

1. _____ can be considered reactive, generally retrospective, occasionally involving policing, and in many ways punitive or finger pointing. It often involves determining who was at fault after a medical error.

A. QA

B. QI

C. QC

2. _____ for example is when a radiologist would request a repeat chest radiograph if the apices are excluded.

A. QA

B. QI

C. QC

3. Institute of Medicine's six improvement aims for the healthcare system. Which is not part of the six?

A. safety

B. effectiveness

C. patient-centeredness

D. gender neutral

E. timeliness

F. efficiency

G. equity

4. Select the correct Core Competency from below –

“Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient populations.”

- A. Patient Care
- B. Medical Knowledge
- C. Interpersonal and Communication Skills
- D. Professionalism
- E. Systems-based Practice
- F. Practice-based Learning and Improvement

5. According to Stephen Few, “A _____ is a visual display of the most important information needed to achieve one or more objectives; consolidated and arranged on a single screen so the information can be monitored at a glance.”

A. Dashboard

B. Benchmark

6. To measure value, therefore, one must first be able to measure _____ – as well as to compare costs to accepted benchmarks

A. Quality

B. Approval ratings

7. _____ are financial and nonfinancial measures that are used to define and evaluate the success of an organization.

A. Benchmarks

B. Key performance indicators

8. Which step in *PDSA (Plan-Do-Study-Act) cycle*?

Devise and implement a plan for performance improvement that addresses the perceived root causes for not achieving the performance target.

- A. Plan
- B. Do
- C. Study
- D. Act

9. Matching

1. used to diagram the steps in a process in order to identify decision or stress points, areas of vulnerability, and opportunities for improvements
2. used to visually display a rank ordering of quality, safety, or risk-factor issues by importance or impact
3. used to analyze the performance of a diagnostic system.
4. used in Root Cause Analysis (RCA) to identify all contributing causes to an identified problem.
5. use to analyze performance of a system as a function of time.

- A. Control chart
- B. ROC curve
- C. Fishbone diagram (also known as Ishikawa Diagram)
- D. Flow chart
- E. Pareto chart

10. The ____ effect states that adverse event reporting tends to increase in the first two years after introduction of a new agent or use for a new indication, peaks at the end of the second year, and then declines.

- A. Weber
- B. Hawthorne(aka observer)

11. The two core management principles of Lean are:

- relentless elimination of _____ and
- respect for people with long-term relationships among employer, employee, suppliers, and customers, based on continuous improvement and mutual trust.

- A. Duplication
- B. Waste

12. In theory, _____ systems work to emulate one-piece flow where the next step of work on an item occurs immediately at the completion of the prior step, the prior step is not creating any more than the next step can handle, and the next step is not idly waiting on the prior step for work. In practice, this is managed by producing a small buffer of inventory and implementing alert systems (kanbans) that signal readiness for additional parts or work.

- A. Push
- B. Pull

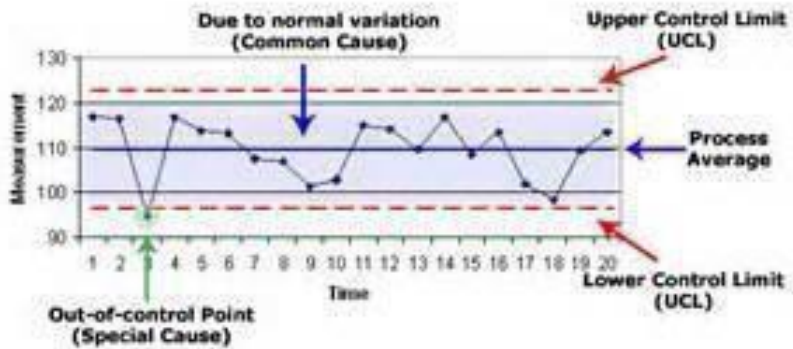
13. _____ is considered to be any element of the workflow that does not add value in the eyes of the end consumer.

- A. Duplication
- B. Waste

14. Six Sigma seeks to improve the quality of process outputs by identifying and removing the causes of defects (errors) and minimizing _____ in manufacturing and business process.

- A. Variability
- B. Cost

15.



Control charts (also known as Shewart charts) aim to analyze the performance of a process in a common language and as a function of _____.

- A. Waste
- B. Time

16. The _____ established its National Patient Safety Goals (NPSGs) program.

- A. Institute of Medicine
- B. Joint Commission

17. Key NPSGs involving radiology practices (hospital and ambulatory) include:

Use at least _____ patient identifiers when providing care, treatment, and services (NPSG.01.01.01).

- A. 2
- B. 3
- C. 4

18. _____ all medications, medication containers, and other solutions on and off the sterile field in perioperative and other procedural settings (NPSG.03.04.01).

- A. Clean
- B. Label

19. Findings of the _____ Report, "To Err is Human: Building a Safer Health System": In 1998 the National Academy of Sciences' IOM initiated the Quality of Health Care in America project to develop a strategy that would result in a threshold improvement in quality over the next ten years.

