

Practice Exam Questions

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EXAMAIDES

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Total Question: 175 QAs

Section Description: Jones Case Questions (Q1-Q5)

Ben Jones, a 58-year-old patient with end-stage kidney disease (ESKD), has numerous complaints about his quality of life and is generally unhappy. Mr. Jones has had difficulties managing his treatment regimen.

Question No: 1

Which of the following psychiatric disorders is most common in patients with ESKD?

- A. Anxiety.
- B. Dementia.
- C. Depression.
- D. Bipolar disorder.

Answer: C

Explanation: The psychiatric disorder that is most common in patients with ESKD is depression, which may occur in 10% to 50% of patients on dialysis. One of the primary problems associated with depression is nonadherence because patients who are depressed may feel that compliance with treatment is pointless, or they may be suicidal and feel that they want to die. In fact, suicide rates are higher for dialysis patients than for the general population. Psychiatric problems affect about 10% of hospitalized patients with ESKD.

Question No: 2

Mr. Jones is screened with the Beck Depression Inventory and has a score of 20, suggesting

- A. no depression.
- B. mild depression.
- C. moderate depression.
- D. severe depression.

Answer: C

Explanation: If a patient with ESKD is screened with the Beck Depression Inventory (BDI) and has a score of 20, this suggests moderate depression. This tool has 21 items that are scored from 0 (no problem) to 3 (severe). The higher the score, the more severe the depression. BDI is normed for adults between the ages of 17 and 80 years and is often used to screen patients with kidney disease. Scores:

- 0 to 9 no signs of depression
- 10 to 18 mild depression
- 19 to 29 moderate depression
- 30 to 63 severe depression

Question No: 3

Mr. Jones participates in cognitive behavioral therapy to decrease depression, but his depression worsens, so the physician has prescribed a selective serotonin reuptake inhibitor (SSRI). For a patient with ESKD, the dosage of the SSRI should be

- A. reduced by two-thirds.
- B. increased by two-thirds.
- C. reduced by one-third.
- D. decreased by one-third.

Answer: A

Explanation: For a patient with ESKD, the dosage of an SSRI should be reduced by two-thirds. SSRIs pose an increased risk of bleeding and nausea and vomiting, symptoms that may occur with ESKD, so the patient must be monitored carefully. However, the SSRI may provide some additional benefit by decreasing incidence of postural and intradialytic hypo tension because of improved vascular tone.

The most common drug prescribed for ESKD patients is fluoxetine (usually 20 mg daily).

Question No: 4

Mr. Jones has not adhered to his diet plan, and the nurse is encouraging him to maintain a high-carbohydrate diet. The purpose of a high-carbohydrate diet for a patient with ESKD is to

- A. improve appetite.
- B. improve sense of well-being.
- C. spare protein for growth and healing.
- D. spare fat for growth and healing.

Answer: C

Explanation: The purpose of a high-carbohydrate diet for a patient with kidney failure is to spare protein for growth and healing. Protein intake must be individualized so that the body's requirements for protein are met while preventing symptoms related to uremia. With a high-carbohydrate diet, the carbohydrates are burned to provide energy for the body while the protein is "spared." Patients may need to limit some high-carbohydrate foods that are also high in potassium, so consultation with a nutritionist is an important part of dietary education.

Question No: 5

Mr. Jones' physical complaints may be associated with the MIA syndrome, which is commonly associated with ESKD. MIA refers to (1} malnutrition, (2} inflammation, and (3}

- A. anemia.
- B. agranulocytosis.
- C. angina.
- D. atherosclerosis.

Answer: D

Explanation: The MIA syndrome commonly found in ESKD refers to (1) malnutrition, (2) inflammation, and (3) atherosclerosis. Malnutrition may result from inadequate diet (particularly protein), loss of appetite, GI bleeding, substance abuse, impaired metabolic processes, and factors associated with hemodialysis, such as inadequate Kt/V. Inflammation is related to increased oxidative stress, production of cytokines (interleukin 1 β , interleukin 6, tumor necrosis factor), metabolic acidosis, and infection. Atherosclerosis is associated with a variety of factors, including hyperlipidemia and lipoprotein abnormalities.

