Hepatitis C Virus Screening
Expansion of Recommendations

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INTRODUCTION

The CDC expanded recommendations for hepatitis C screening to include one-time screening for all baby boomers (those persons born between 1945 and 1965), citing the following reasons:

- The vast majority (more than 75%) of adults in the U.S. with hepatitis C are baby boomers.
- Deaths from hepatitis C are increasing.
- New therapies can cure up to 75% of persons treated for hepatitis C.

CLINICAL BACKGROUND

Hepatitis C Virus (HCV) is one of the most common causes of chronic liver disease, accounting for 60-70% of all chronic hepatitis. Approximately 85% of infected patients will develop chronic disease and 10-20% of those will progress to cirrhosis and 5% to hepatocellular carcinoma. It is the leading cause of liver transplantation in the United States today. Deaths due to HCV exceeded 15,000 in 2007.

Hepatitis C is acquired through exposure to contaminated blood; primarily through shared needles when injecting drugs. Blood transfusions and organ transplants, prior to the start of U.S. blood supply screening in 1992, also account for spread of the virus. Additionally, HCV can be transmitted by sexual contact; by sharing contaminated personal items such as razors or toothbrushes, and from mothers to infants at birth.

In the United States, approximately 3.2 million persons are infected with the virus. Most people are unaware of their infection as often there are no symptoms for many years. Baby boomers are five times more likely to be infected than other adults.

SAMPLE COLLECTION

Individuals appropriate for screening include:

- All persons born between 1945 and 1965
- Persons with history of intravenous or intranasal drug use
- Persons who received clotting factors prior to 1987
- Organ transplant or blood transfusion recipients prior to mid 1992
- Hemodialysis patients
- Persons with known exposures to HCV such as:
  - Occupational needle stick
  - Recipients of blood or organs from a donor who later tested positive for HCV
- People with signs or symptoms of liver disease, (i.e. abnormal liver enzymes, jaundice).
- Children born to mothers infected with HCV
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**TEST METHODOLOGIES/ALGORITHM**

- Hepatitis C antibody test is used for initial screening.
- HCV RNA quantitative PCR quantifies viral load and should identify active infection in patients with a positive screening test.
- HCV Genotype testing aids in therapy selection and monitoring.

**HEPATITIS C ALGORITHM**

**Hepatitis C Virus Testing**

- **Positive Anti-HVC Screen**
  - **HCV RNA Quantitative Real-Time PCR**
    - **Negative**
      - Not actively infected. Either recovered from previous infection OR False-positive Anti-HVC screen.
    - **Positive**
      - Active Infection
        - Chronic HCV Infection
          - **HVC Genotyping**
            - **Treatment Decision**
              - Treatment monitoring by HVC RNA Quantitative Real-Time PCR

**Selected References**

3. Sexually Transmitted Diseases Treatment Guidelines 2010 MMWR 2010;59 (RR-12) - Includes a chapter on hepatitis C
5. Diagnosis, Management, and Treatment of Hepatitis C (PDF - 40 pages) American Association for the Study of Liver Diseases, 2009

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