**Supplemental Digital Content 1**

**Appendix. The Hospital for Sick Children Antimicrobial Prophylaxis Guideline for Neonates and Pediatric Patients**

General Principles

1. Antibiotics should be given within 60 minutes prior to the incision, except for vancomycin, which should be given within 1-2 hours prior to the incision. Vancomycin must be infused over at least 60 minutes. Rapid infusion may cause infusion reactions including chills, fever, tachycardia, hypotension, and flushing (Red Man syndrome). If a tourniquet is required, the antibiotics should be infused prior to applying the tourniquet.
2. A single dose of an antibiotic that provides adequate tissue concentrations throughout the surgical procedure is sufficient. Antibiotics must be re-administered every two half-lives during anesthesia to ensure adequate antimicrobial levels at wound closure. Intra-operative antibiotics are warranted if:
   1. the surgery is prolonged (see table below – recommended re-dosing interval)
   2. there is excessive blood loss, or
   3. there are other factors that might shorten antibiotic half lives (eg, extensive burns)
   4. re-administration may **not** be warranted in patients in whom the half-life is prolonged (eg, patients with renal insufficiency or failure).
3. Prophylaxis should not be prolonged even if drains or chest tubes remain *in situ*. Antibiotics should also not be prolonged based on open wounds or indwelling catheters.
4. Patients who are on treatment courses of antibiotics at the time of surgery may **not** require additional prophylactic antibiotics if their treatment regimens already cover the potentially contaminating organisms. If doses are due while a patient is in surgery, ensure they are ordered and administered.
5. In the setting of a beta-lactam allergy, vancomycin is preferred over clindamycin because 25% of *Staphylococcus aureus* are resistant to clindamycin.
6. For patients with previous MRSA colonization or infection, use vancomycin instead of cefazolin.

Post-operative antibiotics are not necessary for routine surgical site infection prophylaxis.

Post-operative antibiotics are used only in i) cardiac surgery, ii) transplant surgery, iii) cochlear implantation and iv) if infection is found intra-operatively, in which case the antibiotics are used for treatment and not for prophylaxis.

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| **Recommended Re-dosing Interval for Intra-operative Antibiotics** | | |
| **Drug** | **Children** | **Neonates** |
| Aminoglycosides (gentamicin, tobramycin) | 4 hours | 6 hours |
| Ampicillin | 4 hours | Neonate ≤1 week: 8 hours  Neonate >1 week: 6 hours |
| Cefazolin | 4 hours | 6 hours |
| Cefotaxime | 4 hours | Pre- or Full-term neonate ≤1 week: 6 hours  Full-term neonate >1 week: 4 hours |
| Cefoxitin | 3 hours | 6 hours |
| Clindamycin | 4 hours | Pre-term neonate: 12 hours  Full-term neonate: 6 hours |
| Metronidazole | 8 hours | 50 hours |
| Vancomycin | 6 hours | 10 hours |