Section Description: Maddox Case Questions (Q6-Q8)

Jane Maddox is a 52-year-old woman who has started hemodialysis after both kidneys were removed because of bilateral renal cell carcinoma.

Question No: 6

When teaching Ms. Maddox to manage fluid balance, the nurse advises the patient that a 1 kg (2.2 lb) increase in weight in 24 hours is approximately equivalent to fluid retention of

- A. 0.5 L.
- B. 1 L.

C. 1.5 L.

D. 2 L.

Answer: B

Explanation: When teaching a patient with kidney failure and hemodialysis to manage fluid balance, the nurse advises the patient that a 1 kg (2.2 lb) increase in weight in 24 hours is approximately equivalent to fluid retention of 1 L. Patients should be advised to monitor intake and output and take daily weights. Patients' "dry" weights should be estimated every 3 to 6 weeks in order to help to estimate weight gain related to fluids. Weight gained between dialysis treatments should not exceed 5% of the dry weight estimate.

Question No: 7

Ms. Maddox has been advised to avoid foods high in phosphorus. Foods that the patient should be advised to limit include

A. fruits.

B. vegetables.

C. dairy products.

D. grains.

Answer: C

Explanation: If a patient on hemodialysis has been advised to avoid foods high in phosphorus, dairy products should be limited. Other foods and beverages that are high in phosphorus include beer, ale, colas, chocolate, high-protein meats (liver, organ meats), oysters, sardines, dried beans and peas, nuts, seeds, whole grains, wheat germ, and bran. Normal phosphorus level is 2.5 to 4.5 mg/ dL.

Lowering phosphorus levels helps to increase absorption of calcium.

Question No: 8

Ms. Maddox has been prescribed sevelamer hydrochloride as a phosphate binder. The patient should be advised to take this medication

A. 1 hour before meals.

B. 2 hours after meals.

C. first thing in the morning.

D. with meals.

Answer: D

Explanation: If a patient on hemodialysis has been prescribed sevelamer hydrochloride as a phosphate binder, she should be advised to take this medication with meals. Because sevelamer hydrochloride may bind to other medications and decrease their bioavailability, other drugs should be given an hour before sevelamer or 3 hours after. The dosage of sevelamer should be adjusted to maintain a phosphorus level of 3.5 to 5.5 mg/ dL. Calcium, bicarbonate, and chloride levels should be monitored as well as phosphorus.

Section Description: Logan Case Questions (Q9-Q10)

Artie Logan is a 40-year-old man with chronic kidney disease that has progressed from stage 2 to stage 3.

Question No: 9

Chronic kidney disease is staged according to the patient's

A. GFR.

B. serum creatinine.

C. BUN.

D. urine albumin.

Answer: A

Explanation: Chronic kidney disease is staged according to the patient's glomerular filtration rate (GFR).

The GFR shows the quantity of glomerular filtrate produced each minute in the nephrons, based on clearance of specific substances. Different equations are used to estimate the GFR, but the National Kidney Foundation Kidney Disease Outcomes Quality Initiative (NKF KDOQI) guidelines recommend the MORD Study Equation, which is based on the serum creatinine and is normalized to a body surface area of 1.73 m². • Thus, the equation does not require the patient's height and weight.

The equation requires age and includes adjustments for females and for African Americans.

Question No: 10

As chronic kidney disease progresses from stage 2 to stage 3, the focus of clinical intervention moves toward

A. reducing risk and slowing progression.

B. monitoring progression.

C. preparing for dialysis.

D. evaluating and treating complications.

Answer: D

Explanation: As chronic kidney disease progresses from stage 2 to stage 3, the focus of clinical intervention moves toward evaluating and treating complications. The plans for the 5 stages of chronic kidney disease are as follows:

1. Diagnosing and establishing treatment plan as well as reducing risk of cardiovascular disease and slowing disease progression.
2. Monitoring the progression of the disease.
3. Evaluating and treating complications, as kidney function is increasingly impaired.
4. Preparing the patient for eventual dialysis and/or kidney transplant so that patient understands requirements and options.
5. Educating and assisting patient to undergo dialysis and, if appropriate, prepare for transplantation.

