

Hepatitis C: A Silent Epidemic

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Epidemiology

Hepatitis C is the most common bloodborne infection in the United States. It is estimated that more than 3 million people in the United States are infected with the virus; this is nearly 1% of the population.

Many persons with hepatitis C do not know they are infected with the virus. It is rare that cases are diagnosed in the acute phase of the disease because the symptoms during this stage can often be non-specific. Most often, people with hepatitis C are identified once their disease has progressed to the chronic state.

In 2001, it was estimated that there were approximately 25,000 new cases each year in the United States. White, non-Hispanics, ages 20-49, are the most common group to be infected with hepatitis C. Hepatitis C is the leading cause of liver disease, cirrhosis, liver cancer and liver transplantation, with between 8,000 to 10,000 people dying each year from complications of hepatitis C. This rate is expected to double or triple over the next 10 to 15 years.

About 77,000 of these infected persons live in Colorado. Colorado's total number of acute and chronic cases of hepatitis C, as preliminarily reported through Colorado's Electronic Disease Reporting System (CEDRS) for 2004, was 4,824. The preponderance of cases in Colorado is male, 65% of cases. Also, 91% of reported cases are between 20 and 59 years of age. Adams County preliminarily reported 340 cases for 2004, Arapahoe County reported 429 cases and Douglas County reported 73 cases of acute and chronic hepatitis C (Table 1).

Table 1: Acute and Chronic Cases of Hepatitis C in Tri-County and the State in 2004

	Acute Cases	Chronic Cases	Total Cases
Adams County	1	339	340
Arapahoe County	3	426	429
Douglas County	0	73	73
Tri-County Region	4	838	842
State of Colorado	18	4806	4824

Transmission and Risk Factors

The main method of transmission for the hepatitis C virus is from blood and body fluids. Contact with blood and body fluids is most likely to come from sharing contaminated needles or sharp objects. These objects could include drug paraphernalia, including cotton and cookers, medical devices or supplies, and household items like razors or toothbrushes. There is also a potential risk with body piercing, tattooing or acupuncture. Hepatitis C can be spread through sexual contact, but the level of risk is not completely known and may be low. However, risk of transmission may increase with certain high risk behaviors, like needle sharing or having unprotected sex with multiple partners. There is also a risk of vertical transmission from mother to child through vaginal delivery and possibly with caesarean section. There is no evidence of transmission of the virus from breastfeeding; however, a woman should use caution if her nipples are cracked or bleeding. Hepatitis C is not spread through casual contact, including hugging, kissing or sharing cups or silverware.



The highest risk for transmission is from people who have injected drugs and have shared their drug paraphernalia or “works”. This is true for people who use or used drugs regularly and also for people who may have used injection drugs only one time in their past. It is estimated that injection drug use at any time in a person’s life accounts for approximately 60% of new hepatitis C cases in the United States every year. Blood transfusions constitute a risk of 0.0001% since blood screening began in 1992. Needle sticks or other occupational exposures account for approximately 1.8% of new cases of hepatitis C in the United States every year.

Signs and Symptoms

Hepatitis C is often a silent infection. A total of 80% of patients have no signs or symptoms. If patients are symptomatic, the symptoms tend to be non-specific and intermittent. The most common symptom is fatigue, however, there may also be general symptoms of liver disease. These symptoms include jaundice, abdominal discomfort, loss of appetite, nausea, diarrhea, fever and dark urine. The incubation period for the virus ranges from 14-180 days (average 45 days). People are usually asymptomatic until significant liver damage has occurred, which may take over 15 years. Even though a person may not have symptoms, they can still spread the virus to others.

Diagnosis

Table 2 indicates when screening is advised for high risk individuals and for those with a known exposure. It is important to remember that if the primary finding is clinical or laboratory evidence of liver disease, that testing for other causes of liver disease is also advised to rule out alternative diagnoses.

