

UC Davis Medical Center Antimicrobial Surgical Prophylaxis Guidelines (For adults greater than 40kg)

- Prophylactic antibiotics should be administered within 1 hour of incision (2 hours if vancomycin).
- A single dose of each antibiotic is usually sufficient (see redosing section below) and antibiotics should not be continued after the surgical incision is closed, regardless of the presence of indwelling catheters or drains.
- **Vancomycin should be given in addition if the patient has a history of MRSA, a nasal swab positive for MRSA, or if permanent implantable material such as grafts will be used. (Dosing: 1gm <80kg, 1.5gm >80kg)**

Orthopedic Procedures		
Procedure	Abx selection and dose	Beta-Lactam Allergy Alternative
Clean operations involving hand, knee, or foot and not involving implantation of foreign materials	No prophylaxis needed	
Hip Fracture Repair OR Total Joint Replacement OR Implantation of internal or external fixation devices (e.g nails, screws, plates, wires)	Cefazolin (2gm <120kg, 3gm >120kg) + Vancomycin (1gm <80kg, 1.5gm >80kg)	Vancomycin (1gm <80kg, 1.5gm >80kg)
Spinal procedures +/- instrumentation	Cefazolin (2gm <120kg, 3gm >120kg) + Vancomycin (1gm <80kg, 1.5gm >80kg)	Cervical or thoracic procedures: Clindamycin 900 mg Lumbar procedures: Vancomycin (1gm <80kg, 1.5gm >80kg) +/- Aztreonam 2g
Open Fractures/Trauma	See Open Fracture Protocol	

Neurosurgical Procedures		
Elective craniotomy/head OR Central and peripheral nervous system implants (CSF shunts, intrathecal pumps, DBS, VNS)	Cefazolin (2gm <120kg, 3gm >120kg) + vancomycin (1gm <80kg, 1.5gm >80kg)	Vancomycin (1gm <80kg, 1.5gm >80kg)
Spinal procedures +/- instrumentation	Cefazolin (2gm <120kg, 3gm >120kg) + Vancomycin (1gm <80kg, 1.5gm >80kg)	Vancomycin (1gm <80kg, 1.5gm >80kg) +/- Aztreonam 2g

Head and Neck Procedures		
Clean procedures (e.g. thyroidectomy, lymph node excisions)	No prophylaxis needed	
Clean procedures with placement of prosthesis (excludes tympanostomy tubes) or history of prior radiation treatment or requiring complex reconstruction	Cefazolin (2gm <120kg, 3gm >120kg)	Clindamycin 900 mg* Or Vancomycin (1gm <80kg, 1.5gm >80kg) + metronidazole 500mg
Clean-contaminated procedures (e.g. involving incision through oral or pharyngeal mucosa, parotidectomy, submandibular gland excision, tonsillectomy, adenoidectomy, rhinoplasty, tumor debulking, mandibular fracture repair)	Cefazolin (2gm <120kg, 3gm >120kg) + Metronidazole 500 mg IV	Clindamycin 900 mg Or Vancomycin (1gm <80kg, 1.5gm >80kg) + metronidazole 500mg

Gyn/OB Procedures		
C-section or Hysterectomy	Cefazolin (2gm <120kg, 3gm >120kg)	Clindamycin 900 mg* + Gentamicin 5mg/kg
	If cesarean, add Azithromycin 500mg IV once	
Hysterectomy w/ Bowel resection	Cefazolin (2gm <120kg, 3gm >120kg) + Metronidazole 500 mg	Clindamycin 900 mg + Gentamicin 5mg/kg

Cardiothoracic Procedures		
Coronary artery bypass, valve repairs OR Cardiac device insertion procedures	Cefazolin (2gm <120kg, 3gm >120kg) + Vancomycin (1gm <80kg, 1.5gm >80kg)	Vancomycin (1gm <80kg, 1.5gm >80kg)
Heart Transplant or LVAD Placement (No risk factors for resistance)	Cefazolin (2gm <120kg, 3gm >120kg) + Vancomycin (1gm <80kg, 1.5gm >80kg)	Vancomycin (1gm <80kg, 1.5gm >80kg) + Levofloxacin 500mg
Heart Transplant or LVAD Placement (ICU stay >72 hrs at time of admission, on ECMO, hx of resistant GNR in last 3 months)	Cefepime 2gm + Vancomycin (1gm <80kg, 1.5gm >80kg)	Vancomycin (1gm <80kg, 1.5gm >80kg) + Levofloxacin 500mg