Section Description: Carroll Case Questions (Q11-Q16)

Estella Carroll, a 68-year-old woman with acute kidney injury and uremia, is receiving continuous renal therapy (CRRT) in the critical care unit.

Question No: 11

Ms. Carroll is receiving continuous venovenous hemodialysis (CVVHD) because her severe uremia requires large volumes of fluid removal. What is the desirable mean arterial pressure (MAP) for optimal fluid removal and dialysis?

A. At least 50 mm Hg.

B. At least 60 mm Hg.

C. At least 70 mm Hg.

D. At least 80 mm Hg.

Answer: C

Explanation: When using continuous venovenous hemodialysis (CVVHD) for a patient with severe uremia requiring large-volume removal of fluid, the desirable mean arterial pressure (MAP) for optimal fluid removal and dialysis is 70 mm Hg (although many patients who are critically ill may have a lower MAP). For a patient with a BP of 190/100 mm Hg, the formula for MAP is:

- (systolic blood pressure plus 2X the diastolic blood pressure) divided by 3
- $MAP = 190 + 200 = 390/3 = 130$.

Question No: 12

While Ms. Carroll is undergoing continuous renal replacement therapy, filter clotting occurs, slowing the ultrafiltration rate even after the nurse lowers the effluent container.

The nurse should assess the system for

- A. disconnection of one of the lines.
- B. inappropriate dialysate.
- C. obstruction or inadequate heparinization.
- D. unsecured connections.

Answer: C

Explanation: If a patient is undergoing continuous renal replacement therapy (CRRT) and filter clotting occurs, causing the ultrafiltration rate to slow even after lowering the effluent container, the nurse should assess the system for obstruction or inadequate heparinization. If adjusting the anticoagulation does not improve the rate of ultrafiltration, the physician should be notified, and the system may need to be replaced. During replacement, the catheters and the new system should be primed with anticoagulated solution.

Question No: 13

While Ms. Carroll is undergoing CVVHD with heparin used for anticoagulation, the nurse notes blood oozing from the catheter insertion site. Which of the following tests is indicated?

- A. Vitamin K level.
- B. Activated clotting time (ACT).
- C. Serum calcium.
- D. Hgb and Hct.

Answer: B

Explanation: If a patient is undergoing continuous venovenous hemodialysis (CW HD) with heparin used for anticoagulation and the nurse notes blood oozing from the catheter insertion site, the activated clotting time (ACT) should be monitored at least every hour and heparin dose adjusted within established protocol. The dressings should be assessed for blood loss with strict aseptic technique used for vascular access. The patient's vital signs should be monitored carefully and effluent checked for signs of blood.

Question No: 14

Ms. Carroll's condition stabilizes but she later becomes hypotensive, even though the lines are not disconnected and there is no blood leak. The nurse should suspect the cause is

- A. increased ultrafiltration rate
- B. sepsis.
- C. decreased ultrafiltration rate.
- D. myocardial infarction.

Answer: A

Explanation: If a patient undergoing CRRT becomes hypotensive but the lines are not disconnected and there is no blood leak, the nurse should suspect the cause is an increased ultrafiltration rate. The ultrafiltration rate is the rate at which fluid is removed, and if this occurs too rapidly, the patient may experience a drop in blood pressure. The ultrafiltration rate for CVVHD is 500 to 800 mL/h.

With hypotension, the ultrafiltration rate may need to be decreased and/or replacement fluids increased.

Question No: 15

According to the CDC, to reduce the incidence of infection, Ms. Carroll's continuous renal replacement therapy (CRRT) catheter should be changed

- A. every 48 hours.
- B. every 5 days.
- C. once weekly.
- D. when clinically indicated.

