

Hepatitis C

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Features of Hepatitis C Virus Infection

Incubation period	Average 6-7 weeks Range 2-26 weeks
Acute illness (jaundice)	Mild ($\leq 20\%$)
Case fatality rate	Low
Chronic infection	60%-85%
Chronic hepatitis	Age-related 10%-70% (most asx)
Cirrhosis	
Mortality from CLD	1%-5%

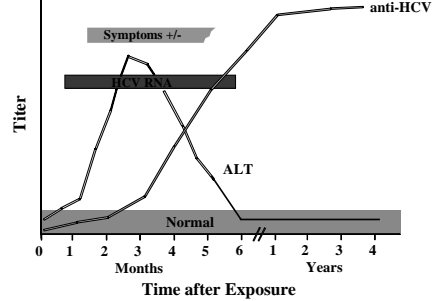


Chronic Hepatitis C Factors Promoting Progression or Severity

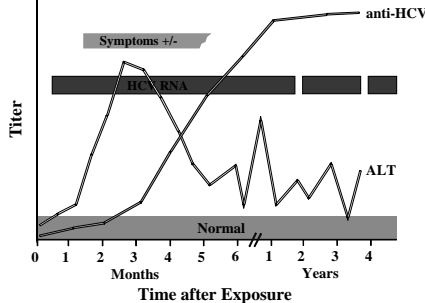
- **Increased alcohol intake**
- **Age > 40 years at time of infection**
- **HIV co-infection**
- **Other**
 - Male gender
 - Chronic HBV co-infection



Serologic Pattern of Acute HCV Infection with Recovery



Serologic Pattern of Acute HCV Infection with Progression to Chronic Infection



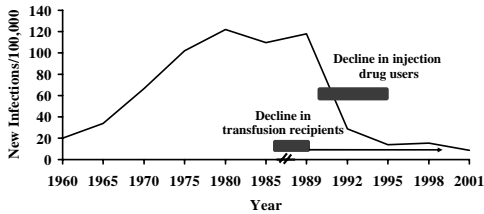
Hepatitis C Virus Infection, United States

New infections per year 1985-89	242,000
2001	25,000
Deaths from acute liver failure	Rare
Persons ever infected (1.8%)	3.9 million (3.1-4.8)*
Persons with chronic infection	2.7 million (2.4-3.0)*
HCV-related chronic liver disease	40% - 60%
Deaths from chronic disease/year	8,000-10,000

*95% Confidence Interval



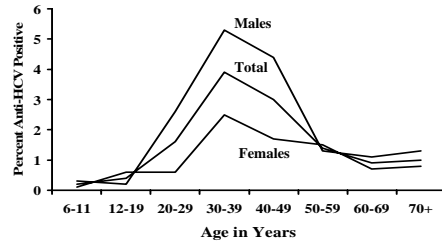
Estimated Incidence of Acute HCV Infection United States, 1960-2001



Source: Hepatology 2000;31:777-82; Hepatology 1997;26:62S-65S; CDC, unpublished data



Prevalence of HCV Infection by Age and Gender, United States, 1988-1994



Source: CDC, NHANES III, NEJM 1999

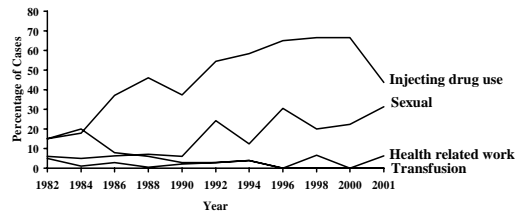


Exposures Known to Be Associated With HCV Infection in the United States

- Injecting drug use
- Transfusion, transplant from infected donor
- Occupational exposure to blood
 - Mostly needle sticks
- Iatrogenic (unsafe injections)
- Birth to HCV-infected mother
- Sex with infected partner
 - Multiple sex partners



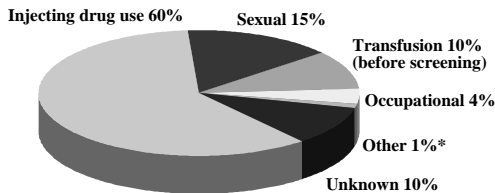
Reported Cases of Acute Hepatitis C by Selected Risk Factors, United States, 1982-2001*



