

The glomerulus is primarily responsible for _____ of unbound drug in the kidney:

- A) Filtration
- B) Reabsorption
- C) Secretion
- D) Endocytosis

Active drug secretion occurs most often in which of the following nephron segments:

- A) Glomerulus
- B) Proximal tubule
- C) Loop of Henle
- D) Distal tubule

According to the intact nephron hypothesis, reabsorption _____ and single nephron GFR _____ in the surviving nephrons:

- A) increases, increases
- B) decreases, decreases
- C) increases, decreases
- D) decreases, increases

The kidney is responsible for synthesizing each of the following hormones, EXCEPT:

- A) Erythropoietin
- B) Prostaglandin
- C) PTH
- D) Renin

The decreased serum creatinine values observed during dobutamine therapy are likely due to:

- A) analytical interference
- B) increased tubular secretion of creatinine
- C) increased GFR caused by dobutamine
- D) increased muscle breakdown

Which of the following renal function indices is least influenced to changes in fluid or volume status:

- A) Serum creatinine
- B) Blood urea nitrogen
- C) Urine specific gravity
- D) Urine sodium

Which of the following renal function indices is least affected by dietary protein intake:

- A) Serum creatinine
- B) Blood urea nitrogen
- C) Creatinine clearance
- D) Urine sodium

The most appropriate index for quantifying proteinuria in a patient with CKD risk factors is:

- A) Total protein dipstick
- B) Protein:albumin ratio
- C) Albumin:creatinine ratio
- D) 24-hour protein excretion

The least accurate method for measuring GFR is:

- A) Iohexol clearance
- B) Iothalamate clearance
- C) Inulin clearance
- D) Creatinine clearance

Which of the following equations is most appropriate for estimating renal function in a patient with stable CKD and GFR <60 mL/min/1.73m²?

- A) 4-variable MDRD
- B) 6-variable MDRD
- C) Cockcroft-Gault
- D) Brater

Use of MDRD equations in individuals with GFR > 60 mL/min/1.73m² may result in:

_____.

- A) Overestimation of true GFR
- B) Underestimation of true GFR
- C) Accurate estimation of true GFR
- D) Accurate estimation of creatinine clearance

J.S. is a 70-year old African American male (5'8", 85 kg) with a history of hypertension and CKD. His serum creatinine today is 1.50 mg/dL (using the IDMS calibrated assay).

What is his estimated creatinine clearance?

- A) 55.0 mL/min
- B) 43.5 mL/min
- C) 37.2 mL/min
- D) 29.4 mL/min

What is J.S.'s estimated GFR (in mL/min/1.73m²)?

- A) 56.0 mL/min/1.73m²
- B) 49.4 mL/min/1.73m²
- C) 35.0 mL/min/1.73m²
- D) 30.2 mL/min/1.73m²

What is J.S.'s estimated GFR when corrected for BSA (in mL/min)?

- A) 38.9 mL/min
- B) 45.6 mL/min
- C) 65.2 mL/min
- D) 72.1 mL/min

J.R. is a 68 year-old Caucasian man (60 kg, 5'7") with a history of hypertension, cerebral stroke and benign prostatic hypertrophy. He presents to the ambulatory care clinic today for evaluation of a viral infection to be treated with acyclovir. His serum creatinine value today is 0.63 mg/dL.

Which one of the following approaches should be used to assess this patient's renal function for the purpose of renal dose adjustment for acyclovir?

- A) Measure a chromium-labeled ethylenediaminetetraacetic acid GFR.
- B) Estimate creatinine clearance using the CG equation.
- C) Estimate GFR using the MDRD equation.
- D) Conduct a timed 24-hour urine collection.

An appropriate clinical monitoring plan to evaluate renal protective therapy in patients with CKD should include each of the following items EXCEPT:

- A) estimated creatinine clearance
- B) urinary albumin:creatinine
- C) urinary Cystatin C
- D) estimated GFR

Which of the following compounds is most often used to assess cationic tubular secretion?

- A) PAH
- B) TEA
- C) Probenecid
- D) Retinal-binding protein

In the clinical setting, the renal clearance of PAH is considered an index of _____.

- A) Fractional excretion of sodium
- B) Renal plasma or blood flow
- C) Glomerular filtration rate
- D) Renal tubular reabsorption