

Brunzel: Fundamentals of Urine and Body Fluid Analysis, 3rd Edition

Chapter 02: Quality Assurance and Safety

Test Bank

MULTIPLE CHOICE

1. The purpose(s) of a quality assurance program in the laboratory is(are) to provide which of the following?
 1. Administrative structure to achieve quality goals
 2. Quality health care
 3. Mechanism for detection of problems
 4. Opportunity to improve services
 - A. 1
 - B. 1, 3, and 4
 - C. 3 and 4
 - D. 1 and 4
 - E. 1, 2, 3, and 4

ANS: E

A quality assurance program provides the checks and balances to ensure quality laboratory services. It encompasses an administrative structure that ensures that goals are achieved, the quality of health care is addressed, a mechanism is in place to detect and resolve problems, and the opportunity to improve services exists on all fronts.

Cognitive Level: 2

Reference:

PTS: 1

2. While performing QC checks on an open reagent bottle, the technician notes that no open date/time is written on the bottle. The technician should address this as a(n):
 - A. Analytical error; the technician should continue with testing if the QC results are within range
 - B. Preanalytical error; the technician should discard the bottle, obtain a new one, and start over
 - C. Postanalytical error; the QC and patient results are all within normal range, so the technician should just make a notation in the log
 - D. Procedural error; the technician should check the time of the last run on the previous shift, mark the day/time on the bottle, and continue testing

ANS: B

All reagents and controls used in the laboratory are required to have the open date and time recorded on the container to ensure that the reagent or control is still within the manufacturer's established time frame for quality, reliability, sensitivity, and other factors when used. Reagents may degrade once opened and/or reconstituted, and it is imperative that reagents be checked for date/time to ensure that they are within the time frame. If not, they should be discarded and new ones opened. This is a preanalytical quality control check.

Cognitive Level: 2

Reference:

PTS: 1

3. To achieve uniformity of technique by all those working in the urinalysis department, a laboratory requires all of the following *except*:
- A. Adherence to procedure manual protocols
 - B. Performance of quality control checks
 - C. Proper training of new employees
 - D. Comparison of results reported out each shift

ANS: A

Properly training new employees, documenting their training, performing and recording QC checks, and comparing results reported out for each shift are measures to achieve uniformity of technique by all those performing urinalysis. However, they do not ensure that each person followed the procedures as written in the procedure manual.

Cognitive Level: 2

Reference:

PTS: 1

4. External quality assurance (QA) is a means to measure the:
- A. Accuracy of a method
 - B. Precision of a procedure
 - C. Performance relative to other laboratories
 - D. Analytical error during a procedure

ANS: C

External QA is used to assess performance relative to other laboratories. Internal QA is used to assess and monitor analytical error, accuracy, and the precision of a method.

Cognitive Level: 2

Reference:

PTS: 1

5. While running a second load of urine samples on the automated urinalysis instrument, a seasoned technician notes that all the patient samples are showing positive nitrates but no indication of bacteria upon microscopic examination. This is an example of which of the following?

1. Postanalytical error; further examination of the urine sediments is required
 2. Analytical error; trouble-shooting of the instrument is required
 3. Analytical error; a new bottle of dipsticks is required
 4. Competency error; the technician must rerun the patient samples
- A. 1
B. 2
C. 1 and 4
D. 2 and 3
E. 1, 2, and 3

ANS: D

Test results that do not correlate require investigation. This is a seasoned technician, so one could assume there is no error in assessing sample acceptability and in the microscopic procedure. In this instance, the positive nitrates did not correlate with the microscopic reading. This could be a problem with the reagent strips or a malfunction with the instrument in reading the test pad for nitrates. Investigation using a new bottle of reagent strips would rule out reagent error if the results read negative. If the results still read negative, the instrument needs trouble-shooting.

Cognitive Level: 3

Reference:

PTS: 1

6. The term *critical value* refers to a(n):
- A. Abnormal quality control result
 - B. Test result that indicates illness
 - C. Life-threatening test result
 - D. Incorrect competency test result

ANS: C

Critical value refers to a patient test result that indicates a life-threatening condition that requires immediate intervention.

Cognitive Level: 1

Reference:

PTS: 1

7. Cost-effective practices in the laboratory include which of the following?
- A. Test utilization
 - B. Turnaround time
 - C. Competency testing
 - D. External QA

ANS: A

Test utilization refers to the frequency of performing a test on a single individual and its use in evaluating a disease process. Repeated testing may provide little useful information, whereas performing a different test may prove more beneficial diagnostically.

