AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

GENERAL PRINCIPLES

1. The goal of antimicrobial surgical prophylaxis is to achieve serum and tissue antibiotic concentrations that exceed the minimum inhibitory concentrations (MICs) of the majority of organisms likely to be encountered, at the time of the incision and for the duration of the procedure. To achieve this:
   a. Preoperative doses should be given within 60 minutes before incision. For exceptions and administration details, see Table 1.
   b. Intraoperative repeat dosing is recommended if prolonged surgical procedure (> 2 half-lives of the antimicrobial), or major blood loss (> 1.5L). See Table 2 for redosing interval.

2. Recommended adult doses for patients with normal weight and renal function. Refer to Table 1 for more information.

3. **CEPHALOSPORIN ALLERGY/SEVERE PENICILLIN ALLERGY** – the patient is considered to have a true allergy if they have at least one of: respiratory difficulty, hypotension, or hives. In the absence of these findings, cefazolin can be used as surgical prophylaxis.

4. **Postoperative doses for prophylaxis are not routinely indicated.** If the surgery is contaminated, it should be indicated that the postoperative antibiotic orders are for treatment.

5. The practice of continuing antimicrobials started as prophylaxis until all drains/catheters are removed cannot be supported due to lack of evidence, the development of drug-resistant organisms, superinfections, and drug toxicity.

6. For patients with known methicillin resistant S. aureus (MRSA) colonization or infection, consider adding vancomycin to the surgical prophylaxis regimen for cardiac, spinal, and orthopedic procedures involving implantation: complex fractures / fractures with internal fixation, joint arthroplasties. Vancomycin alone is less effective than cefazolin for preventing surgical site infections due to methicillin susceptible S. aureus (MSSA).

7. The safety and efficacy of topical antimicrobials* (irrigations, pastes, washes) have not been established, except for ophthalmic procedures, therefore routine use of topical antimicrobials is not recommended in any other surgical procedure.
   * This does not include topical antiseptics, e.g. chlorhexidine, isopropyl alcohol.
AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

Table 1: Pre-Op Antibiotic Administration

Timely administration (within 60 minutes before initial skin incision) of antibiotic prophylaxis can significantly decrease the incidence of postoperative infections. The goal is to achieve optimal serum and tissue antibiotic concentrations at the time of the initial skin incision and for the duration of the procedure. To best achieve this, antibiotics can be given in the operating room (OR) by the anaesthetist at induction of anaesthesia, but depending on the circumstances of the procedure may also be given in the holding area, or on the patient care unit if prolonged infusion is necessary. Administering antibiotics “on call to the OR” is not recommended as it often results in suboptimal antibiotic concentrations due to surgery schedule changes or transport delays.

<table>
<thead>
<tr>
<th>Prophylactic Antibiotic</th>
<th>Recommended Adult Dose</th>
<th>Recommended Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefazolin</td>
<td>2g*</td>
<td>IV push</td>
</tr>
<tr>
<td>Cefuroxime</td>
<td>1.5g</td>
<td>IV push</td>
</tr>
<tr>
<td>Ceftriaxone</td>
<td>1-2g</td>
<td>IV push</td>
</tr>
<tr>
<td>Ciprofloxacin PO</td>
<td>500mg</td>
<td>Administer 1-2 hours pre-op</td>
</tr>
<tr>
<td>Clindamycin</td>
<td>600mg</td>
<td>Administer over 30 minutes just prior to procedure</td>
</tr>
<tr>
<td>Co-trimoxazole PO</td>
<td>1 DS tablet</td>
<td>Administer 1-2 hours pre-op</td>
</tr>
<tr>
<td>Gentamicin</td>
<td>1.5mg/kg** or 5mg/kg**</td>
<td>Administer over 30 minutes just prior to procedure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Administer over 60 minutes just prior to procedure</td>
</tr>
<tr>
<td>Metronidazole</td>
<td>500mg</td>
<td>Administer over 20 minutes just prior to procedure</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>15mg/kg***</td>
<td>Administer ≤1g over at least 60 minutes, &gt; 1g- 1.5g over at least 90 minutes, and &gt; 1.5g over 120 minutes just prior to procedure</td>
</tr>
</tbody>
</table>

* For adult patients with total body weight ≥ 120kg, cefazolin 3g IV is recommended by IDSA guidelines but is based on expert opinion. Available evidence suggests 3g is not necessary regardless of body mass index (BMI).
** Use 5mg/kg single pre-op dose if: post-op doses are indicated to provide ~24 hours of antimicrobial prophylaxis, or anticipated duration of surgery is greater than 5 hours. Gentamicin dose should be based on ideal body weight (IBW), or dosing weight (DW) if patient’s actual body weight is > 20% above IBW, rounded to the nearest 20mg.
*** Vancomycin dose should be based on total body weight, rounded to the nearest 250mg and to a maximum of 2g/dose.
AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

Table 2: Intraoperative Antibiotic Administration

Intraoperative repeat dosing is recommended if:
- prolonged surgical procedure (> 2 half-lives of the antimicrobial), or
- major blood loss (> 1.5L).

<table>
<thead>
<tr>
<th>Prophylactic Antibiotic</th>
<th>Recommended intraoperative redosing interval (from time of administration of pre-op dose):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefazolin</td>
<td>q4h</td>
</tr>
<tr>
<td>Cefuroxime</td>
<td>q4h</td>
</tr>
<tr>
<td>Clindamycin</td>
<td>q4h</td>
</tr>
<tr>
<td>Metronidazole</td>
<td>q8h</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>q8h</td>
</tr>
</tbody>
</table>
## AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

