

Beth,

Nice job with your reflection on this vSim experience. I wanted to provide some additional information related to the importance of monitoring lab values prior to administering medications, specifically with vancomycin.

You will experience in your nursing practice the important of monitoring what is called a peak and trough of certain antibiotic medications. When a person takes a dose of vancomycin, the amount in the blood rises for a period of time, peaks, and then begins to fall, usually reaching its lowest level, or *trough*, just before the next dose. The next dose is timed to coincide with the falling concentration of the drug in the blood. Use of trough vancomycin concentrations is the most accurate and practical method to guide vancomycin dosing which is often performed by the pharmacist. You will hear in report a lot of times when the next peak or trough is due to be drawn by lab. This is often performed before a dose of vancomycin is ordered. It is important that you as the nurse always wait for that lab value to return before starting the next dose. This will help ensure the patient gets the correct dose to fight the infection and prevent kidney damage.

Thorough vancomycin monitoring is recommended for patients with serious infections or who are morbidly obese, or have renal dysfunction (including those receiving dialysis). In older adult patients it is important to consider hepatic and renal changes and their effects on drug metabolism and renal elimination. In this case, there is added concern because vancomycin has the adverse effects of ototoxicity (at high peaks) and nephrotoxicity (at high troughs).

Vancomycin treatment course for MRSA skin infections typically lasts 10 to 14 days. Monitoring the signs of infection, such as fever, redness, and swelling, is important to evaluate the effectiveness of drug therapy and the resolution of cellulitis.

Many over-the-counter (OTC) medications can impair renal function. OTC nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen and naproxen, decrease kidney function because they reduce the blood flow to the kidney. Aspirin also falls into this category. The use of low-dose aspirin once a day is not harmful to a person with renal impairment; however, large doses of aspirin taken several times a day, such as are used to treat arthritis, can be harmful.

I hope this information helps in your future practice!

-Nick