Cognitive Level: 1

Reference:

PTS: 1

8. Upon running QC, the technician notes abnormal results on all QC levels. Which component(s) will the technician assess to determine the cause?
- A. Preanalytical
 - B. Analytical
 - C. Postanalytical
 - D. A and B
 - E. B and C

ANS: D

Preanalytical variables for QC would include how the samples were stored and/or processed before testing. Analytical variables would involve trouble-shooting of the instrument if new reagents were used and provided the same abnormal results.

Cognitive Level: 3

Reference:

PTS: 1

9. Preventive maintenance schedules on the centrifuge used to spin down urine samples is a _____ component of quality assurance.
- A. preanalytical
 - B. analytical
 - C. postanalytical
 - D. test utilization

ANS: A

Preventive maintenance on all equipment is a preanalytical component of quality assurance.

Cognitive Level: 2

Reference:

PTS: 1

10. The day shift technician pulled the UA reagent box out of the drawer and began performing QC using the following reagents: dipsticks, Clinitest, phenylalanine, Ictotest, and water in the dropper bottle. The technician is in violation of which quality assurance component?
- A. Preanalytical
 - B. Analytical
 - C. Postanalytical
 - D. Documentation

ANS: B

Water must be obtained fresh daily. The technician used water from the previous day and failed to adhere to the established procedure for preparing reagents to be used in the analytical process.

Cognitive Level: 2

Reference:

PTS: 1

11. The ability to resolve discrepant test results in the laboratory is an example of:
- A. In-house quality assessment
 - B. Documentation of errors
 - C. Technical competence
 - D. QA monitoring

ANS: C

Technical competency is required to be able to recognize and evaluate discrepancies or absurdities in test results. Documentation of errors or other problems and corrective actions are required to ensure communication with staff and supervisory personnel, prevent recurring problems, and provide a paper trail.

Cognitive Level: 2

Reference:

PTS: 1

12. Intralaboratory assessment is useful in monitoring analytical components by:
- A. Determining the accuracy and precision of technicians' performance
 - B. Verifying turnaround times for procedures
 - C. Measuring the productivity of laboratory shifts
 - D. Comparing the laboratory's performance with other laboratories

ANS: A

Intralaboratory, or in-house, quality assessment provides a means to assess the accuracy and precision of technicians' performance. Selecting a well-mixed urine specimen and having each technician or one from each shift perform the procedure independently and record the results allow for comparison to determine whether the technicians are following the procedure as written. If the results all match, the procedure is being followed; if the results vary, investigation is needed to assess the technicians' technique.

Cognitive Level: 2

Reference:

PTS: 1

13. A decrease in the quality of laboratory testing can be pinpointed by:
- A. Quality control
 - B. Proficiency testing
 - C. Documentation
 - D. Technical competence

ANS: C

QC materials and proficiency testing samples are helpful in detecting a decrease in the quality of laboratory testing; however, these processes do not pinpoint the source of the problem, nor do they solve it. Good communication, along with documentation and analysis of any problems identified, can be pursued and continuing education programs developed.

Cognitive Level: 2

Reference:

PTS: 1

14. The technician receives an unlabeled urine specimen in the laboratory; the technician should promptly:
- A. Call the floor nurse and ask him or her to come label the specimen
 - B. Request that the specimen be recollected
 - C. Generate a label and apply it before testing
 - D. Complete the required testing and wait for the nurse to call

ANS: B

Unlabeled specimens are rejected by the laboratory, and a new specimen should be requested. The person in charge of collection of the specimen is required to place the label on it. It should never be assumed that the collector can correctly recall that a specimen came from a specific person. If the specimen is not labeled, it is not acceptable and should be rejected.

Cognitive Level: 2

Reference:

PTS: 1

15. The Occupational Health and Safety Act of 1970 established formal regulation of safety and health for all employees, regardless of employer; these regulations are administered by:
- A. OSHA
 - B. CLIA
 - C. NIDA
 - D. TJC

ANS: A

OSHA administers the regulations established by the Occupational Health and Safety Act and is responsible for ensuring that all safety regulations set forth in the act are followed and enforced.

Cognitive Level: 1

Reference:

PTS: 1

16. Guidelines for developing written safety policies and procedures required by OSHA are available from:
- A. OSHA
 - B. CLSI
 - C. NIDA
 - D. TJC

ANS: B

The Clinical and Laboratory Standards Institute (CLSI) provides guidelines for developing written safety policies and procedures as required by OSHA.

