



You are required to complete ALL the information on the *AANA Journal* Course Examination and Evaluation forms in order for your examination to be processed and for you to receive continuing education credits. The information is required to meet the criteria of the American Nurses Credentialing Center.

AANA JOURNAL COURSE NO. 20 EXAMINATION INFORMATION UPDATE FOR NURSE ANESTHETISTS

With this issue, the *AANA Journal's* 20th course has been completed.

The course consisted of a 6-part series, beginning with the April 2000 issue and concluding in the February 2001 issue. The series was published as follows:

- **Part 1 (April 2000)** – Transient neurologic symptoms and spinal anesthesia
- **Part 2 (June 2000)** – Refrigerated anesthesia-related medications
- **Part 3 (August 2000)** – Low molecular weight heparin: Pharmacology and regional anesthetic implications
- **Part 4 (October 2000)** – The ruddy globule: The erythrocyte—Its biology, chemistry, and functional variations
- **Part 5 (December 2000)** – Intraoperative fluid management in the pediatric surgical patient
- **Part 6 (February 2001)** – Full-body patient simulation technology: Gaining experience using a malignant hyperthermia model

Each article included objectives for the reader and sources for reference and study.

The examination printed in this issue incorporates material from all 6 articles. The examination consists of 60 multiple choice questions, 10 questions from each article. The examination is clearly marked as to which questions refer to which article. Remember, as you are taking the examination, you are free to refer to the original articles. Note also that there is but one correct answer to be marked for each question.

About your Continuing Education Credit . . .

To ensure that a certain level of knowledge has been attained, a minimum of 80% correct answers (48 out of 60) must be achieved. A total of 6 hours of Continuing Education (CE) credit will be awarded for the successful completion of the examination; partial continuing education will not be awarded.

Only those passing the examination will be notified by mail of the successful completion of the course. (The time of this mailing will be dependent on the volume of response; however, notification will be effected prior to the close of the CE year—July 31, 2001.) AANA members will automatically have their 6 CE credits recorded for them. Individuals with record-keeping contracts through the AANA also will have the credits recorded for them.

The correct answers to the examination will appear in the August 2000 issue of the *AANA Journal*. By keeping a copy of your answers, you will automatically be able to see how you scored.

How to fill out the answer sheet and evaluation form

It is recommended that you first mark your answers on the examination itself (so that you have your own record). Then, transfer your answers in pencil to the answer sheet, which appears on the adjacent page. Be sure to include your name, address, and AANA identification number. You are required to fill out an evaluation of the course, which includes the time required for reading and comprehension of each part. The evaluation is printed on the reverse side of the answer sheet. (Non-AANA members should include a \$30 processing fee—payable to the *AANA Journal* Course—along with their examination answer sheet and evaluation form.)

Important deadline . . .

The examination answers must be postmarked by July 31, 2001. Adequate time must be allowed for the examination to be processed to ensure that all CE credits are recorded prior to the end of the CE year. Mail your answer sheet to:

American Association of Nurse Anesthetists
222 S. Prospect Ave.
Park Ridge, IL 60068-4001
Attn: *AANA Journal* Course

Much success . . .

We hope that you have found this 20th *AANA Journal* course to be of value. We wish you well in its successful completion.

AANA JOURNAL COURSE No. 20 EXAMINATION UPDATE FOR NURSE ANESTHETISTS

(Issued April 2001)

PLEASE PRINT.

NAME:

(LAST)

(FIRST)

(MIDDLE)

ADDRESS:

(STREET)

(CITY)

(STATE)

(ZIP CODE)

AANA MEMBERSHIP ID NUMBER:

To ensure that your examination will be processed, you must complete every section of the evaluation and mail it with this examination answer sheet to: American Association of Nurse Anesthetists, 222 S. Prospect Ave., Park Ridge, IL 60068-4001. Attn: AANA Journal Course

^m If you are not an AANA member, check here. Be sure to enclose your \$30 processing fee payable to AANA.

Please circle one response for each question.

