

Self-Assessment Test

Overview of Contrast Media: Critical Knowledge for Health-System Pharmacists

This program is located at <http://ashpmedia.org/symposia/contrast>



This self-assessment test has been provided as a study aid only. At the conclusion of the internet-based program, click on "Take CE Test" to proceed to the ASHP Learning Center and take the on-line program post-test. You may print your CE statement immediately after successful completion of the post-test.

There are a total of 15 questions associated with this self-assessment test.

1. Which of the following is **not** a category of iodinated contrast agents?
 - a. Nonionic dimer
 - b. Ionic monomer
 - c. Ionic trimer
 - d. Nonionic monomer

2. Radiology contrast agents are used for all of the following reasons **except**:
 - a. To improve the contrast between a pathologic lesion and surrounding structures
 - b. To ablate a pathologic lesion
 - c. To improve the sensitivity for detecting pathologic lesions
 - d. To get qualitative information about perfusion of a pathologic lesion

3. What is the main reason that nonionic iodinated agents have largely replaced ionic agents for intravenous use?
 - a. Nonionic agents are less expensive than ionic agents
 - b. Nonionic agents have a lower incidence of adverse reactions
 - c. Nonionic agents can be used in smaller volumes than ionic agents
 - d. Nonionic agents can be used safely in patients on metformin

4. Which paramagnetic element has the greatest T1 relaxivity?
 - a. Gadolinium
 - b. Dysprosium
 - c. Ytterbium
 - d. Europium

5. Which of the following is a risk factor for contrast media-related adverse reactions?
 - a. Pediatric age
 - b. Female gender
 - c. Renal dysfunction
 - d. Hepatic dysfunction



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6. Which of the following medication combinations may be administered prior to contrast administration to reduce the risk of adverse reactions to contrast media?
 - a. Acetaminophen and antiemetics
 - b. Steroids and antihistamines
 - c. Acetaminophen and antihistamines
 - d. Steroids and antiemetics

7. The pharmacist's role in screening patients prior to contrast administration includes all of the following **except**:
 - a. Evaluating medication profiles
 - b. Assessing renal function
 - c. Reviewing patient allergies
 - d. Monitoring cardiac function

8. All of the following are required elements of protocol implementation **except**:
 - a. Radiology technician duties described in protocol
 - b. Pharmacy Department involved in designing the protocol
 - c. Medical staff approval obtained for the protocol.
 - d. Licensed independent practitioner role defined by protocol.

9. If a patient is taking metformin, it should be withheld ____ hours after a contrast media study?
 - a. 6
 - b. 18
 - c. 24
 - d. 48

10. Which of the following alerts/rules should be considered for inclusion in a contrast media protocol?
 - a. Use SCr instead of eGFR to determine renal function.
 - b. Withhold metformin for 12 hours following contrast administration.
 - c. Avoid gadolinium-based contrast in patients with eGFR < 30 ml/min.
 - d. Obtain new SCr if last obtained > 7 days prior to contrast administration.

11. Which of the following protocol development/implementation steps can enhance the safe use of contrast media?
 - a. Incorporating a multidisciplinary approach to protocol development
 - b. Eliminating retrospective quality assessment of protocol adherence
 - c. Limiting approval of the protocol to Pharmacy and Therapeutics committee members
 - d. Focusing all educational efforts on the Pharmacy Department



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12. Pharmacists are required to prospectively review which of the following type of medication orders from the Radiology Department?
 - a. All non-contrast medication orders, even in interventional radiology procedures.
 - b. Orders for intravenous contrast agents when the role of the physician before and during the administration of the contrast, including emergencies, is not defined in policy or protocol.
 - c. Orders for oral and rectal contrast administered via a protocol-based approach.
 - d. All orders/prescriptions for oral contrast agents provided to the patient by the radiology department staff, when allowed by law and regulation, a day in advance for self-administration prior to arrival.

13. Which of the following outpatient situations requires the use of a full medication reconciliation process rather than the modified process described under NPSG 08.04.01?
 - a. CT scan using contrast where there are no permanent or temporary changes to the patient's chronic medications.
 - b. CT scan using contrast where the patient is advised to hold their metformin therapy for 48 hours after the procedure.
 - c. Interventional radiology procedure where the patient still experiences the effects of anesthesia after leaving the facility.
 - d. CT scan when oral contrast is provided to the patient a day prior.

14. NPSG 01.01.01 requires the use of two patient identifiers. Which of the following points in time is it acceptable for this identification process to occur?
 - a. When the patient checks in at the registration desk.
 - b. Shortly after the patient is called in from the waiting room and escorted to the dressing area.
 - c. After the patient finishes changing and is escorted to the procedure room.
 - d. Immediately prior to a medication or contrast being administered or set up for administration (i.e., power injector attached to patient).



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15. Which of the following standard non-compliance issues can result in triggering a situational decision rule that, by itself, will yield an accreditation decision of conditional accreditation?
- Failing to check the expiration date of a contrast agent prior to administration.
 - Failing to identify a patient using two patient identifiers prior to administering contrast.
 - Having a receptionist dispense a bottle of oral contrast to an outpatient the day prior to a scan and state law does not recognize this person as an agent of the physician.
 - Administering the wrong contrast agent to a patient, as determined by the department protocol.



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