Answer: D

Explanation: According to the Centers for Disease Control and Prevention (CDC), to reduce the incidence of infection, CRRT catheters should be changed only when clinically indicated. Routine changes of catheters are no longer advised because each change increases the risk of infection. For venovenous access, an uncuffed double lumen catheter is inserted into a large vein, usually the femoral or jugular. The subclavian vein may also be used if the femoral or jugular veins are contraindicated for some reason.

Question No: 16

According to the Kidney Disease: Improving Global Outcomes (KDIGO) acute kidney injury (AKI) guide line, CRRT is recommended over intermittent hemodialysis for patients with renal failure and

- A. heart failure.
- B. sepsis.
- C. cerebral edema.
- D. IV contrast administration.

Answer: C

Explanation: According to KDIGO AKI guidelines, CRRT is recommended over intermittent hemodialysis specifically for patients with kidney failure and cerebral edema or signs of increased intracerebral pressure. The dialysis or replacement fluid used is more sodium hypertonic (>140 mM) than usual to prevent movement of fluid into the brain. In some cases when the intracranial pressure is uncontrolled, the patient may benefit from cooling of the replacement fluids.

Section Description: Mayer Case Questions (Q17-Q18)

Sarah Mayer, a 26-year-old woman, develops hematuria, peripheral and pulmonary edema, hypertension, azotemia, and proteinuria, and is diagnosed with acute glomerulonephritis. The patient's BUN and serum creatinine levels are increased. The patient complains of headache, flank pain, and general malaise.

Question No: 17

Ms. Mayer also presents with a malar rash, arthralgias, and oral lesions. Which disorder should be suspected as the precipitating factor for the acute glomerulonephritis?

- A. Rheumatoid arthritis.
- B. Systemic lupus erythematosus (SLE).
- C. Wegener granulomatosis.
- D. Renal cancer.

Answer: B

Explanation: If a patient with symptoms of acute glomerulonephritis also presents with malar rash, arthralgias, and oral lesions, these findings are suggestive of systemic lupus erythematosus (SLE), which is a common

noninfectious cause of acute glomerulonephritis. SLE is a multisystem autoimmune disorder. With SLE, the injury to the glomeruli is related to deposition of immune complexes. Lupus nephritis commonly occurs within 5 years of diagnosis of SLE as the disease progresses. The patient is also at increased risk of cardiovascular disease.

Question No: 18

Based on these findings (including the malar rash, arthralgias, and oral lesions), in addition to a nephrologist, the patient may require consultation with a(n)

- A. oncologist.
- B. hematologist.
- C. immunologist.
- D. rheumatologist.

Answer: D

Explanation: Based on these findings, the patient may require consultation with a rheumatologist because the treatment approach is different from that used for infectious causes of acute glomerulonephritis. For example, steroids may be indicated for SLE and are contraindicated for infectious glomerulonephritis. Symptoms associated with SLE may be varied, and treatment challenging, so a physician with expertise in treating SLE should be consulted prior to beginning treatment if possible.

Question No: 19

Healthcare personnel caring for patients undergoing kidney transplantation should receive which of the following immunizations?

- A. Influenza (annual).
- B. Herpes zoster.
- C. Hepatitis C.
- D. DTaP.

Answer: A

Explanation: Healthcare personnel caring for patients undergoing kidney transplantation should receive an annual influenza immunization. The CDC recommendations for healthcare personnel also include the hepatitis B series, varicella, and measles, mumps, and rubella (MMR) if not already immune, and a single dose of Tdap. Once an adult has received the Tdap vaccination, subsequent boosters should be with Td every 10 years. Family members and caregivers should also be advised to have the same immunizations in order to protect the patient.

Question No: 20

The most common infection following kidney transplantation is

- A. abdominal.
- B. pulmonary.
- C. urinary tract.
- D. cardiovascular.