For example, 36. 1 2 **3** 4 would indicate that the third alternative was chosen in response to question 36.

Please erase completely any changed responses.

	Circle one response (1-4) for each question				Chapter objective reference		Circle one response (1-4) for each question				Chapter objective reference
1.	1	2	3	4	1.1	31.	1	2	3	4	4.1
2.	1	2	3	4	1.1	32.	1	2	3	4	4.1
3.	1	2	3	4	1.2	33.	1	2	3	4	4.2
4.	1	2	3	4	1.2	34.	1	2	3	4	4.5
5.	1	2	3	4	1.3	35.	1	2	3	4	4.5
6.	1	2	3	4	1.3	36.	1	2	3	4	4.3
7.	1	2	3	4	1.4	37.	1	2	3	4	4.4
8.	1	2	3	4	1.4	38.	1	2	3	4	4.5
9.	1	2	3	4	1.5	39.	1	2	3	4	4.5
10.	1	2	3	4	1.5	40.	1	2	3	4	4.2
11.	1	2	3	4	2.1	41.	1	2	3	4	5.1
12.	1	2	3	4	2.1	42.	1	2	3	4	5.2
13.	1	2	3	4	2.1	43.	1	2	3	4	5.3
14.	1	2	3	4	2.2	44.	1	2	3	4	5.4
15.	1	2	3	4	2.2	45.	1	2	3	4	5.4
16.	1	2	3	4	2.3	46.	1	2	3	4	5.4
17.	1	2	3	4	2.4	47.	1	2	3	4	5.4
18.	1	2	3	4	2.4	48.	1	2	3	4	5.4
19.	1	2	3	4	2.4	49.	1	2	3	4	5.5
20.	1	2	3	4	2.5	50.	1	2	3	4	5.1
21.	1	2	3	4	3.1	51.	1	2	3	4	6.1
22.	1	2	3	4	3.1	52.	1	2	3	4	6.1
23.	1	2	3	4	3.1	53.	1	2	3	4	6.1
24.	1	2	3	4	3.3	54.	1	2	3	4	6.5
25.	1	2	3	4	3.3	55.	1	2	3	4	6.5
26.	1	2	3	4	3.4	56.	1	2	3	4	6.3
27.	1	2	3	4	3.4	57.	1	2	3	4	6.2
28.	1	2	3	4	3.4	58.	1	2	3	4	6.4
29.	1	2	3	4	3.5	59.	1	2	3	4	6.4
30.	1	2	3	4	3.5	60.	1	2	3	4	6.5

AANA Code No.: 22789; Expiration date: July 31, 2001

Time required to complete this answer sheet: _____ minutes



For your examination to be processed, you must complete every section in this evaluation including time required for reading and comprehension and mail it with the examination to the AANA.

AANA JOURNAL COURSE – No. 20–2001 EVALUATION FORM

Please evaluate the *AANA Journal* Course in each of the categories listed below. Circle the number that corresponds with the rating scale for the overall course evaluation, as well as for each part.

1 = Poor 2 = Fair 3 = Average 4 = Very Good 5 = Excellent

Overall Course Evaluation

A. Content (Parts 1-6)

1. Relates to objectives and overall purpose/goals.....1 2 3 4 5

2. Based on current professional information1 2 3 4 5

3. Level appropriate for identified intended audience.....1 2 3 4 5

4. Corresponds with learner objectives identified at beginning of each part1 2 3 4 5

B. Teaching Methods (Parts 1-6)

1. Self-test questions facilitated the learning process1 2 3 4 5

C. Relevancy to Practice (Parts 1-6)

1. Information presented can be applied to my practice1 2 3 4 5

2. Information provided is helpful in achieving my professional goals1 2 3 4 5

D. Faculty/Objectives for each part of this course

Part 1: Transient neurologic symptoms and spinal anesthesia

CAPT ANNE C. SIME, CRNA, MS, USAF, NC

1. Content related to objectives1 2 3 4 5
2. Content organized and easy to follow1 2 3 4 5
3. Content relevant and current1 2 3 4 5