| **Type of Surgery** | **Preferred Regimen** | **Alternative Regimen**  ***(Beta-Lactam Allergy)*** | **Neonatal Regimen** |
| --- | --- | --- | --- |
| **Cardiothoracic** | | | |
| Closed sternum | **Cefazolin**  30 mg/kg IV (max: 2 g) after induction and every 4 hours of anesthesia  + **Cefazolin**  30 mg/250 mL pump priming solution  THEN  **Cefazolin**  30 mg/kg IV (max: 2 g) post-op q8h x 48h, starting 8 hours after previous dose | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g) after induction and repeated x 1 dose 12 hours later; no drug added to priming solution  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia then post-op q8h x 48h, starting 8 hours after previous dose  \*25% *S. aureus* are resistant to clindamycin | **Cefazolin**  30 mg/kg IV at induction of anesthesia and q6-8h during anesthesia  + **Cefazolin**  30 mg/250 mL pump priming solution  THEN  Age ≤7 days: 30 mg/kg/dose IV q12h x 48h  Age >7 days: 30 mg/kg/dose IV q8h x 48h  **OR *(if beta-lactam allergy)***  **Vancomycin (preferred)\***  15 mg/kg/dose IV at induction of anesthesia and q12h x 1 dose post-op  OR  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia and q8h x 48h  \*25% *S. aureus* are resistant to clindamycin |
| Open sternum, skin closed | **Cefazolin**  30 mg/kg/dose IV (max: 2 g) after induction and every 8 hours of anesthesia  + **Cefazolin**  30 mg/250 mL pump priming solution  THEN  **Cefazolin**  30 mg/kg IV (max: 2 g) post-op q8h x 48h, starting 8 hours after previous dose | **Vancomycin (preferred)\***  15 mg/kg (max: 1 g) IV q12h x 48h  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia then q8h x 48h  \*25% *S. aureus* are resistant to clindamycin | **Cefazolin**  Age ≤7 days: 30 mg/kg/dose IV q12h x 48h  Age >7 days: 30 mg/kg/dose IV q8h x 48h  + **Cefazolin**  30 mg/250 mL pump priming solution  **OR *(if beta-lactam allergy)***  **Vancomycin (preferred)\***  15 mg/kg IV q24h x 48h  OR  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia then q8h x 48h  \*25% *S. aureus* are resistant to clindamycin |
| Open sternum, skin open in OR or sternum opened in CCU | **Cefazolin**  30 mg/kg/dose IV (max: 2 g) after induction and every 8 hours of anesthesia  + **Cefazolin**  30 mg/250 mL pump priming solution  THEN  **Cefazolin**  30 mg/kg IV (max: 2 g) post-op q8h x 72h, starting 8 hours after previous dose  + **Gentamicin**  2.5 mg/kg/dose (max: 120 mg) IV q12h initially\*\* x 72h  \*\*adjust dose according to TDM | **Vancomycin (preferred)\***  15 mg/kg (max: 1 g)  IV q12h initially\*\* x 72h  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia then q8h x 72h  + **Gentamicin**  2.5 mg/kg/dose (max: 120 mg) IV q12h initially\*\* x 72h  \*25% *S. aureus* are resistant to clindamycin  \*\*adjust dose according to TDM | **Cefazolin**  Age ≤7 days: 30 mg/kg/dose IV q12h x 72h  Age >7 days: 30 mg/kg/dose IV q8h x 72h  + **Cefazolin**  30 mg/250 mL pump priming solution  + **Tobramycin**  3 mg/kg/dose IV q24h initially\*\* x 72h  **OR *(if beta-lactam allergy)***  **Vancomycin (preferred)\***  15 mg/kg IV q24h initially\*\* x 72h  OR  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia then q8h x 72h  + **Tobramycin**  3 mg/kg/dose IV q24h initially\*\* x 72h  \*25% *S. aureus* are resistant to clindamycin  \*\*adjust dose according to TDM |
| **Thoracic (noncardiac)** | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia | **Cefazolin**  30 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia |

| **Type of Surgery** | **Preferred Regimen** | **Alternative Regimen**  ***(Beta-Lactam Allergy)*** | **Neonatal Regimen** |
| --- | --- | --- | --- |
| **Gastrointestinal** | | | |
| Gastroduodenal (procedures involving entry into the lumen of the GI tract, Nissen's fundoplication) all gastrointestinal tract procedures in which there is obstruction, when the patient is receiving H2 receptor antagonists or proton pump inhibitors, or when the patient has a permanent foreign body | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Clindamycin**  15 mg/kg IV (max: 600 mg)  + **Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia | **Cefazolin**  30 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Clindamycin**  7.5 mg/kg IV  + **Tobramycin**  3 mg/kg IV at induction of anesthesia |
| Biliary Tract  Open procedures only.  Selected biliary tract operations (eg, obstruction from common bile duct, bile stones) | **Cefazolin**  30 mg/kg IV (max: 2 g) | **Clindamycin**  15 mg/kg IV (max: 600 mg)  + **Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia | **Cefazolin**  30 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Clindamycin**  7.5 mg/kg IV  + **Tobramycin**  3 mg/kg IV at induction of anesthesia |
| Appendectomy for uncomplicated appendicitis | **Cefoxitin**  30 mg/kg IV (max: 2 g) at induction of anesthesia (then q3h during surgery if required) | **Metronidazole**  10 mg/kg IV (max: 500 mg)  + **Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia | n/a |
| Appendectomy for perforated appendicitis (NB antibiotics for this indication are therapeutic, and not prophylactic) | **Ampicillin**  50 mg/kg IV (max: 2 g) at induction of anesthesia then q6h  + **Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia then q8h initially\*\*  + **Metronidazole**  10 mg/kg IV (max: 500 mg) at induction of anesthesia then q8h  \*\*adjust dose according to TDM | **Metronidazole**  10 mg/kg IV (max: 500 mg) at induction of anesthesia then q8h  + **Gentamicin**  2.5 mg/kg IV (max: 120mg) at induction of anesthesia then q8h initially\*\*  \*\*adjust dose according to TDM | n/a |
| Colorectal | **Cefoxitin**  30 mg/kg IV (max: 2 g) at induction of anesthesia (then q3h during surgery if required) | **Metronidazole**  10 mg/kg IV (max: 500 mg)  + **Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia | **Cefoxitin**  30 mg/kg IV at induction of anesthesia then q3h during surgery if required  THEN:  30 mg/kg/dose IV q8h x 48h  OR  patients on treatment prior to surgery should continue on previously prescribed regimen of:  **Ampicillin**  50 mg/kg IV  + **Tobramycin**  3 mg/kg IV at induction of anesthesia if perforation suspected, add **Metronidazole**  15 mg/kg IV or **Clindamycin**  7.5 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Tobramycin**  3 mg/kg IV at induction of anesthesia if perforation suspected, add **Metronidazole**  15 mg/kg IV or **Clindamycin**  7.5 mg/kg IV at induction of anesthesia |