The report resulted in Congressional hearings and appropriation in 2000 of \$50 million to fund the _____.

- A. Agency for Healthcare Research and Quality (AHRQ)
- B. Institute of Medicine (IOM)
- C. The National Quality Forum NQF

20. Use of outmoded tests or therapies is an example of what type of error?

- A. Diagnostic Errors**
- B. Treatment Errors**
- C. Preventive Errors**
- D. Other Errors**

21. The _____ mode refers to the execution of highly practiced activities, in which there is no conscious monitoring (an example would be the right/left mistakes we make).

- A. skill-based
- B. rule based
- C. knowledge based

22. There are five characteristics of HROs. Which is not one of the characteristic of a High Reliability Organization (HRO):

- A. fixation on failure
- B. avoidance of oversimplification
- C. sensitivity to operations
- D. commitment to process improvement
- E. respect of expertise
- F. dedication to resilience.

23. In an organization with steep authority gradients, especially where there is fear of punishment for errors, quality and safety problems are rarely reported to senior leadership. In this way, such authority gradients _____ the safety culture.

- A. Improve
- B. Undermine

24. Define SBAR?

- A. Situation Background Assessment Recapitulation
- B. Situation Behavior Assessment Recommendation
- C. Situation Background Assessment Recommendation

25. Regarding **THREE BEHAVIORS** of the **JUST CULTURE MODEL**, match the correct leadership action with three manageable behaviors:

- | | |
|----------------------|------------|
| __ Human error | 1. Coach |
| __ At Risk behavior | 2. Punish |
| __ Reckless behavior | 3. Console |

26. Regarding a safety-reporting system, in order to identify flawed systems and processes the primary focus is on all of the following except:

- A. the patient
- B. the individual
- C. the system
- D. the event

27. A _____ is an aspect of behavioral design that prevents a target action from being performed or allows its performance only if another specific action is performed first. For example, one of the first was identified in health care is the removal of concentrated potassium from general hospital ward, to prevent the inadvertent preparation of intravenous solutions with concentrated potassium.

- A. Suggestive function
- B. Forcing function

28. A health care worker who is traumatized by, or unduly punished for, an error or adverse patient event is deemed to be _____

- A. An unfortunate result
- B. Second victim

29. Which type of error:

They are generally readily apparent (e.g., pushing an incorrect button, ignoring a warning light) and almost always involve someone at the front line.

- A. Active
- B. Latent

30. _____ errors are far more common, accounting for between 60 percent and 80 percent of radiologists' errors. These errors occur during the initial detection phase of image interpretation.

- A. Cognitive
- B. Perceptual

31. RCA is a widely used term, but it can be misleading since _____.

- A. "cause" can be misconstrued as search for blame.
- B. many adverse events actually have more than one "root cause."

32.

__ How variable does the result reflect the desired diagnosis?

__ How variable is the test result in ANY given situation.

- A. Precision
- B. Accuracy

33.



This is an example of:

- A. Precision
- B. Accuracy

34.

Universal Protocol – A Three-part Process – which is false?

- A. Conduct a pre-procedure verification process
- B. Mark the procedure site
- C. Hand washing
- D. Perform a time-out

35. _____ training can allow novices to learn from their mistakes in a safe environment and in accordance with the principles of deliberate practice, to be a bridge to help move trainees from the novice state, in which they have a higher risk of causing harm, to a more experienced state, in which they are more likely to do what is needed for patients.

- A. Simulation-based
- B. Apprenticeship

36. Which Validity Type? Correlation between performance on simulator with performance in real clinical scenarios.

- i. Face validity
- ii. Construct validity
- iii. Content validity
- iv. Concurrent validity
- v. Discriminant validity
- vi. Predictive validity

37. The patient should be under the supervision of MR personnel in which zones?

- A. 1
- B. 2, 3, 4
- C. 1, 2, 3, 4

38. The MRI scanner control room is typically in Zone ____.

- A. 1
- B. 2
- C. 3
- D. 4

39. If a patient needs CPR, the patient _____

- A. must first be taken out of the MRI scanner room.
- B. must be evaluated prior to leaving the MRI scanner room.

40. Loops of wire or patches of metal may be rapidly heated by _____ during normal operation of an MRI system.

- A. radio frequency pulses
- B. the magnetic field

41. The *ACR Contrast Manual* lists three goals for contrast administration, which of the following is false:

- 1) to assure that the administration of contrast is appropriate for the patient and the indication
- 2) develop improved contrast media
- 3) to minimize the likelihood of a contrast reaction
- 4) to be fully prepared to treat a reaction should one occur

42. The genetic predisposition to develop common allergies:

- A. Atopy
- B. Atony

43. There is ___proof that premedication protects against severe life-threatening reactions, but the rarity of such reactions would make it difficult to prove a benefit.

