Care of Patients with HIV/HBV and HCV/HIV Co-Infections
Part 2

May 20, 2015

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CME Disclosures: Planning Committee and Speaker

AETC-Capitol Region Telehealth Project
Planning Committee : The following committee members have nothing to disclose in relation to this activity:

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Goulda A. Downer, PhD, RD, LN, CNS – Principal Investigator/Project Director

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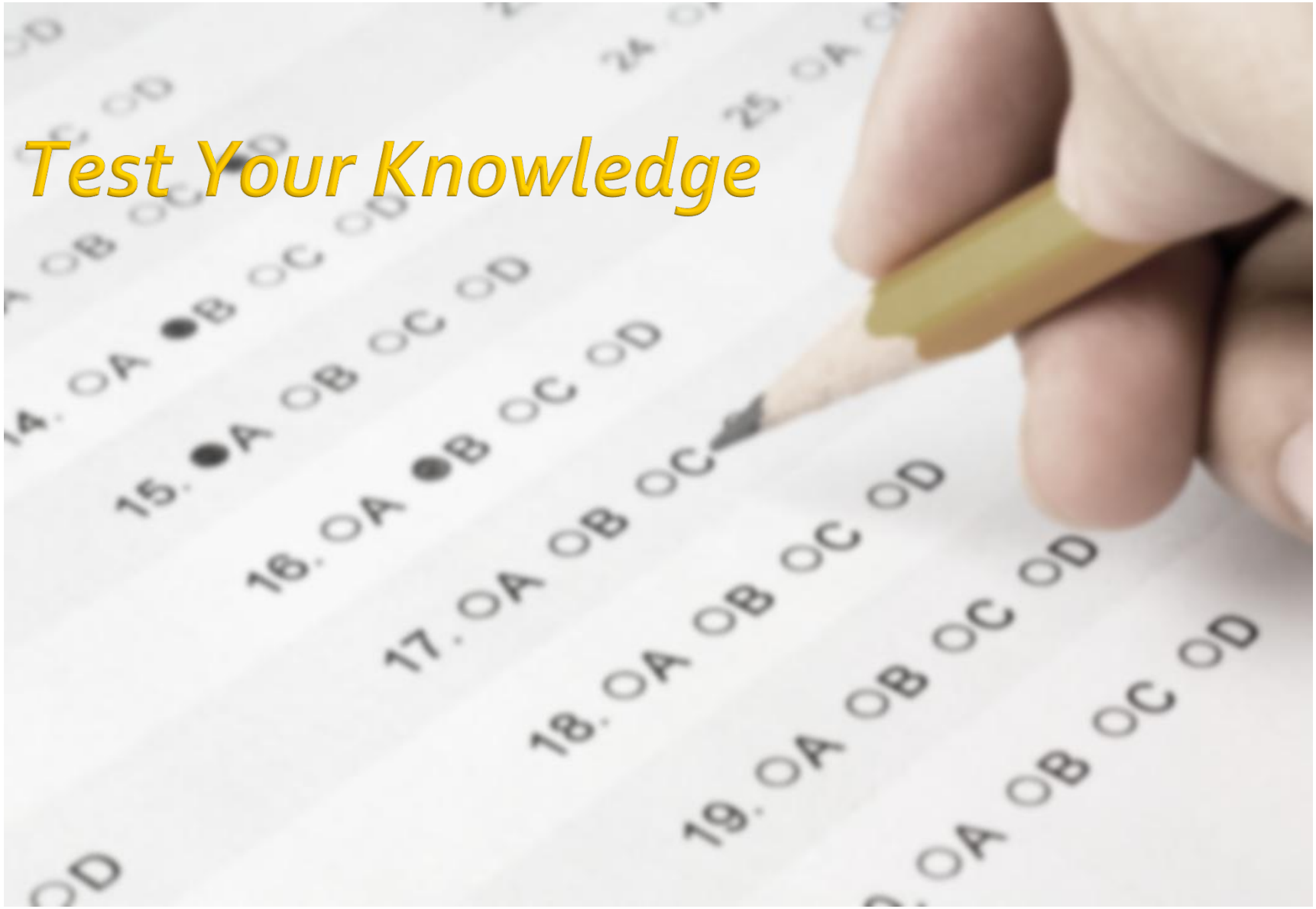
Howard University CME Accreditation Requirements for Internet Viewers

Intended Audience: Low volume clinicians (i.e., those with fewer than 25 patients in their case load who are HIV positive): Physicians, Physician Assistants, Nurse Practitioners, Pharmacists, Dentists, Nurses, Social Workers, Case Managers and other Clinical Personnel.

