

Hepatitis C: Treatment Strategies to Maximize Outcomes

Continuing Medical Education Accreditation

The University of Cincinnati designates this educational activity for a maximum of 2 Category 1 credits toward the AMA Physician's Recognition Award. Each physician should claim only those hours that he/she actually spends in the educational activity.

The University of Cincinnati is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor medical education for physicians.

Continuing Pharmacy Education Accreditation



Pharmacy Times/Ascend Media Office of Continuing Professional Education is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. This program is approved for 3 contact hours (0.3 CEU) under the ACPE Universal Program #290-999-07-021-H01-P.

Instructions

After reading "Hepatitis C: Treatment Strategies to Maximize Outcomes," complete the program evaluation and select the 1 best answer to each of the following questions. A statement of continuing education hours will be mailed to those who successfully complete (with a minimum score of 70%) the examination at the conclusion of the program.

- 1. In the United States, approximately what percent of people with hepatitis C virus (HCV) have genotype 1?**
 - a. 10
 - b. 30
 - c. 70
 - d. 65
- 2. The first test used in diagnosing HCV infection is:**
 - a. Enzyme immunoassay for genotype-specific HCV epitopes
 - b. Liver biopsy for cirrhosis
 - c. Enzyme-linked immunosorbent assay for HCV antibodies
 - d. Reverse transcription polymerase chain reaction for viremia levels
- 3. Liver biopsy is useful in patients with HCV infection for:**
 - a. Determining the stage of the disease
 - b. Guiding treatment decisions
 - c. Assessing the extent of liver injury prior to treatment
 - d. All of the above
- 4. Patients who are found to have cirrhosis should periodically be screened for:**
 - a. Hepatocellular carcinoma
 - b. Esophageal varices
 - c. Pancreatitis
 - d. Both a and b
- 5. Patients infected with HCV:**
 - a. Always present with distinct symptoms in the acute stage of the disease
 - b. Have usually had the disease for 20 to 30 years before cirrhosis develops
 - c. Will eventually require a liver transplant
 - d. All of the above

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6. Sustained viral response is defined as undetectable HCV RNA ___ months after therapy stops.
 - a. 3
 - b. 6
 - c. 9
 - d. 12
7. Among patients receiving treatment for chronic HCV infection, those failing to achieve the 12-week early virologic response should:
 - a. Continue therapy for a full 24 weeks
 - b. Continue therapy for a full 48 weeks
 - c. Discontinue therapy
 - d. Continue therapy indefinitely
8. Which of the following statements is false regarding the effects of natural interferons?
 - a. They induce an antiviral state
 - b. They secrete cytokines
 - c. They recruit immune cells
 - d. None of the above
9. Side effects of interferon therapy do not include:
 - a. Depression
 - b. Anemia
 - c. Insomnia
 - d. Influenzalike symptoms
10. The biggest problem with using combination treatment (peginterferon plus ribavirin) is:
 - a. It cannot be used for patients coinfecting with hepatitis B
 - b. It induces viral resistance
 - c. It can cause hemolytic anemia
 - d. It cannot be used for patients older than 65 years of age
 - e. It can cause euphoria
11. Which of the following statements about the specifically targeted antiviral therapy drugs for HCV known as protease inhibitors is false?
 - a. They cannot be used as monotherapy.
 - b. They can reduce viral load by 2.5 log in 14 days.
 - c. They require frequent dosing.
 - d. They target enzymes crucial to HCV replication.
 - e. They are taken orally.
12. Life expectancy for a middle-aged adult who has chronic HCV infection and mild hepatitis is estimated to be reduced by ___ years.
 - a. 3
 - b. 6
 - c. 9
 - d. 12
13. Extrahepatic complications associated with chronic HCV include:
 - a. Lichen planus
 - b. Keratoconjunctivitis sicca
 - c. Glomerulonephritis
 - d. a and b only
 - e. a, b, and c
14. Among patients with chronic HCV infection, fatigue occurs in approximately:
 - a. One quarter
 - b. Two thirds
 - c. One half
 - d. Three quarters
15. The economic burden imposed by HCV is similar to:
 - a. HIV
 - b. Asthma
 - c. Chronic obstructive pulmonary disease
 - d. All of the above
16. Advantages of referring HCV-diagnosed patients to HCV specialists rather than primary care physicians include:
 - a. Specialists generally are able to devote more time to the needs of HCV patients
 - b. Specialists may have greater knowledge and training related to the disease and its management
 - c. Many specialists have mid-level providers or nurses who can monitor treatment more cost-effectively than physicians
 - d. All of the above
 - e. None of the above
17. Significantly higher rates of sustained virologic response are reported in patients who receive at least ___% of their total peginterferon alfa and ribavirin doses for at least ___% of the duration of treatment.
 - a. 80 and 90, respectively
 - b. 90 and 80, respectively
 - c. 80 and 80, respectively
 - d. 90 and 90, respectively
18. Measures to promote patient adherence to prescribed treatments include all of the following EXCEPT:
 - a. Self-monitoring devices
 - b. Ongoing support by a multidisciplinary healthcare team
 - c. Increased dose of medication to manage adverse effects
 - d. Frequent clinic and/or telephone follow-up
19. One of the most prevalent reasons for discontinuing therapy reported in large clinical trials is:
 - a. Depression
 - b. Influenzalike symptoms
 - c. Fatigue
 - d. Bone marrow suppression
20. Screening of injectable drug users for HCV infection has been shown to be cost-effective when carried out in a(n):
 - a. HCV specialist's office
 - b. Sexually transmitted disease clinic
 - c. Substance abuse treatment facility
 - d. None of the above