| **Type of Surgery** | **Preferred Regimen** | **Alternative Regimen**  ***(Beta-Lactam Allergy)*** | **Neonatal Regimen** |
| --- | --- | --- | --- |
| **Head and Neck** | | | |
| Clean | None | None | None |
| With placement of prosthesis | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g) at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  **± Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | **Cefazolin**  30 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Vancomycin (preferred)\***  15 mg/kg IV at induction of anesthesia  OR  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia  **± Tobramycin**  3 mg/kg IV at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin |
| Clean-contaminated | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  **± Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia | **Cefazolin**  30 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia  **± Tobramycin**  3 mg/kg IV at induction of anesthesia |
| Cochlear implant | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia, then q8h x 24 hours |  |  |
| **Neurosurgery** | | | |
| Elective craniotomy or cerebrospinal-fluid shunting | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g) at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | **Cefazolin**  30 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Vancomycin (preferred)\***  15 mg/kg IV at induction of anesthesia  OR  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin |
| **Obstetric or Gynecologic** | | | |
| Hysterectomy | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  **± Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia | n/a |
| **Orthopedic** | | | |
| Clean, not involving implantation of foreign materials (including the closed reduction of fractures with percutaneous fixation eg, Supracondylar fractures) | None | None | n/a |
| Open reduction of fractures or open procedures with implantation of internal fixation devices including K wires  NB: Open fractures do not require prolonged antibiotics even if wound open | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g) at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | n/a |
| Extensive soft tissue procedures | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g) at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | n/a |
| Spinal surgery with instrumentation | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g) at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | n/a |
| Spinal surgery with instrumentation in incontinent patient or patient with neuromuscular disease | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia  + **Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia  + **Metronidazole**  10 mg/kg IV (max: 500 mg) at induction of anesthesia | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g) at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  + **Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia  + **Metronidazole**  10 mg/kg IV (max: 500 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | n/a |
| **Plastics** | | | |
| Clean | None | None | None |
| Clean-contaminated | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  **± Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia  **± Tobramycin**  3 mg/kg IV at induction of anesthesia |
| With placement of prosthesis (if surgery involves traversing mucous membranes, use regimen for clean contaminated as above) | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g) at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | **Cefazolin**  30 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Vancomycin (preferred)\***  15 mg/kg IV at induction of anesthesia  OR  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin |
| Insertion of tissue expander | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia  OR if near oral cavity  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia | **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia  OR If near oral cavity  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Vancomycin (preferred)\***  15 mg/kg IV at induction of anesthesia  OR  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia  (If near oral cavity, **Clindamycin**  7.5 mg/kg IV at induction of anesthesia)  \*25% *S. aureus* are resistant to clindamycin |
| Pectus excavatum | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Vancomycin (preferred)\***  15 mg/kg IV at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | n/a |

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| **Type of Surgery** | **Preferred Regimen** | **Alternative Regimen**  ***(Beta-Lactam Allergy)*** | **Neonatal Regimen** |
| **Urologic Procedures** | | | |
| Clean-contaminated (involving opening the urinary tract, e.g. nephroureterectomy), contaminated and open urologic procedures, and high risk patients undergoing clean endoscopic procedures\*.  (\*High-risk patients defined as prolonged post-operative catheterization anticipated, insertion of prosthetic material, obstructive uropathy, unavoidable positive urine culture at surgery)  Antibiotics for patients with catheters should only be given in perioperative period | **Cotrimoxazole**  (TMP-SMX) 6-10 mg  TMP/kg PO (max: 160 mg TMP)  2 hours before surgery  OR  **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia (if injection preferred or sulfa allergy) | **Cotrimoxazole**  (TMP-SMX) 6-10 mg  TMP/kg PO (max: 160 mg TMP)  2 hours before surgery  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg)  + **Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia (if injection preferred and sulfa allergy) | **Cefazolin**  30 mg/kg IV at induction of anesthesia  **OR *(if beta-lactam allergy)***  If injection preferred: **Clindamycin**  7.5 mg/kg IV and  **± Tobramycin**  3 mg/kg IV at induction of anesthesia |
| NB: All efforts should be made to ensure patients have sterile urine at time of urological instrumentation | | | |
| **Vascular Procedures** | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia | **Vancomycin (preferred)\***  15 mg/kg IV at induction of anesthesia  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia  **OR *(if beta-lactam allergy)***  **Vancomycin (preferred)\***  15 mg/kg IV at induction of anesthesia  OR  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin |
| Central venous catheter placement | None | None | None |