OBJECTIVES	Objectives				
	Not met	1	2	3	4 5
1.1 Differentiate between the signs and symptoms of cauda equina syndrome and transient neurologic syndrome.....	1	2	3	4	5
1.2 Identify factors that have or have not been found to contribute to the occurrence of transient neurologic syndrome.....	1	2	3	4	5
1.3 Describe the occurrence of transient neurologic syndrome associated with various local anesthetics.....	1	2	3	4	5
1.4 Describe the characteristics of a narcotic intrathecal anesthetic.....	1	2	3	4	5
1.5 Identify alternatives to lidocaine for short spinal anesthetics.....	1	2	3	4	5

Time required for reading and comprehension of Part 1 of Journal course text: _____ minutes

continued next page

Part 2: Refrigerated anesthesia-related medications

BILL LEWIS, CRNA, PHARMD

- 1. Content related to objectives1 2 3 4 5
- 2. Content organized and easy to follow1 2 3 4 5
- 3. Content relevant and current1 2 3 4 5

OBJECTIVES	Objectives				
	Not met			Met	
2.1 Describe the needed conditions for a medication's expiration date to remain valid.	1	2	3	4	5
2.2 Name the commonly used muscle relaxant that expires much sooner than its expiration date when warmed to room temperature and another that no longer requires refrigeration.	1	2	3	4	5
2.3 Discuss the reason why medication refrigerators must be connected to emergency power.	1	2	3	4	5
2.4 Discuss the detrimental effects of refrigeration on medications that are not designed to be refrigerated.	1	2	3	4	5
2.5 Describe actions for anesthesia providers to prevent use of medications requiring refrigeration but not under their control in areas other than the operating room that may have been at room temperature for weeks or months.	1	2	3	4	5

Time required for reading and comprehension of Part 2 of Journal course text: _____ minutes

Part 3: Low molecular weight heparin: Pharmacology and regional anesthetic implications

BARBARA CROSBY THAMES, CRNA, MA
DONALD O. ALLEN, PHD

- 1. Content related to objectives1 2 3 4 5
- 2. Content organized and easy to follow1 2 3 4 5
- 3. Content relevant and current1 2 3 4 5

OBJECTIVES	Objectives				
	Not met			Met	
3.1 Contrast the pharmacokinetics and pharmacodynamics of low molecular weight heparin with those for standard unfractionated heparin.	1	2	3	4	5
3.2 Delineate the incidence of spinal and epidural hematoma and the risks for patients treated with low molecular weight heparin.	1	2	3	4	5
3.3 Define the risk factors for development of spinal or epidural hematoma.	1	2	3	4	5
3.4 Recognize the signs and symptoms, treatment recommendations, and the differential diagnosis of spinal and epidural hematoma.	1	2	3	4	5
3.5 Outline the regional anesthetic considerations for patients receiving low molecular weight heparin.	1	2	3	4	5

Time required for reading and comprehension of Part 3 of Journal course text: _____ minutes

Part 4: The ruddy globule: The erythrocyte—Its biology, chemistry, and functional variations

LAURA LAHAYE
CHUCK BIDDLE, CRNA, PHD

- 1. Content related to objectives1 2 3 4 5
- 2. Content organized and easy to follow1 2 3 4 5
- 3. Content relevant and current1 2 3 4 5

OBJECTIVES	Objectives				
	Not met	Met			
4.1 Indicate the normal constituents of the red blood cell.	1	2	3	4	5
4.2 List the functional characteristics of hemoglobin.	1	2	3	4	5
4.3 Describe factors that alter the affinity of the oxygen-hemoglobin relationship.	1	2	3	4	5
4.4 Evaluate hemoglobin's role in acid-base balance.....	1	2	3	4	5
4.5 Describe the normal hemoglobin variants based on the age of the person.....	1	2	3	4	5

Time required for reading and comprehension of Part 4 of Journal course text: _____ minutes

