Hepatitis C
2005 Clinical Guidelines

Summary of the:
New York State Department of Health Clinical Guidelines for the Medical Management of Hepatitis C

Inside:
Key Features of Viral Hepatitis A,B and C 1
Natural Course of HCV Infection 2
Persons at Risk for HCV Infection 3
Sources of HCV Infection 4
Counseling Prior To Testing 5
Screening for HCV Algorithm 6
Laboratory Testing for HCV 7
Interpretation of HCV Test Results 8
Post Exposure Screening for HCV 9
Counseling After Testing 10
Treating HCV Patients 11
Medical Management of HCV Positive Patients 12
References and Internet Resources 13
The Hidden Epidemic

- 3 million Americans are chronically infected with the Hepatitis C virus (HCV).
- 342,000 New Yorkers are estimated to be infected with HCV.
- A majority of the people infected with HCV do not know they have it.
- Thousands of people go undetected each year—due to inadequate risk assessment, under-screening and confusion about the use of diagnostic tests.

Hepatitis C Virus

- HCV is a blood-borne disease transmitted by blood-to-blood contact.
- Up to 80% of people infected show no symptoms
- HCV can take 10 to 30 years to show any serious health problems.

The Burden of HCV

- 8-10,000 deaths a year are caused by HCV.
- HCV is the leading cause for liver transplants and chronic liver disease.
- HCV deaths will increase four-fold to 38,000, by the year 2010.
- Years of life lost to Hepatitis C (2001-2019) 3.1 million years
- Cost of premature disability and death (2010-2109) $75.5 billion
- Direct medical costs in absentee losses due to Hepatitis C $750 million/ year
- Total medical expenditures for persons with HCV $15 billion/ year

Benefits of Screening for High-Risk Persons

The U.S. Department of Health and Human Services, the National Institutes of Health, and the CDC recommend and support routine HCV screening for high risk individuals. Resulting in:

- higher number of persons tested and more cases identified.
- reduction of HCV transmission.
- education and behavioral modification efforts to slow disease progression, and cut cost-intensive medical procedures due to long term complications of chronic HCV.