<table>
<thead>
<tr>
<th>Surgery</th>
<th>Common Pathogens</th>
<th>Regimen(s) of Choice (See General Principles)</th>
<th>Alternative Regimens for Cephalosporin Allergy or Severe Penicillin Allergy/Anaphylaxis (See General Principles)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastroesophageal endoscopy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• esophageal dilatation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• variceal sclerotherapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastrointestinal surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Duodenal/gastric resections for ulcers/cancer | • Enterobacteriaceae  
• Gram positive cocci | • cefazolin 2g IV x 1 dose                  | • gentamicin 1.5mg/kg IV + clindamycin 600mg IV x 1 dose |
| Percutaneous endoscopic gastrostomy (PEG) |                                           |                                               |                                                                                                             |
| Perforated ulcer procedures      |                                                       |                                               |                                                                                                             |
| Pancreatic duodenectomy          |                                                       |                                               |                                                                                                             |
| Bariatric surgical procedures (gastric bypass, gastric banding, gastroplasty, biliopancreatic diversion) |                                           |                                               |                                                                                                             |
| Gastroplasty – high risk only: gastric outlet obstruction, decreased gastric acidity or motility, morbid obesity, hemorrhage |                                           |                                               |                                                                                                             |
# AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

<table>
<thead>
<tr>
<th>SURGERY</th>
<th>COMMON PATHOGENS</th>
<th>REGIMEN(S) OF CHOICE (See General Principles)</th>
<th>ALTERNATIVE REGIMENS FOR CEPHALOSPORIN ALLERGY or SEVERE PENICILLIN ALLERGY/ANAPHYLAXIS (See General Principles)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatobiliary surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| High risk: open cholecystectomy, emergency laparoscopic cholecystectomy, insertion of prosthetic device, acute cholecystitis, biliary obstruction, obstructive jaundice or common bile duct stones, non-functioning gallbladder, recent (within 1 month) biliary surgery, > 70 yrs old, diabetes, pregnancy, immunosuppression ERCP if biliary obstruction or known pancreatic pseudocyst Liver resection | • Enterobacteriaceae  
• Enterococcus spp  
• Clostridium spp  
• Streptococcus spp  
• Staphylococcus spp | • cefazolin 2g IV x 1 dose | • gentamicin 1.5mg/kg IV + clindamycin 600mg IV x 1 dose  
or  
• gentamicin 1.5mg/kg IV + metronidazole 500mg IV x 1 dose |
| Low risk:  
• elective laparoscopic cholecystectomy  
• liver biopsy |                                     |                                               |                                                                                                 |
| Bowel surgery                 |                                     |                                               |                                                                                                 |
| Small intestine - nonobstructed | • Enterobacteriaceae               | • cefazolin 2g IV x 1 dose | • gentamicin 1.5mg/kg IV + clindamycin 600mg IV x 1 dose |

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Alberta Health Services

April 22, 2014
# AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

## Surgery

### Common Pathogens

- Enterobacteriaceae
- Anaerobes

### Regimen(s) of Choice

- Cefazolin 2g IV + metronidazole 500mg IV x 1 dose
  - or if increased risk of resistance, such as E. coli cefazolin susceptibility < 80%, prolonged hospitalization, antibiotic therapy in last 6 months, recent international travel, consider:
    - Ceftriaxone 2g IV + metronidazole 500mg IV x 1 dose
    - Gentamicin 1.5mg/kg IV + clindamycin 600mg IV x 1 dose
    - Gentamicin 1.5mg/kg IV + metronidazole 500mg IV x 1 dose

### Alternative Regimens for Cephalosporin Allergy or Severe Penicillin Allergy/Anaphylaxis

- Gentamicin 1.5mg/kg IV + Clindamycin 600mg IV x 1 dose
- Gentamicin 1.5mg/kg IV + Metronidazole 500mg IV x 1 dose

## General

### Bowel Surgery

- Elective colorectal surgery
- Appendectomy
- Emergency bowel surgery
- Bowel obstruction
- Fistulas/Discontinuous bowel segments

#### Common Pathogens

- Enterobacteriaceae
- Anaerobes

#### Regimen(s) of Choice

- Cefazolin 2g IV + metronidazole 500mg IV x 1 dose
  - or if increased risk of resistance, such as E. coli cefazolin susceptibility < 80%, prolonged hospitalization, antibiotic therapy in last 6 months, recent international travel, consider:
    - Ceftriaxone 2g IV + metronidazole 500mg IV x 1 dose
    - Gentamicin 1.5mg/kg IV + clindamycin 600mg IV x 1 dose
    - Gentamicin 1.5mg/kg IV + metronidazole 500mg IV x 1 dose

### Perforated Viscus, Gangrene, Peritonitis, or Abscess

#### Common Pathogens

- Enterobacteriaceae
- Anaerobes
- Enterococcus spp

#### Regimen(s) of Choice

- See Adult Empiric Therapy Recommendations - Peritonitis

---

**Alberta Health Services**

April 22, 2014
# AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

## SURGERY

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</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anal surgery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low risk:</td>
<td>• fissurectomy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• fistulectomy/fistulotomy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• hemorrhoidectomy-ligation/banding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• sphincterotomy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High risk:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• sphincteroplasty</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• rectovaginal fistula closure/repair</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• proctocolectomy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Enterobacteriaceae</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Anaerobes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• S. aureus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Streptococcus spp</td>
<td></td>
</tr>
</tbody>
</table>

|                  | Prophylaxis not routinely indicated           |                                                                                                   |
|                  | • cefazolin 2g IV + metronidazole 500mg IV x 1 dose |                                                                                                   |
|                  | • clindamycin 600mg IV x 1 dose               |                                                                                                   |
|                  | • gentamicin 1.5mg/kg IV + clindamycin 600mg IV x 1 dose |                                                                                                   |
|                  | or                                           |                                                                                                   |
|                  | • gentamicin 1.5mg/kg IV + metronidazole 500mg IV x 1 dose |                                                                                                   |
|                  | • clindamycin 600mg IV x 1 dose               |                                                                                                   |

## Herniorrhaphy (suture repair)

<table>
<thead>
<tr>
<th>Hernioplasty (mesh insertion)</th>
<th>• S. aureus</th>
<th>• Coagulase negative staphylococcus (CoNS)</th>
<th>• Streptococcus spp</th>
<th>• cefazolin 2g IV x 1 dose</th>
<th>• clindamycin 600mg IV x 1 dose</th>
</tr>
</thead>
</table>