Part 5: Intraoperative fluid management in the pediatric surgical patient

THERESA LONG CULPEPPER, CRNA, PhD

1. Content related to objectives1 2 3 4 5
2. Content organized and easy to follow1 2 3 4 5
3. Content relevant and current1 2 3 4 5

OBJECTIVES	Objectives				
	Not met	Met			
5.1 Discuss the developmental changes in the extracellular fluid compartment of the pediatric patient.	1	2	3	4	5
5.2 Determine at what age the renal function of the infant is completely mature.	1	2	3	4	5
5.3 Recall the amount of clear fluid per kilogram of body weight that can be administered preoperatively and maintain an acceptable level of risk for aspiration.....	1	2	3	4	5
5.4 Calculate the following fluid management parameters: hourly fluid requirement, estimated fluid deficit, fluid replacement plan, third-space loss, estimated blood volume, and allowable blood loss.....	1	2	3	4	5
5.5 Formulate a blood replacement plan based on 1 of 4 formulas.	1	2	3	4	5

Time required for reading and comprehension of Part 5 of Journal course text: _____ minutes

Part 6: Full-body patient simulation technology: Gaining experience using a malignant hyperthermia model

MELISSA A. HOTCHKISS, CRNA, MSNA

SHARLENE N. MENDOZA, RN, MSNA

1. Content related to objectives1 2 3 4 5
2. Content organized and easy to follow1 2 3 4 5
3. Content relevant and current1 2 3 4 5

OBJECTIVES	Objectives				
	Not met	Met			
6.1 Identify the various types and components of simulators available for education and training of healthcare professionals.	1	2	3	4	5
6.2 Discuss the rationale for using simulation of clinical events.	1	2	3	4	5
6.3 Describe the basic design of simulation centers and standard equipment used in these facilities.....	1	2	3	4	5
6.4 Describe the similarities and differences among contemporary anesthesia simulator models.	1	2	3	4	5
6.5 List the advantages and disadvantages of full-body patient simulation over traditional approaches to gaining clinical knowledge and experience.	1	2	3	4	5

Time required for reading and comprehension of Part 6 of Journal course text: _____ minutes



AANA JOURNAL COURSE No. 20 EXAMINATION UPDATE FOR NURSE ANESTHETISTS

Please circle *one* response for each question.

After you have marked your answers on this examination, transfer them to the answer sheet provided.

Mail your answer sheet and evaluation form to:
 American Association of Nurse Anesthetists
 222 S. Prospect Ave.
 Park Ridge, IL 60068-4001
 Attn: AANA Journal Course

The examination and evaluation must be postmarked by July 31, 2001.

Transient neurologic symptoms and spinal anesthesia

1. Which of the following symptoms define cauda equina syndrome?
 1. transient leg pain
 2. permanent perineal loss of sensation and/or bladder and bowel dysfunction
 3. permanent back pain
 4. postural headache
2. Symptoms characteristic of transient neurologic syndrome include:
 1. abnormal reflexes
 2. perineal sensory loss
 3. dizziness and blurred vision
 4. temporary back pain; weakness and numbness in buttocks/legs
3. What common nondrug factor contributes to the occurrence of transient neurologic syndrome:
 1. obesity
 2. female of childbearing age
 3. type of spinal needle used
 4. lithotomy position during surgery
4. Select the true statement regarding transient neurologic syndrome:
 1. microcatheters play a definite role
 2. outpatients have a lower incidence compared to inpatients
 3. there is an increased incidence with small spinal needle size
 4. clonidine and isobaric lidocaine are neurotoxic
5. The incidence of transient neurologic syndrome after lidocaine spinal anesthesia has been found experimentally to be as high as:
 1. 1%
 2. 1.6%
 3. 3%
 4. 40%
6. Which of the following local anesthetics is associated with the highest incidence of transient neurologic syndrome?
 1. bupivacaine
 2. mepivacaine
 3. procaine
 4. prilocaine
7. Intrathecal demerol (meperidine)
 1. provides sensory and motor block
 2. has a high incidence of hypotension
 3. does not provide motor block
 4. cannot be added to prilocaine
8. Adverse effects of intrathecal narcotics include all of the following EXCEPT:
 1. drowsiness
 2. pruritis
 3. nausea
 4. hypertension
9. A short-acting local anesthetic that has been associated with less than 1% incidence of transient neurologic syndrome is:
 1. bupivacaine
 2. tetracaine
 3. procaine
 4. mepivacaine
10. When compared to lidocaine as a spinal anesthetic, prilocaine:
 1. has a longer recovery time
 2. is associated with a lower incidence of transient neurologic syndrome
 3. provides less motor block
 4. provides an inadequate block when a 2% solution is used