Sources:
Centers for Disease Control & Prevention-Hepatitis
www.cdc.gov/hepatitis
<table>
<thead>
<tr>
<th>VIRAL AGENT</th>
<th>HEPATITIS A (HAV)</th>
<th>HEPATITIS B (HBV)</th>
<th>HEPATITIS C (HCV)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong>&lt;br&gt;and Testing</td>
<td>• HAV-IgM antibodies - indicate acute infection&lt;br&gt;• HAV-IgG antibodies- indicate previous infection or vaccination</td>
<td>A panel of antigen and antibody tests are used to diagnose infection:&lt;br&gt;• Hepatitis B surface antigen (HBsAg) present in either acute or chronic infection.&lt;br&gt;• IgM antibody to hepatitis B core antigen (IgM anti-HBc) is diagnostic of acute HBV infection.&lt;br&gt;• Antibody to HBsAg (anti-HBs) is produced following a resolved infection and is the only HBV marker found following vaccination.&lt;br&gt;• HBsAg with a negative test for IgM anti-HBc is indicative of chronic HBV infection.</td>
<td>HCV Antibody Tests&lt;br&gt;Does not differentiate between acute, chronic or resolved infection.&lt;br&gt;• Anti-HCV EIA (enzyme immunoassay) - Initial screening test.&lt;br&gt;• Anti-HCV RIBA- Antibody test used to confirm positive EIA results.</td>
</tr>
<tr>
<td><strong>Methods of Transmission</strong></td>
<td>Fecal oral</td>
<td>Contact with infected blood or body fluids (serum, semen, vaginal fluids, saliva).</td>
<td>Contact with infected blood&lt;br&gt;Risk of sexual transmission: unknown</td>
</tr>
<tr>
<td><strong>Initial Symptoms</strong>&lt;br&gt;and Spectrum of Illness</td>
<td>The incubation period of hepatitis A ranges from 15-50 days with the average being 28-30 days. Individuals infected with HAV generally have an abrupt onset of fever, malaise, anorexia, nausea, abdominal discomfort, dark urine and jaundice.</td>
<td>The incubation period for hepatitis B ranges from 45 to 160 days with an average of 120 days. Approximately 30% of individuals infected will not have symptoms. Children are less likely to have symptoms than adults. Individuals who do have symptoms experience jaundice, fatigue, abdominal pain, loss of appetite, nausea, vomiting and joint pain.</td>
<td>The incubation period for hepatitis C infection ranges from 14-180 days, with an average of 45 days. The majority of individuals infected with hepatitis C do not have symptoms. When symptoms are present, they include jaundice, fatigue, dark urine, abdominal pain, loss of appetite and nausea.</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td>There are no specific treatments for HAV infection once the symptoms appear. Persons acutely infected with HAV should avoid alcohol and other hepatotoxic medications until they have fully recovered.</td>
<td>FDA-approved drugs for the treatment of chronic hepatitis B. They include lamivudine, adefovir dipivoxil, interferon alfa-2b, entecavir, and pegylated interferon alpha-2a.&lt;br&gt;These drugs are effective in up to 40% of patients.</td>
<td>FDA-approved treatments for chronic hepatitis C are interferon, alone or in combination with ribavirin, and pegylated interferon, alone or in combination with ribavirin. The standard treatment for chronic HCV infection is pegylated interferon plus ribavirin. Pegylated interferon/ribavirin combination therapy can effectively eliminate the virus in up to 40% of those infected with genotype, type 1, and up to 80% in those infected with genotypes 2 or 3.</td>
</tr>
<tr>
<td><strong>Total new infections/year</strong></td>
<td>180,000</td>
<td>80,000</td>
<td>36,000</td>
</tr>
<tr>
<td><strong>Chronic Infections</strong></td>
<td>0</td>
<td>1.125 million</td>
<td>3.9 million</td>
</tr>
<tr>
<td><strong>Deaths/year</strong></td>
<td>Rare</td>
<td>5,500</td>
<td>8,000 - 10,000</td>
</tr>
</tbody>
</table>
Natural Course of HCV Infection

100% (100 people)
- Acute Infection
  - 20% (20 people) Resolved
  - 80% (80 people) Chronic
    - 35% (28 people) Stable
    - 65% (52 people) Slowly Progressive Disease (some symptoms)
      - 70% (36 people) Some Liver Damage, No Cirrhosis
      - 30% (16 people) Cirrhosis
        - 75% (12 people) Slowly Progressive Cirrhosis
        - 25% (4 people) Liver Failure, Cancer, Transplant, Death
### Persons at Risk for HCV Infection

<table>
<thead>
<tr>
<th>Persons</th>
<th>Risk of Infection</th>
<th>Testing Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current and past injecting drug users</td>
<td>HIGH</td>
<td>YES</td>
</tr>
<tr>
<td>Recipients of clotting factors made before 1987</td>
<td>HIGH‡</td>
<td>YES</td>
</tr>
<tr>
<td>Hemodialysis patients</td>
<td>HIGH‡</td>
<td>YES</td>
</tr>
<tr>
<td>Recipients of blood and/or solid organs before 1992</td>
<td>MODERATE‡</td>
<td>YES</td>
</tr>
<tr>
<td>Persons with undiagnosed liver problems</td>
<td>MODERATE‡</td>
<td>YES</td>
</tr>
<tr>
<td>Infants born to infected mothers*</td>
<td>MODERATE‡</td>
<td>YES</td>
</tr>
<tr>
<td>Persons having high risk sexual activity**</td>
<td>MODERATE‡</td>
<td>YES</td>
</tr>
<tr>
<td>Persons having sex with multiple partners</td>
<td>MODERATE‡</td>
<td>YES</td>
</tr>
<tr>
<td>Persons requesting to be screened should be tested</td>
<td>LOW</td>
<td>YES</td>
</tr>
<tr>
<td>Healthcare/Public Safety workers</td>
<td>LOW</td>
<td>Only after known exposure</td>
</tr>
<tr>
<td>People having sex with HCV infected steady partner</td>
<td>LOW</td>
<td>NO</td>
</tr>
<tr>
<td>Tattoos, body piercing and acupuncture</td>
<td>UNKNOWN</td>
<td>NO</td>
</tr>
<tr>
<td>Sharing toothbrushes, razors, and nail clippers</td>
<td>UNKNOWN</td>
<td>NO</td>
</tr>
</tbody>
</table>