- A. No
- B. Improving

44. Regarding patients with thyroid cancer or hyperthyroidism who are anticipating treatment with radioactive iodine (I-131), they should not receive iodinated contrast in the 4 to 6 ____ prior to anticipated radioiodine treatment

- A. Days
- B. Weeks

45. Atropine 0.6 to 1 mg IV slowly is appropriate for:

- A. Hypotension with tachycardia
- B. Hypertension, Severe
- C. Hypotension with bradycardia

46. While there is evidence of a dose-related risk of CIN in _____ administration, there is conflicting data as to whether dose is a risk factor with _____ administration.

- A. intravenous
- B. arterial
- C. oral

47. The *ACR Manual on Contrast Media* suggests obtaining a serum creatinine measurement in patients with specific criteria. Which one is incorrect?

- 1) age > 60
- 2) history of renal disease (including dialysis, kidney transplant, single kidney, renal cancer, or renal surgery)
- 3) hypertension NOT requiring medical therapy
- 4) diabetes mellitus
- 5) metformin or metformin- containing drugs

48. Various pretreatment strategies have been investigated for patients felt to be at risk of CIN. Which is the best choice:

- A. furosemide (a loop diuretic)
- B. theophylline
- C. endothelin-1
- D. lactated ringers
- E. sodium bicarbonate
- F. N- acetylcysteine
- G. Fenoldopam

49. Which is not a common severe complication of contrast extravasation:

- A. compartment syndrome
- B. skin ulceration
- C. infection
- D. tissue necrosis

50. Surgical consultation should be obtained for patients who develop progressive swelling or pain, altered tissue perfusion (manifested by _____), change in sensation, or skin ulceration or blistering.

- A. decreased capillary refill
- B. finger tip clubbing

51. Extrinsic warming of iodinated contrast material to human body temperature (37°C) may be helpful to minimize complications and improve vascular opacification in the following circumstances except:

- A. For high-rate power injectors
- B. Pediatric patients
- C. Viscous iodinated contrast
- D. Small-caliber catheters
- E. Arterial studies in which timing and peak enhancement are critical features

52. Matching

__The Alliance expressed an objective: to raise awareness in the imaging community of the need to adjust radiation dose when imaging children, with the ultimate goal of changing practice.

__This new American College of Radiology (ACR) initiative also touches on radiologist's reports. It has included five specific recommendations for radiologists' reporting and physician ordering behavior, known as the "Five Things Physicians and Patients Should Question."

__American College of Radiology and the Radiological Society of North America established the Joint Task Force on Adult Radiation Protection to address issues of radiation dose optimization in the adult population.

- A. Choosing Wisely
- B. Image Gently
- C. Image Wisely

53. Patients should be counseled in terms of understanding how the risks of radiation exposure are best understood in terms of population, rather than individual risk. What is the best method to assign an individual's risk from a particular exposure event?

- A. CTDI
- B. CTDI vol
- C. There is no way at this time

54. In recent years, there has been increasing emphasis on improving the clarity and quality of writing in radiologists' reports. This concept has been put forward by many thought leaders in the field and promoted by the major radiological organizations, most notably, the American College of Radiology as part of the "Imaging __" initiative.

- A. 1.0
- B. 2.0
- C. 3.0
- D. 2020

55. Which is not an example of standard radiology lexicon?

- A. BIRADS
- B. RadLex
- C. LIRADS
- D. HL7

56. Regarding the following, what are considered appropriate CTDIvol values:

- ___ mGy for CT of the head
- ___ mGy for CT of the pediatric (40 lbs.) abdomen
- ___ mGy for CT of the adult abdomen

20,25,75

57. Radiation exposure to patients and staff is partly minimized by verifying that the equipment is functioning properly and safely, and controls are properly calibrated. All new equipment is subjected to _____ performed by a health physicist, for this purpose.

A. "utility testing, "

B. "acceptance testing,"

58. Currently, the ACR ACs are the most comprehensive evidence-based guidelines for diagnostic imaging selection, radiotherapy protocols, and image-guided interventional procedures. Ratings of 1 to 3 are defined as _____.

A. "usually not appropriate"

B. "usually appropriate"

59. The American College of Radiology (ACR) has developed a group of documents known as the Practice Guidelines and Technical Standards.

_____ describe recommended conduct in specific areas of clinical practice. They are based on analysis of current literature, expert opinion, open forum commentary, and informal consensus.

A. Technical standards

B. Practice guidelines

60. Peer review is an essential process in radiology quality and safety, in which a random sample, often _____ percent of clinical work done by each radiologist in the group, is evaluated by a peer or peers with comparable clinical credentialing.

A. 5 - 10

B. 20 - 25

61. Peer review is often linked to _____ in which the qualifications for ongoing practice privileges are monitored and reviewed by the responsible managers, such as a Department Chairperson.

- A. Ongoing Professional Practice Evaluation (OPPE)
- B. Focused Provider Practice Evaluation (FPPE)
- C. Both OPPE and FPPE

62. Peer review data are ____ protected from medico-legal discovery and retain unique status with regard to malpractice law.

- A. Fully
- B. Partially

63. ____ also published the monograph "Quality First: Better Healthcare for All Americans."

- A. The National Quality Forum NQF
- B. The Institute of Medicine IOM