Webinar Requirements: A computer, phone, etc., with Internet accessibility and a telephone line.

- Your presence on the call must be acknowledged at the start of each session. Please log in for the session then **announce your name loudly and clearly at the beginning of the session.**
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Test Your Knowledge

Test Your Knowledge
Question #1

In HBV Treatment a first line treatment options

may include Interferons:

A. True

B. False

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Test Your Knowledge
Question #2

Nucleoside/Nucleotide Analogues are used in the treatment of Chronic Hepatitis C:

A. True

B. False

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Care of Patients with HIV/HBV and HCV/HIV Co-Infections
Part 2

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Objectives

Upon completion of this webinar, participating providers will have the enhanced ability to:

- Discuss the epidemiology and transmission of HIV/HBV and HCV/ HVC Co-infections
- Describe signs, symptoms, testing and treatment of HBV and HCV
- Discuss treatment indications for HIV/HBV and HCV/HIV Co-infections
- Discuss the diagnostic and treatment challenges with HIV/HBV and HCV/HIV Co-infections
- Discuss strategies to support patients in accessing care in the presence of HIV/HBV and HCV/HIV Co-infections

Case Study

- MC is a 75-year-old male who presented to our practice in the early 2014 for medication refill, and transfer of care
- He reported a past medical history of diabetes, hypertension, renal failure, DVT with IVC filter placement, and gout
- MC reported a personal history of alcohol Use (15 beers per month), quit smoking, denied current drug use; smoking crack/cocaine
- He is heterosexual and sexually active with sex workers with occasional condom use
- During the interview, MC mentioned that he had a court-appointed lawyer as his guardian since 2011

From Case Study Authors Dr. Folasade Osagie, MD and Oritsetsemaye Otubu MD, MPH

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The Numbers

Of people with HIV in the United States:

- About 25% are co-infected with HCV, and about 10% are co-infected with HBV
- About 80% of people with HIV who inject drugs also have HCV
- HIV co-infection more than triples the risk for liver disease, liver failure, and liver-related death from HCV
- About 20% of all new HBV infections and 10% of all new HAV infections in the United States are among MSM
- HCV is twice as prevalent among blacks as among whites

Ref: http://www.cdc.gov/hiv/pdf/library_factsheets_HIV_and_viral_Hepatitis.pdf

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Viral Hepatitis Transmission

People can be infected with the three most common types of hepatitis in these ways:

1. **HAV:** Ingestion of contaminated fecal matter, even in tiny amounts, from close person-to-person contact with an infected person, sexual contact with an infected person, or contaminated food, drink, or objects, including injection equipment

2. **HBV:** Contact with infectious blood, semen, or other body fluids; sexual contact with an infected person; sharing of contaminated needles, syringes, or other injection drug equipment; and needlesticks or other sharp-instrument injuries. In addition, an infected woman can pass the virus to her newborn

3. **HCV**: Contact with blood of an infected person, primarily through sharing contaminated needles, syringes, or other injection drug equipment, and, less commonly, sexual contact with an infected person, birth to an infected mother, and needle sticks or other sharp-instrument injuries from an infected person

Ref: http://www.cdc.gov/hiv/pdf/library_factsheets_HIV_and_viral_Hepatitis.pdf

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Question

A 38-year-old Asian woman is HBsAg positive, HBeAg negative, anti-HBe positive, ALT 28 IU/ml, and otherwise well. Which are true?