**ALL PERSONS REQUESTING TO BE TESTED FOR HEPATITIS C SHOULD BE SCREENED FOR SERUM HCV ANTIBODY (ANTI-HCV), EVEN LOW RISK PATIENTS**

*PCR (HCV-RNA) testing on infants born to HCV infected mothers should be performed 1-2 months after birth.
**unprotected sex; any blood-to-blood sexual contact; partners with STDs/HIV; sexual abuse, rape, etc.
*All patients at risk for infection should be educated for prevention.
‡ Periodic testing is recommended.
Sources of HCV Infection

Injection drug use 68%
Unknown 9%
Other 1%
Occupational 4%
Transfusion 10% (before screening)
Sexual Transmission 18%*

Source: Centers for Disease Control & Prevention

* Sexual transmission of HCV is not clearly understood. However, certain high risk sexual behaviors have been associated with HCV transmission such as anal sex, sex with trauma, sex in the presence of a sexually transmitted disease (STD), and sex without a condom.

* HCV-Positive Partner 67%
Multiple Partners 33% (more than 2 partners)
Counseling Prior to Testing

After Conducting Risk Assessment

Counseling Prior To Testing
Counseling may take place over multiple visits

Element One:
Discuss with patient:
- Prior history of their HCV testing
- Modes of HCV transmission
- Relationship between drug use, HIV, STD and HCV
- Benefits of early diagnosis and intervention, prevention of transmission, reduced risk of long term complications

Element Two:
Inform the patient:
- That testing is voluntary
- About the purpose of the test
- About test and procedures
- About meaning of possible test results
- When results should be expected
- About confidentiality and the clinician/patient relationship

Element Three:
Reassure the patient by:
- Discussing possible test result implications
- Providing emotional support during the waiting period or referral to counseling
- Explaining risk reduction behaviors specific to HCV
- Outlining treatment options

4. Sources of HCV
5. Counsel Prior to Testing
Low-Risk Patients
Routine testing not recommended

Moderate or High-Risk Patients
Routine testing recommended

- Persons with HIV infection, leukemia, lymphoma, Hodgkin’s disease, multiple myeloma, generalized malignancy, chronic renal failure, nephrotic syndrome; or other conditions such as receipt of Hematopoietic Stem Cell Transplant (HSCT), solid organ transplant, chemotherapy, long term systemic corticosteroids, or other immunosuppressive agents

No Action

EIA (anti-HCV)

RIBA

Qualitative HCV RNA

Active HCV Infection

Monitor and consider repeat HCV RNA in 6 months

Immunosuppressed

Not immunosuppressed
Repeat as Indicated

No active HCV infection-HCV infection resolved or HCV RNA below level of detection

Qualitative HCV RNA

1 Persons with HIV infection, leukemia, lymphoma, Hodgkin’s disease, multiple myeloma, generalized malignancy, chronic renal failure, nephrotic syndrome; or other conditions such as receipt of Hematopoietic Stem Cell Transplant (HSCT), solid organ transplant, chemotherapy, long term systemic corticosteroids, or other immunosuppressive agents
### Laboratory Tests for HCV

<table>
<thead>
<tr>
<th>TYPE</th>
<th>TEST</th>
<th>APPLICATION</th>
<th>DETERMINATION</th>
<th>INTERPRETATIONS</th>
</tr>
</thead>
</table>
| **Serological Assay** | **EIA (enzyme immunoassay) or ELISA (enzyme immunosorbent assay)** | • Detects anti-HCV  
• Indicates past or present infection**  
• All positive EIA results should be verified with a supplemental assay (RIBA or qualitative HCV RNA) | Exposure to virus | **Reactive:**  
• Past exposure to HCV with resolution of infection**, or  
• False positive (rare)  

