 50 years of age and older. The older a person gets, the greater the chances are that he or she will get shingles
- Medications that weaken the immune system such as prednisone, chemotherapeutic agents, nonsteroidal anti-inflammatory drugs (NSAIDs), *etc.*
- Persons who had chickenpox before the age of one
- Stress of any kind such as the death of a loved one relocation, serious illness, financial woes, *etc.*
- Cancer and radiation treatments
- Fatigue

- Injury of the skin where the rash occurs,
- HIV/AIDS

It should be added that none of these have been proven beyond doubt to be a trigger mechanism for reactivation.

However, one thing is for sure. One does **not** get shingles from coming into contact with another person with shingles or chickenpox.

### The Disease

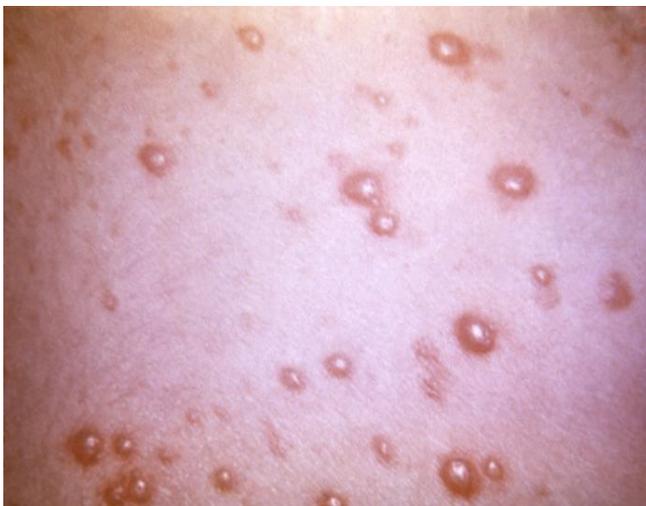
The first symptom to appear is usually pain, burning or tingling on one side of the body. This may be severe and usually occurs before the actual rash appears.

In the case of most individuals, first there is a red patch on the skin and which is followed by small blisters. The pattern of the blisters (vesicles) often is a good clue as to the nature of the disease. As a rule, the lesions will occur along an individual dermatome (nerve). Occasionally, adjacent dermatomes may become involved. There is usually only unilateral involvement, that is, only one side of the body is involved.

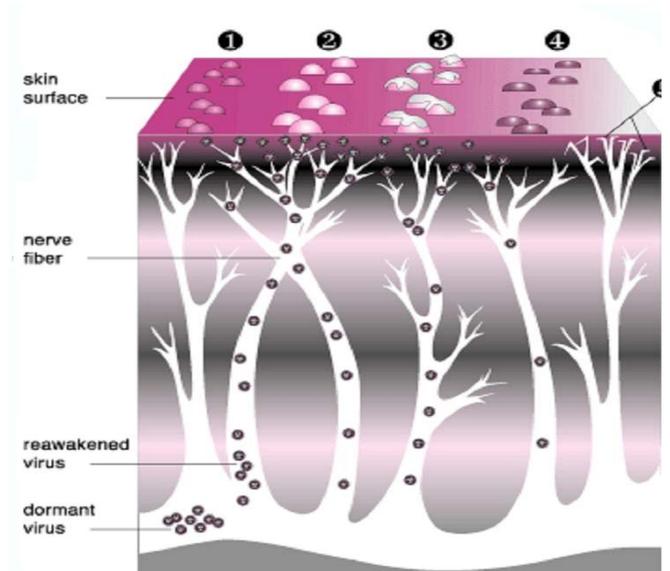
Classically, there is a close grouping of the vesicles. The area under and near them is usually reddened (erythematous) but the skin appears normal.

The vesicles fill with a cloudy, grayish fluid, rupture and then scab over. The crusts usually fall off in two to three weeks. It is rare, however, for any scarring to occur from the ulcers that form unless there is a secondary infection. It should be pointed out at this time that a person **remains** infectious until the ulcers have crusted over.

The drawing on the next column shows the various stages of shingles infections.



Vesicular rash associated with shingles  
Courtesy of CDC



This picture shows the develop of Shingles  
Picture in the public domain

The small bumps **1** that initially appear turn into blisters **2** that resemble the blisters seen with chickenpox. After filling with fluid, the blisters eventually break open **3**, crust over **4** and then disappear **5**.

In addition to the vesicles, the person usually has other symptoms which may headache, fever and chills, overall ill feeling, joint pain, swollen lymph glands, and taste problems.