Answer: C

Explanation: The most common infection following kidney transplantation is urinary tract infections, which include 45% to 47% of infections and impair the function of the donor kidney or lead to loss of the kidney and, in some cases, death. Infection is especially dangerous if it occurs in the first 6 months after transplant.

Bacteriuria and UTI may be asymptomatic because of immunosuppression.

Administration of antibiotic prophylaxis and early removal of urethral catheters have helped to reduce infections, but rates remain high.

Question No: 21

Twelve months after receiving a kidney transplant, a patient experiences reduced urinary output and increasing serum creatinine levels. Ultrasonography shows hydronephrosis is present. The most likely cause is

- A. renal artery stenosis.
- B. venous thrombosis.
- C. lymphocele.
- D. ureteral stenosis.

Answer: D

Explanation: If, 12 months after receiving a kidney transplant, a patient experiences reduced urinary output and increasing serum creatinine levels and ultrasonography shows hydronephrosis is present, the most likely cause is ureteral stenosis, which has caused urine to back up into the kidney. Ureteral stenosis usually occurs relatively late, months or even years after kidney transplant. Causes may vary, including fibrotic changes, an anastomosis that is too tight, or external compression, such as from a lymphocele.

Question No: 22

If a patient with a donor kidney develops sudden onset of hypertension 2 years after transplantation, the most likely cause is

- A. vascular thrombosis.
- B. ureteral obstruction.
- C. graft rejection.
- D. arterial stenosis.

Answer: D

Explanation: If a patient with a donor kidney develops sudden onset of hypertension 2 years after transplantation, the most likely cause is arterial stenosis, which can occur in up to 10% of patients within a few months or years after transplantation. Angiography is usually done to exclude other diagnoses and confirm stenosis. Treatment most commonly involves angioplasty and stent placement in order to ensure patency of the artery. Doppler ultrasonography may be used postoperatively to monitor progress and assess for hematoma formation.

Question No: 23

Following kidney transplantation, a patient develops a large lymphocele between the bladder and the transplanted kidney. The treatment of choice is usually

- A. internal drainage into abdomen.
- B. sclerotherapy.
- C. instillation of fibrin glue.
- D. aspiration.

Answer: A

Explanation: If, following kidney transplantation, a patient develops a large lymphocele between the bladder and the transplanted kidney, the treatment of choice is usually internal drainage into the abdomen, done laparoscopically. A lymphocele usually develops within the first year when lymphatic vessels leak lymph into

the tissues. Patients typically complain of edema and pain and exhibit impairment of renal function. If the lymphocele is very small, sclerotherapy may be used, but the lymphocele may recur. Aspiration may increase risk of infection, especially if a drainage catheter is left in place. Fibrin glue is sometimes used.

Question No: 24

Kidney rejection within hours of transplantation is classified as

- A. accelerated.
- B. hyperacute.
- C. chronic.
- D. acute.

Answer: B

Explanation: Kidney rejection occurring within hours of transplantation is classified as hyperacute. Types of rejection include:

- Hyperacute: This can occur within a few minutes or hours of transplantation and results from anti-donor antibodies and complement system activation.
- Accelerated: This may occur within days of transplantation and involves reactivation of sensitized T cells.
- Acute: This may occur within days up to a number of weeks and involves primary activation of T cells.
- Chronic: This form develops over a period of months to years and involves multiple factors, both immunologic and nonimmunologic.

Question No: 25

When OKT3 treatment is used for a severe acute kidney rejection episode, premedication usually begins with

- A. cyclosporine.
- B. azathioprine.
- C. methylprednisolone.
- D. fexofenadine.

Answer: C

Explanation: When OKT3 treatment is used for a severe acute kidney rejection episode, premedication usually begins with IV methylprednisolone (250 to 500 mg), which is administered about an hour before administration of OKT3 and again 30 minutes after. Diphenhydramine (50 mg IV) is also usually administered before the OKT3 each day, and acetaminophen (650 mg) is given 30 minutes before. Cyclosporine is discontinued, but azathioprine may be continued (25 mg/day). OKT3 is generally administered at 5 mg/day for 2 weeks.