Refrigerated anesthesia-related medications

11. Medications may expire sooner than the expiration date when:
 1. warmed to room temperature
 2. the rubber stopper is punctured

3. diluted
 4. all of the above
12. The expiration date holds true:
1. when a medication is stored under condition specified by the manufacturer
 2. as a medication comes from the manufacturer as well as after it is mixed, diluted, or with some medications, warmed
 3. up to 6 months after the last day of the stated month
 4. none of the above
13. The expiration date of a medication denotes the date after which the medication is considered to be unusable due to:
1. production of toxic byproducts
 2. a decrease in potency below a predetermined point
 3. changes in physical or chemical specifications
 4. all of the above
14. The manufacturers of succinylcholine state that once a bottle is removed from the refrigerator and stays at room temperature it should be used within:
1. 1 day
 2. 7 days
 3. 14 days
 4. 28 days
15. If not refrigerated, carboprost (Hemabate):
1. experiences a potency loss of 0.5% per day
 2. experiences a potency gain of 0.5% per day
 3. experiences a potency loss of 10% per day
 4. experiences a potency gain of 10% per day
16. Guaranteeing that refrigerators that store medication are attached to emergency power can be accomplished by:
1. asking medical maintenance to check refrigerators during emergency power usage to be sure they are working
 2. calling maintenance and asking
 3. asking the chief of anesthesia
 4. assuming the refrigerators are on emergency power
17. Medication that should be stored at room temperature, if refrigerated:
1. may precipitate due to a decrease in solubility at the lower temperature
 2. may show decreased preservative efficacy because some preservatives are designed to work most efficiently at room temperature
 3. 1 and 2
 4. neither 1 nor 2
18. Which of the following powdered medications after mixing can have its (their) potency maintained for a longer period of time if stored in the refrigerator as opposed to room temperature?
1. methohexital
 2. thiopental
 3. both 1 and 2
 4. neither 1 nor 2
19. Storage conditions defined by the US Pharmacopeial Convention include:
1. freezer, between -13°F and 14°F
 2. refrigeration, between 36°F and 46°F
 3. room temperature; the prevailing workplace temperature
 4. all of the above
20. Which of the following has the longest recommended expiration time when out of the refrigerator in the unopened state?
1. atracurium
 2. cisatracurium
 3. pancuronium
 4. all of the above are the same, 14 days

Low molecular weight heparin: Pharmacology and regional anesthetic implications

21. Which of the following tests of coagulation effectively monitors low molecular weight heparin therapy?
1. activated partial thromboplastin time
 2. the platelet count
 3. activated clotting time
 4. none of the above
22. In which of the following conditions is the response to low molecular weight heparin likely to be exaggerated?
1. renal disease
 2. low serum albumin
 3. anemia
 4. hypovolemia
23. The anticoagulant effects of unfractionated heparin are fully reversible by:
1. urokinase
 2. protamine
 3. platelets
 4. calcium chloride
24. Which of the following factors is associated exclusively with the extrinsic clotting system?
1. factor VII
 2. factor X
 3. tissue factor
 4. calcium

The ruddy globule: The erythrocyte – Its biology, chemistry, and functional variations