* 1982-1990 based on non-A, non-B hepatitis



Sources of Infection for Persons With Hepatitis C



* Nosocomial; iatrogenic; perinatal

Source: Centers for Disease Control and Prevention



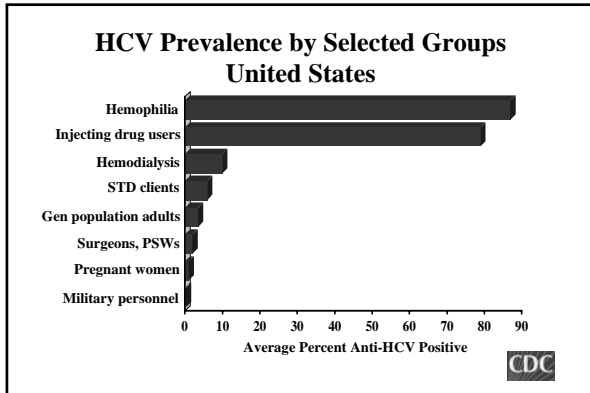
HCV Prevention and Control

Reduce or Eliminate Risks for Acquiring HCV Infection

- Screen and test donors
- Virus inactivation of plasma-derived products
- Risk-reduction counseling and services
 - Obtain history of high-risk drug and sex behaviors
 - Provide information on minimizing risky behavior, including referral to other services
 - Vaccinate against hepatitis A and/or hepatitis B
- Safe injection and infection control practices

MMWR 1998;47 (No. RR-19)





HCV Testing Routinely Recommended

Based on increased risk for infection

- Ever injected illegal drugs
- Received clotting factors made before 1987
- Received blood/organs before July 1992
- Ever on chronic hemodialysis
- Evidence of liver disease

Based on need for exposure management

- Healthcare, emergency, public safety workers after needle stick/mucosal exposures to HCV-positive blood
- Children born to HCV-positive women

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Postexposure Management for HCV

- IG, antivirals not recommended for prophylaxis
- Follow-up after needlesticks, sharps, or mucosal exposures to HCV-positive blood
 - Test source for anti-HCV
 - Test worker if source anti-HCV positive
 - Anti-HCV and ALT at baseline and 4-6 months later
 - For earlier diagnosis, HCV RNA at 4-6 weeks
 - Confirm all anti-HCV results with RIBA
- Refer infected worker to specialist for medical evaluation and management

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HCV Counseling

- Prevent transmission to others
 - Direct exposure to blood
 - Perinatal exposure
 - Sexual exposure
- Refer to support group

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HCV Counseling

Preventing HCV Transmission to Others

Avoid Direct Exposure to Blood

- Do not donate blood, body organs, other tissue or semen
- Do not share items that might have blood on them
 - personal care (e.g., razor, toothbrush)
 - home therapy (e.g., needles)
- Cover cuts and sores on the skin

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HCV Counseling

Persons Using Illegal Drugs

- Provide risk reduction counseling, education
 - Stop using and injecting
 - Refer to substance abuse treatment program
 - If continuing to inject
 - Never reuse or share syringes, needles, or drug preparation equipment
 - Vaccinate against hepatitis B and hepatitis A
 - Refer to community-based risk reduction programs

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Mother-to-Infant Transmission of HCV

- Postexposure prophylaxis not available
- No need to avoid pregnancy or breastfeeding
 - Consider bottle feeding if nipples cracked/bleeding
- No need to determine mode of delivery based on HCV infection status
- Test infants born to HCV-positive women
 - >15-18 months old
 - Consider testing any children born since woman became infected
 - Evaluate infected children for CLD



Sexual Transmission of HCV

Persons with One Long-Term Steady Sex Partner

- Do not need to change their sexual practices
- Should discuss with their partner
 - Risk (low but not absent) of sexual transmission
 - Counseling and testing of partner should be individualized
 - May provide couple with reassurance
 - Some couples might decide to use barrier precautions to lower limited risk further



Sexual Transmission of HCV

Persons with High-Risk Sexual Behaviors

- At risk for sexually transmitted diseases, e.g., HIV, HBV, gonorrhea, chlamydia, etc.
- Reduce risk
 - Limit number of partners
 - Use latex condoms
 - Get vaccinated against hepatitis B
 - MSMs also get vaccinated against hepatitis A



Other Transmission Issues

- HCV not spread by kissing, hugging, sneezing, coughing, food or water, sharing eating utensils or drinking glasses, or casual contact
- Do not exclude from work, school, play, child-care or other settings based on HCV infection status