**Non-reactive:**  
• No present or resolved past infection or  
• Acute or chronic infection in HIV+ or other immunosuppressive illness  

**Positive:**  
• Ongoing acute or chronic infection  
• Past exposure to HCV with resolution of infection  

**Negative:**  
• No present or past infection, or  
• Acute or chronic HCV infection in HIV+ or other immunosuppressive illness, or  
• False positive EIA  

**Indeterminate:**  
• Probable false positive if no risk factors |
| **RIBA (recombinant immunoblot assay)** | • Detects anti-HCV  
• Indicates past or present infection**  
• Confirms positive EIA in low risk populations | Exposure to virus | **Reactive:**  
• Past exposure to HCV with resolution of infection**, or  
• False positive (rare)  

**Non-reactive:**  
• No present or resolved past infection or  
• Acute or chronic infection in HIV+ or other immunosuppressive illness  

**Positive:**  
• Ongoing acute or chronic infection  
• Past exposure to HCV with resolution of infection  

**Negative:**  
• No present or past infection, or  
• Acute or chronic HCV infection in HIV+ or other immunosuppressive illness, or  
• False positive EIA  

**Indeterminate:**  
• Probable false positive if no risk factors |
| **Molecular Assay (nucleic acid detection)** | **Qualitative**  
RT-PCR (reverse transcription polymerase chain reaction)  
TMA (Transcription Mediated Assay) | • Detects very low levels of HCV RNA (viremia) | Presence of circulating HCV RNA | **Positive:**  
• Active HCV infection (but does not indicate acute or chronic)  

**Negative:**  
• Not infected  
• Past exposure with resolution of infection  

**SVR (sustained virologic response):**  
• HCV-RNA is undetectable (after 6 months of treatment)  
**EVR (early virologic response):**  
• Predicts SVR (after 12 weeks of treatment)  
**Relapse:**  
• HCV RNA rebounds after treatment ends  
**Non-responder:**  
• HCV RNA remains unchanged during treatment  

**Quantitative**  
RT-PCR  
bDNA (branched chain DNA)  
| Measures amount of HCV RNA (viral load)  
• Less accurate (at > 2 million copies/ml or >800,000 IU/ml)  
| 1. Predicts likelihood of treatment response  
• > 2 million copies/ml or >800,000 IU/ml = less likely to respond  
2. Determines response to treatment  
• Done prior to treatment, and every 12 weeks thereafter |
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**Negative:**  
• Not infected  
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**Genotypes 1 & 4:**  
• Require 48 weeks of therapy in the HCV monoinfected patient.  
• Respond less favorably (50%) to therapy.  

**Genotypes 2 & 3:**  
• Require 24 weeks of therapy in the HCV monoinfected patient.  
• Respond more favorably to therapy (80%).  

**Positive:**  
• Active HCV infection (but does not indicate acute or chronic)  

**Negative:**  
• Not infected  
• Past exposure with resolution of infection  

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**Genotypes 2 & 3:**  
• Require 24 weeks of therapy in the HCV monoinfected patient.  
• Respond more favorably to therapy (80%).  

**Indeterminate:**  
• Probable false positive if no risk factors  

* No single lab test distinguishes between active and resolved infection  
** Positive antibody test does not differentiate between active and chronic infection  