Question No: 26

According to the RIFLE criteria for acute kidney dysfunction, urinary output indicative of kidney failure is

- A. <0.5 mL/kg/h for 6 hours.
- B. <0.5 mL/kg/h for 12 hours.
- C. <0.3 mL/kg/h for 24 hours
- D. anuria for 6 hours.

Answer: C

Explanation: According to the RIFLE (Risk, Injury, Failure, Loss of kidney function, ESKD) criteria for acute kidney dysfunction, urinary output indicative of kidney failure is <0.3 mL/kg/h for 24 hours. Other indications include serum creatinine 3 times normal or serum creatinine of ~4 mg/dL with acute rise in serum creatinine of ~0.5

mg/dL. The RIFLE criteria are used to determine the risk of developing acute kidney injury (AKI) in patients who are critically ill. The first 3 categories (RIF) indicate increasing severity of disease and the last 2 (LE) indicate outcome criteria.

Question No: 27

Which of the following is an example of an intrarenal cause of AKI?

- A. Hemorrhage.
- B. Sepsis.
- C. Urethral obstruction.
- D. Tumor lysis syndrome.

Answer: D

Explanation: Tumor lysis syndrome is an example of an intrarenal cause of acute kidney injury (AKI). AKI may be prerenal, intrarenal, or postrenal, depending on the cause:

- Prerenal: extended hypotension (sepsis, vasodilation), low cardiac output (heart failure, cardiogenic shock), volume depletion (hemorrhage, dehydration), and renovascular thrombosis
- Intrarenal: kidney ischemia, endogenous toxins (rhabdomyolysis, tumor lysis syndrome), exogenous toxins (contrast dyes, nephrotoxic drugs)
- Postrenal: obstruction (ureters, bladder, urethra)

Question No: 28

Which of the following medications may result in tubular cell toxicity?

- A. Acetaminophen.
- B. Aminoglycosides.
- C. Diphenhydramine.
- D. Benzodiazepines.

Answer: B

Explanation: Many commonly used medications are nephrotoxic, especially if taken in large amounts.

Drugs that may cause tubular cell toxicity include aminoglycosides, antiretrovirals, contrast dye, zoledronate, and amphotericin B. Because the proximal tubular cells actively concentrate and reabsorb glomerular filtrate, the cells are exposed to toxic elements. Other pathogenic mechanisms include alterations in intraglomerular hemodynamics, inflammation, crystal nephropathy, rhabdomyolysis, and thrombotic microangiopathy.

Question No: 29

If 200 patients are exposed to an airborne virus carried by a staff member over a 1-week period and 40 patients are infected, the attack rate is

- A. 5%.
- B. 10%.
- C. 20%.
- D. 40%.

Answer: C

Explanation: If 200 patients are exposed to an airborne virus carried by a staff member over a 1-week period and 40 patients are infected, the attack rate is 20%. The attack rate shows the proportion of at-risk patients who are exposed and become infected. Attack rates are always calculated as a percentage based on the number of cases per 100. Since there are 20 patients per 100, the calculation is $20/100 \times 100 = 20\%$.

Question No: 30

If an infection involves a propagating source, the nurse would expect the infection to spread

- A. from a common source, such as the water supply.
- B. from person to person.
- C. through air borne means only.
- D. through contact only.

Answer: B

Explanation: If an infection involves a propagating source, the nurse would expect the infection to spread from person to person, either through airborne means or through direct contact. With a propagating source, there may be waves of infections because the first infected group infects a subsequent group, so the infection keeps spreading. With a common source, there is one source of infection, such as a water supply, that can directly infect multiple persons. A common source of infection is easier to contain than a propagating source.

Question No: 31

If 4 patients in a community of 2000 people are infected with methicillin-resistant *Staphylococcus aureus* (MRSA), this would be classified as a(n)

- A. epidemic.
- B. pandemic.
- C. outbreak.
- D. cluster.