The pain, that began during the prodromal period, may continue for many months after the lesions resolve. Referred to as "postherpetic neuralgia", this is more common in the elderly and the pain can be extremely debilitating. In the case of lesions on the face, there can be intense pain and facial paralysis.

Most cases of shingles resolve without incident (other than post-herpetic neuralgia) in 2 to 4 weeks. However, in the case of immuno-compromised or -suppressed individuals, the disease can become disseminated and even life-threatening.

### Incidence of Re-occurrence

While the average individual usually only suffers one bout of shingles in his or her lifetime, that is not always the case. For example, those persons with impaired immune systems may experience multiple re-activations.

### Diagnosis

Usually, shingles can be diagnosed easily based on symptoms. If necessary, however, laboratory tests are available. See "Diagnosis" in the chickenpox section.

## Treatment

If a patient is treated as soon as possible with an antiviral drug, the length the symptoms are present as well as the severity of the disease can be significantly reduced.

Physicians may advise the patient to take an over-the-counter (OTC) pain medication, such as acetaminophen, to help with the pain. The application of anti-itch medications, such as Benadryl® and Caladryl® are also applied to the blisters to relieve itching and pain. Cold compresses soaked in water mixed with white vinegar also will help reduce itching and pain.

## Treatment of Postherpetic Neuralgia

The physician will often treat this condition with OTC pain medications and capsaicin creams. Prescription pain medications and lidocaine patches may be necessary in the case of extreme pain. Gabapentin (Neurontin®), a drug used to treat seizures, can also be used but it usually takes several weeks for it to be effective.

## Infection Control Practices

The vesicles associated with shingles (until they scab over) can transmit VZV to susceptible individuals (who, of course, will get chickenpox - **not** shingles). Therefore, contact precautions must be exercised especially to protect females of childbearing age who have not had chickenpox or have not been immunized.

## Immunization against Shingles

Several years ago, a live, attenuated VZV vaccine, called Zostavax® was introduced to prevent shingles in older persons. When it was first introduced, CDC recommended it for all adults over the age of 60. Recent studies, however, recent studies have shown that the vaccine is effective for persons down to the age of 50 and should be considered for that age group.

On average, the vaccine will prevent about 51 % of shingles cases and about 67 % of cases of postherpetic neuralgia. This vaccine **cannot** be used for patients who already have the disease.

It is believed that the vaccine will provide protection for six years but many feel that protection may extend considerably beyond that.

There are several groups of persons for whom the vaccine is contraindicated:

- Persons who have an allergy to any of the components of the shingles vaccine (including gelatin and neomycin),
- Persons with a weakened immune system (leukemia, HIV infection, AIDS),
- Persons being treated with chemotherapeutic drugs,
- Persons being treated with immunosuppressive medications including high-dose corticosteroids,

- Women who are pregnant or who might become pregnant within four weeks of receiving the vaccine.

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Quest Diagnostics  
Wallingford, CT

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## Other Infectious Diseases

### New Tickborne Disease emerging in U.S.

At least 25 persons in Minnesota and Wisconsin have come down with flu-like symptoms caused by a microorganism carried by deer ticks. The symptoms include fever, fatigue, headache, nausea and vomiting.

The microorganism, a spirochete, appeared to be genetically very close (if not identical) with a species of *Ehrlichia* called *Ehrlichia muris* which is found in Eastern Europe and Japan.

This is not the only species of *Ehrlichia* in the U.S. *Ehrlichia chaffeensis* and *Ehrlichia ewingii* are found in the South-East and Central states.

The investigators speculate that maybe this organism has always been around the area but at levels so low so as to be undetectable.

Pritt, B.S. *et al.* 2011. Emergence of a new pathogenic *Ehrlichia* species, Wisconsin and Minnesota, 2009. *New England Journal of Medicine* **365**: 422-429. Click [here](#) to go to original article.

### Do Statins affect the Outcome of Pneumonia and Sepsis?

Investigators evaluated 1,895 subjects from 28 U.S. hospitals who were hospitalized with community-acquired pneumonia.

This study showed that there appeared to be **no** protective effect from statin use on clinical outcomes.

Sachin, Y. *et al.* 2011. Understanding the potential role of statins in pneumonia and sepsis. *Critical Care Medicine* **39**: 1871-1878. Click [here](#) to go to abstract.

### Does Zinc reduce the Duration of Colds?

Several years back, we heard that the use of zinc lozenges would reduce the duration of cold symptoms. Then publications came out saying that this was all wrong and that they really didn't work.

