

***Davis's Comprehensive Manual of Laboratory and
Diagnostic Tests With Nursing Implications 11th
edition Leeuwen Test Bank***

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Circulatory System

1. A patient is identified as having an increased risk for stroke. Which type of angiography should be performed to detect this condition?
 1. Abdominal
 2. Adrenal
 3. Carotid
 4. Coronary
2. A patient diagnosed with coronary artery disease begins therapy with simvastatin. Which laboratory result should the nurse monitor to determine the effectiveness of this treatment?
 1. Aspartate aminotransferase
 2. Alkaline phosphatase
 3. Alanine aminotransferase
 4. Total cholesterol
3. A patient is suspected of having granulomatosis with polyangiitis. Which antibody test should the nurse expect to conduct on this patient to confirm this suspicion?
 1. Anticyclic citrullinated peptide (anti-CCP)
 2. Antiglomerular basement membrane (anti-GBM)
 3. Actin (smooth muscle) and mitochondrial M2
 4. Perinuclear antineutrophil cytoplasmic antibody (p-ANCA)
4. A nurse is reviewing a newborn patient's arterial blood gas. Which pH result should the nurse identify as a "critical" value that should be reported immediately to the health-care provider?
 1. 7.12
 2. 7.29
 3. 7.36
 4. 7.6
5. A patient is undergoing venipuncture for collection of a blood sample for apolipoprotein testing. Which condition is this type of testing useful in identifying?
 1. Coronary artery disease
 2. Joint disease
 3. Chronic obstructive pulmonary disease (COPD)
 4. Hepatitis
6. A nurse is preparing to discharge a patient from the hospital who has been diagnosed and treated for heart failure. The patient has a B-type natriuretic peptide level of 445 picograms per milliliter (SI = 445 nanograms per liter). When preparing discharge teaching for this patient, which medication will the nurse likely discuss?
 1. Acetaminophen

2. Angiotensin-converting enzyme (ACE) inhibitor
 3. Enoxaparin [CA = enoxaparin sodium]
 4. Warfarin [CA = warfarin sodium]
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7. A nurse observes that a patient's potassium level is 5.5 milliequivalents per liter (SI = 5.5 millimoles per liter). Which action should the nurse first take in response to this potassium level?
 1. Assess the patient's apical heart rate and cardiac rhythm.
 2. Instruct the patient to increase intake of foods containing potassium.
 3. Monitor patient for polyuria, malaise, and thirst.
 4. Notify the requesting health-care provider.
 8. A patient has a homocysteine level of 25 micromoles per liter. Which additional laboratory results should a nurse review to determine whether the patient needs nutritional education?
 1. Complement C3 and C4
 2. Cholesterol and triglyceride levels
 3. Serum creatinine and BUN
 4. Urinary sodium
 9. A patient is undergoing venipuncture for collection of a specimen for B-type natriuretic peptide (BNP) testing. Which condition is this test used to diagnose and monitor?
 1. Stroke
 2. Alzheimer disease
 3. Congestive heart failure (CHF)
 4. Type 2 diabetes
 10. An older adult patient is admitted with hyponatremia and a decreased serum osmolality. When planning care, which of the following should the nurse have the patient avoid?
 1. Sodium
 2. Potassium
 3. Chloride
 4. Water
 11. A patient with a history of coronary artery disease reports persistent muscle aches. Laboratory results show a creatine kinase (CK) level of 360 units per liter with normal transaminase levels (ALT and AST). Which medication should the nurse relate to this finding?
 1. Atorvastatin [CA = atorvastatin calcium]
 2. Digoxin
 3. Metformin [CA = metformin hydrochloride]
 4. Tenormin [CA = atenolol]