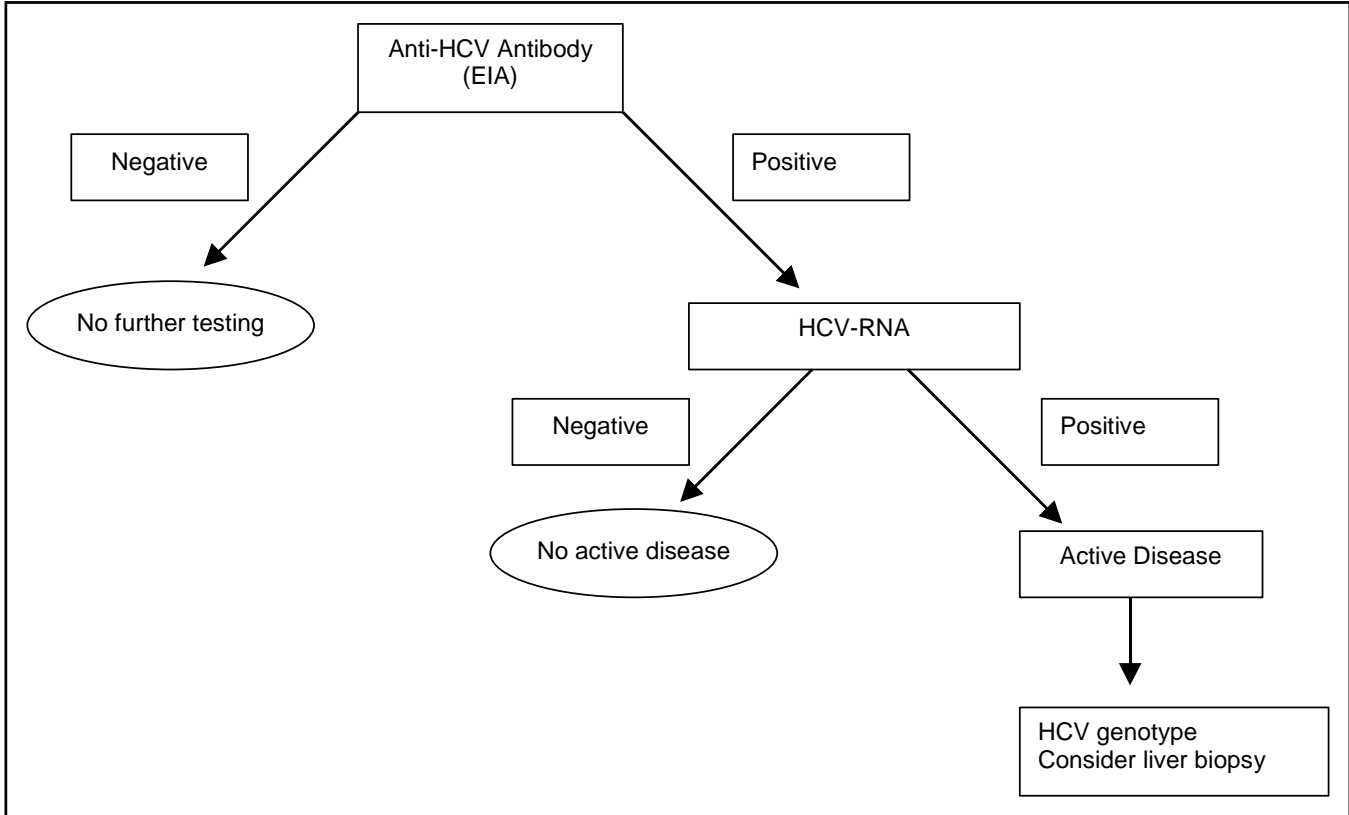
Table 2: Recommendations for Testing Based on Risk for Hepatitis C Infection

Persons	Risk of Infection	Testing Recommended?
Injecting drug users	High	Yes
Recipients of clotting factors made before 1987	High	Yes
Clinical or laboratory evidence of liver disease	High	Yes
Hemodialysis patients	Intermediate	Yes
Recipients of blood and/or solid organs before 1992	Intermediate	Yes
People with undiagnosed liver problems	Intermediate	Yes
Infants born to infected mothers	Intermediate	After 12-18 months old
Healthcare/public safety workers	Low	Only after known exposure
People having sex with multiple partners	Low	No*
People having sex with an infected steady partner	Low	No*

* Test if other risk factors are present, such as presented in the table above

Below (Figure 1) you will find a schematic that shows general diagnostic regimen for hepatitis C in high risk individuals. For a more detailed diagnostic testing schematic that would be used by laboratories to diagnose infections with hepatitis C, see http://www.cdc.gov/ncidod/diseases/hepatitis/c/hcv_physician_booklet.pdf.