Investigators at the University of Helsinki's Department of Health looked at this again and have found that zinc lozenges do indeed work **if** the zinc concentration is **high** enough. They found that lozenges containing 75 mg of zinc (as zinc acetate) reduced the duration of cold symptoms by

42 %. The only side effect that was found was the bad taste associated with these lozenges.

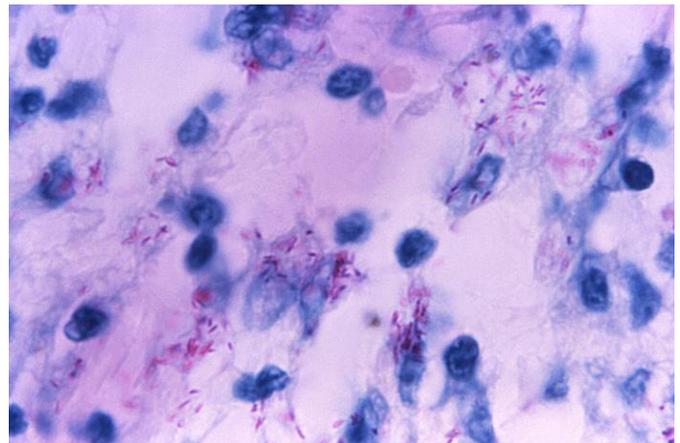
Hemila, H. 2011. Zinc lozenges may shorten the duration of colds: a systematic review. *The Open Respiratory Journal* **5**: 51-58. Click [here](#) to go to abstract.

### WHO warns against The Use of Inaccurate Blood Tests for Active Tuberculosis

Press release 20 July 2011

WHO has called for countries to ban the use of serological (blood) tests to diagnose active TB disease in a policy issued on July 20th, which described the results from these blood tests as **inaccurate** and a major **risk** to the health of patients.

Despite the wide use of these blood tests, evidence reviewed by a WHO expert group and published today concluded that "commercial serological tests provide inconsistent and imprecise estimates" and that "it is strongly recommended that these tests not be used for the diagnosis of pulmonary and extrapulmonary TB."



*Mycobacterium tuberculosis* in sputum. The bacterial cells are "acid-fast" and are stained red. Other material in the sputum is stained blue or very light pink  
Courtesy of CDC

More than a million TB blood tests (also known as serodiagnostic or serological tests) are carried out every year, usually at a substantial cost to patients.

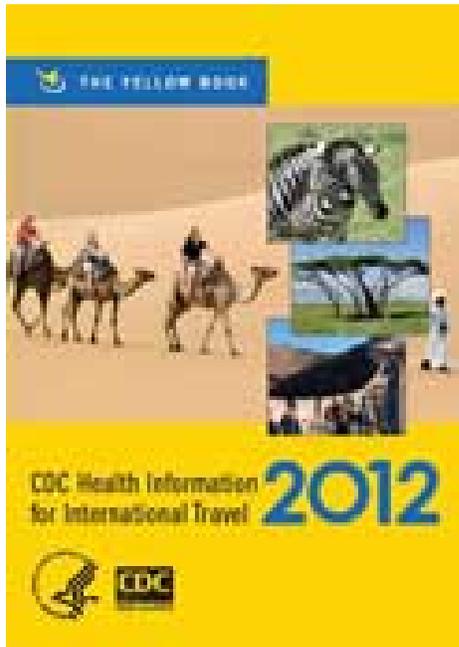
It should be pointed out that this article does not concern the QuantiFERON® Gold test commonly used by labs.

These recommendation does **not** apply to serological tests for latent TB infection, These tests are currently under review by WHO and findings expected to be released soon.

For more information about these tests, visit the WHO website by clicking [here](#)

## CDC updates the "Yellow Book" for International Travelers

Every two years, CDC updates their book with advice for international travelers. This book has traditionally been called the "Yellow Book" (because of its yellow cover).



Interested parties, such as physicians and epidemiologists, can buy a copy from Oxford Press or from Amazon. However, for occasional use, it is very convenient to just access everything in the book online the CDC website. To access the website, click [here](#).

### A Vaccine for Dengue Fever Being Tested

Dengue fever is found throughout the world and causes considerable morbidity and mortality. Occasional cases occur in the U.S. but in the past, most of them have been among travelers to areas where Dengue fever is endemic. Then recently, clinicians began seeing cases among persons who have never been out of the continental U.S. but lived in or visited Florida and adjacent states. Obviously Dengue Fever has arrived here and that's worrisome. We've have the mosquito vector, the susceptible population and now the virus. Bear in mind that, at present, there is **no** treatment for this serious disease.

