



## FETAL LUNG MATURITY TESTING: WHAT LABS NEED TO KNOW NOW

PLUS IMPROVING DIAGNOSIS AND CLINICAL MANAGEMENT OF PRE-ECLAMPSIA

MLO and Northern Illinois University (NIU), DeKalb, IL, are co-sponsors in offering continuing education units (CEUs) for this issue's article on **FETAL LUNG MATURITY TESTING: WHAT LABS NEED TO KNOW NOW**, and **IMPROVING DIAGNOSIS AND CLINICAL MANAGEMENT OF PRE-ECLAMPSIA**. CEUs or contact hours are granted by the College of Health and Human Sciences at NIU, which has been approved as a provider of continuing education programs in the clinical laboratory sciences by the ASCLS P.A.C.E.<sup>®</sup> program (Provider No. 0001) and by the American Medical Technologists Institute for Education (Provider No. 121019; Registry No. 0061). Approval as a provider of continuing education programs has been granted by the state of Florida (Provider No. JP0000496). Continuing education credits awarded for successful completion of this test are acceptable for the ASCP Board of Registry Continuing Competence Recognition Program. After reading the articles in the cover story section, answer the following test questions and send your completed test form to NIU along with the nominal fee of \$20. Readers who pass the test successfully (scoring 70% or higher) will receive a certificate for 1 contact hour of P.A.C.E.<sup>®</sup> credit. Participants should allow four to six weeks for receipt of certificates.

**The fee for this continuing education test is \$20.**

**This CE test covers all articles in the cover story section.** The Cover Story and Clinical Issues published in this month's MLO are peer-reviewed.

CE learning objectives and CE questions prepared by Jeanne M. Isabel, MSED, MLS, SH<sup>CM</sup>, Program Director and Associate Professor, School of Allied Health and Communicative Disorders, Northern Illinois University, DeKalb, IL.

### CE QUESTIONS

- 1. Respiratory Distress Syndrome in newborns is caused by**
  - a. high bilirubin levels.
  - b. ABO incompatibility.
  - c. deficiency of pulmonary surfactant.
  - d. increased fetal maternal bleed.
- 2. Alveoli of the lung collapse when pulmonary surfactant concentrations are**
  - a. too high.
  - b. too low.
  - c. normal
  - d. none of the above
- 3. The incidence of RDS decreases with increasing gestational age.**
  - a. True
  - b. False
- 4. One of the most popular tests for measurement of fetal lung maturity until 2011 was**
  - a. lamellar body count (LBC).
  - b. lecithin to Sphingomyelin (L/S) ratio.
  - c. phosphatidylglycerol (PG)
  - d. surfactant to albumin (S/A) ratio.
- 5. Detection of Phosphatidylglycerol (PG) can be done by**
  - a. immunoagglutination.
  - b. chromatography.
  - c. cell counting.
  - d. hemagglutination.
- 6. The lamellar body count (LBC) is performed using**
  - a. immunoagglutination.
  - b. chromatography.
  - c. automated cell counting.
  - d. hemagglutination.
- 7. The Clinical and Laboratory Standards Institute (CLSI) provides documents to serve as guidelines for assessment of a variety of analytes.**
  - a. True
  - b. False
- 8. The number of newborn deaths due to RDS has declined over the past 15 years due to**
  - a. improved gestational age dating.
  - b. exogenous surfactant replacement therapy.
  - c. maternal administration of corticosteroids.
  - d. all of the above.
- 9. The first appearance of surfactant occurs during which stage of fetal lung development?**
  - a. first stage
  - b. second stage
  - c. third stage
  - d. fourth stage
- 10. Surfactant keeps lung alveoli from collapsing by**
  - a. coating alveolar epithelium
  - b. decreasing air pressure needed.
  - c. decreasing surface tension
  - d. all of the above
- 11. Lamellar bodies are layered storage granules secreted by type I pneumocytes.**
  - a. True
  - b. False
- 12. The clinical presentation of RDS includes which of the following?**
  - a. hypoxia
  - b. alkalosis
  - c. hypocapnia
  - d. jaundice

13. Which is an example of a maternal serum screening test?

- a. alpha-fetoprotein
- b. anhibin A
- c. hCG
- d. all of the above

14. Maternal serum screening tests are most useful for indicating risk of neural tube defects and trisomy 21.

- a. True
- b. False

15. The CLSI document (I/LA35-A) describes guidelines for newborn screening for cystic fibrosis focusing on which type of testing?

