

Bon Secours Richmond
Pharmacy & Therapeutics Committee
9/06

Dear Professional Staff,

Cefoxitin is in short supply due to increased demand and cefotetan is no longer manufactured. Please review the table below for alternatives to cefoxitin/cefotetan.

Surgery Type
Appendectomy

Recommend Agents for Surgical Prophylaxis

Cefoxitin 1 gm (<100 kg) or 2 gm (≥ 100 kg)

Or

Cefazolin 1 gm (<100 kg) or 2 gm (≥ 100 kg) plus Metronidazole 500 mg

Beta lactam allergic:

Clindamycin 600-900 mg with (gentamicin 1.5 mg/kg or levofloxacin 750 mg or aztreonam 1-2 gm)

Or

Metronidazole 500 mg with (gentamicin 1.5 mg/kg or levofloxacin 750 mg)

Biliary tract (high risk only): open and laparoscopic procedures

High risk patients: > 70 years old, obstructive jaundice, acute cholecystitis, acute cholangitis, nonfunctioning gallbladder, & common duct stone

Cefazolin 1 gm (<100 kg) or 2 gm (≥ 100 kg)

Or

Cefoxitin 1 gm (<100 kg) or 2 gm (≥ 100 kg)

Or

Culture based selection

Beta lactam allergic: clindamycin 600-900 mg

Colorectal: operations that open the colon and/or rectum

A mechanical bowel preparation is recommended before surgery.

Oral: neomycin and erythromycin base: 1 gm of each at 19, 18, and 9 hours before surgery

Erythromycin Allergic: Use metronidazole 500 mg po for erythromycin

Parenteral:

Cefoxitin 1 gm (<100 kg) or 2 gm (≥ 100 kg)

Or

Cefazolin 1 gm (<100 kg) or 2 gm (≥ 100 kg) plus metronidazole 500 mg

Or

Ampicillin/Sulbactam 3 gm

Beta lactam allergic:

Clindamycin 600-900 mg with (gentamicin 1.5 mg/kg or levofloxacin 750 mg or aztreonam 1-2 gm)

Or

Metronidazole 500 mg with (gentamicin 1.5 mg/kg or levofloxacin 750 mg)

Gastroduodenal (high risk only): gastric bypass, percutaneous endoscopic gastrostomy, and esophageal

High risk: morbid obesity and when gastric acidity and gastrointestinal motility are diminished by obstruction, hemorrhage, gastric ulcer or malignancy, and use of H₂-blockers or proton pump blocker

Cefazolin 1 gm (< 100 kg) or 2 gm (≥ 100 kg)

Or

Cefoxitin 1 gm (<100 kg) or 2 gm (≥ 100 kg)

Beta lactam allergic: Clindamycin 600-900 mg

Cesarean section (high risk such as active labor or premature rupture of membranes)

Cefazolin 2 gm after cord clamped

Beta lactam allergic: clindamycin 600-900 mg after cord clamped

Vaginal or abdominal hysterectomy:

Cefoxitin 1 gm (<100 kg) or 2 gm (≥ 100 kg)

Or

Cefazolin 1 gm (<100 kg) or 2 gm (≥ 100 kg)

Or

Ampicillin/Sulbactam 3 gm

Beta lactam allergic:

Clindamycin 600-900 mg with (gentamicin 1.5 mg/kg or levofloxacin 750 mg or aztreonam 1-2 gm)

Or

Metronidazole 500 mg with (gentamicin 1.5 mg/kg or levofloxacin 750 mg)

Or

Clindamycin 600-900 mg monotherapy

¹Parenteral prophylactic antimicrobials for clean and clean-contaminated surgery can be given as a single intravenous as close to the time of surgical incision as is practical, within 1 hour before surgical incision, and are best administered in the OR at induction or in the preoperative holding area. "On call" dosing is no longer recommended as it may result in premature administration of the antibiotic regimen and insufficient tissue concentrations of drug during the decisive interval. For prolonged operations or massive blood loss, additional intraoperative doses should be given q4-8 hours (1-2 T_{1/2} of the antibiotic) for the duration of the procedure. Duration of therapy: a single dose or up to 24 hours, for prosthetic device surgery 24 hours is recommended. An effective prophylactic regimen should be directed against the most likely infecting organisms, but need not eradicate every potential pathogen. Third and fourth generation cephalosporins (cefotaxime, ceftriaxone, cefoperazone, ceftazidime, ceftizoxime and cefepime) and ciprofloxacin are not recommended for surgical prophylaxis. They are expensive, their activity against staphylococci is often less than that of ceftazidime, their spectrum of activity against aerobic gram-negative bacilli includes organisms rarely encountered in elective surgery, and their widespread use for prophylaxis promotes emergence of resistant microbes.

²For use when methicillin-resistant *S. aureus* or *S. epidermidis* frequently cause wound infections, or for patients who have demonstrated an immediate hypersensitivity reaction to penicillins or cephalosporins. The dose should be adjusted for weight, (15 mg/kg) with a maximum dose of 2 gm, and renal function. Infuse the dose over 2 hours as more rapid administration may cause hypotension. *For procedures in which enteric gram negative bacilli are likely pathogens, such as upper GI tract/groin or lower-extremity vascular/hysterectomy, ceftazidime or another agent with gram-negative activity should be included in the prophylaxis regimen.* If vancomycin is being administered because of concern over MRSA, ceftazidime can be administered in addition. If allergy to cephalosporins is the concern, aztreonam or an aminoglycoside can be administered with vancomycin.

³Antimicrobial therapy for dirty surgery (perforated abdominal viscus, open fracture, or laceration due to animal or human bite) should usually be continued for 5-10 days.

⁴High risk: morbid obesity and when gastric acidity and gastrointestinal motility are diminished by obstruction, hemorrhage, gastric ulcer or malignancy, and use of H₂-blockers or proton pump blocker.

⁵High risk patients: > 70 years old, obstructive jaundice, acute cholecystitis, acute cholangitis, nonfunctioning gallbladder, & common duct stone

⁶After mechanical bowel cleaning the day before surgery

⁷High risk patients only: positive urine culture or culture unavailable, preoperative catheterization or in hospitals where infection rates exceed 20%, prolonged postoperative catheterization

⁸Betalactam allergy: clindamycin with (an aminoglycoside 1.5 mg/kg or levofloxacin 750 mg or aztreonam 1-2 gm) or metronidazole 500 mg with (an aminoglycoside 1.5 mg/kg or levofloxacin 750 mg) to substitute for cefotetan or ceftazidime for the treatment of cephalosporin allergic patients undergoing colonic procedures. Aztreonam should not be used in a two-drug combination with metronidazole because this combination lacks activity against gram-positive cocci and may permit a higher rate of infection caused by *S. aureus*. A mechanical bowel preparation is recommended before surgery.

⁹**Dose adjustment based on weight is recommended for aztreonam, ceftazidime, cefotetan, and ceftazidime: 2 gm is recommended for patients weighing > 100 kg.**