11.3: Chapter 3

Critical Thinking Activities

You can review additional information regarding these answers in the corresponding section in which the Critical Thinking activities appear.

Critical Thinking Activity Section 3.2a

Patient education regarding the importance of adhering to the prescribed medication regimen is vital to help prevent drug resistance. During patient education, the nurse should emphasize the need to complete the full course of medication, in the dosages and frequencies prescribed, to treat the infection and prevent the dangers of drug resistance. In addition to patient education, another solution used to prevent drug resistance in high-risk medications is called directly observed therapy (DOT). DOT is the supervised administration of medications to patients. Patients are required to visit a health-care facility to receive their medications or a health-care professional administers medications in the patients’ homes or other designated location. DOT has been implemented worldwide for the treatment of tuberculosis (TB), and research has been shown it to be effective in treating infections successfully and preventing additional drug resistance.

Critical Thinking Activity Section 3.5a

The administration of penicillin should be postponed for four hours because citrus juice can impede absorption of drugs like penicillin. The remaining doses of penicillin for the day should be rescheduled based on the time the breakfast dose was actually administered. Additionally, the patient should be educated about avoiding citrus juice while taking penicillin, and the dietary department should be notified to remove citrus juice from the meal choices.

Critical Thinking Activity Section 3.6a
The changes in the patient’s renal labs demonstrate decreased renal function. The prescribing provider should be notified prior to administering additional doses of cefazolin because the medication or the dosage will likely need to be revised based on the patient’s response.

**Critical Thinking Activity Section 3.7a**

The nurse should check the progress notes in the electronic medical record to determine if anything is documented about John’s allergies and the decision to use imipenem. If nothing is documented, then the nurse should notify the prescribing provider of the patient’s allergies to penicillin to confirm the appropriateness of this medication for John, document the provider’s response in the medical record, and provide this information in the end-of-shift handoff report.

**Critical Thinking Activity Section 3.8a**

Monobactams are narrow-spectrum antibacterial medications used primarily to treat gram-negative bacteria like Pseudomonas aeruginosa. However, MRSA is a gram-positive bacteria, so aztreonam will not be effective in fighting this infection. The nurse should notify the prescribing provider of the results of the new culture report before administering the aztreonam.

**Critical Thinking Activity Section 3.9a**

The nurse should review the other medications the patient is taking. Trimethoprim-Sulfamethoxazole has many significant drug interactions, including oral diabetics. This medication may increase hypoglycemic effects requiring closer monitoring of blood sugars. Additionally, the patient’s renal status should be verified before administration of trimethoprim-sulfamethoxazole because dose adjustment may be required.

**Critical Thinking Activity Section 3.10a**

The nurse should immediately stop the medication and notify the provider regarding the new onset of tendon pain because this symptom indicates an adverse reaction of levofloxacin may be occurring.

**Critical Thinking Activity Section 3.11a**

The nurse should notify the provider of the patient’s change condition because it may indicate an adverse effect of liver damage is occurring.

**Critical Thinking Activity Section 3.12a**

The nurse should not administer the medication until the trough levels have been drawn. The nurse should phone the lab and check on the status of the laboratory trough level.

**Critical Thinking Activity Section 3.13a**

The patient is under the age of six and is at risk for the adverse effect of teeth discoloration. The nurse should advocate for this patient by notifying the prescribing provider of this concern and requesting an alternate medication.

**Critical Thinking Activity Section 3.14a**
Oseltamivir should be administered within the first 24-48 hours of the onset of influenza symptoms. The patient may have already passed the window for maximum therapeutic effectiveness of oseltamivir. The provider should be notified regarding the onset of symptoms to clarify the prescription.

**Critical Thinking Activity Section 3.15a**

If there are no signs of improvement from the prescribed medication therapy, the nurse should notify the provider.

**Critical Thinking Activity Section 3.16a**

In order to prevent malaria, the CDC recommends patients should take antimalarial medications for four weeks after leaving the infected area. The nurse should provide additional patient education to the patient regarding this recommendation and evaluate for patient understanding.

**Critical Thinking Activity Section 3.17a**

Metronidazole is commonly used to treat C-diff. The medication must be given by mouth for the indication of a gastrointestinal infection like C-diff.

**Critical Thinking Activity Section 3.18a**

The nurse should provide education regarding the use of the medication, as well as ways to prevent re-infection. Methods to prevent reinfection include using proper handwashing, washing all fruits and vegetables, and wearing shoes in the barn or where animals and their feces are present.

**Critical Thinking Activity Section 3.19a**

The nurse should explain that directly observed therapy (DOT) means the administration of this medication will be supervised to ensure all doses are taken as prescribed to be sure the infection is treated properly and drug resistance does not develop. The patient will be required to visit a health-care facility to receive their medications or a health-care professional will administer the medication in the patient’s home or other designated location.

**Critical Thinking Activity Section 3.20a**

The nurse should not administer the vancomycin until after the trough level is drawn. The nurse should call the lab to request prioritization of completing the trough level.