Sanofi-Aventis has been conducting clinical trials in Thailand on their new vaccine for Dengue fever. Starting in 2009, they immunized 4,000 children in Thailand. None of the children immunized experienced any serious side-effects. The company is presently building a large plant in France to produce a vaccine for dengue fever in large quantities. This plant should be ready by 2014.



*Aedes aegypti* mosquito - female feeding on a blood meal. This is the major vector in the transmission of Dengue Fever  
Courtesy of CDC

For more information, go to the company website by clicking [here](#).

### Free CME credits

**Rapid TB Test reliable for Kids.** Free CME offering from Medscape Today. Click [here](#) to go to offering.

**Preparing for DAAs in Practice: New Paradigms in The Management of HCV.** Free CME offering from Projects in Knowledge. Click [here](#) to go to offering.

**Rotavirus vaccine prevents diarrhea in older kids too.** Free CME offering from Medpage Today. Click [here](#) to go to offering.

**Novel flu drug cuts viral loads, shedding.** Free CME offering from Medpage Today. Click [here](#) to go to offering.

### How Well did Healthcare Personnel fare in getting Flu Vaccinations Last Year?

CDC recently published a report based on the answers of roughly 2,000 healthcare personnel across the nation, They looked at the work setting, occupation, age group, ethnicity, and whether or not the employer required the immunization. They also looked at several other factors such as how the person perceived the value of the vaccine, how easy was it to get it, *etc.*

Space prohibits us from reviewing all the data in this report so here are a few of the highlights:

- Persons working in hospitals had a rate of 71.1 %,

- Physicians and dentists had the highest rate (84.2 %) among healthcare workers,
- Persons over the age of 60 years had the highest rate (74.2 %). As can be expected, persons in the 18 to 29 year old range had the lowest rate,
- White, non-Hispanic persons had the highest rate (66.6 %) among ethnic groups,
- When the employer required employees to be immunized, the rate was 98.1 % When employers did not require the vaccination, the rate was 58.3 %.

One thing that immediately stood out here was the fact that when the vaccine is **required**, people get it. When it's not required, they don't. Nothing can be simpler than that. It's a well known public health fact that in all healthcare settings, immunization of staff is the **single most important** factor in preventing influenza.

Persons wishing to access the entire report should click [here](#).

Centers for Disease Control and Prevention. 2011. Influenza vaccination coverage among health-care personnel -- United States, 2010-11 Influenza season. *Morbidity and Mortality Weekly Report* **60**: 1073-1077. Click [here](#) to go to complete report.

## Unusual Microbial Pathogens - A New Feature

### ***Staphylococcus lugdunensis***

This organism was first described in 1998 in Lyon, France. The species name derives from the Latin name of Lyon - *Lugdunum*.

In many ways, it is similar to *Staphylococcus aureus* and, in the past, it was probably frequently misidentified as *Staphylococcus aureus* or *Staphylococcus hominis*. With today's modern identification systems, it is easily identified. The colonies often have a sweet, hay-like odor.

It is part of the normal skin flora but can cause serious infections such as septicemia, osteomyelitis, and endocarditis.

### ***Gaffkya tetragena***

This is a small gram-positive coccus that occurs in clusters of four (referred to as "tetrads"). It was first described by Koch and Gaffky and was thought to be nonpathogenic. Over the years, however, a number of cases of human infection have been described including septicemias, endocarditis and abscesses.

## Our Readers Ask

### False Positive Test Results for Hepatitis A (HAV) IgM

**Question:** In our state, all positive HAV results get reported to the health authorities, and we have been noticing a very large proportion of false-positive HAV IgM results when asymptomatic patients have been screened for pre-op work-ups. This is causing a lot of unnecessary concern by the clinicians and, of course, the patients.

Can you shed any light on this?

P.R.  
N evada

### **Answer:**

Back in 2005, CDC investigated data from two states (Connecticut and Alaska) concerning patients with positive HAV IgM results who did not have any evidence of past or present infection. They found that most of the positive tests did **not** represent recent HAV infection.

CDC's suggestion was that clinicians should **limit** laboratory testing for HAV infection to persons with clinical findings consistent with Hepatitis A or to people who have been exposed to it. Based on that definition, perhaps the facilities should reconsider testing persons during pre-op work-ups unless there is a valid reason.

Centers for Disease Control and Prevention. 2005. Positive Test Results for Acute Hepatitis A Virus Infection Among Persons With No Recent History of Acute Hepatitis - United States, 2002--2004. *Morbidity and Mortality Weekly Report* **54**: 453-456. Click [here](#) to go to complete report.