12. Which dietary instruction should a nurse plan for a patient who has a triglyceride level of 300 milligrams per deciliter (SI = 3.4 millimoles per liter)?
 1. "Avoid monounsaturated and polyunsaturated fats."
 2. "Decrease intake of omega-3 fatty acids, such as those found in fish."
 3. "Eliminate all dairy products."
 4. "Reduce or avoid intake of alcoholic beverages."
13. A young woman with a significant family history of coronary artery disease is planning to become pregnant in the next year. Prenatal screening results show a homocysteine level of 36 micromoles per liter. What should the nurse teach the patient?
 1. Take folic acid and vitamins B6 and B12 daily.
 2. Decrease intake of calcium and monounsaturated fats.
 3. Increase fluid intake and take an aspirin daily.
 4. Schedule monthly injections of B12 and iron.
14. Laboratory results indicate that a patient's anion gap is 20 millimoles per liter. Which condition should the nurse plan to manage?
 1. Appendicitis
 2. Metabolic acidosis
 3. Myocardial infarction
 4. Pulmonary embolism
15. A mother brings her infant to the emergency department reporting that the infant had a seizure. While taking the health history, a nurse learns that the mother has been short of money and has been diluting the infant's formula with more water than the instructions recommend. Based on this information, which laboratory result should the nurse anticipate?
 1. Blood glucose 102 milligrams per deciliter (SI = 5.7 millimoles per liter)
 2. Chloride 104 milliequivalents per liter (SI = 104 millimoles per liter)
 3. Potassium 4.1 milliequivalents per liter (SI = 4.1 millimoles per liter)
 4. Sodium 125 milliequivalents per liter (SI = 125 millimoles per liter)
16. A patient is admitted to the hospital with a diagnosis of confusion. The patient has a serum digoxin level of 3.2 nanograms per milliliter (SI = 4.1 nanomoles per liter). Which additional laboratory data should the nurse monitor?
 1. BUN level
 2. Serum potassium level
 3. Hematocrit level
 4. Serum sodium level
17. A postoperative patient who has not had oral intake for several days and is receiving D5W at 125 milliliters per hour reports nausea and new onset of a persistent headache. Which laboratory value should the nurse identify as the cause for this clinical presentation?
 1. Creatinine 1.1 milligrams per deciliter (SI = 97.2 micromoles per liter)

2. Serum potassium 5.2 milliequivalents per liter (SI = 5.2 millimoles per liter)
 3. Serum sodium 125 milliequivalents per liter (SI = 125 millimoles per liter)
 4. Urine sodium 122 milliequivalents per 24 hours (SI = 122 millimoles per liter)
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18. The nurse should assess for hypomagnesemia in which patient?
 1. A patient with a history of chronic alcoholism
 2. A patient with hyperkalemia
 3. A patient who ingested antacids containing magnesium
 4. A patient who maintains a vegetarian diet

 19. A patient has orders for serial troponin levels on admission and then every 6 hours times three. The initial troponin level is 8 nanograms per milliliter, and 6 hours later the troponin level is 168 nanograms per milliliter. Based on this result, the nurse should plan care for which diagnosis?
 1. Acute myocardial infarction (MI)
 2. Pulmonary embolism (PE)
 3. Chronic obstructive pulmonary disease (COPD)
 4. Deep vein thrombosis (DVT)

 20. A nurse is collecting an arterial blood sample for a lactic acid level. Which action should the nurse take to ensure that the specimen provides an accurate result?
 1. Assist the patient to ambulate immediately prior to collecting the specimen.
 2. Ensure that the specimen is mixed well by agitating the tube at least 30 seconds.
 3. Remove oxygen for at least 10 minutes before obtaining the specimen.
 4. Place the specimen on ice and transport to the laboratory immediately.

 21. An adolescent patient is brought to an urgent care center with reports of increasing weakness and persistent vomiting for 3 days. Which finding in a blood gas analysis should the nurse expect?
 1. pH 7.32; PCO₂ 50 millimeters of mercury (SI = 50 kPa); HCO₃ 20 millimoles per liter
 2. pH 7.4; PCO₂ 40 millimeters of mercury (SI = 40 kPa); HCO₃ 23 millimoles per liter
 3. pH 7.47; PCO₂ 44 millimeters of mercury (SI = 44 kPa); HCO₃ 30 millimoles per liter
 4. pH 7.6; PCO₂ 30 millimeters of mercury (SI = 30 kPa); HCO₃ 24 millimoles per liter

 22. A nurse is preparing to draw an arterial sample for blood gas analysis. Which equipment should the nurse have available?
 1. High-flow oxygen facemask
 2. Ice slurry in a cup or plastic bag
 3. Tourniquet
 4. Red-topped Vacutainer tube