Answer: D

Explanation: If 4 patients in a community of 2000 people are infected with MRSA, this would be classified as a cluster because of the small number. If the number grows beyond what is expected for the population, it would be classified as an outbreak or epidemic, with the terms often used interchangeably. The term epidemic sometimes refers to a larger spread of the disease. A pandemic occurs when the epidemic spreads very widely, sometimes to multiple countries.

Question No: 32

The risk of disease occurring in a population (such as the number of people with kidney disease who develop a urinary tract infection) over a specified period of time (such as 1 year) is the

- A. incidence rate.
- B. prevalence rate.
- C. incidence density.
- D. attack rate.

Answer: A

Explanation: The risk of disease occurring in a population (such as the number of people with kidney failure who develop a urinary tract infection) over a specified period of time (such as 1 year) is the incidence rate. For example, if there are 500 patients with kidney failure and 42 develop urinary tract infections over the course of 1 year, the numerator is the number of infections and the denominator the total number of patients:

- $42/500 = 0.084 \times 100 = 8.4\%$ incidence rate.

Section Description: Aiken Case Questions (Q33-Q40)

Drake Aiken, an 18-year-old man with ESKD resulting from IgA nephropathy, is to begin using continuous

ambulatory peritoneal dialysis (CAPD) to control his condition.

Question No: 33

When assisting a surgeon with stencil-based preoperative mapping for insertion of a peritoneal dialysis catheter, the nurse should initially position Mr. Aiken

- A. in any convenient position.
- B. standing.
- C. sitting.
- D. supine.

Answer: D

Explanation: When assisting a surgeon with stencil-based preoperative mapping for insertion of a peritoneal dialysis catheter, the patient should initially be positioned supine so that the abdomen can be easily visualized and the stencil placed in various positions that are appropriate for different catheters and the exit sites marked with a marking pen. Then, the patient is assisted to sitting and standing positions so that the surgeon can evaluate the exit sites in relation to skin folds, creases, and the belt line. When an exit site is selected, then the mapping is completed.

Question No: 34

Prior to surgical placement of a catheter for peritoneal dialysis, the recommended antibiotic prophylaxis is generally

- A. aminoglycoside.
- B. vancomycin.
- C. sulfonamide.
- D. first-generation cephalosporin.

Answer: D

Explanation: Prior to surgical placement of a catheter for peritoneal dialysis, the recommended antibiotic prophylaxis is generally a first-generation cephalosporin. Vancomycin is also frequently used, but the issue of antibiotic resistance should be considered carefully and balanced against benefits of vancomycin. Usually, 1 dose of antibiotic is given at the time of the catheter insertion. A double-cuff catheter is recommended because of lower rates of infection and other site complications.

Question No: 35

After a catheter is implanted, a culture of the catheter exit site is positive for *Staphylococcus aureus* but there is no erythema or purulent discharge. The most likely cause of the positive culture is

- A. peritonitis.
- B. lab error.
- C. colonization.
- D. specimen contamination.

Answer: C

Explanation: If a culture of the catheter exit site is positive for *Staphylococcus aureus* but there is no erythema or purulent discharge, the most likely cause of the positive culture is colonization, which frequently occurs within a short time after insertion of the catheter. Colonization is a form of contamination that can lead to more serious infections because colonized bacteria are more resistant to antibiotics. Erythema, by itself, is not always indicative of an infection, while purulent discharge is.

Question No: 36

Mr. Aiken receives instruction from the nurse about self-care and managing CAPD in the home environment. Which of the following is an acceptable method of warming dialysate for peritoneal dialysis in the home?

- A. Apply a heating pad.
- B. Immerse in warm water.
- C. Leave at room temperature for 3 hours.
- D. Hold under running warm water.

Answer: A

Explanation: While not used in a hospital environment, a heating pad may be used to warm dialysate solution in the home environment. Maintaining a stable temperature can be difficult, and warming may take a prolonged period of time. The heating pad should have an automatic shut-off time to prevent overheating (usually about 2 hours). With this method of heating, it is especially important to check the temperature of the solution prior to instillation. Other methods used include warming cabinets and microwave ovens (not recommended but frequently used).