Cognitive Level: 1

Reference:

PTS: 1

17. Standard Precautions are a combination of major features of which two practice guidelines?
- A. BPS and UP
 - B. UP and OSHA
 - C. OSHA and BSP
 - D. UP and BSI

ANS: D

Standard Precautions are infection prevention practices that combined the major features of Universal Precautions (UP) and Body Substance Isolation (BSI) into a single guideline.

Cognitive Level: 1

Reference:

PTS: 1

18. Standard Precautions are infection control practices designed to prevent all of the following *except*:
- A. Patient-to-patient disease transmission
 - B. Health care worker-to-patient disease transmission
 - C. Disease transmission only for patients put in contact precautions
 - D. Bloodborne pathogen disease transmission

ANS: C

Transmission-Based Precautions apply to specific patients with known or suspected infections or who are colonized with infectious agents. Standard Precautions apply to all patients in all health care settings; they address the protection of health care workers, but not the prevention of patient-to-patient disease transmission and health care worker-to-patient disease transmission.

Cognitive Level: 2

Reference:

PTS: 1

19. Transmission-Based Precautions apply to:
- A. All patients admitted to the hospital
 - B. Patients colonized with infectious agents
 - C. Patients who are immunocompromised
 - D. Patients with second- and third-degree burns

ANS: B

Transmission-Based Precautions apply to specific patients with known or suspected infections or who are colonized with infectious agents.

Cognitive Level: 2

Reference:

PTS: 1

20. Aerosol risks in the laboratory setting include all of the following *except*:
- A. Centrifuging capped tubes
 - B. Pouring body fluid into a container
 - C. Removing tight-fitting caps from a tube
 - D. Spilling a specimen during testing

ANS: A

Aerosols pose an inhalation risk in the laboratory. Aerosols can be created and inhaled when body fluids are poured, pipetted, or spilled; when a tight-fitting cap is removed from a tube; or when uncapped tubes are centrifuged.

Cognitive Level: 3

Reference:

PTS: 1

21. If used correctly, personal protective equipment (PPE) protects the health care worker from bloodborne pathogens from all of the following types of exposures *except*:
- A. Aerosols
 - B. Needle sticks
 - C. Direct contact with a cut
 - D. Ingestion

ANS: B

Personal protective equipment is designed to protect the health care worker from the risk of bloodborne pathogens posed by aerosols, direct contact (e.g., cuts), ingestion, and so forth. However, PPE will not protect a health care worker from a needlestick.

Cognitive Level: 2

Reference:

PTS: 1

22. Which of the following is *not* considered potentially infectious and capable of disease transmission?

- A. Blood
- B. Body fluids
- C. Secretions
- D. Sweat

ANS: D

All body fluids except sweat have been identified as being potentially infectious and capable of disease transmission if improperly handled or with improper use of PPE.

Cognitive Level: 1

Reference:

PTS: 1

23. Which personnel are exempt from adherence to Standard Precautions?
- 1. Health care volunteers
 - 2. Food service employees
 - 3. Health care staff
 - 4. Custodial staff
- A. 1 and 2
 - B. 2 and 4
 - C. 1, 2, and 4
 - D. None of the above

ANS: D

All personnel working in a health care facility are required to adhere to Standard Precautions.

Cognitive Level: 2

Reference:

PTS: 1

24. Which of the following is exempt from decontamination by autoclaving or incineration before disposal?
- A. Needles
 - B. Blood
 - C. Urine
 - D. Other body fluids

ANS: C

All infectious waste, such as containers, sharps (e.g., needles, broken glass, transfer pipettes) must be autoclaved or incinerated before disposal. All biological specimens except urine must be sterilized or decontaminated before disposal. Incineration or autoclaving is acceptable. Urine may be discarded down a sink or toilet. The sink should be rinsed well and decontaminated daily with 0.5% bleach.

Cognitive Level: 1

Reference:

PTS: 1

25. In addition to a Chemical Hygiene Plan, the laboratory must provide employees access to _____ under the employee “right to know.”
- A. MSDS
 - B. NFPA
 - C. OSHA
 - D. BSI

ANS: A

The employee “right to know” requires chemical manufacturers and suppliers to provide MSDS sheets. MSDS for all hazardous chemicals used in the laboratory must be available on site. MSDS also should be retained in each laboratory section for hazardous chemicals frequently used in those areas.

Cognitive Level: 1

Reference:

PTS: 1