1. Needs treatment for HBV now
2. Needs anti-HBV Rx if undergoing treatment for Hodgkin's Disease
3. Needs HBV treatment if pregnant
4. Should use condoms as main way to prevent HBV transmission to husband
5. Needs another doctor because I do not want to treat HBV

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Diagnostic Tests for Hepatitis B

Tests	Chronic Hepatitis B	Chronic e Ag neg	Healthy Carrier
HBsAg	+	+	+
Anti-HBs	-	-	-
HBeAg	+	-	-
anti-Hbe	-	+	+
Anti-HBc	+	+	+
IgM anti-HBc	-	-	-
HBV DNA	>100000	>1000	>100
ALT	Elevated	Elevated	Normal

FDA Approved HBV Treatments are Indicated with Elevated HBV DNA and ALT

- Interferon alfa
- Peg Interferon alfa
- Lamivudine 100 mg oral
- Adefovir 10 mg oral
- Entecavir 1 mg oral
- Telbivudine 600 mg
- Tenofovir 300 mg

- Infection
  - HBV DNA > 20,000 IU (HBeAg pos)
  - > 2,000-20,000 (HBeAg neg)
    - And
- Disease (necroinflammation)
  - ALT or biopsy

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Question: Needlestick Management

A 52-year-old nurse is stuck by a needle left on a gurney in a busy urban ER. The needle has visible blood and the nurse bleeds briefly. The nurse has not received a HBV vaccination. Which is wrong?

1. Provide HBIG and HBV vaccine
2. Risk of HBV is greatest (vs HCV, HIV)
3. Administer pooled IM IG for HCV
4. Tetanus Update
5. Call Risk Management

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Needlestick Transmission

- Risk: HBV>HCV>HIV
- Prevent HBV with vaccine and HBIG
- HCV RNA testing (2-4 weeks) allows early detection
- Cannot prevent HCV
- Early treatment of HCV too controversial

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HBV Prevention

- Post Exposure:
  1. Vaccinate if not already done or not known to respond
  2. Add HBIG when infection likely
- Pre Exposure:
  1. Vaccinate and get post vaccination titers (<2 months) if exposure likely

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Question

A 54-year-old woman referred for elevated liver enzymes for over 1 year (ALT 64 IU/L). No tick bites or canoe trips. Occasional ETOH. Meds: occasional acetaminophen. Vitals normal: 82 Kg; no stigmata of liver disease; liver 2 cm; spleen not palpable. Anti-HCV neg, HBsAg neg, total anti-HAV neg, ANA 1:40. What is the most likely diagnosis?

1. Occult Hepatitis B
2. Seronegative Hepatitis B
3. Hepatitis G (GBV-C)
4. Non-Alcoholic steatohepatitis (NSAH)
5. Wilson's Disease

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HCV Patient Education

Avoid infecting others by not sharing personal care items that may have blood on them:

- Toothbrushes
- Dental Appliances
- Razors
- Sex Toys
- Tattoo Equipment
- Injection Equipment

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HCV Patient Education

- Educate and encourage alcohol abstinence before and during antiviral therapy
  - Alcohol is a co-factor in progression of liver disease to cirrhosis and HCC
  - Alcohol use during therapy adversely affects response to treatment
- Assess readiness and refer to alcohol treatment and support as warranted

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HCV Patient Education

- Assess readiness and counsel as it relates to substance abuse treatment programs if using injection drugs

- Should substance abuse treatment not be an option , provide risk reduction education
  - Sanitizing/cleansing of injection equipment
  - Provide patient with resources for clean, single-use needles if possible

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HCV Patient Education

- Educate patient to avoid exposure to hepatotoxins, including hepatotoxic medications (eg, acetaminophen in large doses, fluconazole, and isoniazid)

- Educate patient to consult a health care professional before taking any new medicines, including over-the-counter, alternative or herbal products

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HCV Patient Education

- Educate patient to avoid exposure to environmental toxins
  - Solvents
  - Paint Thinners
  - Pesticides
- If using toxic chemicals
  - Work in a well-ventilated area
  - Wear gloves
  - Wear a protective face mask

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HCV Patient Education

Recommended Vaccinations:

- Individuals HCV should be tested for immunity to HAV and HBV; those not immune should receive the vaccines
- All persons with chronic liver disease should be vaccinated annually against influenza and should receive pneumoccocal vaccine

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HCV Patient Education

- Side effects of interferon (fatigue, depression, confusion) can interfere with acts of daily living including appointment and medication adherence:
  - Provide technical support to maximize adherence
  - Conduct ongoing assessments and treat and refer as needed for depression

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Case Study Discussion

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Case Study

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- He reported a past medical history of diabetes, hypertension, renal failure, DVT with IVC filter placement, and gout
- MC reported a personal history of alcohol Use (15 beers per month), quit smoking, denied current drug use; smoking crack/cocaine
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- During the interview, MC mentioned that he had a court-appointed lawyer as his guardian since 2011

From Case Study Authors Dr. Folasade Osagie, MD and Oritsetsemaye Otubu MD, MPH

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What Would You Do?

