Chapter 101:

LEARNING OBJECTIVES

On completion of the chapter, the reader will be able to:

1. Differentiate between prophylactic, presumptive, and therapeutic antibiotics in the perioperative patient.
2. Identify patient-specific risk factors for surgical site infections (SSIs).
3. Identify procedure-specific risk factors for SSIs.
4. List common pathogens responsible for SSIs.
5. Explain the importance of timing of antimicrobial prophylaxis for surgery.
6. Apply pharmacokinetic principles for antimicrobial prophylactic regimens for surgeries of different durations.
7. Choose an evidence-based prophylactic antimicrobial regimen for specific types of surgeries.
8. Individualize prophylactic antimicrobial regimens by considering the type of surgery, intrinsic patient risk factors, and knowledge of common pathogenic organisms.
9. Recommend an alternative prophylactic antimicrobial regimen for patients with life-threatening allergies to first-line therapies.
10. Identify clinical scenarios where multiple dose regimens of prophylactic antimicrobials are appropriate as compared to single dose regimens.
11. Discuss the role of preoperative mechanical bowel preparations in the setting of elective colorectal surgery.
12. Differentiate between traditional and minimally invasive surgeries and the relative risk of SSIs.
13. Debate the consequences of overzealous use of broad-spectrum antibiotics in the context of antimicrobial resistance and the changing epidemiology of pathogens responsible for SSIs.
14. List nonpharmacological interventions effective at reducing the risk of postoperative SSIs.
15. Formulate an appropriate monitoring plan for surgical patients at risk for SSIs.