6. HCV Screening  
7. Laboratory Test for HCV
## Interpretation of HCV Test Results

<table>
<thead>
<tr>
<th>IF YOUR HVC TEST RESULT IS:</th>
<th>Anti-HCV Supplemental Tests</th>
<th>INTERPRETATION</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anti-HCV Screening Test</strong></td>
<td><strong>Anti-HCV Supplemental Tests</strong></td>
<td><strong>Prior HCV Exposure</strong></td>
<td><strong>Active HCV Infection</strong></td>
</tr>
<tr>
<td><strong>Negative</strong></td>
<td>Not Needed</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>Not Done</td>
<td>Not Known</td>
<td>Not Known</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>Not Done</td>
<td>Negative</td>
<td>Not Known</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>Negative</td>
<td>Not Needed</td>
<td>No</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>Positive</td>
<td>Not Done</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>Positive</td>
<td>Negative</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>Positive/not done</td>
<td>Positive</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>Intermediate</td>
<td>Not Done</td>
<td>Uncertain</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>Intermediate</td>
<td>Positive</td>
<td>Uncertain</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>Intermediate</td>
<td>Negative</td>
<td>No</td>
</tr>
</tbody>
</table>

* EIA - enzyme immunoassay or CIA - enhanced chemiluminescence immunoassay
† Recombinant immunoblot assay, a more specific anti-HCV assay
* Single negative HCV RNA result cannot determine infection status as persons might have intermittent viremia
Post Exposure Screening for HCV

Wash wound with soap and water, OR flush mucous membranes with water

Determine type of exposure

Test SOURCE for HCV antibody (anti HCV)¹²

(-) STOP

Test EXPOSED (to indicate prior evidence of HCV infection) for HCV antibody (anti HCV)² plus liver enzymes

(-) STOP

Counsel EXPOSED person on risk for transmission

If anti HCV (+) and HCV RNA (-)
then test EXPOSED after one month
- Test for qualitative HCV RNA
- Retest liver enzymes

(-) STOP

If SOURCE is anti-HCV (+) and HCV RNA (+)

Then test EXPOSED after one month
- Test for qualitative HCV RNA
- Retest liver enzymes

(-) STOP

If HCV RNA (+) (regardless of anti HCV status) consider pegylated interferon plus ribavirin therapy

If anti HCV (-) and HCV RNA (-) STOP

If HCV RNA (+) (regardless of anti HCV status) consider pegylated interferon plus ribavirin therapy

If anti HCV (-) and HCV RNA (-) STOP

1 If source is unavailable or refuses testing, treat exposed as if source was anti-HCV (+) and HCV RNA (+)
2 Since immunosuppressed persons can be negative for hepatitis C antibody despite viremia, qualitative HCV RNA testing should be performed
3 Qualitative HCV RNA by PCR or TMA
4 Person was HCV-infected at one time and spontaneous cleared the virus. Person is NOT able to transmit HCV at that time.
5 Advise and counsel EXPOSED person if SOURCE person is anti-HCV (+) only.
Counseling After Testing

Patient with NEGATIVE results and absence of evidence for HCV infection
Discuss with patient:
- Meaning of the test results
- Negative test results do not imply immunity to future infection
- Possibility of HCV exposure during the past three months and the need for repeat testing if risk factors are significant
- Not to share:
  - Needles,
  - Ink or needles for tattooing or
  - Needles for body piercing, or
  - Razors, toothbrushes, nail clips or other personal items that could have blood or secretions on them

Patient with POSITIVE HCV antibody test results
Discuss:
- Meaning of test result
- Positive antibody test does not confer immunity from future hepatitis C infections and risk reduction is still important
- Need for follow-up testing with a HCV RNA Qualitative test

Patient with POSITIVE HCV RNA Qualitative test results
Emphasize:
- Meaning of test result
- Positive antibody test does not confer immunity from future hepatitis C infections and risk reduction is still important
- Need for repeat HCV RNA testing in several months, if there are significant risk factors present, because viral load can fluctuate
- Possibility of past acute infection that may have resolved spontaneously

PATIENT CARE
- Provide counseling for positive test results
- Provide / refer for HCV medical treatment
- Discuss availability of specialized treatment options
- Provide / refer for treatment of co-morbid conditions
- Discuss that all medications (prescription, herbal, over-the-counter) need to be disclosed to the treating physician, as to the effects they can have on the liver and/or the interactions with pegylated interferon/ribavirin
- Discuss harmful effects of alcohol and drug use on HCV
- Refer psychiatric treatment, if needed
- Refer patient to support groups for counseling
- Refer to case management for patient navigation

