

## CME QUESTIONS

**This issue of *TraumaCare* can be used to earn 10 CME credit hours.**

### Accreditation Statement

This activity has been planned and produced in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the sponsorship of the International Trauma Anesthesia and Critical Care Society (ITACCS). ITACCS is accredited by the ACCME to sponsor continuing medical education (CME) for physicians and takes responsibility for the content, quality, and scientific integrity of this CME activity.

**Credit Designation Statement:** ITACCS designates this educational activity for a maximum of 10 hours per issue in category 1 credit toward the AMA Physician's Recognition Award.

**Nurse Anesthetists/CRNAs:** Please apply to AANA for post-activity continuing education credits. Certificates of completion will be provided.

### Faculty Disclosure Statement

It is the policy of ITACCS that faculty members disclose real or apparent conflict of interest relating to the topics of this educational activity and also disclose discussions of unlabeled/unapproved uses of drugs or devices in their presentations. The authors' completed disclosure forms are on file in the managing editor's office.

### INSTRUCTIONS

- The answer grid and evaluation form may be submitted as the page from the printed journal or as a printout from the ITACCS website.
- On the answer form at the bottom of page 179, circle only one response next to each number.
- Complete the evaluation form.
- Cut out or copy your completed answer form and evaluation form.
- Write a check for \$200 (or \$100 accompanied by verification of current ITACCS membership), payable to the International Trauma Anesthesia and Critical Care Society.
- Mail the forms and your check (and membership verification, if applicable) to ITACCS, Department of CME Credit, PO Box 4826, Baltimore, MD 21211.
- The completed test will be accepted for grading if received by September 30, 2006.
- Please allow 4 to 6 weeks for processing.

### CME QUESTIONS

1. Intraoperative cell salvage has generally been avoided by many practitioners in obstetrical and oncologic surgery chiefly because of:
  - a. Concern about the skill level involved for clinical personnel who are retrieving blood.
  - b. Concern about the cost of equipment.
  - c. Concern about introducing foreign materials (e.g., amniotic fluid, fetal or cancer cells) into the circulation.
  - d. Concern about obtaining enough usable blood to defray the cost of retrieval.
2. Autologous preoperative blood donation:
  - a. Eliminates the risks of mistransfusion
  - b. Completely eliminates the risk of TRALI
  - c. Is convenient and inexpensive
  - d. May result in anemia prior to surgery
  - e. May improve the effectiveness of intraoperative cell salvage
3. Transfusion of stored red blood cells may cause any of the following except:
  - a. Coagulopathy
  - b. Fluid overload
  - c. Hypercalcemia
  - d. Hyperkalemia
4. A hemoglobin level of 10 g/dL (~30% hematocrit), the "10/30 rule," was once the accepted threshold for administration of a red blood cell transfusion. Today, expert consensus views this rule to be:
  - a. appropriate in most cases.
  - b. too conservative.
  - c. too liberal.
  - d. outdated.
  - e. never appropriate.
5. Studies of therapy with erythropoietic agents have shown that:
  - a. in patients with cardiovascular disease, benefit from this therapy is derived when used in conjunction with iron supplementation
  - b. iron supplementation is not necessary when erythropoietic therapy is initiated
  - c. these agents decrease the need for allogeneic blood transfusions in anemic patients about to undergo elective, noncardiac, nonvascular surgery
  - d. a and c are correct
  - e. all are correct
6. To maximize the opportunity to achieve success with a bloodless surgery program, each of the following strategies may be useful except:
  - a. optimize the patient preoperatively.
  - b. maximize hematopoiesis.
  - c. minimize blood loss.
  - d. administer crystalloid fluids preoperatively.
  - e. maximize oxygen delivery.
7. In vivo clotting is initiated by blood exposure to:
  - a. Tissue factor
  - b. Factor XII
  - c. Kallikrein
  - d. Factor X
  - e. von Willebrand factor
8. In disseminated intravascular coagulation, fibrinolysis is:
  - a. overactive and a major contributor to bleeding.
  - b. not an important factor.
  - c. only a problem after cardiopulmonary bypass surgery.
  - d. inhibited by excess production of plasminogen activator inhibitor-1, creating a relative fibrinolytic shutdown and increasing morbidity.
  - e. controlled by use of aprotinin.
9. An appropriate wash solution for cell salvage would be:
  - a. glycine solution.
  - b. normal saline solution.
  - c. sterile water.
  - d. D5W
10. Allogeneic transfusion can result in all of the following except:
  - a. transfusion-related acute lung injury.
  - b. immunosuppression.
  - c. enhanced tissue oxygenation.
  - d. bacterial disease transmission.
11. Which of the following statements regarding blood transfusion is NOT correct?
  - a. Transfusion of aged blood (>14 days of storage time) may be associated with postinjury multiple organ failure.
  - b. Survival rates of 40% to 60% have been reported in patients receiving massive transfusion.
  - c. Fractionation of blood has improved storage and management of blood products.
  - d. After 50 units of blood transfusion, survival is dismal and further transfusion should be withheld.