For Physicians

(PLEASE PRINT CLEARLY)

Name/Degree _____

Street _____

City _____

State/ZIP _____

Daytime Phone _____

Fax _____

E-mail _____

Sponsored by the University of Cincinnati for 2 hours of Category 1 CME credit.

Release Date: **December 15, 2007**

Expiration Date: **December 31, 2008**

CME Test Form

Hepatitis C: Treatment Strategies to Maximize Outcomes

1.	a	b	c	d	
2.	a	b	c	d	
3.	a	b	c	d	
4.	a	b	c	d	
5.	a	b	c	d	
6.	a	b	c	d	
7.	a	b	c	d	
8.	a	b	c	d	
9.	a	b	c	d	
10.	a	b	c	d	e
11.	a	b	c	d	e
12.	a	b	c	d	
13.	a	b	c	d	e
14.	a	b	c	d	
15.	a	b	c	d	
16.	a	b	c	d	e
17.	a	b	c	d	
18.	a	b	c	d	
19.	a	b	c	d	
20.	a	b	c	d	

Answer Form Instructions: Testing and Grading Procedures

- Each participant achieving a passing grade of 70% or higher on any examination will receive an official computer form stating the number of CME credits earned. This form should be safeguarded and may be used as documentation of credits earned.
- Participants receiving a failing grade on any exam will be notified and permitted to take 1 reexamination at no cost.
- All answers should be recorded on the answer form.
- To receive credit certification electronically, please provide your e-mail address. Detach and mail or fax the test portion of this page to:
University of Cincinnati, Office of CME, PO Box 670556, Cincinnati, OH 45267-0567; phone: 513-558-7277; fax: 513-558-1708.
Please print clearly to ensure receipt of CME credit.
- To receive credit and an immediate certificate, register at http://webcentral.uc.edu/cpd_online2/ and complete the test or reader survey. If you have previously registered, enter your user name and password to log in. Otherwise, click **New User? Register!** and complete the registration process (user ID and password will be e-mailed to you immediately). Once you log in, click **CME Text** and scroll down through the course listings to locate this supplement.

CME Activity Evaluation

How long did it take you to complete this activity?

_____ minutes

How well did this activity achieve its educational objectives?

Very well Well Somewhat Not at all

What overall grade would you assign this activity?