## Herniorrhaphy (suture repair)

Hernioplasty (mesh insertion)
# AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Obstetrical/Gynecological</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Therapeutic termination of pregnancy | • Enterobacteriaceae  
• Anaerobes  
• Group B Streptococci  
• Enterococcus spp | • Doxycycline 100mg PO 1h pre-op + 200mg PO 1/2 h post-op  
or  
• Azithromycin 1g PO x 1 dose pre-op | • Gentamicin 1.5mg/kg IV + clindamycin 600mg IV x 1 dose |
| Caesarean section  
**Elective**  
**Non-elective** | • Enterobacteriaceae  
• Anaerobes  
• Group B Streptococci  
• Enterococcus spp | • Cefazolin 2g IV x 1 dose  
**NB:** Dosing prior to skin incision more effective than dosing after cord clamping.  
or  
• Gentamicin 1.5mg/kg IV + clindamycin 600mg IV x 1 dose | |
| Hysterectomy  
**Abdominal**  
**Laparoscopic**  
**Vaginal**  
**Adnexal procedures that enter uterus or vagina** | • Enterobacteriaceae  
• Anaerobes  
• Group B Streptococci  
• Enterococcus spp | • Cefazolin 2g IV +/- metronidazole 500mg IV x 1 dose | • Gentamicin 1.5mg/kg IV + clindamycin 600mg IV x 1 dose  
or  
• Gentamicin 1.5mg/kg IV + metronidazole 500mg IV x 1 dose |
| Endometrial ablation | Prophylaxis not routinely indicated | | |
| Dilatation and curettage  
• Postpartum  
• Menorrhagia | Prophylaxis not routinely indicated | | |
| Laparoscopic procedures that do not enter uterus and/or vagina | Prophylaxis not routinely indicated | | |
# AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

<table>
<thead>
<tr>
<th>Surgery</th>
<th>Common Pathogens</th>
<th>Regimen(s) of Choice (See General Principles)</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Urology</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note: If positive urine culture, institute treatment according to culture and susceptibility results.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open or laparoscopic procedures</strong></td>
<td>- entry into urinary tract&lt;br&gt;- entry into vagina&lt;br&gt;- percutaneous renal surgery</td>
<td>• Enterobacteriaceae&lt;br&gt;• Enterococcus spp&lt;br&gt;• Staphylococcus spp&lt;br&gt;• Streptococcus spp</td>
<td>• Cefazolin 2g IV x 1 dose&lt;br&gt;• Gentamicin 1.5mg/kg IV + Clindamycin 600mg IV x 1 dose</td>
</tr>
<tr>
<td><strong>Open or laparoscopic procedures</strong></td>
<td>- placement of prosthetic material</td>
<td>• Enterobacteriaceae&lt;br&gt;• Enterococcus spp&lt;br&gt;• Staphylococcus spp&lt;br&gt;• Streptococcus spp</td>
<td>• Cefazolin 2g IV ± Gentamicin 1.5mg/kg IV x 1 dose&lt;br&gt;• Vancomycin 15mg/kg IV + Gentamicin 1.5mg/kg IV x 1 dose</td>
</tr>
<tr>
<td><strong>Adrenalectomy</strong>&lt;br&gt;<strong>Nephrectomy</strong></td>
<td>• S. aureus&lt;br&gt;• Streptococcus spp</td>
<td>• Cefazolin 2g IV x 1 dose</td>
<td>• Clindamycin 600mg IV x 1 dose</td>
</tr>
</tbody>
</table>
**AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS**

<table>
<thead>
<tr>
<th>SURGERY</th>
<th>COMMON PATHOGENS</th>
<th>REGIMEN(S) OF CHOICE (See General Principles)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>UROLOGY</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: If positive urine culture, institute treatment according to culture and susceptibility results.

- **Cystoscopy**
- **Urethral dilatation**

**Low risk**
- Enterobacteriaceae
- Pseudomonas spp
- Enterococcus spp

**High risk:**
- Prolonged indwelling catheter
- Neutropenia

**Prophylaxis not routinely indicated**

<table>
<thead>
<tr>
<th>Oral regimens: (give 1-2 h pre-op)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ciprofloxacin 500mg PO</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>co-trimoxazole 1 DS tablet PO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parenteral regimens:</th>
</tr>
</thead>
<tbody>
<tr>
<td>cefazolin 2g IV x 1 dose</td>
</tr>
<tr>
<td>or if increased risk of resistance, such as E. coli cefazolin susceptibility &lt; 80%, prolonged hospitalization, antibiotic therapy in last 6 months, recent international travel, consider:</td>
</tr>
<tr>
<td>ceftriaxone 1g IV x 1 dose</td>
</tr>
</tbody>
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<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Parenteral regimen:</th>
</tr>
</thead>
<tbody>
<tr>
<td>gentamicin 1.5mg/kg IV x 1 dose</td>
</tr>
<tr>
<td>SURGERY</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>UROLOGY</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
| Shock-wave lithotripsy, no risk factors | • Enterobacteriaceae  
• Pseudomonas spp  
• Enterococcus spp | Oral regimens: (give 1-2 h pre-op)  
• ciprofloxacin 500mg PO  
• co-trimoxazole 1 DS tablet PO  
Parenteral regimens:  
• cefazolin 2g IV x 1 dose or if increased risk of resistance, such as E. coli cefazolin susceptibility < 80%, prolonged hospitalization, antibiotic therapy in last 6 months, recent international travel, consider:  
• ceftriaxone 1g IV x 1 dose | Oral regimens: (give 1-2 h pre-op)  
• ciprofloxacin 500mg PO  
• co-trimoxazole 1 DS tablet PO  
Parenteral regimen:  
• gentamicin 1.5mg/kg IV x 1 dose |
| Shock-wave lithotripsy with risk factors:  
• advanced age  
• anatomical abnormalities of urinary tract  
• immunodeficiency/chronic corticosteroid use  
• prolonged hospitalization  
• externalized catheter  
• poor nutritional status  
• smoking  
• prolonged indwelling catheter | • Enterobacteriaceae  
• Pseudomonas spp  
• Enterococcus spp |                                               |                                                                                                          |
| Ureteroscopy             |                                  |                                               |                                                                                                          |
# AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