## New Test offerings from Quest Diagnostics

### Anidulafungin, HPLC

#### **Clinical Significance**

Anidulafungin is an antifungal of the echinocandin class of antifungals, targeting susceptible strains of *Candida*. The mechanism of action for anidulafungin is to inhibit the synthesis of (1,3) $\beta$ -D-glucan, an essential compound in the structure of fungal cell walls and one that is not present in mammalian cells. Measurement of serum anidulafungin levels may be helpful to optimize drug dosing regimens, particularly where there is non-compliance, concern about drug interactions, pharmacokinetic variability, or suspected toxicity.

#### **Specimen Requirements**

2 mL of serum is required and must be shipped to the laboratory frozen. Refrigerated specimens that are not frozen will be rejected. Other body fluids can also be submitted as long as they are frozen.

**Reference Range**

Less than 0.1 mcg/mL

**Testing**

The test is performed on Tuesdays and Fridays and results are usually available in 3 to 5 days. The testing laboratory is Focus Diagnostics, Inc.

**Capreomycin, HPLC****Clinical Significance**

Capreomycin is commonly used in the treatment of tuberculosis, but may induce hearing loss as a result of its toxicity. Measurement of serum levels may be helpful to optimize drug dosing regimens, particularly where there is non-compliance, concern about drug interactions, pharmacokinetic variability, or suspected toxicity.

**Specimen Requirements**

2 mL of serum is required and must be shipped to the laboratory frozen. Refrigerated specimens that are not frozen will be rejected. Other body fluids can also be submitted as long as they are frozen.

**Reference Range**

less than 0.1 mcg/ml

**Testing**

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## From The Editor's Desk

### THE Oldest Continuously Operating Ferry in America

Imagine you are driving on a secondary road in Glastonbury or Wethersfield, Connecticut, and all the sudden, the road ends at a stop sign. In front of you, were some wooden piers in the Connecticut River, a flat-bottom barge, and a miniature ferry boat.

You've just arrived at the Rockville-Glastonbury Ferry - the oldest continuously operating ferry in America. The original ferry, which dates back to 1655, has been operating for over 350 years. The original ferry was pushed across the river by long poles. Today's ferry is a little bit more modern and can accommodate several cars.

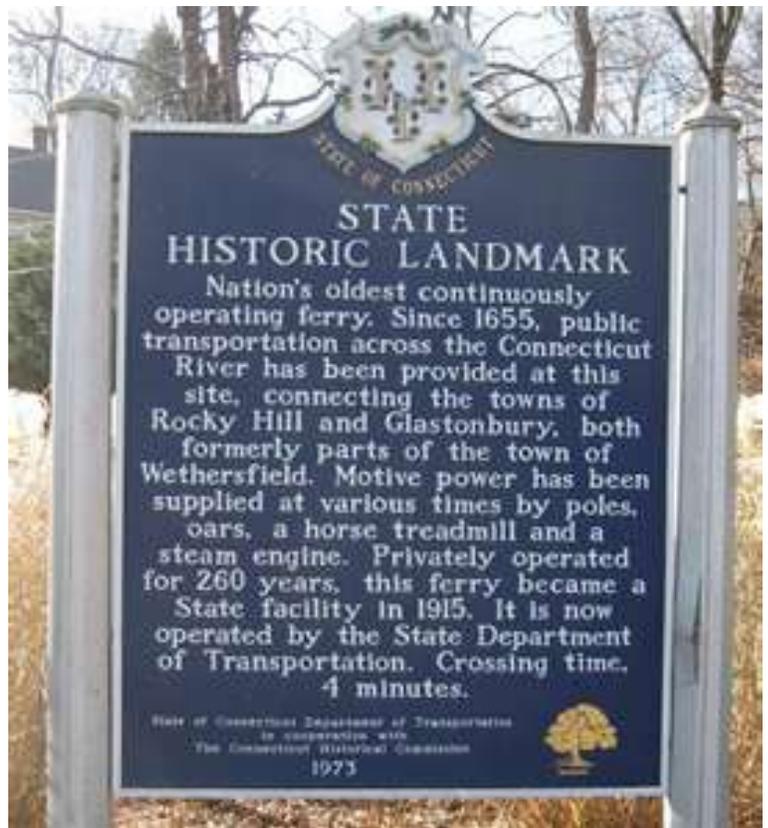
If you ever get to Wethersfield, take a trip on the ferry for a lesson in history.



Courtesy of the Town of Wethersfield



The ferry boat, *Rocky Hill*, getting ready to sail across the Connecticut River



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