| **Type of Surgery** | **Preferred Regimen** | **Alternative Regimen**  ***(Beta-Lactam Allergy)*** | **Neonatal Regimen** |
| --- | --- | --- | --- |
| **Transplantation** | | | |
| Heart | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction and every 8 hours of anesthesia  + **Cefazolin**  30 mg/250 mL pump priming solution  THEN  **Cefazolin**  30 mg/kg IV (max: 1 g) post-op q8h x 48h, starting 8 hours after previous dose | **Vancomycin (preferred)\***  15 mg/kg (max: 1 g) IV q12h x 48h (no drug added to priming solution)  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia then q8h x 48h  **± Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia and q8h for 48h  \*25% *S. aureus* are resistant to clindamycin | **Cefazolin**  30 mg/kg IV at induction of anesthesia and q6-8h during anesthesia then:  Age ≤7 days: 30 mg/kg/dose IV q12h  Age >7 days: 30 mg/kg/dose IV q8h x 48h  + **Cefazolin**  30 mg/250 mL pump priming solution  **OR *(if beta-lactam allergy)***  **Vancomycin (preferred)\***  15 mg/kg IV at induction of anesthesia and q12h x 1 dose post-op  OR  **Clindamycin**  7.5 mg/kg IV at induction of anesthesia and q8h x 1 dose post-op  **± Tobramycin**  3 mg/kg IV q24h initially\*\* x 48h  \*25% *S. aureus* are resistant to clindamycin  \*\*adjust dose according to TDM |
| Lung non-CF patients | **Cefuroxime**  25 mg/kg IV (max: 2 g) at induction of anesthesia and q8h for 48 h | **Vancomycin (preferred)\***  15 mg/kg (max: 1 g) IV q12h x 48h  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg) at induction of anesthesia then q8h x 48h  **± Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia and q8h for 48h  \*25% *S. aureus* are resistant to clindamycin | n/a |
| Lung CF patients | For CF patients, antimicrobials are used for 7-14 days and based on pre-transplant isolates | For CF patients, antimicrobials are used for 7-14 days and based on pre-transplant isolates | n/a |
| Liver | **Cefotaxime**  50 mg/kg IV (max: 2 g) at induction of anesthesia and q8h x 48h  + **Ampicillin**  50 mg/kg IV (max: 2 g) at induction of anesthesia and q6h x 48h beyond final surgical closure | **Metronidazole**  10 mg/kg IV (max: 500 mg) at induction of anesthesia and q8h x 48h beyond final surgical closure  + **Gentamicin**  2.5 mg/kg IV (max: 120mg) at induction of anesthesia and q8h x 48h beyond final surgical closure | **Cefotaxime**  50 mg/kg IV at induction of anesthesia and then 50 mg/kg/dose IV q8h x 48h beyond final surgical closure  **and**  **Ampicillin**  50 mg/kg IV at induction of anesthesia then 50 mg/kg/dose IV q8h x 48h beyond final surgical closure  **OR *(if beta-lactam allergy)***  **Metronidazole**  15 mg/kg IV at induction of anesthesia then q12h x 48h  **and**  **Tobramycin**  3 mg/kg IV at induction of anesthesia then q24h initially\*\* x 48h  \*\*adjust dose according to TDM |
| Intestinal/  multivisceral | **Piperacillin-tazobactam**  80 mg piperacillin/kg/dose IV  (max: 4 g) x 2 days pre-op and repeat in 8 hours if still in OR then q8h x 7 days | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g), repeat in 12 hours if still in OR, then q12h  OR  + **Clindamycin**  10 mg/kg/dose IV (max: 600 mg) pre-op (repeat in 8 hours if still in OR), then 3.75–6.25 mg/kg/dose IV q6h (15-25 mg/kg/day)  + **Gentamicin**  2.5 mg/kg/dose IV (max: 120 mg) pre-op (repeat in 8 hours if still in OR), then q8h (max: 120 mg/dose before TDM); renally adjust frequency as indicated  -all for 48 hours beyond final surgical closure  \*25% *S. aureus* are resistant to clindamycin | n/a |
| Kidney | **Cefazolin**  30 mg/kg IV (max: 2 g) at induction of anesthesia  ±  **Cefazolin**  30 mg/kg IV (max: 2 g) post-op q8h x 24 hrs (for UTI prophylaxis) | **Vancomycin (preferred)\***  15 mg/kg IV (max: 1 g)  OR  **Clindamycin**  15 mg/kg IV (max: 600 mg)  + **Gentamicin**  2.5 mg/kg IV (max: 120 mg) at induction of anesthesia  \*25% *S. aureus* are resistant to clindamycin | n/a |