CONTINUING EDUCATION TEST: Assessment of Glomerular Filtration Rate Measurement with Plasma Sampling: A Technical Review

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1. *Glomerular filtration rate represents _____ presented to the nephrons per unit time during urine formation.*

A. Red blood cells.
B. White blood cells.
C. Red cell volume.
D. Plasma volume.

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2. *Radionuclide-based techniques allow for rapid and reliable measurement of glomerular filtration rate, this being done in what manner?*

A. Plasma samples taken after intravenous administration of a bolus of radionuclide-labeled tracer.
B. Red blood cell samples taken after intravenous administration of a bolus of radionuclide-labeled tracer.
C. White blood cell samples taken after intravenous administration of a bolus of radionuclide-labeled tracer.
D. Plasma samples taken before intravenous administration of a bolus of radionuclide-labeled tracer.

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3. *For glomerular filtration rate studies, ideally the same _____ should be used throughout the study to minimize possible error.*

A. Treatment room.
B. Clock.
C. Size syringe.
D. Syringe shield.

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4. *What would invalidate a glomerular filtration rate study?*

A. Allowing the patient to sleep between taking samples.
B. Collection of an extra blood sample.
C. Extravasation of the dose.
D. Fasting during the study.

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5. *What is not an ideal property of a tracer used in glomerular filtration rate studies?*

A. Freely moves through glomerular membrane.
B. Has no extrarenal excretion or clearance.
C. Has no extrarenal extraction.
D. Readily binds to protein.

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6. *To get a counting error of less than 1%, what is the minimum suggested number of counts that should be collected for a glomerular filtration rate calculation?*

A. 100 counts.
B. 1,000 counts.
C. 10,000 counts.
D. 100,000 counts.

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7. *What condition might not be a contraindication for glomerular filtration rate studies?*

A. Ascites.
B. Solid tumors.
C. Diabetes.
D. Edema.

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8. *Why is the plasma isolated, by centrifuging, before counting?*

A. The tracer stays only in the plasma.
B. Counting blood cells will increase the sample counts.
C. Blood cells might clot while being counted.
D. The tracer sticks to blood cells.

9. *What is the standard radionuclide tracer used in the United States for glomerular filtration rates?*

A. ^{99m}Tc-DMSA.
B. ^{99m}Tc-DTPA.
C. ^{99m}Tc-MAG3.
D. ^{51}Cr-EDTA.

10. *Significant drops in glomerular filtration rates can occur during the course of chemotherapy treatment because of the nephrotoxic nature of therapies, and these drops can be _____.*

A. Chronic.
B. Acute.
C. Chronic or acute.
D. Always reversible.

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Answer Sheet

1.	A	B	C	D	6.	A	B	C	D
2.	A	B	C	D	7.	A	B	C	D
3.	A	B	C	D	8.	A	B	C	D
4.	A	B	C	D	9.	A	B	C	D
5.	A	B	C	D	10.	A	B	C	D

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v41, n2 6/13

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