Case Study

- A call to the court-appointed lawyer during the interview for medication verification revealed that MC was homeless by choice, since he was discharged by his nursing home because he would not adhere to their rules. MC had subsequently been provided with housing but he does not stay there because it is far from the city where his friends are located
- A call to his previous nursing home, and review of MC's chart revealed that he had additional diagnoses of HIV, Hepatitis C, and isolated Hepatitis B core anti-body positive
- The exact date of Hepatitis C diagnosis is unclear but a positive antibody was documented in 2008 during routine testing for HIV associated infections

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What Would You Do?

Case Study

- He was diagnosed with HIV in 1997:
  - HAART History - In Late 1990s: had Combivir alone, then Combivir + Ziagen
  - 2001: Combivir + Viramume (unsure of duration)
  - 2005 - 2008: Truvada + Kaletra
  - 2011 - Combivir + Isentress (unsure of duration)
  - 2014 - Abacavir + Lamivudine + Dolutegravir
- MC missed several follow up visits and lab draws with our practice and was not adherent to his medication regimen. Reported reasons for non-adherence included lost or stolen medications or lack of access to medications because he was locked out of his friend's house or had not been able to go back to his place his Maryland to pick up his meds, or was unable to pick it up in the pharmacy
- MC was also referred to the Infectious Disease Clinic and although he did eventually establish care with them, he has not been adherent with recommended follow up

From Case Study Authors Dr. Folasade Osagie, MD and Oritsetsemaye Otubu MD, MPH

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Summary

SUMMARY

- Hepatitis A is transmitted through contact with infected fecal matter
- Hepatitis B and C are transmitted through exposure to infected blood and body fluids
- Chronic HBV (5-10% of those infected) and chronic HCV infection (50-80% of those infected) can cause cirrhosis, HCC and liver failure

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SUMMARY

HBV Testing

i. Serologic Testing for viral markers recommended for:

- Men who have sex with other men
- Injection drug users
- People with HIV
- Patients on dialysis
- Pregnant Women
- Families, household members and sexual contacts of HBV-infected persons

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SUMMARY

HBV Testing

ii. HBV DNA tests - used for patients being considered for treatment and to evaluate response to treatment

iii. Liver Biopsy and ALT – USED to assess degree of necroinflammation

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SUMMARY

HBV Treatment

A. First line treatment options:

1) Interferons

2) Nucleoside/Nucleotide Analogs

B. Indicators of adequate response:

1) Undetectable serum HBV DNA

2) HBeAg loss or seroconversion

3)Improved liver histology on biopsy

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SUMMARY

HCV Testing

i. Test all HIV+ patients
ii. Use EIA for anti-HCV antibodies
iii. If EIA positive, confirm with HCV RNA assay to document viremia
iv. HCV genotying to determine type/duration of treatment
v. Liver biopsy to determine need for treatment