PREVENTION STRATEGY
- Recommend partner/spousal notification through self-notification or clinician-assisted
- Refer needle-sharing partners for HCV testing
- Inform patient to reduce transmission to others by clarifying NOT TO:
  - donate blood, tissue or semen
  - share toothbrushes, razors, nail clippers, drug paraphernalia
- Encourage vaccination of Hepatitis A and B if susceptible
- Inform patient to cover all open sores to prevent possible spread of infectious secretions
- Emphasize barrier protection during sexual activity
- Discuss risk reduction behaviors
- Refer children of chronically infected women for HCV testing
- FOR PREGNANT WOMEN, only infected with HCV
  - Do not discourage breast-feeding unless nipples are bleeding or cracked
### Treating HCV Patients

#### Deciding To Treat

**Who to treat:** all patients with detectable HCV RNA and abnormal liver biopsy.
**Evaluate:** HCV-RNA, HCV genotype, liver enzymes, and liver biopsy unless contraindicated.
**Consider:** severity of liver disease, co-morbidities, side effects and likeliness of response.
**Assess:** Environmental support (living conditions, family/social structure, financial).

#### Special Considerations

Patients on methadone, active IDUs, history of well controlled psychiatric disorders should be considered for treatment. Those with uncontrolled psychiatric disorders and unstable substance use—REFER to MEDICAL MANAGEMENT ALGORITHM.

#### Initiating Treatment

**Diagnostic test prior to treatment:** CBC, chemistries including AST/ALT, serum creatinine, TSH, pregnancy, HIV antibody.
**Counseling:** Side effects, contraceptive
**Evaluate:** Depression screening

#### Type of Monitoring While on Treatment

**Type of Monitoring While on Treatment**

- **Week 2:** CBC, chemistries including AST/ALT.
- **Week 12:** HCV-RNA Quantitative Check for 2 log decrease. If no 2 log decrease, consider discontinuation of treatment.
- **Q 4-6 weeks:** CBC, chemistries, and pregnancy.
- **End of treatment:** HCV-RNA Quantitative.

**Week 24 after end of treatment of patients with end of treatment viral response:** HCV RNA Quantitative.

**NOTE:** Continually monitor and counsel patient for treatment-related side-effects.

#### Treatment of Choice

- **Pegylated interferon plus ribavirin**
- **Duration:** Genotype 1 & 4: 48 weeks; Genotype 2 & 3: 24 weeks.

#### Contraindications

- Hypersensitivity to pegylated interferon +/- ribavirin
- Auto immune hepatitis
- Decompensated liver disease
- Pregnant women
- Men whose female partners are pregnant or trying to get pregnant
- Hemoglobinopathies

#### HIV/HCV Co-Infected

**Therapy:** Pegylated interferon plus ribavirin, unless contraindicated.

#### NOTE:

If patient becomes anemic or neutropenic consider Erythropoetin alfa or G-CSF.

#### Inadequately treated patients

**Non-responders or relapers to anti-virals other than pegylated interferon plus ribavirin.**

**Therapy:** CONSIDER Pegylated interferon plus ribavirin.

### Children

**Evaluate:** Presence of and severity of HCV, including liver biopsy.
**Therapy:** Interferon plus ribavirin to children aged 3-17 years. Antiviral therapy should not be administered to children under 3.

**Goal:** PREVENT DEVELOPMENT OF CHRONIC HCV
**Recommend:** Defer treatment decision until 12 weeks after exposure. If patient does not become anti-HCV negative, therapy recommended.
**Therapy:** Pegylated interferon monotherapy. Duration of therapy unknown. Decisions to treat should be made on a case-by-case basis, in consultation with a Hepatologist, Gastroenterologist, or infectious disease provider.
Medical Management of HCV Positive Patients

**HCV + With Contraindications**

- **PERFORM** comprehensive substance abuse assessment.
- **ASSESS** patient’s understanding of their substance abuse problem.
- **EDUCATE** patient on requirements for initiating antiviral treatment.
- **REFER** for substance abuse treatment or harm reduction.
- **ASSESS** periodically the status of substance use and eligibility for antiviral treatment.