23. A nurse is attempting to insert a needle to obtain a blood specimen, but the patient is exhibiting signs of a vasovagal reaction. Which problem should the nurse be most concerned about?
 1. Fear related to venipuncture
 2. Potential for a fall injury
 3. Pain related to venipuncture
 4. Risk for impaired skin integrity

24. A patient has had a myocardial infarction and needs to undergo testing to evaluate the damage to the myocardium. Which test would be appropriate for this purpose?
 1. Thyroxine, free
 2. Triiodothyronine, free
 3. Thyroid-stimulating hormone (TSH)
 4. Troponins I and T

25. An 80-year-old patient has a carotid ultrasound that shows stenosis of 40% to 60% and a moderate amount of plaque. Which nursing action is appropriate for this patient?
 1. Advise the patient that surgery is indicated as soon as possible.
 2. Avoid use of aspirin or products containing aspirin.
 3. Instruct the patient to report any changes in speech, balance, or vision.
 4. Recommend that the patient restrict activity until medication decreases the stenosis.

26. When collecting any specimen for laboratory analysis, which is the priority action by the nurse?
 1. Communicating with the patient about the prescribed laboratory test
 2. Identifying the patient with the health-care facility's two person-specific identifiers
 3. Informing the patient about the purpose of the specimen collection
 4. Labeling the specimen with the patient's name, room number, or address

27. A patient with persistent pleural edema is scheduled for magnetic resonance imaging (MRI) of the chest. Which information in the patient's medical history should the nurse identify as a contraindication for this procedure?
 1. Allergy to shellfish
 2. Implanted cardiac pacemaker
 3. Bilateral breast implants
 4. Tattoo on a lower extremity

28. A nurse is collecting blood from a patient for a B-type natriuretic peptide test. This test will assist in diagnosing which condition?
 1. Heart failure
 2. Stroke
 3. Leukemia
 4. Chronic obstructive pulmonary disease (COPD)

29. During collection of a venous blood sample, a nurse finds it difficult to locate a patient's vein while wearing gloves. Which action by the nurse is appropriate?
1. Identify landmarks where the vein is palpable and attempt venipuncture with gloves on.
 2. Obtain assistance from another nurse to perform venipuncture.
 3. Remove one glove from the dominant hand to palpate the vein.
 4. Tear off two fingertips from the glove to make them accessible for palpation.
30. A nurse is preparing to perform venipuncture on a 6-month-old infant with anemia. The infant has had multiple specimens drawn over an extended hospitalization. The mother is very anxious and tells the nurse that she does not want any more blood drawn because it is too upsetting. Which response by the nurse is most appropriate?
1. "I am sure you think this is best for your child, but you are interfering with treatment by refusing this test."
 2. "If you are sure you do not want the test done, I will call your health-care provider to get it cancelled. It is up to you."
 3. "Your health-care provider ordered this test, so I am sure you want to have it done or your health-care provider will not be able to do what is best for your child."
 4. "We all want what is best for your child. Tell me more about why you are upset now."
31. A patient admitted to an emergency department with trauma after a motorcycle accident needs blood drawn. The patient has a fracture of the right arm that is splinted, lacerations of both legs, and IV fluids infusing in the left antecubital space. Which intervention is most appropriate for the nurse to collect the required blood specimens?
1. Access a vein in the foot for specimen collection.
 2. Request insertion of a central line to use for blood collection and IV access as needed.
 3. Stop the IV infusion for 2 minutes and then access a site below the IV.
 4. Use a butterfly needle to access a vein in the right hand.
32. The nurse recognizes that which patient should have a computed tomography (CT) scan for cardiac scoring?
1. 30-year-old-female, overweight, high-stress occupation, total cholesterol 110 milligrams per deciliter (SI = 2.8 millimoles per liter)
 2. 45-year-old male, type 2 diabetes, sedentary lifestyle, high-density lipoprotein (HDL) cholesterol 35 milligrams per deciliter (SI = 0.9 millimoles per liter)
 3. 60-year-old female with no family history of heart disease, active lifestyle, nonsmoker
 4. 70-year-old male, participates in senior triathlons, body mass index (BMI) 21.2, history of hypertension
33. Which statement or question by a nurse will ensure that a specimen is obtained from the correct patient?
1. "Are you [state patient's full name]?"
 2. "I am comparing the name on your armband with this lab requisition form."
 3. "Please state your full name and birth date."
 4. "What test did your health-care provider order for you?"