A B C D

Did this activity exhibit promotional bias for any pharmaceutical agents?

Yes No

Will you make changes in your practice as a result of information presented in this lesson?

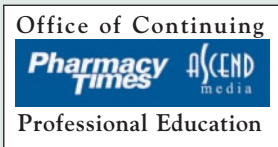
Yes No

For Pharmacists

**Answer Card Instructions:
Testing and Grading Procedures**

1. Each participant achieving a passing grade of 70% or higher on any examination will receive an official computer form stating the number of CE credits earned. This form should be safeguarded and may be used as documentation of credits earned.
2. Participants receiving a failing grade on any exam will be notified and permitted to take 1 reexamination at no cost.
3. All answers should be recorded on the answer form. Please print clearly to ensure receipt of CE credit.
4. To receive credit certification electronically, please provide your e-mail address. Detach and mail completed exam form to: *Pharmacy Times*, 405 Glenn Drive, Suite 4, Sterling, VA 20164-4432; or fax to 703-404-1801.
5. Take the test online for **FREE** at **www.pharmacytimes.com** and receive immediate grading and CE credits, and download your CE statement of credit.

Please photocopy the test form for additional test takers.



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ANSWER CARD Please circle your answers:

- | | | | | | |
|-----|---|---|---|---|---|
| 1. | a | b | c | d | |
| 2. | a | b | c | d | |
| 3. | a | b | c | d | |
| 4. | a | b | c | d | |
| 5. | a | b | c | d | |
| 6. | a | b | c | d | |
| 7. | a | b | c | d | |
| 8. | a | b | c | d | |
| 9. | a | b | c | d | |
| 10. | a | b | c | d | e |
| 11. | a | b | c | d | e |
| 12. | a | b | c | d | |
| 13. | a | b | c | d | e |
| 14. | a | b | c | d | |
| 15. | a | b | c | d | |
| 16. | a | b | c | d | e |
| 17. | a | b | c | d | |
| 18. | a | b | c | d | |
| 19. | a | b | c | d | |
| 20. | a | b | c | d | |

Answer Card and Evaluation Form

Hepatitis C: Treatment Strategies to Maximize Outcomes

(PLEASE PRINT CLEARLY)

Name/Degree _____

Street _____

City _____

State/ZIP _____

Daytime Phone _____

Fax _____

E-mail _____

SSN _____ - _____ - _____

Expiration Date: December 31, 2008

Program Evaluation

Please mark your level of agreement with the following statements.

(4 = Strongly Agree; 0 = Strongly Disagree)

- | | | | | | |
|--|----------|----------|----------|----------|----------|
| 1) Met its stated objectives | 4 | 3 | 2 | 1 | 0 |
| A) Describe effective, individualized treatment strategies for patients with chronic hepatitis C virus (HCV). | 4 | 3 | 2 | 1 | 0 |
| B) Explain the latest developments in treatment of HCV. | 4 | 3 | 2 | 1 | 0 |
| C) Discuss treatment-related side effects and toxicities related to approved HCV management regimens, including depression and anemia. | 4 | 3 | 2 | 1 | 0 |
| D) Identify strategies to promote adherence to anti-HCV therapy by managing side effects and by providing appropriate support. | 4 | 3 | 2 | 1 | 0 |
| E) Discuss the medical and economic impact hepatitis C has on managed care resources. | 4 | 3 | 2 | 1 | 0 |
| 2) Was well organized | 4 | 3 | 2 | 1 | 0 |
| 3) Contributed to my knowledge | 4 | 3 | 2 | 1 | 0 |
| 4) Presented current and relevant information | 4 | 3 | 2 | 1 | 0 |
| 5) Presented information in a fairly balanced and noncommercial manner | 4 | 3 | 2 | 1 | 0 |
| 6) Offered information useful in my professional practice | 4 | 3 | 2 | 1 | 0 |
| 7) Provided new insights into contemporary pharmacy practice | 4 | 3 | 2 | 1 | 0 |