**Unstable Substance Use**

- **PERFORM** screening for psychiatric illness.
- **REFER** to mental health provider for treatment and stabilization.
- **ASSESS** for treatment readiness.
- **RECOMMEND HCV** support groups and peer education.
- **ASSESS** periodically the status of psychiatric illness and eligibility for antiviral treatment.

**Unstable Psychiatric**

- **PERFORM** screening for psychiatric illness.
- **REFER** to mental health provider for treatment and stabilization.
- **ASSESS** for treatment readiness.
- **RECOMMEND HCV** support groups and peer education.
- **ASSESS** periodically the status of psychiatric illness and eligibility for antiviral treatment.

**Unstable Alcohol Use**

- **EDUCATE** regarding effects of alcohol on HCV infection.
- **REFER** to alcohol treatment/rehabilitation.
- **ENCOURAGE** patients with alcohol abuse or dependence to enroll in a rehabilitation program and establish abstinence prior to treatment.
- **ADVISE** patients who consume light or moderate amounts of alcohol that a pre-treatment period of abstinence is not necessary.
- **INSTRUCT PATIENT** on need for abstinence during HCV treatment.

**HCV RNA**

- Serial viral loads are not necessary for those NOT receiving antiviral treatment.
- Monitor and consider repeating in six months.

**Liver Biopsy**

- Repeat Q 4-5 years

**DECLINES TREATMENT**

- Detectable HCV-RNA and Abnormal liver biopsy

**HCV + Without Contraindications**

- **PERFORM** comprehensive substance abuse assessment.
- **ASSESS** patient’s understanding of their substance abuse problem.
- **EDUCATE** patient regarding effects of alcohol on HCV infection.
- **REFER** to alcohol treatment/rehabilitation.
- **ENCOURAGE** patients with alcohol abuse or dependence to enroll in a rehabilitation program and establish abstinence prior to treatment.
- **ADVISE** patients who consume light or moderate amounts of alcohol that a pre-treatment period of abstinence is not necessary.
- **INSTRUCT PATIENT** on need for abstinence during HCV treatment.

**HCV RNA**

- Serial viral loads are not necessary for those NOT receiving antiviral treatment.
- Monitor and consider repeating in six months.

**Liver Biopsy**

- Repeat Q 4-5 years

Once contraindications are stabilized, reassess for treatment eligibility.
References


Hoofnagle JH. Hepatitis C: the clinical spectrum of disease. Hepatology 1997; 26:15S-20S.


Internet Resources

American Gastroenterological Association www.gastro.org
American Liver Foundation www.liverfoundation.org
Centers for Disease Control & Prevention-Hepatitis www.cdc.gov/hepatitis
Clinical Trials: Hepatitis www.centerwatch.com/studies/cat79.html
Immunization Action Coalition www.immunize.org
HCV Advocate www.hcvadvocate.org
Hep C Connection www.hepc-connection.org
HIV and Hepatitis.com www.hivandhepatitis.com
National Commission on Correctional Healthcare www.nccchn.org
National Digestive Diseases Information Clearinghouse www.niddk.nih.gov
National Hemophilia Foundation www.hemophilia.org
National Institute of Allergy and Infectious Diseases/-NIH www.niaid.nih.gov
New York City Department of Health and Mental Hygiene www.nyc.gov/html/doh
New York State Department of Health Hepatitis Website www.health.state.ny.us/diseases/communicable/hepatitis
Medical Society of the State of New York www.mssny.org
World Health Organization (WHO) www.who.int
Veterans Administration www.va.gov/hepatitisc/mission
Foundation for Healthy Living is a tax-exempt organization committed to increasing knowledge about health care through research and education. Contributions in support of our mission can be made by calling 518-220-4606, or online, at www.foundationforhealthyliving.org

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