<table>
<thead>
<tr>
<th>SURGERY</th>
<th>COMMON PATHOGENS</th>
<th>REGIMEN(S) OF CHOICE</th>
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</tr>
</thead>
<tbody>
<tr>
<td>UROLOGY</td>
<td></td>
<td>(See General Principles)</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drugs to choose when cephalosporin allergy or severe penicillin allergy/anaphylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral regimens: (give 1-2 h pre-op)</td>
</tr>
<tr>
<td>- ciprofloxacin 500mg PO x 1 dose</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>- co-trimoxazole 1 DS tablet PO x 1 dose</td>
</tr>
<tr>
<td>If risk factors (antibiotic therapy in last 6 months, diabetes mellitus, chronic obstructive pulmonary disease, recent international travel, recent hospitalization, healthcare worker, previous sepsis following prostate biopsy), consider adding:</td>
</tr>
<tr>
<td>- ceftriaxone 1g IV x 1 dose</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>- gentamicin 1.5mg/kg IV x 1 dose</td>
</tr>
</tbody>
</table>

| Oral regimens: (give 1-2 h pre-op)                                               |
| - ciprofloxacin 500mg PO x 1 dose                                                 |
| or                                                                                |
| - co-trimoxazole 1 DS tablet PO x 1 dose                                          |
| If risk factors (antibiotic therapy in last 6 months, diabetes mellitus, chronic obstructive pulmonary disease, recent international travel, recent hospitalization, healthcare worker, previous sepsis following prostate biopsy), consider adding: |
| - gentamicin 1.5mg/kg IV x 1 dose                                                 |

## Transrectal prostatic biopsy

**Prostatectomy:**
- transurethral (TURP)
- perineal
- suprapubic

- Enterobacteriaceae
- Pseudomonas spp
- Enterococcus spp

**Regimen(s) of Choice**

- Oral regimens: (give 1-2 h pre-op)
  - ciprofloxacin 500mg PO x 1 dose
  or
  - co-trimoxazole 1 DS tablet PO x 1 dose

If risk factors (antibiotic therapy in last 6 months, diabetes mellitus, chronic obstructive pulmonary disease, recent international travel, recent hospitalization, healthcare worker, previous sepsis following prostate biopsy), consider adding:

- ceftriaxone 1g IV x 1 dose
  or
- gentamicin 1.5mg/kg IV x 1 dose

## Ileal conduit/urinary diversion

Cystectomy

Radical prostatectomy

- Enterobacteriaceae
- Anaerobes
- Staphylococcus spp
- Streptococcus spp

- Cefazolin 2g IV + metronidazole 500mg IV x 1 dose

## Vasectomy

Prophylaxis not routinely indicated

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Alberta Health Services

April 22, 2014
### AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

<table>
<thead>
<tr>
<th>SURGERY</th>
<th>COMMON PATHOGENS</th>
<th>REGIMEN(S) OF CHOICE (See General Principles)</th>
<th>ALTERNATIVE REGIMENS FOR CEPHALOSPORIN ALLERGY or SEVERE PENICILLIN ALLERGY/ANAPHYLAXIS (See General Principles)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CARDIAC</strong></td>
<td></td>
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</tr>
<tr>
<td>- Preoperative assessment of nasal culture for S. aureus carriage should be considered.</td>
<td></td>
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</tr>
<tr>
<td>• If nasal S. aureus (MSSA or MRSA) carrier, suggest intranasal mupirocin 2% bid-tid for 3-5 days prior to surgery.</td>
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</tr>
<tr>
<td><strong>NB:</strong> No evidence of benefit if not nasal S. aureus carrier.</td>
<td></td>
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</tr>
<tr>
<td>- The safety and efficacy of topical antibiotics applied to the sternum has not been established and is currently not recommended.</td>
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</tr>
<tr>
<td>- For patients with known MRSA colonization or infection, consider adding vancomycin to surgical prophylaxis regimen.</td>
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</tr>
<tr>
<td><strong>Open heart surgery</strong></td>
<td></td>
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</tr>
<tr>
<td>Prosthetic valve</td>
<td>S. aureus</td>
<td>cefazolin 2g IV pre-op + 2g IV q8h x 24h post-op</td>
<td>vancomycin 15mg/kg IV pre-op + 15mg/kg IV q12h x 24h post-op</td>
</tr>
<tr>
<td>Coronary artery bypass</td>
<td>Coagulase negative staphylococcus (CoNS)</td>
<td></td>
<td>If patient hospitalized ≥ 3 days prior to surgery, or saphenous vein procedure, add gentamicin 5mg/kg IV pre-op x 1 dose</td>
</tr>
<tr>
<td>Other open heart surgery</td>
<td>Corynebacterium spp</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Enterobacteriaceae</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Placement of electrophysiologic devices (e.g. pacemaker, implantable cardioverter-defibrillator (ICD), ventricular assist devices, ventriculoatrial shunts, arterial patches)</strong></td>
<td>S. aureus</td>
<td>cefazolin 2g IV x 1 dose</td>
<td>vancomycin 15mg/kg IV x 1 dose</td>
</tr>
<tr>
<td></td>
<td>Coagulase negative staphylococcus (CoNS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P. acnes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cardiac catheterization including angioplasty +/- stenting Transesophageal echocardiogram</strong></td>
<td>Prophylaxis not routinely indicated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