- a. sweat chloride testing
- b. spectroscopy
- c. detection of CFTR mutations
- d. none of the above

16. The traditional markers for pre-eclampsia include

- a. hypertension and proteinuria.
- b. hypotension and glucosuria.
- c. hypertension and glucosuria
- d. hypotension and proteinuria

17. A key contributor to pre-eclampsia is poor placental development.

- a. True
- b. False

18. An explanation of the cause for the features of eclampsia can be related to maternal

- a. endothelial dysfunction.
- b. blood type.
- c. liver function.
- d. age.

19. A blood test was developed by the Alere Triage system to measure

- a. placental growth factor.
- b. vascular endothelial growth factor.
- c. receptor Flt-1.
- d. protein.

20. In pre-eclampsia, the rise and fall of PIGF levels is considerably higher through the pregnancy.

- a. True
- b. False

## TEST ANSWER FORM

### CE Test on FETAL LUNG MATURITY TESTING: WHAT LABS NEED TO KNOW NOW

PLUS Improving diagnosis and clinical management of pre-eclampsia

February 2012

(This form may be photocopied; it is no longer valid for CEUs after August 31, 2013.)

Circles must be filled in, or test will not be graded.  
Shade circles like this: ● Not like this: ⊗

P=Poor; E=Excellent

1. To what extent did the article focus on or clarify the objectives?

P ① ② ③ ④ ⑤ E

2. To what extent was the article well-organized and readable?

P ① ② ③ ④ ⑤ E

3. How will you use the CE units?

- state license
- recertification
- employment
- other

A B C D

- 1. ○ ○ ○ ○
- 2. ○ ○ ○ ○
- 3. ○ ○ ○ ○
- 4. ○ ○ ○ ○
- 5. ○ ○ ○ ○
- 6. ○ ○ ○ ○
- 7. ○ ○ ○ ○
- 8. ○ ○ ○ ○
- 9. ○ ○ ○ ○
- 10. ○ ○ ○ ○
- 11. ○ ○ ○ ○
- 12. ○ ○ ○ ○
- 13. ○ ○ ○ ○
- 14. ○ ○ ○ ○
- 15. ○ ○ ○ ○
- 16. ○ ○ ○ ○
- 17. ○ ○ ○ ○
- 18. ○ ○ ○ ○
- 19. ○ ○ ○ ○
- 20. ○ ○ ○ ○

In order to receive CE licensure credits for Florida, your license number is required. Please provide your Florida license number in the space below:

FL Lic. No. \_\_\_\_\_

**FEE FOR THIS CE TEST IS \$20.**

Make check payable to:  
Northern Illinois University  
Fee not refundable or transferable.

Send your check with this form to:  
University Outreach Services  
Northern Illinois University  
DeKalb, IL 60115-2860  
Telephone: 815-753-0031

**PRINT CLEARLY**

NAME \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_

HOME  WORK

CITY \_\_\_\_\_

STATE \_\_\_\_\_

ZIP \_\_\_\_\_

INSTITUTION/FACILITY \_\_\_\_\_

WORK PHONE \_\_\_\_\_

E-MAIL ADDRESS \_\_\_\_\_

MLO's Continuing Education Test is online also.  
Both the CE test and a convenient payment feature are available through the auspices of Northern Illinois University.  
Go to [www.mlo-online.com/CE.aspx](http://www.mlo-online.com/CE.aspx) to print or to send electronically with payment.