

**ZUCKERBERG SAN FRANCISCO GENERAL HOSPITAL &
TRAUMA CENTER
GUIDELINES FOR PROPHYLACTIC ANTIBIOTICS
TO REDUCE SURGICAL SITE INFECTION**

Revised August 2019

**THORACIC, NEUROSURGERY (no spinal hardware)
ORTHOPEDIC (not total joint or spine), VASCULAR (no graft),
AND OTHER SURGERIES NOT LISTED BELOW**

| Drug | Dose | Timing | Infusion Duration | Re-dose Intraop |
|--|--------------------------------|--------------------------|--|------------------------|
| Cefazolin | <120 kg: 2 gm ≥120 kg: 3 gm | ≤60 min before incision | Bolus over 3-5 mins (with bolus, tissue levels adequate in a few mins) | 2 gm q 4 hours |
| <i>For Serious Beta-Lactam Allergy (i.e., Hives, Angioedema, Anaphylaxis)</i> | | | | |
| Vancomycin <u>OR</u> | 1 gm | ≤120 min before incision | Infuse over 60 mins in pre-op area | 1 gm q 8 hours |
| Clindamycin | 900 mg | ≤60 min before incision | Infuse over 30 mins (not to exceed 30 mg/min) | 900 mg q 6 hours |

**UROLOGIC SURGERY:
TURP, TURBT, URS, URETERAL STENTS,
PERCUTANEOUS NEPHROLITHOTOMY
(For TRUS, see INTRA-ABDOMINAL SURGERY)**

| Drug | Dose | Timing | Infusion Duration | Re-dose Intraop |
|--|--------------------------------|--------------------------|--|------------------------|
| Cefazolin | <120 kg: 2 gm ≥120 kg: 3 gm | ≤60 min before incision | Bolus over 3-5 mins (with bolus, tissue levels adequate in a few mins) | 2 gm q 4 hours |
| <i>For Serious Beta-Lactam Allergy (i.e., Hives, Angioedema, Anaphylaxis)</i> | | | | |
| Ciprofloxacin | 400 mg | ≤120 min before incision | Infuse over 60 mins | 400 mg q 6 hours |

**INTRA-ABDOMINAL SURGERY: BILIARY, GASTRODUODENAL,
HERNIA REPAIR**

| Drug | Dose | Timing | Infusion Duration | Re-dose Intraop |
|--|--------------------------------|--------------------------|--|------------------------|
| Cefazolin | <120 kg: 2 gm ≥120 kg: 3 gm | ≤60 min before incision | Bolus over 3-5 mins (with bolus, tissue levels adequate in a few mins) | 2 gm q 4 hours |
| <i>For Serious Beta-Lactam Allergy (i.e., Hives, Angioedema, Anaphylaxis)</i> | | | | |
| Vancomycin <u>OR</u> | 1 gm | ≤120 min before incision | Infuse over 60 mins in pre-op area | 1 gm q 8 hours |
| Clindamycin | 900 mg | ≤60 min before incision | Infuse over 30 mins (not to exceed 30 mg/min) | 900 mg q 6 hours |

**INTRA-ABDOMINAL SURGERY:
LARGE & SMALL BOWEL (INCLUDING APPENDECTOMY), COLON,
TRANSRECTAL ULTRASOUND (TRUS)**

| Drug | Dose | Timing | Infusion Duration | Re-dose Intraop |
|--|--------------------------------|--------------------------|--|------------------------|
| Cefazolin <u>PLUS</u> | <120 kg: 2 gm ≥120 kg: 3 gm | ≤60 min before incision | Bolus over 3-5 mins (with bolus, tissue levels adequate in a few mins) | 2 gm q 4 hours |
| Metronidazole | 500 mg | ≤60 min before incision | Infuse over 30 mins | 500 mg q 6 hours |
| <i>For Serious Beta-Lactam Allergy (i.e., Hives, Angioedema, Anaphylaxis)</i> | | | | |
| Ciprofloxacin <u>PLUS</u> | 400 mg | ≤120 min before incision | Infuse over 60 mins | 400 mg q 6 hours |
| Metronidazole | 500 mg | ≤60 min before incision | Infuse over 30 mins | 500 mg q 6 hours |

**OBSTETRICS/GYNECOLOGY: CESAREAN DELIVERY,
HYSTERECTOMY, MIDURETHRAL SLING, VAGINAL PROLAPSE
(UTEROSACRAL SUSPENSION, SACROCOLPOPEXY)**

| Drug | Dose | Timing | Infusion Duration | Re-dose Intraop |
|--|--------------------------------|--------------------------|--|------------------------|
| Cefazolin | <120 kg: 2 gm ≥120 kg: 3 gm | ≤60 min before incision | Bolus over 3-5 mins (with bolus, tissue levels adequate in a few mins) | 2 gm q 4 hours |
| <i>For Serious Beta-Lactam Allergy (i.e., Hives, Angioedema, Anaphylaxis)</i> | | | | |
| Clindamycin | 900 mg | ≤60 min before incision | Infuse over 30 mins (not to exceed 30 mg/min) | 900 mg q 6 hours |
| <u>PLUS</u> | | | | |
| Gentamicin | 5 mg/kg** | ≤60 min before incision | Infuse over 30 mins | No need to re-dose |
| <u>OR</u> | | | | |
| <i>**Secondary Alternative For Hysterectomy Only**</i> | | | | |
| Ciprofloxacin | 400 mg | ≤120 min before incision | Infuse over 60 mins | 400 mg q 6 hours |
| <u>PLUS</u> | | | | |
| Metronidazole | 500 mg | ≤60 min before incision | Infuse over 30 mins | 500 mg q 6 hours |