<table>
<thead>
<tr>
<th>SURGERY</th>
<th>COMMON PATHOGENS</th>
<th>REGIMEN(S) OF CHOICE</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(See General Principles)</td>
<td>(See General Principles)</td>
</tr>
<tr>
<td><strong>THORACIC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esophageal resection</td>
<td>• S. aureus</td>
<td>Pre-op:</td>
<td>Pre-op:</td>
</tr>
<tr>
<td></td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td>• cefazolin 2g IV + metronidazole 500mg IV</td>
<td>• clindamycin 600mg IV + gentamicin 5mg/kg IV x 1 dose</td>
</tr>
<tr>
<td></td>
<td>• Streptococcus spp</td>
<td>Post-op:</td>
<td>Post-op:</td>
</tr>
<tr>
<td></td>
<td>• Enterobacteriaceae</td>
<td>• cefazolin 2g IV q8h + metronidazole 500mg IV q12h x 24h</td>
<td>• clindamycin 600mg IV q8h x 24h</td>
</tr>
<tr>
<td></td>
<td>• Oral anaerobes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumonectomy</td>
<td>• S. aureus</td>
<td>Pre-op:</td>
<td>Pre-op:</td>
</tr>
<tr>
<td>Lobectomy, complete or partial</td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td>• cefazolin 2g IV</td>
<td>• [vancomycin 15mg/kg IV or clindamycin 600mg IV] +/- gentamicin 5mg/kg IV x 1 dose</td>
</tr>
<tr>
<td>Thoracotomy</td>
<td>• Streptococcus spp</td>
<td>or</td>
<td>Post-op:</td>
</tr>
<tr>
<td>Thorascopy, including video-assisted thorascopic surgery (VATS)</td>
<td>• Enterobacteriaceae</td>
<td>cefuroxime 1.5g IV</td>
<td>• vancomycin 15mg/kg IV q12h or clindamycin 600mg IV q8h until chest tubes removed to maximum of 24h</td>
</tr>
<tr>
<td></td>
<td>• Oral anaerobes</td>
<td>Post-op:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• cefazolin 2g IV q8h until chest tubes removed to maximum of 24h</td>
<td>* Consider adding gentamicin if:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or</td>
<td>• patient hospitalized ≥ 3 days prior to surgery.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• cefuroxime 1.5g IV q8h until chest tubes removed to maximum of 24h</td>
<td>• chronic obstructive pulmonary disease with Gram negative colonization.</td>
</tr>
</tbody>
</table>
### AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

<table>
<thead>
<tr>
<th>SURGERY</th>
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</thead>
<tbody>
<tr>
<td><strong>THORACIC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest tube insertion for spontaneous pneumothorax Thoracentesis</td>
<td></td>
<td>Prophylaxis not routinely indicated</td>
<td></td>
</tr>
<tr>
<td>Closed chest tube insertion for chest trauma with hemo/pneumothorax</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S. aureus</td>
<td>Pre-op: cefazolin 2g IV</td>
<td>Pre-op: clindamycin 600mg IV +/- gentamicin 5mg/kg IV x 1 dose</td>
</tr>
<tr>
<td></td>
<td>Streptococcus spp</td>
<td>Post-op (OPTIONAL): cefazolin 2g IV q8h to maximum of 24h</td>
<td>Post-op (OPTIONAL): clindamycin 600mg IV q8h to maximum of 24h</td>
</tr>
<tr>
<td></td>
<td>Enterobacteraeae</td>
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<td></td>
</tr>
</tbody>
</table>
# AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

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<th>SURGERY</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>VASCULAR</strong></td>
<td></td>
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<tr>
<td>Arterial surgery involving the abdominal aorta or a groin incision</td>
<td>• S. aureus</td>
<td>Pre-op:</td>
<td>Pre-op:</td>
</tr>
<tr>
<td></td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td>• cefazolin 2g IV</td>
<td>• clindamycin 600mg IV + gentamicin 5mg/kg IV x 1 dose or</td>
</tr>
<tr>
<td></td>
<td>• Enterobacteriaceae</td>
<td>Post-op (OPTIONAL):</td>
<td>• vancomycin 15mg/kg IV + gentamicin 5mg/kg IV x 1 dose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• cefazolin 2g IV q8h to maximum of 24h</td>
<td>Post-op (OPTIONAL):</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• clindamycin 600mg IV q8h to maximum of 24h</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• vancomycin 15mg/kg IV q12h to maximum of 24h</td>
</tr>
<tr>
<td>Arterial surgery involving placement of prosthetic material</td>
<td>• S. aureus</td>
<td>Pre-op:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td>• cefazolin 2g IV</td>
<td>Pre-op:</td>
</tr>
<tr>
<td></td>
<td>• Enterobacteriaceae</td>
<td>Post-op (OPTIONAL):</td>
<td>• clindamycin 600mg IV x 1 dose or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• cefazolin 2g IV q8h to maximum of 24h</td>
<td>• vancomycin 15mg/kg IV x 1 dose</td>
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<td></td>
<td>Post-op (OPTIONAL):</td>
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<td></td>
<td></td>
<td></td>
<td>• clindamycin 600mg IV q8h to maximum of 24h</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• vancomycin 15mg/kg IV q12h to maximum of 24h</td>
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</tbody>
</table>
# AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

## Vascular

<table>
<thead>
<tr>
<th>Surgery</th>
<th>Common Pathogens</th>
<th>Regimen(s) of Choice</th>
<th>Alternative Regimens for Cephalosporin Allergy or Severe Penicillin Allergy / Anaphylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carotid endarterectomy</td>
<td>S. aureus, Coagulase negative staphylococcus (CoNS)</td>
<td>Prophylaxis not routinely indicated</td>
<td>Cefazolin 2g IV x 1 dose, Clindamycin 600mg IV x 1 dose, Vancomycin 15mg/kg IV x 1 dose</td>
</tr>
<tr>
<td>Brachial artery repair</td>
<td></td>
<td></td>
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<tr>
<td>Endovascular stenting</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Low risk:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk:</td>
<td>Placement of prosthetic material</td>
<td>Cefazolin 2g IV x 1 dose, Clindamycin 600mg IV x 1 dose, Vancomycin 15mg/kg IV x 1 dose</td>
<td></td>
</tr>
<tr>
<td>Renal access procedures</td>
<td></td>
<td>Optional: Cefazolin 2g IV x 1 dose</td>
<td>Optional: Vancomycin 15mg/kg IV x 1 dose, Clindamycin 600mg IV x 1 dose</td>
</tr>
<tr>
<td>• Native AV fistula</td>
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<tr>
<td>• Artificial AV graft</td>
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<tr>
<td>Peritoneal dialysis</td>
<td></td>
<td>Cefazolin 2g IV x 1 dose, Clindamycin 600mg IV x 1 dose, Vancomycin 15mg/kg IV x 1 dose</td>
<td></td>
</tr>
<tr>
<td>• Catheter placement</td>
<td></td>
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</tbody>
</table>
## AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