34. A patient with a family history of early-onset coronary artery disease is tested for apolipoprotein A and B (apo A and apo B). The patient has concerns about the need for another blood test. Which is the best response by the nurse when the patient asks about the purpose of the apolipoprotein test?
1. "A high apolipoprotein level means that you are more likely to respond to diet changes and medications to control your cholesterol."
 2. "As long as you do not have symptoms, this test is just a way to monitor your overall health, so you should not worry about it."
 3. "Knowing your apolipoprotein helps your health-care provider better determine your risk for coronary artery disease when you have a high triglyceride level."
 4. "This is just one more test that your health-care provider wants, so you should do it because it could be important."
35. Which observation by a nurse indicates that a scheduled venous Doppler study is contraindicated for this patient?
1. Contact isolation
 2. Receiving patient-controlled analgesia (PCA) for chronic back pain
 3. Restless, confused, and needs frequent reminders to remain in bed
 4. Venous stasis ulcer on both lower extremities
36. A nurse is preparing to collect a blood specimen from an 8-year-old patient who requires frequent venipuncture related to a chronic illness. The patient is anxious and pulls his arm away as the nurse begins the prep for the procedure. Which action by the nurse is most appropriate?
1. Apply a topical anesthetic such as EMLA and reassure the patient that the venipuncture will not hurt.
 2. Ask the child's parent to restrain the patient during the procedure.
 3. Involve the child in the procedure by asking him to help by holding the gauze and bandage to use after the specimen is collected.
 4. Request assistance from another staff member to restrain the patient.
37. A nurse is collecting a capillary specimen for blood glucose from a patient on an insulin drip to treat postoperative hyperglycemia. The patient reports pain from the multiple, hourly fingersticks required by the intensive insulin protocol. Which action by the nurse is appropriate?
1. Decrease the frequency of the fingerstick to every other hour.
 2. Alternate sites by using the great toe on either foot instead of the fingers.
 3. Use the earlobe or forearm as alternate sites.
 4. Ensure that the puncture is not on the finger pad and avoid bruised areas.
38. A patient who recently completed a multigated acquisition (MUGA) scan asks what it means that the test showed an ejection fraction of 65%. Which answer by the nurse is accurate?
1. "This scan shows that your heart was affected by a heart attack at some point, because your ejection fraction is below average."

2. "The ejection fraction shows the effectiveness of the pumping function of the ventricles. A normal ejection fraction is 55% to 70%."
 1. "Because the ejection fraction is so low, these results indicate that your heart does not pump as effectively as it should when you are exercising."
 2. "Your health-care provider will follow up with you, but your results will require treatment because your ejection fraction was so high."
39. A nurse is collecting blood specimens from an older adult patient with small veins that collapse or disappear when the nurse tries to insert the needle. The patient has IV fluids infusing through a peripherally inserted central catheter (PICC) in the left antecubital area. After two attempts in the right antecubital space using a Vacutainer, the nurse is unable to obtain the required specimens. Which action is appropriate for the nurse to take next?
1. Attempt again using a syringe attached to a butterfly needle.
 2. Confirm the institutional policy regarding the use of a PICC for specimen collection.
 3. Request assistance from another nurse to attempt venipuncture again.
 4. Use a 5-milliliters syringe to withdraw a sample from the Y-port closest to the patient's PICC insertion point.
40. A patient admitted with a fever of unknown origin has orders for "blood cultures ' 3." The nurse should inform the patient that this procedure involves which of the following?
1. Collecting three samples daily in the morning, with one venipuncture when other daily blood work is obtained
 2. Obtaining three samples from different sites, with each sample requiring venipuncture
 3. Obtaining sufficient blood to prepare three sets of culture vials with one venipuncture
 4. Using random specimens, collected at the time other blood samples are obtained, to minimize the number of venipunctures required
41. A nurse is preparing to draw blood from a patient who is hearing impaired. Which action by the nurse is most appropriate?
1. Ask a family member whether the patient will cooperate with the procedure.
 2. Discuss the procedure and the patient's preferences with a family member who is proficient in sign language before beginning the procedure.
 3. Face the patient while explaining the procedure to a qualified sign language interpreter provided by the facility.
 4. Provide written information and use a whiteboard so the patient can communicate without violating the patient's privacy.
42. A patient diagnosed with heart failure has a B-type natriuretic peptide (BNP) level of 945 picograms per milliliter (SI = 945 nanograms per liter) upon admission to the hospital. At discharge, the patient's BNP is 435 picograms per milliliter (SI = 435 nanograms per liter). Which discharge instruction is most important for the nurse to share with the patient?
1. "Have additional pillows available in case you have increased dyspnea at night."
 2. "Maintain bedrest if there is any edema of the ankles or feet."
 3. "Monitor weight daily and report weight gain immediately to the health-care provider."