- 12. Which of the following statements regarding transfusion-related acute lung injury (TRALI) are correct?
  - a. TRALI is a syndrome that consists of dyspnea, hypotension, bilateral pulmonary edema, and fever.
  - b. TRALI clinically resembles adult respiratory distress syndrome.
  - c. TRALI is thought to be due to immune complexes present in stored blood being deposited in the pulmonary vascular bed, leading to the release of vasoactive substances, complement activation, leukostasis, and activation of neutrophils.
  - d. When present, further transfusion must be avoided at all costs.
  - e. a - c
  - f. all of the above
- 13. We know that 10 g/dL is the correct transfusion trigger for patients with known coronary artery disease because:
  - a. a major database study found that patients with evolving myocardial infarction who had less than 30% hematocrit benefited from transfusion.
  - (b - d continues on next column)
- b. 10 g/dL is where tissue oxygen delivery is the best.
- c. small prospective studies find a better outcome for these patients.
- d. we don't know this to be true, and a lot of research is both conflicting and needs to be done.
- 14. Jehovah's Witness patients die without blood transfusion far more frequently than the general public.
  - a. True
  - b. False
- 15. What is/are the noninfectious risk/s of allogeneic transfusion?
  - a. Transfusion reaction—mismatched unit
  - b. TRALI
  - c. Volume overload
  - d. All of above
- 16. The age of allogeneic blood has clinical implications.
  - a. True
  - b. False
- 17. Which of the following statements regarding venous thrombosis prophylaxis is true?
  - a. Venous thrombosis can be prevented with mechanical prophylaxis.
  - b. Venous thrombosis is common in patients with lower-limb fractures.
  - c. Venous thrombosis cannot always be prevented with drug prophylaxis.
  - d. When venous thrombosis is detected, it should be treated with an inferior vena cava filter.
- 18. During a normal pregnancy, the systolic and diastolic blood pressures both fall by 10 to 15 mm Hg.
  - a. True
  - b. False
- 19. Cardiac drugs such as captopril and diltiazem hydrochloride may cause profound hypotension.
  - a. True
  - b. False
- 20. Which of the following reduces intracranial pressure after brain injury?
  - a. Hypocarbica
  - b. Hypothermia
  - c. Hypotension
  - d. Methylprednisolone
  - e. Mannitol

**Evaluation Form: Please rate this self-study activity by marking one response for each statement.**

Did the articles meet their stated objectives?  Yes  No

How do you rank the quality of this educational activity?  5 (high)  4  3  2  1 (low)

Comments: \_\_\_\_\_

Did you perceive any evidence of bias for or against any commercial products?  Yes  No If yes, please explain.

Comments: \_\_\_\_\_

How do you rank the effectiveness of this activity as it pertains to your practice?  5 (high)  4  3  2  1 (low)

Did this material stimulate your intellectual curiosity?  5 (high)  4  3  2  1 (low)

Additional comments about this activity:  
 \_\_\_\_\_  
 \_\_\_\_\_

**Answer Form: Please circle the one best answer for each question.**

*TraumaCare Summer 2005 issue*

Name: _____
Address: _____ _____
City: _____
State: _____ Zip: _____ Phone: _____

I certify that I have completed the "TraumaCare/Summer 2005" activity as designed and claim 10 credit hours in Category 1 of the Physicians Recognition Award of the American Medical Association.

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Mail answer form and check (\$100, members; \$200, nonmembers) to ITACCS Department of CME Credit, P.O. Box 4826, Baltimore, MD 21211. Allow 4 to 6 weeks for processing.**

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

# Bringing Simulation to Life



## Laerdal SimMan™

There is a growing awareness that health care is behind other high risk operations in its attention to ensuring basic safety and that there is a need to grasp the scale of the problem <sup>(1,2)</sup>.

Use of patient simulation is considered an important part of the solution as many scenarios can be presented including uncommon but critical situations where a rapid response is needed. Errors can be allowed to occur and reach their conclusion without any risk to a patient. Team member interactions and leadership can also be explored and developed.

Two new manikin-based simulators from Laerdal, SimMan™ and AirMan™, represent a new generation of affordable and portable solutions to meet these needs.

#### References:

- 1) BMJ Volume 320, 18 March 2000
- 2) To Err Is Human: Building a Safer Health System/Linda T. Kohn, Janet M. Corrigan, and Molla S. Donaldson, Editors, © 2000 by the National Academy of Sciences.

**For more information, request a free CD-demo or visit [www.laerdal.com/simman](http://www.laerdal.com/simman)**

LAERDAL MEDICAL AS, P.O. Box 377, N-4002 Stavanger, Norway  
Tel. 47-51 51 17 00, Fax 47-51 52 35 57, E-mail [laerdalnorway@laerdal.no](mailto:laerdalnorway@laerdal.no)



**Laerdal**

helping save lives