25. In which of the following is the risk of development of spinal/epidural hematoma increased?
1. females
 2. patients with hypertension
 3. elderly males receiving anticoagulants
 4. patients who have undergone previous spinal surgery
26. Which of the following is cited as the most common presenting symptom(s) of spinal/epidural hematoma in patients who were receiving low molecular weight heparin therapy?
1. motor weakness and sensory deficit
 2. blindness
 3. flushing of the arms and neck
 4. loss of bowel and/or bladder control
27. The differential diagnosis for spinal/epidural hematoma includes:
1. cerebrovascular accident
 2. electrolyte abnormality
 3. herniated disk and epidural abscess
 4. viral infection
28. Which of the following is the most appropriate management approach for the patient with a diagnosis of acute spinal/epidural hematoma?
1. emergent surgical evacuation of hematoma
 2. monitoring with serial computed tomography scans
 3. bed rest and monitoring for neurologic deficit
 4. administration of protamine and fresh frozen plasma
29. Regarding patients treated with low molecular weight heparin, which of the following statements is true?
1. the use of low molecular weight heparin is of no consequence
 2. protamine will completely eliminate risks
 3. patients should be monitored for signs and symptoms of spinal/epidural hematoma only for about 1 hour
 4. regional anesthetic administration should be delayed for 12 hours after the last dose of low molecular weight heparin
30. Which of the following statements is correct when indwelling spinal/epidural catheters are used in patients who receive low molecular weight heparin?
1. catheter removal should be delayed for 11 to 12 hours after the last dose of low molecular weight heparin
 2. catheter removal is not associated with risk
 3. catheter placement is contraindicated in every case
 4. polymer catheters have no risk
31. Hemoglobin was first discovered and isolated:
1. by Leonardo
 2. in the early 1500s
 3. about a decade before the Civil War
 4. around the time of World War I
32. What percentage of cytoplasmic protein found in the red blood cell (RBC) is hemoglobin?
1. less than 10%
 2. less than 55%
 3. greater than 95%
 4. 100%
33. Which of the following is NOT a requirement of hemoglobin based on those listed by Barcroft?
1. the capacity to carry oxygen
 2. should have high solubility
 3. the ability to act as a buffer
 4. can assume the role of infectious disease fighter
34. In the first weeks of embryonic life, RBCs are produced in the ____; after about age 20 years, most RBCs are produced in the ____.
1. long bones; liver
 2. spleen; long bones
 3. yolk sac; membranous bones
 4. yolk sac; liver
35. How much oxygen can be carried by 1 gram of hemoglobin?
1. 100 mL
 2. 10 mL
 3. 1.39 mL
 4. 0.50 mL
36. A leftward shift of the oxygen/hemoglobin dissociation curve suggests that:
1. there are very high levels of 2,3-diphosphoglycerate (2,3-DPG) in the blood
 2. the affinity of hemoglobin for oxygen is extremely low
 3. hypoxemia is profound and likely irreversible
 4. the P_{50} is lower than the normal 26 mm Hg
37. Regarding hemoglobin's role in acid/base balance, select the true statement:
1. it acts solely as a proton donor (ie, as an acid)
 2. it acts solely as a proton acceptor (ie, as a base)
 3. it is amphoteric
 4. it does not possess a buffering capacity

38. By 1 year of age, and persisting into adulthood, approximately what percentage of hemoglobin is in the A form?
1. 12%
 2. 22%
 3. 25%
 4. 97%
39. A disorder of hemoglobin secondary to a toxic exposure is:
1. carboxyhemoglobin
 2. sickle cell anemia
 3. iron deficiency anemia
 4. hereditary spherocytosis
40. Hemoglobin electrophoresis is useful in:
1. determining red blood cell morphology
 2. detecting and quantifying abnormal variations of hemoglobin
 3. determining the hematocrit
 4. measuring red blood cell wall thickness
45. Regarding clinical signs of hydration status, you would expect to see significant hypotension and sunken eyes with:
1. a 1% fluid deficit
 2. a 2% fluid deficit
 3. a 5% fluid deficit
 4. a 15% fluid deficit
46. The glucose requirement used in planning your fluid replacement strategy in infants is:
1. 0.01 g/kg
 2. 0.5 to 1 g/kg
 3. 2.5 g/kg
 4. 5.5 g/kg
47. Calculate the estimated blood volume of a normal 6-month-old infant that weighs 15 kg.
1. 200 to 300 mL
 2. 500 to 600 mL
 3. 700 to 800 mL
 4. 1,000 to 1,200 mL