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<tr>
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</thead>
<tbody>
<tr>
<td><strong>PLASTICS</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Clean procedures</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Low risk:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• dermatologic</td>
<td>• S. aureus</td>
<td>• cefazolin 2g IV x 1 dose</td>
<td>• clindamycin 600mg IV x 1 dose or • vancomycin 15mg/kg IV x 1 dose</td>
</tr>
<tr>
<td>• facial bone fracture</td>
<td>• Streptococcus spp</td>
<td></td>
<td></td>
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<tr>
<td>• tumor excision</td>
<td></td>
<td></td>
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<tr>
<td>• simple rhinoplasty/</td>
<td></td>
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<tr>
<td>• septoplasty</td>
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<tr>
<td>• simple lacerations</td>
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<tr>
<td>• flexor tendon injury</td>
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<tr>
<td>• hand surgery</td>
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<td></td>
<td></td>
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<tr>
<td>High risk:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>• placement of prosthetic material</td>
<td>• S. aureus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• skin irradiation</td>
<td>• Streptococcus spp</td>
<td></td>
<td></td>
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<tr>
<td>• procedures below waist</td>
<td></td>
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<tr>
<td>Clean-contaminated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>procedures</td>
<td>• involving contaminated skin/mucosa/intertriginous</td>
<td>• cefazolin 2g IV x 1 dose</td>
<td>• clindamycin 600mg IV x 1 dose or • vancomycin 15mg/kg IV x 1 dose</td>
</tr>
<tr>
<td></td>
<td>areas (oral cavity, upper respiratory tract, axilla,</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>groin, perineum)</td>
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<tr>
<td></td>
<td>• wedge excision lip/ear</td>
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<td></td>
<td>• flaps on nose/head/neck</td>
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<tr>
<td></td>
<td>• grafts</td>
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</tbody>
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### AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

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<tr>
<td><strong>PLASTICS</strong></td>
<td></td>
<td></td>
<td>(See General Principles)</td>
</tr>
<tr>
<td><strong>Breast surgery</strong></td>
<td></td>
<td></td>
<td>(See General Principles)</td>
</tr>
<tr>
<td><strong>Low risk:</strong></td>
<td></td>
<td></td>
<td>(See General Principles)</td>
</tr>
<tr>
<td>reduction &amp; simple</td>
<td>S. aureus</td>
<td></td>
<td>• clindamycin 600mg IV x 1 dose</td>
</tr>
<tr>
<td>reconstructive (no</td>
<td>Coagulase negative staphylococcus (CoNS)</td>
<td></td>
<td>or vancomycin 15mg/kg IV x 1 dose</td>
</tr>
<tr>
<td>prosthetic material)</td>
<td>Streptococcus spp</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High risk:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>placement of prosthetic</td>
<td>cefazolin 2g IV x 1 dose</td>
<td>cefazolin 2g IV pre-op x 1 dose +/-</td>
<td></td>
</tr>
<tr>
<td>material</td>
<td></td>
<td>+/ -</td>
<td></td>
</tr>
<tr>
<td>morbid obesity (&gt;100kg)</td>
<td>clindamycin 600mg IV x 1 dose</td>
<td>clindamycin 600mg IV q8h to maximum of 24h post-op</td>
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</tr>
<tr>
<td>breast cancer procedures</td>
<td></td>
<td>+/ -</td>
<td></td>
</tr>
<tr>
<td>(axillary lymph node dissection,</td>
<td></td>
<td>+/ -</td>
<td></td>
</tr>
<tr>
<td>primary nonreconstructive surgery)</td>
<td></td>
<td>+/ -</td>
<td></td>
</tr>
<tr>
<td>skin irradiation</td>
<td>Prophylaxis not routinely indicated</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Autologous breast reconstruction</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>deep inferior epigastric</td>
<td>cefazolin 2g IV x 1 dose</td>
<td>clindamycin 600mg IV pre-op x 1 dose +/-</td>
<td></td>
</tr>
<tr>
<td>perforators (DIEP) flap</td>
<td></td>
<td>+/ -</td>
<td></td>
</tr>
<tr>
<td>transverse rectus-abdominus</td>
<td>clindamycin 600mg IV q8h to maximum of 24h post-op</td>
<td>clindamycin 600mg IV q8h to maximum of 24h post-op</td>
<td></td>
</tr>
<tr>
<td>myocutaneous (TRAM) flap</td>
<td></td>
<td>+/ -</td>
<td></td>
</tr>
<tr>
<td>S. aureus</td>
<td>cefazolin 2g IV q8h to maximum of 24h post-op</td>
<td>vancomycin 15mg/kg IV pre-op x 1 dose +/-</td>
<td></td>
</tr>
<tr>
<td>Coagulase negative staphylococcus (CoNS)</td>
<td></td>
<td>+/ -</td>
<td></td>
</tr>
<tr>
<td>Streptococcus spp</td>
<td></td>
<td>+/ -</td>
<td></td>
</tr>
<tr>
<td><strong>S. aureus</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coagulase negative staphylococcus (CoNS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streptococcus spp</td>
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</tbody>
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## AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

### SURGERY | COMMON PATHOGENS | REGIMEN(S) OF CHOICE (See General Principles) | ALTERNATIVE REGIMENS FOR CEPHALOSPORIN ALLERGY or SEVERE PENICILLIN ALLERGY/ANAPHYLAXIS (See General Principles)

