**Safety of Vancomycin Dosing and AUC-Guided Dose Adjustments in Pediatric Patients**

**At the completion of this activity, pharmacy technicians will be able to:**

1. Describe conditions under which vancomycin is used in pediatric patients
2. Define terms associated with vancomycin treatment of methicillin resistant Staphylococcus aureus (MRSA) infections for pediatric patients
3. List important facts about vancomycin including trough level ranges and maximum doses
4. Recognize how pharmacists dose and monitor vancomycin

Technician Questions:

1. **What is an important difference between the 2009 and the 2020 guideline for vancomycin monitoring dose adjustments?** 
   1. The need for hepatic dysfunction adjustments
   2. Addition of pediatric recommendations to the guideline
   3. The removal of AUC-guided adjustments in the 2020 guidelines
2. **What is the AUC goal for pediatric patients for the treatment of MRSA infections in pediatric patients?**
   1. 50 mg·h/L
   2. 400 mg·h/L
   3. 900 mg·h/L
3. **The 2020 guidelines recommend using \_\_\_\_\_\_ to monitor vancomycin instead of serum trough levels to decrease risk of AKI.**
   1. AUC levels
   2. Peak vancomycin levels
   3. There is no recommended way to monitor vancomycin
4. **Patients should only receive vancomycin treatment for < \_\_\_\_\_ days if clinicians want to prevent nephrotoxicity.**
   1. 60 days
   2. 5 days
   3. 30 days
5. **In the updated guideline, what is the total daily dose of vancomycin for pediatric patients?**
   1. 23 mg/day
   2. 3600 mg/day
   3. 8000 mg/day
6. **An adolescent patient who is obese is admitted for vancomycin. When the prescriber writes the order, she writes for a first dose that is higher than the subsequent maintenance doses. What is the first dose called?**
   1. An empiric dose
   2. A loading dose
   3. A guestimate
7. **What serum trough level is appropriate for pediatric patients with renal dysfunction?**
   1. 2mg/L
   2. 100 mg/L
   3. 12 mg/L
8. **Which of the following medications may increase the likelihood of nephrotoxicity when combined with vancomycin:**
   1. amphotericin B
   2. melatonin
   3. ascorbic acid
9. **What toxicity do providers monitor for in patients receiving vancomycin?** 
   1. Liver inflammation
   2. Acute kidney injury
   3. Loss of vision
10. **Development of AKI is positively correlated to \_\_\_\_\_\_\_\_\_ of vancomycin**.
    1. Intravenous administration
    2. > 1 g every 12 h administration
    3. Higher cumulative dose