Intraoperative fluid management for the pediatric surgical patient

41. Water constitutes what percentage of a newborn's body weight?
1. 75%
 2. 25%
 3. 20%
 4. 10%
42. At what age is the renal system considered completely mature?
1. 1 day
 2. 1 week
 3. 1 month
 4. 1 year
43. What volume of clear liquids can be given preoperatively within 2 hours of the induction of anesthesia and maintain an acceptable reduction of risk for regurgitation and aspiration?
1. 3 mL/kg
 2. 10 mL/kg
 3. 50 mL/kg
 4. 100 mL/kg
44. Calculate the hourly maintenance fluid rate for an 8-kg patient.
1. 33 mL
 2. 50 mL
 3. 100 mL
 4. 700 mL
48. Calculate the allowable blood loss for a 3-year-old who weighs 15 kg with a current hematocrit of 39%. The lowest acceptable hematocrit will be 30%.
1. 145 mL
 2. 242 mL
 3. 350 mL
 4. 545 mL
49. When using packed red blood cells to replace blood loss that has exceeded the allowable amount, which of the following is the correct ratio of cells to loss?
1. 0.5:1
 2. 1:1
 3. 2:1
 4. 3:1
50. The acceptable urine output in the pediatric patient weighing more than 25 kg is:
1. 10 to 15 mL/h
 2. 20 to 25 mL/h
 3. 30 to 35 mL/h
 4. 50 to 60 mL/h

Full-body patient simulation technology: Gaining experience using a malignant hyperthermia model

51. The first full-body simulator built was the:
1. intravenous insertion simulator
 2. spinal/epidural mannequin
 3. intubation head mannequin
 4. "Sim One"

52. Common components of the three full-body patient simulators currently manufactured for use in the United States are:
 1. extremities that move in response to painful stimuli
 2. voice-activated computer system
 3. fully integrated sound system that includes gastrointestinal sounds
 4. palpable pulses
53. The interface cart of the full-body patient simulation system contains:
 1. the drug recognition system
 2. gas analyzer, sound cards, and pneumatics
 3. invasive monitoring equipment
 4. remote control computer system
54. In evaluating the authenticity of the simulator experience, concerns may be raised regarding:
 1. failure to accurately mirror the “culture” of the operating room
 2. care rendered may be substandard
 3. conversations may be viewed as muted or discordant
 4. all of the above
55. The advantage of full-body patient simulation training is:
 1. hands-on experience in identifying and managing specific anesthetic events
 2. the ability to manage an event in a controlled and safe environment
 3. a unique opportunity to identify and manage a rare, potentially catastrophic anesthetic event
 4. all of the above
56. Which of the following is often found as part of the control room in a simulation center?
 1. an operating room table
 2. an anesthesia machine
 3. a unidirectional window and the main computer system
 4. the full-body patient simulation mannequin
57. Simulation sessions can be offered:
 1. only in an individual session, one person at a time
 2. only in a team session, with several persons at a time
 3. only with a faculty demonstrator while the participant observes from a remote location
 4. either in a team format or as an individual session
58. The term “debriefing” in terms of a simulation exercise occurs:
 1. during the first introduction of the program
 2. just before the catastrophic event
 3. immediately following the event under the guidance of simulator faculty
 4. about 3 weeks after the simulation experience
59. The debriefing of participants ideally occurs in an atmosphere that is:
 1. nonintimidating, allowing participants to discover areas that they need to focus on
 2. highly judgmental in nature
 3. punitive in nature
 4. highly stressful and abusive so that the participant is psychologically “toughened”
60. Which of the following is not a disadvantage of the anesthesia simulator:
 1. high cost of the equipment
 2. high cost of the faculty and support personnel
 3. the ability to experience rare events in a controlled atmosphere
 4. some find the simulator technology intimidating or threatening