** Dose based on actual weight. If actual weight > 20% ideal body weight (IBW), use dosing weight.

Dosing Weight (DW) = IBW + 0.4 (Actual Body Weight – IBW).

IBW Calculations: IBW (Women) = 45.5 + 2.3 * (Height (in) - 60).

IBW (Men) = 50 + 2.3 * (Height (in) – 60).

**SURGERIES WITH PROSTHETIC MATERIAL: HIP & KNEE
ARTHROPLASTY, SPINAL HARDWARE PROCEDURES, PLACEMENT
OF VASCULAR GRAFT**

| Drug | Dose | Timing | Infusion Duration | Re-dose Intraop |
|--|--------------------------------|--------------------------|--|------------------------|
| Cefazolin | <120 kg: 2 gm ≥120 kg: 3 gm | ≤60 min before incision | Bolus over 3-5 mins (with bolus, tissue levels adequate in a few mins) | 2 gm q 4 hours |
| <u>PLUS</u> | | | | |
| Vancomycin | 1 gm | ≤120 min before incision | Infuse over 60 mins in pre-op area | 1 gm q 8 hours |
| <i>For Serious Beta-Lactam Allergy (i.e., Hives, Angioedema, Anaphylaxis)</i> | | | | |
| Vancomycin | 1 gm | ≤120 min before incision | Infuse over 60 mins in pre-op area | 1 gm q 8 hours |
| <u>OR</u> | | | | |
| Clindamycin | 900 mg | ≤60 min before incision | Infuse over 30 mins (not to exceed 30mg/min) | 900 mg q 6 hours |

CLEAN-CONTAMINATED HEAD AND NECK SURGERY*

| Drug | Dose | Timing | Infusion Duration | Re-dose Intraop |
|--|--------------------------------|-------------------------|---|------------------|
| Cefazolin <u>PLUS</u> | <120 kg: 2 gm ≥120 kg: 3 gm | ≤60 min before incision | Bolus over 3-5 mins (with bolus, tissue levels adequate in a few mins) | 2 gm q 4 hours |
| Metronidazole <u>OR</u> | 500 mg | ≤60 min before incision | Infuse over 30 mins | 500 mg q 6 hours |
| Ampicillin-Sulbactam | 3 gm | ≤60 min before incision | Infuse over 30 mins | 3 gm q 2 hours |
| <i>For Serious Beta-Lactam Allergy (i.e., Hives, Angioedema, Anaphylaxis)</i> | | | | |
| Clindamycin | 900 mg | ≤60 min before incision | Infuse over 30 mins (not to exceed 30 mg/min) | 900 mg q 6 hours |

* For clean-contaminated cases, redose Cefazolin+Metronidazole or Clindamycin Q 8 Hours x 2 doses post-op or Ampicillin-Sulbactam Q 6 Hours x 3 doses post-op; do not continue past 24 hours of wound closure.

NOTES:

- In most instances, a single antibiotic dose prior to the procedure is sufficient for prophylaxis. However:
- Per protocol for clean-contaminated head and neck surgery, antibiotics should be continued for a maximum of 24 hours post surgery
- Additional intra-operative doses should also be administered in circumstances of significant blood loss (Adults: ≥6 units or ≥1.5 L EBL or hemo dilution during surgery. Pediatrics ≥20-30 mL/kg).
- With prolonged procedures, antibiotics may need to be re-dosed intraoperatively to ensure adequate levels until wound closure. Please refer to “Re-dose Intraop” column for information on specific antibiotics.
- Prophylactic antibiotics should not be continued after wound closure.
- Always confirm with surgeons at the Time-Out or earlier before antibiotics are administered. In some cases they may wish to delay antibiotics until after cultures are obtained.
- The entire antibiotic dose should be administered before the tourniquet is inflated.

Pediatric Patients – Suggested Dosing*

| Drug | Dose |
|--------------------------|---|
| Cefazolin | 25 mg/kg |
| Ertapenem | 15 mg/kg |
| Vancomycin | 15 mg/kg (as an infusion over 30-60 min) |
| Gentamicin | 2.5 mg/kg |
| Clindamycin | 10 mg/kg |
| Metronidazole | 10 mg/kg |
| Ampicillin- Sulbactam | 50 mg/kg of ampicillin component |

* All pediatric doses should not exceed adult dosing recommendations. Please order using the Pediatric Antimicrobial Prophylaxis Form.