<table>
<thead>
<tr>
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<th>REGIMEN(S) OF CHOICE</th>
<th>ALTERNATIVE REGIMENS FOR CEPHALOSPORIN ALLERGY or SEVERE PENICILLIN ALLERGY/ANAPHYLAXIS</th>
</tr>
</thead>
</table>
| Reconstructive surgery Tissue flaps Panniculectomy | - S. aureus  
- Streptococcus spp | - cefazolin 2g IV x 1 dose | - clindamycin 600mg IV x 1 dose  
-or-  
- vancomycin 15mg/kg IV x 1 dose |
| Reconstructive limb surgery Traumatic/crush hand injuries | - S. aureus  
- Streptococcus spp  
- Enterobacteriaceae  
- Anaerobes | - cefazolin 2g IV pre-op x 1 dose +/−  
- cefazolin 2g IV q8h to maximum of 24h post-op | - clindamycin 600mg IV pre-op x 1 dose  
+/-  
- clindamycin 600mg IV q8h to maximum of 24h post-op  
-or-  
- vancomycin 15mg/kg IV pre-op x 1 dose  
+/-  
- vancomycin 15mg/kg IV q12h to maximum of 24h post-op |

If contamination suspected, consider adding:  
- gentamicin 5mg/kg IV pre-op x 1 dose to above regimens
# AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

<table>
<thead>
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<th>Surgery</th>
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<th>Regimen(s) of Choice (See General Principles)</th>
<th>Alternative Regimen(s) for Cephalosporin Allergy or Severe Penicillin Allergy/Anaphylaxis (See General Principles)</th>
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<tbody>
<tr>
<td><strong>PLASTICS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpal tunnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low risk</td>
<td>• S. aureus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Streptococcus spp</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prophylaxis not routinely indicated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High risk:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• morbid obesity (&gt;100kg)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>• immunocompromised</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• cefazolin 2g IV x 1 dose</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>or</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• clindamycin 600mg IV x 1 dose</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>• vancomycin 15mg/kg IV x 1 dose</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

<table>
<thead>
<tr>
<th>SURGERY</th>
<th>COMMON PATHOGENS</th>
<th>REGIMEN(S) OF CHOICE (See General Principles)</th>
<th>ALTERNATIVE REGIMENS FOR CEPHALOSPORIN ALLERGY or SEVERE PENICILLIN ALLERGY/ANAPHYLAXIS (See General Principles)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ORTHOPEDIC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnostic or operative arthroscopy</td>
<td></td>
<td>Prophylaxis not routinely indicated</td>
<td></td>
</tr>
</tbody>
</table>
| Fractures with internal fixation (nails, plates, screws, wires) | • S. aureus  
• Coagulase negative staphylococcus (CoNS)  
• Streptococcus spp  
• Enterobacteriaceae | - For patients with known MRSA colonization or infection, add vancomycin to surgical prophylaxis regimen.  
• cefazolin 2g IV x 1 dose  
• clindamycin 600mg IV x 1 dose or vancomycin 15mg/kg IV x 1 dose | |
| Joint replacement  
- hip  
- knee  
- elbow  
- ankle  
- shoulder | • S. aureus  
• Coagulase negative staphylococcus (CoNS) | - Preoperative assessment of nasal culture for S. aureus carriage should be considered.  
• If nasal S. aureus (MSSA or MRSA) carrier, suggest intranasal mupirocin 2% bid-tid for 3-5 days prior to surgery.  
**NB:** No evidence of benefit if not nasal S. aureus carrier.  
- For patients with known MRSA colonization or infection, add vancomycin to surgical prophylaxis regimen.  
- Insufficient evidence to routinely recommend use of antibiotic-impregnated bone cement in primary arthroplasties.  
• cefazolin 2g IV pre-op +/- 2g IV q8h to maximum of 24h post-op | • clindamycin 600mg IV pre-op +/- 600mg IV q8h to maximum of 24h post-op or vancomycin 15mg/kg IV pre-op +/- 15mg/kg IV q12h to maximum of 24h post-op |
# AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

## ORTHOPEDIC

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Fractures, complex (open)</td>
<td>• S. aureus&lt;br&gt;• Coagulase negative staphylococcus (CoNS) &lt;br&gt;• Enterobacteriaceae</td>
<td>- For patients with known MRSA colonization or infection, add vancomycin to surgical prophylaxis regimen.&lt;br&gt;• cefazolin 2g IV pre-op + 2g IV q8h x 24-48h post-op</td>
<td>• clindamycin 600mg IV pre-op + 600mg IV q8h x 24-48h post-op or&lt;br&gt;• vancomycin 15mg/kg IV pre-op + 15mg/kg IV q12h x 24-48h post-op&lt;br&gt; If heavily soiled/contaminated (Grade III), add:&lt;br&gt;• gentamicin 5mg/kg IV pre-op x 1 dose</td>
</tr>
<tr>
<td>Amputation of lower limb</td>
<td>• S. aureus&lt;br&gt;• Coagulase negative staphylococcus (CoNS) &lt;br&gt;• Enterobacteriaceae&lt;br&gt;• Clostridium spp</td>
<td>• cefazolin 2g IV +/- metronidazole 500mg IV x 1 dose</td>
<td>• clindamycin 600mg IV + gentamicin 1.5mg/kg IV x 1 dose</td>
</tr>
<tr>
<td>Fasciotomy</td>
<td>• S. aureus&lt;br&gt;• Streptococcus spp</td>
<td>• cefazolin 2g IV x 1 dose</td>
<td>• clindamycin 600mg IV x 1 dose or&lt;br&gt;• vancomycin 15mg/kg IV x 1 dose</td>
</tr>
</tbody>
</table>
AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

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</thead>
<tbody>
<tr>
<td>SPINAL SURGERY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Preoperative assessment of nasal culture for S. aureus carriage should be considered.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If nasal S. aureus (MSSA or MRSA) carrier, suggest intranasal mupirocin 2% bid-tid for 3-5 days prior to surgery.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>NB: No evidence of benefit if not nasal S. aureus carrier.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- For patients with known MRSA colonization or infection, add vancomycin to surgical prophylaxis regimen.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laminectomy Microdiscectomy</td>
<td>• S. aureus</td>
<td>• cefazolin 2g IV x 1 dose</td>
<td>• vancomycin 15mg/kg IV x 1 dose</td>
</tr>
<tr>
<td>Spinal fusion Insertion of foreign material</td>
<td>• S. aureus</td>
<td>• cefazolin 2g IV pre-op +/- 2g IV q8h to maximum of 24h post-op</td>
<td>• vancomycin 15mg/kg IV pre-op +/- vancomycin 15mg/kg IV q12h to maximum of 24h post-op</td>
</tr>
<tr>
<td></td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td></td>
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</tr>
</tbody>
</table>
# AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