Question No: 37

Once a dialysate bag is heated, the temperature can be assessed by

- A. Holding the bag against the wrist.
- B. Folding the bag over and enclosing an electronic thermometer.
- C. Inserting a thermometer into the tubing.
- D. Laying an electronic thermometer on top of the bag.

Answer: B

Explanation: Once a dialysate bag is heated, the temperature can be assessed by folding the bag over and enclosing an electronic thermometer. The temperature of the dialysate should be at body temperature (37 °C) because instilling room temperature dialysate may result in chills and lowering of the body temperature. The bag should be rotated to mix the solution thoroughly before measuring temperature in case hot spots are present, especially if the dialysate was heated in a microwave oven.

Question No: 38

With CAPD, the number of exchanges that Mr. Aiken should expect to carry out in 24 hours is usually

- A. 2 to 3.
- B. 3 to 4.
- C. 4 to 5.
- D. 5 to 6.

Answer: C

Explanation: With continuous ambulatory peritoneal dialysis (CAPO), the number of exchanges in 24 hours is usually 4 to 5 with 3 to 4 done during the daytime hours (every 4 to 6 hours) and one longer exchange done during the night. During the daytime, drainage usually takes about 20 minutes. The dwell time during the night is extended to 8 to 10 hours to allow the patient to sleep.

The dextrose concentration of the overnight dwell may be higher than that used during the day because of the longer duration.

Question No: 39

In order to prevent gram-negative catheter-related infections, Mr. Aiken should avoid

- A. leaving the exit site uncovered.
- B. working outside in dusty conditions.
- C. taking hot showers.
- D. swimming in a lake.

Answer: D

Explanation: In order to prevent gram-negative catheter-related infections, patients undergoing CAPD should avoid swimming in a lake, river, stream, or public pool, or soaking in a tub because of the bacteria present in the water. Once the exit site is well healed, wearing a dressing is not generally necessary unless the patient is working outside in dusty conditions or doing dirty work, such as farm work, during which covering the exit site with a gauze dressing is a reasonable precaution.

Question No: 40

With CAPD, the volume of dialysate retained in the peritoneal cavity at all times in adults, such as Mr. Aiken, is usually approximately

- A. 0.5 L.
- B. 1 L.
- C. 2 L.
- D. 3 L.

Answer: C

Explanation: With CAPD, the volume of dialysate retained in the peritoneal cavity (dwell) at all times in adults is usually approximately 2 L. Exchanges are usually carried out every 3 to 4 hours during the day. The dialysate is instilled in about 10 minutes, during which the patient may sit, stand, or lie down. After instillation, the catheter is clamped until the prescribed dwell time is completed and then drained.

Section Description: Eimers Case Questions (Q41-Q42)

Mary Jane Eimers is a 28-year-old woman on hemodialysis. Ms. Eimers is 3 months pregnant.

Question No: 41

Ms. Eimers' blood pressure is 160/ 100 mm Hg when she is euvoletic. An acceptable medication to treat hypertension in a pregnant patient on hemodialysis is

- A. labetalol.
- B. atenolol.
- C. ACE inhibitors.
- D. Angiotensin receptor blockers.

Answer: A

Explanation: If a patient on hemodialysis is pregnant and her blood pressure is 160/100 mm Hg when euvoletic, an acceptable medication to treat hypertension is labetalol. Atenolol is contraindicated because it is classified as pregnancy risk category D. Both ACE inhibitors and ARBs are associated with congenital abnormalities, including dysplastic kidneys, neonatal anuria, pulmonary hypoplasia, and skull ossification defects. Hydralazine can be given in addition to other medications but should not be used as a single agent.

Question No: 42

In order to increase the chance that Ms. Eimers will deliver a viable infant, ideally, she should be dialyzed

- A. on the same schedule as before pregnancy.
- B. 15 hours per week.