4. "Take vitamins E and C daily to improve cardiac function."
43. A patient seeks medical evaluation due to frequent episodes of palpitations that interfere with sleep and daily activities. A Holter monitor is ordered. Which instruction should the nurse give to this patient regarding the monitor?
 1. "While wearing the monitor, you should avoid strenuous activity but continue your usual daily routine."
 2. "The Holter monitor has a limited battery supply, so you will need to keep it plugged into a receptacle for it to record."
 3. "You should wear the Holter monitor during the day, but it can be removed at bedtime so you can sleep."
 4. "Your record of your symptoms is very important to interpret the Holter monitor recording."
44. A patient requiring frequent blood samples tells the nurse preparing to obtain a specimen that "the best vein is here in my right elbow on the side." The nurse observes that the vein is visible and palpable and has mild ecchymosis but no pain. Which action by the nurse is most appropriate?
 1. Acknowledge the patient's information, but tell the patient it is better to use another site this time.
 2. Begin by applying the tourniquet to the left arm to assess potential sites while reassuring the patient of your expertise.
 3. Examine the site the patient indicates and attempt to obtain the specimen there first.
 4. Thank the patient for the information, but do not use the vein since it was previously used.
45. A nurse performs an Allen test. Which procedure is the nurse preparing to complete?
 1. Arterial blood gas (ABG)
 2. Capillary blood glucose (CBG)
 3. Liver biopsy
 4. Vision screening
46. A patient's laboratory result indicates heart failure. Which clinical manifestation should the nurse expect to observe in this patient?
 1. Decreased peripheral pulses
 2. Increased urinary output
 3. Warm, dry skin
 4. Bradypnea
47. A nurse enters a patient's room to obtain a blood specimen and notices they are asleep. What is the proper protocol?
 1. Obtain the blood specimen while they are asleep.
 2. Wake the patient gently and allow them to become oriented.
 3. Wait 24 hours to take the blood specimen.

4. Wake the patient and immediately take the blood specimen.
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48. A nurse is preparing to obtain a blood specimen from an older adult patient in an acute care setting. The patient is confused about time and place but responds to name. The patient has been hospitalized for over 1 week, and this nurse has provided care to this patient several times. The patient's armband is taped to the foot of the bed, and the patient is sitting in the chair next to the bed with a family member visiting. Which method should be used by the nurse to confirm this is the correct patient?
 1. Ask the family member to confirm the patient's identification and compare it with the armband on the bed.
 2. Compare the requisition form with the armband to confirm the patient's identification using name and room number.
 3. Request that another nurse, who knows the patient, replace the armband before the specimen is obtained.
 4. State the patient's name and use the armband for additional confirmation using two numeric identifiers.
 49. A nurse is preparing to obtain a capillary blood specimen from a 2-month-old. Which site should the nurse plan to use to draw the blood?
 1. Dorsal surface of foot
 2. Earlobe
 3. Fingertip
 4. Lateral heel
 50. A patient needs to undergo testing to assess cardiovascular disease risk. Which test would be appropriate for this purpose?
 1. Thyroxine, free
 2. Transferrin
 3. Triglycerides
 4. Thyroid-stimulating hormone (TSH)
 51. The nurse would question an order for a magnetic resonance angiogram (MRA) for which individual?
 1. A 65-year-old man whose blood urea nitrogen is 38 milligrams per deciliter (SI = 14 millimoles per liter)
 2. A 71-year-old woman whose triglycerides are 145 milligrams per deciliter (SI = 1.6 millimoles per liter)
 3. A 52-year-old woman whose prothrombin time is 12 seconds
 4. A 66-year-old man whose prostate specific antigen (PSA) is 14 nanograms per milliliter (SI = 14 micrograms per liter)