Figure 1: General Scheme for Hepatitis C Testing Among High Risk Patients



Treatment

There are medications available to treat chronic hepatitis C. Treatment lasts 6 to 12 months and may decrease the risk of liver damage or reverse liver damage that has already occurred. There can be side effects from taking the medication. As with all treatments, these side effects vary with individuals and may be severe. With most patients, treatment for hepatitis C is not an emergency, so time can be taken to make the best decision for each individual. It may also be wise to refer patients to a hepatologist or infectious disease specialist for care.

Prevention

There is no vaccine for hepatitis C, so education and counseling of patients is all that can be done. Counseling should focus on avoiding exposure to the virus through behavior change and behavior modification. For those who are using injection drugs, education and resources should be given to help them stop using. If stopping use does not seem likely, counseling should be conducted on harm reduction (e.g. not sharing “works”). If a patient is known to be infected, counseling should be conducted on not sharing “works” or personal items like razors and toothbrushes that may contain blood. Infected patients should also be counseled to not donate blood or organs and to cover any open cuts to keep from spreading the virus to others. Although sexual contact has been found to have a low risk of transmission for hepatitis C, it is always a good idea to discuss safer sex practices with patients.

References and referrals will be available at the end of this article for information and organizations that can assist you with your patient population.

Reporting requirements

Acute hepatitis C is a 7-day notifiable disease for physicians and must be reported to the Colorado Department of Public Health and Environment (CDPHE) at 303-692-2700 (daytime hours) or 303-370-9395 (after hours and weekends) or to Tri-County Health Department at 303-220-9200 (daytime hours) or 303-461-2342 (after hours and weekends). Laboratories are required to report tests that indicate chronic hepatitis C infection within 7 days.

On a monthly basis, Tri-County Health Department (TCHD) will be sending a letter to each individual found to have a positive hepatitis C test and reported to CDPHE or TCHD. The letter suggests that these individuals seek further guidance from their physician to determine if they are truly infected with hepatitis C, since the reports we receive are hepatitis C screening reports and are occasionally false positives. The letter will also provide strategies to prevent further illness and transmission of the disease to others and will offer resources for additional information about hepatitis C for those who are found to be infected.

For more information please contact your state or local health department:

Tri-County Health Department
(303) 220-9200/ After hours pager (303) 461-2342
www.tchd.org

Colorado Department of Public Health and Environment Viral Hepatitis Line
(303) 692-2780/ After hours pager (303) 370-9395
www.cdphe.state.co.us/dc/hepatitis

Other resources

Centers for Disease Control and Prevention (CDC)
www.cdc.gov/hepatitis

Hep C Connection Hepatitis Help Line
1-800-522-HEPC (4372)
www.hepc-connection.org

References:

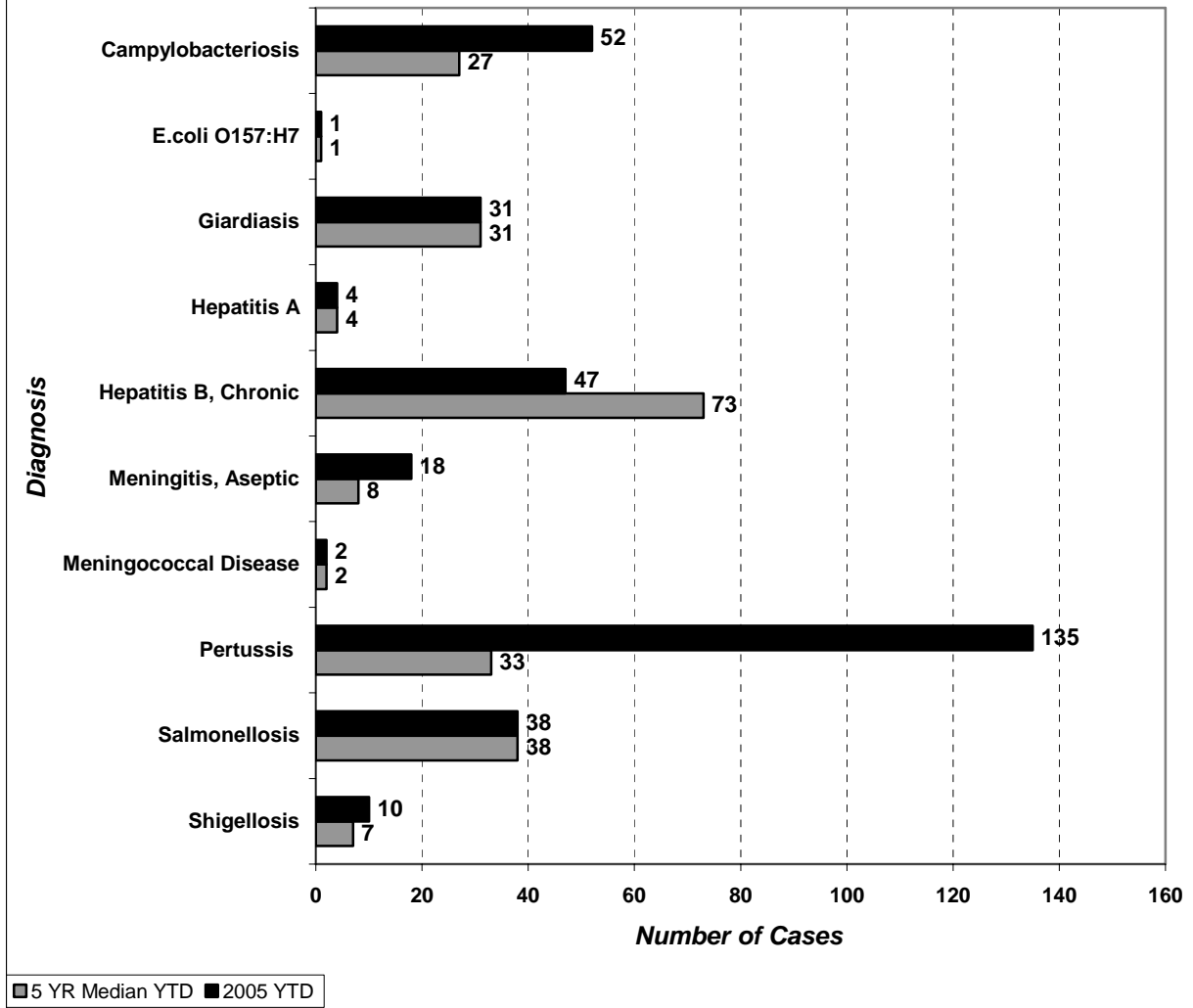
Colorado Department of Public Health and Environment and The Hep C Connection. (2004). Living with hepatitis C [Brochure] www.hepc-connection.org, accessed 4/29/2005.

Colorado's Electronic Disease Reporting System, data obtained 5/25/2005.

Hepatitis C Diagnosis [Electronic media]. www.medscape.com, accessed 5/12/2005.

JSI Research and Training Institute. (2004). Viral hepatitis curriculum: An integrated approach to the prevention, screening and treatment of hepatitis A, hepatitis B and hepatitis C. Denver, CO: JSI Research and Training Institute.

Selected Diseases by Date of Report Adams, Arapahoe, and Douglas Counties 2005 Year-to-date Through April



*The state of Colorado has increased reports of campylobacteriosis. Although the reason is currently unknown, investigation is ongoing.

**There has been an excessive number of pertussis cases reported in the state of Colorado in the past year, which has recently been declining and returning to normal levels.