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SUMMARY

HCV Treatment

i. PEG-IFN alfa plus ribavirin

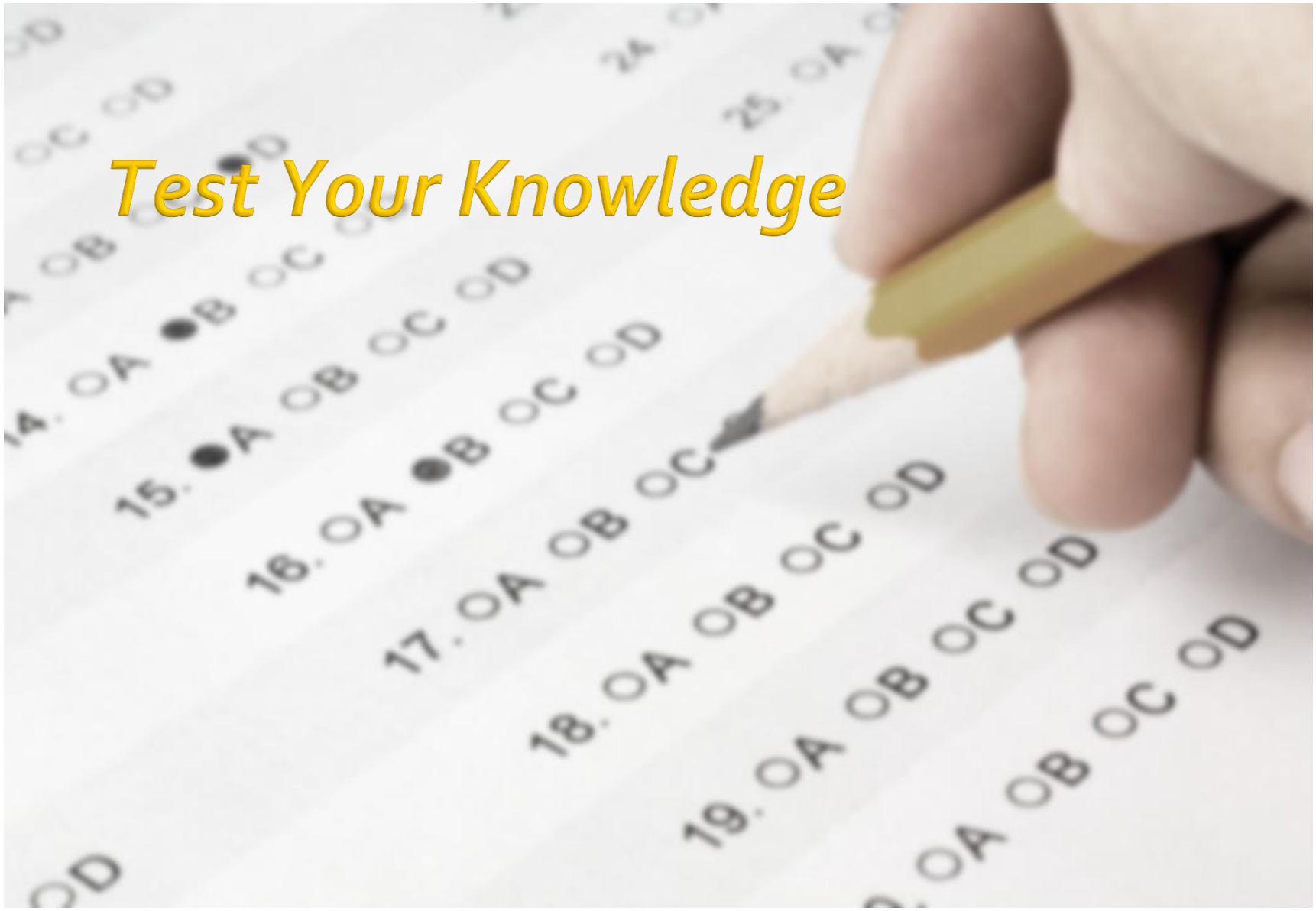
ii. Educate patients and assess readiness for treatment and support:
   i. Avoid infecting others
   ii. Avoid alcohol and drugs
   iii. Avoid hepatotoxins
   iv. Receive HAV and HBV vaccines

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Resources

- http://www.cdc.gov/hepatitis/Statistics/2012Surveillance/Table2.1.htm
- http://www.cdc.gov/hepatitis/Statistics/index.htm
- http://www.cdc.gov/aids2012/diseases/hepatitis/
- http://www.cdc.gov/hiv/pdf/library_factsheets_HIV_and_viral_Hepatitis.pdf
- http://www.cdc.gov/nchhstp/stateprofiles/pdf/District_of_Columbia_profile.pdf
- http://www.cdc.gov/nchhstp/stateprofiles/pdf/delaware_profile.pdf
- http://www.cdc.gov/nchhstp/stateprofiles/pdf/maryland_profile.pdf

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Test Your Knowledge

Test Your Knowledge
Question #3

In HBV Treatment a first line treatment options

may include Interferons:

A. True

B. False

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Test Your Knowledge
Question #4

Nucleoside/Nucleotide Analogues are used in the treatment of Chronic Hepatitis C:

A. True

B. False

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