52. The nurse working the midnight shift is caring for a patient scheduled to receive an echocardiogram in the morning. Which finding documented in the health-care record may interfere with the findings?
1. The patient has a history of chronic obstructive pulmonary disease.
 2. The patient has a history of cardiac catheterization 3 years prior.
 3. The patient takes digoxin 0.5 milligram (SI = 0.6 nanomoles per liter) daily.
 4. The patient has a 35-pack-years history of smoking.
53. A patient is suspected of having septicemia. Which test would be appropriate for helping diagnose this condition?
1. Anal/genital culture, bacteria
 2. Culture and smear, mycobacteria
 3. Blood culture, bacteria
 4. Sputum culture, bacteria
54. A patient's laboratory test results indicate an increased C-reactive protein (CRP) level. Which condition is associated with this finding?
1. Type 2 diabetes
 2. Hypertension
 3. Myocardial infarction
 4. Human immunodeficiency virus (HIV)
55. The nurse is providing care to a patient with a heart murmur detected during an annual physical. Which diagnostic test should the nurse anticipate will be ordered?
1. Chest x-ray
 2. Holter monitor
 3. Echocardiogram
 4. Myocardial perfusion scan
56. A nurse is caring for a patient undergoing treatment with doxorubicin hydrochloride for breast cancer. The patient has had four cycles of chemotherapy. Which study would be used to evaluate if additional chemotherapy can be given safely?
1. Multigated acquisition (MUGA) scan
 2. Computed tomography (CT) scan of the brain and head
 3. Electromyography (EMG)
 4. Lung perfusion scan (V/Q scan)
57. A nurse is caring for a patient who recently started taking amiodarone hydrochloride. Which diagnostic test would help determine the effectiveness of the treatment regimen?
1. Computed tomography (CT) scan of the abdomen
 2. Capsule endoscopy
 3. Exercise stress test
 4. Echocardiogram

58. A patient reporting extreme thirst, frequent urination, and constipation has electrocardiogram (ECG) changes including decreased QT interval and lengthened PR interval. Which critical laboratory value is anticipated?
1. Total blood calcium 6.5 milligrams per deciliter
 2. Total blood calcium 12.9 milligrams per deciliter
 3. Blood potassium level 1.9 milliequivalents per liter
 4. Blood potassium level 6.9 milliequivalents per liter
59. A nurse is preparing a patient for an electrocardiogram (ECG). When placing the leads, where should the nurse place the V1 lead?
1. In the fifth intercostal space at the midclavicular line
 2. At the right sternal border in the fourth intercostal space
 3. At the right upper chest, just below the clavicle
 4. At the left midaxillary line, 6 inches. below the axilla
60. A middle-aged woman admitted to the hospital for chest pain is frustrated that an echocardiogram is planned and wants to go home after serial enzymes ruled out an acute myocardial infarction. Which of the following responses by the nurse is the most therapeutic?
1. "Don't you want to know what is causing your chest pain?"
 2. "If you have a family history of cardiac problems, then you should have these tests done; otherwise, we can discharge you."
 3. "I can see that you are frustrated. Is there a specific reason you would like to leave?"
 4. "You're not a prisoner here; I'll call your health-care provider and tell him you are leaving the hospital against medical advice."
61. The nurse is providing care for a patient scheduled for a myocardial perfusion heart scan (thallium scan). Which of the following would the nurse say?
1. "This test helps your health-care provider determine whether you have angina pectoris."
 2. "The test involves injecting dye to evaluate the circulation of blood in your heart."
 3. "You must not have anything to eat or drink for at least 12 hours before the test."
 4. "You should avoid taking anticoagulant medication prior to the procedure."
62. Which action by the nurse would be considered negligent in the care of a patient who had a cardiac catheterization?
1. The nurse reports pedal pulses were fine upon return from the procedure; no further assessment was warranted.
 2. The nurse reports the patient has had 400 milliliters of oral fluid since returning from the procedure without evidence of nausea or vomiting.
 3. The nurse reports the site dressing is intact with 2-centimeters sanguineous drainage circled and timed 2 hours ago; no change noted since that time.
 4. The nurse reports the patient has been in bed for 3 hours with a sandbag on the left groin; no sign of swelling at site.