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Vascular Procedures		
Procedure	Abx selection and dose	Beta-Lactam Allergy Alternative
Vascular (aneurysm repair, vein bypass, thromboendarterectomy)	Cefazolin (2gm <120kg, 3gm >120kg) + Vancomycin (1gm <80kg, 1.5gm >80kg)	Vancomycin (1gm <80kg, 1.5gm >80kg)
Lobectomy, pneumonectomy, lung resection, thoracotomy, VATS	Cefazolin (2gm <120kg, 3gm >120kg)	Vancomycin (1gm <80kg, 1.5gm >80kg)
Vascular- brachiocephalic procedures without implanted material e.g., carotid endarterectomy, brachial artery repair	No Prophylaxis	

Urological Procedures		
Lower tract instrumentation (TURBT, TURP, cystolitholapaxy, etc) OR Ureteroscopy OR Percutaneous renal surgery	Cefazolin (2gm <120kg, 3gm >120kg) [‡]	Gentamicin 5 mg/kg + Vancomycin (1gm <80kg, 1.5gm >80kg)
Clean procedure (skin only) (nephrectomy, partial nephrectomy without GU entry, orchiopexy)	Cefazolin (2gm <120kg, 3gm >120kg)	Clindamycin 900 mg
Clean contaminated procedure (skin + GU tract, negative culture) (i.e. prostatectomy, pyeloplasty, ureter reimplant, urethroplasty)	Cefazolin (2gm <120kg, 3gm >120kg)	Gentamicin 5 mg/kg + Clindamycin 900 mg
Contaminated procedure (skin + GU tract + GI tract) (cystectomy + ileal conduit/neobladder, bladder augmentation, etc.)	Ceftriaxone 2g + Metronidazole 500 mg IV OR Ertapenem 1g x 1 dose if history of ESBL OR Piperacillin-tazobactam if history of Enterococcus	Gentamicin 5 mg/kg + Clindamycin 900 mg
Prosthesis Placement	Gentamicin 5 mg/kg + Vancomycin (1gm <80kg, 1.5gm >80kg) [‡] + Fluconazole 400 mg x 1 dose if patient has diabetes mellitus	
[‡] Culture directed antibiotics may also be chosen if patient has recent culture data available. [†] Piperacillin-tazobactam 3.375g x 1 dose if CKDIII – V or ESRD, use standard regimen if beta-lactam allergy		

Gastrointestinal Procedures		
Gastroduodenal procedures without entry into lumen of GI tract in low risk patients	No prophylaxis needed	
Gastroduodenal procedures 1. With entry into lumen of GI tract (e.g., gastric resections, bariatric, PEG insertion, pancreaticoduodenectomy) 2. Without entry into lumen of GI tract for high risk patients	Cefazolin (2gm <120kg, 3gm >120kg)	Clindamycin 900 mg* + aztreonam 2 g
	High risk patients: Increased gastric pH, acid-suppression therapy, gastroduodenal perforation, decreased gastric motility, gastric outlet obstruction, gastric bleeding, morbid obesity, ASA >3, cancer	
Appendectomy	Cefazolin (2gm <120kg, 3gm >120kg) + metronidazole 500 mg	Clindamycin 900 mg + aztreonam 2 g
Small intestine non- obstructed	Cefazolin (2gm <120kg, 3gm >120kg)	Clindamycin 900 mg* + aztreonam 2 g
Small intestine obstructed	Cefazolin (2gm <120kg, 3gm >120kg) + metronidazole 500 mg IV	Clindamycin 900 mg + aztreonam 2 g
Hernia repair	Cefazolin (2gm <120kg, 3gm >120kg)	Clindamycin 900 mg*
Colorectal	Oral Prep: Neomycin 1000 mg PO x 3 doses + metronidazole 500 mg PO x 3 doses Ceftriaxone 2g + Metronidazole 500 mg IV OR Ertapenem 1g x 1 dose if history of ESBL	Clindamycin 900 mg + aztreonam 2 g

*If vancomycin is added due to a history of MRSA or the use of permanent implantable material, clindamycin is not necessary.

Redosing: Doses of short-acting antibiotics should ONLY be repeated intra-operatively for longer procedures OR significant blood loss (>1500 ml). Repeat dosing is recommended for patients with normal renal function as follows:

Antimicrobial	Redosing interval
Piperacillin- Tazobactam	Every 2 hours
Cefazolin, Aztreonam, Cefepime	Every 3-4 hours
Clindamycin	Every 6 hours
Vancomycin	Every 12 hours
Ceftriaxone, Gentamicin, Metronidazole, Azithromycin, Ertapenem	NO Re-dosing