<table>
<thead>
<tr>
<th>SURGERY</th>
<th>COMMON PATHOGENS</th>
<th>REGIMEN(S) OF CHOICE (See General Principles)</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>NEUROSURGERY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Craniotomy</td>
<td>• S. aureus</td>
<td>• cefazolin 2g IV x 1 dose</td>
<td>• vancomycin 15mg/kg IV x 1 dose</td>
</tr>
<tr>
<td>Stereotactic brain biopsy/procedure</td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cerebrospinal fluid shunting operations</td>
<td>• S. aureus</td>
<td>• cefazolin 2g IV x 1 dose</td>
<td>• vancomycin 15mg/kg IV x 1 dose</td>
</tr>
<tr>
<td>NB:  Antimicrobial-impregnated devices are not recommended.</td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External ventricular drain (EVD)</td>
<td>• S. aureus</td>
<td>• cefazolin 2g IV x 1 dose pre-insertion</td>
<td>• vancomycin 15mg/kg IV x 1 dose pre-insertion</td>
</tr>
<tr>
<td>Intracranial pressure (ICP) monitor</td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NB:  Evidence for antibiotic prophylaxis inconclusive. Antimicrobial-coated EVD catheters not recommended.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contaminated procedures</td>
<td>• compound skull fractures</td>
<td></td>
<td>Institute treatment rather than prophylaxis</td>
</tr>
<tr>
<td>• open scalp lacerations</td>
<td>• CSF fistulae</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Alberta Health Services  
April 22, 2014  
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### AHS RECOMMENDED DRUG REGIMENS FOR SURGICAL PROPHYLAXIS IN ADULT PATIENTS

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<tr>
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<th>COMMON PATHOGENS</th>
<th>REGIMEN(S) OF CHOICE (See General Principles)</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>HEAD AND NECK SURGERY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean procedures</td>
<td>S. aureus, Streptococcus spp, Oral anaerobes</td>
<td>Prophylaxis not routinely indicated</td>
<td></td>
</tr>
<tr>
<td>(no incision through oral/ nasal/pharyngeal mucosa, no insertion of prosthetic material)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.g. Thyroidectomy, Lymph node excision and/or</td>
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<td></td>
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<tr>
<td>Low risk, e.g.</td>
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<td></td>
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</tr>
<tr>
<td>• Septoplasty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Tonsillectomy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Adenoidectomy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Tympanoplasty/ear surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mastoidectomy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Insertion of prosthetic material</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• cefazolin 2g IV x 1 dose</td>
<td></td>
<td>• clindamycin 600mg IV x 1 dose</td>
</tr>
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<tr>
<td><strong>HEAD AND NECK SURGERY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Clean contaminated procedures with incision through oral/nasal/pharyngeal mucosa | • S. aureus  
• Streptococcus spp  
• Oral anaerobes  
• Enterobacteriaceae | • cefazolin 2g IV x 1 dose  
• clindamycin 600mg IV x 1 dose | • clindamycin 600mg IV x 1 dose  
• gentamicin 1.5mg/kg IV x 1 dose |
| **Low risk**                |                                                      |                                               |                                                                                                              |
| **High risk:**              |                                                      |                                               |                                                                                                              |
| • Head and neck cancer  
  o Radical/bilateral neck dissection  
  o Reconstructive surgery with myocutaneous flaps or microvascular free flaps  
• Mandibular surgery if tobacco/alcohol/illicit drug use | • cefazolin 2g IV + metronidazole 500mg IV x 1 dose |                                                                                                              |
# AHS Recommended Drug Regimens for Surgical Prophylaxis in Adult Patients

## Ophthalmology

NB: Pre-op disinfection with povidone-iodine 5 or 10% solution recommended. Chlorhexidine 0.05% is alternative for iodine-allergic patients. Higher chlorhexidine concentrations are associated with corneal toxicity. Avoid leakage of either povidone-iodine or chlorhexidine into the anterior chamber.

<table>
<thead>
<tr>
<th>Surgery</th>
<th>Common Pathogens</th>
<th>Regimen(s) of Choice</th>
<th>Alternative Regimens for Cephalosporin Allergy or Severe Penicillin Allergy/Anaphylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cataract extraction</td>
<td>• S. aureus</td>
<td>Eye drops every 5-15 minutes for 5 doses within 1 hour prior to start of procedure*:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Coagulase negative staphylococcus (CoNS)</td>
<td>• moxifloxacin or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Streptococcus spp</td>
<td>• polymyxin B - gramicidin +/-%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Enterobacteriaceae</td>
<td>At end of procedure:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Pseudomonas spp</td>
<td>Intracameral injection**:</td>
<td></td>
</tr>
<tr>
<td>Corneal transplant</td>
<td></td>
<td>• cefazolin 1-2.5mg or</td>
<td></td>
</tr>
<tr>
<td>Retinal detachment</td>
<td></td>
<td>• cefuroxime 1mg</td>
<td></td>
</tr>
<tr>
<td>Vitrectomy</td>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Dacryocystorhinostomy</td>
<td></td>
<td>Subconjunctival injection:</td>
<td></td>
</tr>
<tr>
<td>Eyelid Surgery</td>
<td></td>
<td>• cefazolin 100mg or</td>
<td></td>
</tr>
<tr>
<td>Enucleation</td>
<td></td>
<td>• cefuroxime 50mg</td>
<td></td>
</tr>
</tbody>
</table>

* The necessity of continuing topical antimicrobials postoperatively has not been established.

**Intracameral antibiotics may be more effective than subconjunctival antibiotics.