

## Surgical Prophylaxis Antibiotic Recommendations Updated 2017

1. Prophylactic antibiotic is to be initiated within 1 hour prior to incision
  - **Exception:** Due to the longer infusion time required, initiate **vancomycin** and **ciprofloxacin** within 2 hours prior to incision
2. Anesthesia to give preoperative antibiotic dose and document time on anesthesia record.
  - **Exception:** Antibiotics in Endoscopy, Labor and Delivery and Birth Care Center
3. Chose alternative antibiotic if patient is allergic to recommended first line antibiotic.
  - Avoid giving cefazolin or cefotetan if the patient has allergies to **cephalosporins or a life-threatening allergy to penicillin** (angioedema, bronchoconstriction, cardiac arrhythmias, hypotension, or respiratory distress)
4. **Pediatric Patients:** Maximum dose is dose listed for wt <80 kg. For pediatric patients >80 kg, follow adult dosing.
5. **For patients colonized with MRSA:** Give vancomycin as the pre-op antibiotics for cardiac, vascular, orthopedic, neurological, and head and neck surgeries. For all other surgeries, give vancomycin **in addition** to the antibiotics listed below. To determine if a patient is colonized with MRSA, please see flow sheet below.
6. Per Clinical Practice Restricted/High Risk Medications with Special Requirements Policy: **Pre-operative antibiotics for prophylaxis in adult patients will be automatically substituted to the antibiotics listed on Adult Surgical Pre-Operative Antibiotic Prophylaxis order set #347.** For surgeries/procedures not addressed on the order set, anesthesia is to discuss antibiotic selection with the surgeon.
7. Antibiotics listed below are listed in order of preference. The first line antibiotic has been designated with an asterisks(\*)).

Surgical Procedure	Drug	Dose			
		Pediatrics (<80 kg), If applicable	Wt <80 kg	Wt 80-119 kg	Wt ≥ 120 kg
<b>Coronary Artery Bypass Graft Cardiac Surgery Vascular Surgery</b> <ul style="list-style-type: none"> <li>• All CABG, Valves and other CV procedures</li> <li>• Pacemakers, AICD's, pocket relocation and lead revisions, generator replacements.</li> <li>• Repair of the aorta</li> <li>• Leg vessel bypasses</li> <li>• Endarterectomy of the aorta</li> <li>• Abdominal endarterectomy</li> <li>• Abdominal vessel resection</li> <li>• Intra-abdominal shunt</li> <li>• Vascular shunt &amp; bypass</li> <li>• AV fistula</li> </ul>	cefazolin IV*		1 gm	2 gm	3 gm
	vancomycin IV ( <i>MRSA or allergy</i> )		1 gm	1.5 gm	2 gm
	clindamycin IV		900 mg		
	daptomycin ( <i>MRSA or allergy</i> )		contact pharmacy		
<b>Hip Arthroplasty (full or partial) Knee Arthroplasty</b> <ul style="list-style-type: none"> <li>• All Orthopedic and Podiatry cases</li> </ul>	cefazolin IV*		1 gm	2 gm	3 gm
	vancomycin IV ( <i>MRSA or allergy</i> )		1 gm	1.5 gm	2 gm
	clindamycin IV		900 mg		
	daptomycin ( <i>MRSA or allergy</i> )		contact pharmacy		
<b>Neurological</b> <ul style="list-style-type: none"> <li>• Shunt insertion, replace or revise</li> <li>• Pain pumps</li> <li>• Laminectomy</li> <li>• Laminotomy</li> <li>• Discectomy</li> </ul>	cefazolin IV*	30 mg/kg (max 1000 mg)	1 gm	2 gm	3 gm
	vancomycin IV ( <i>MRSA or allergy</i> )	15 mg/kg (max 1000 mg)	1 gm	1.5 gm	2 gm
	clindamycin IV	10 mg/kg (max 900 mg)	900 mg		
	daptomycin ( <i>MRSA or allergy</i> )	contact pharmacy			
<b>Head and Neck</b> <ul style="list-style-type: none"> <li>• All jaw fracture repairs</li> <li>• With or w/o interdental fixation</li> <li>• Diverticulectomy of hypopharynx or esophagus with or w/o myotomy, cervical approach</li> </ul>	cefazolin IV*	30 mg/kg (max 1000 mg)	1 gm	2 gm	3 gm
	vancomycin IV ( <i>MRSA or allergy</i> )	15 mg/kg (max 1000 mg)	1 gm	1.5 gm	2 gm
	clindamycin IV <b>PLUS</b> gentamicin IV		900 mg <b>PLUS</b> 80 mg	900 mg <b>PLUS</b> 120 mg	
	daptomycin ( <i>MRSA or allergy</i> )	contact pharmacy			

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		Pediatrics (<80 kg) If applicable	Wt <80 kg	Wt 80-119 kg	Wt ≥ 120 kg
<b>Colonized with MRSA</b>	vancomycin <b>PLUS</b> antibiotics listed below	15 mg/kg (max 1000 mg)	1 gm	1.5 gm	2 gm
<b>Colon Surgery</b> (open or lap) <ul style="list-style-type: none"> <li>• Cecectomy</li> <li>• Hemicolectomy</li> <li>• Sigmoidectomy</li> <li>• Anastomosis, including anal</li> <li>• Resections, including rectal</li> <li>• Any laceration repair</li> <li>• Any intestinal/bowel incision</li> </ul>	ceftriaxone IV <b>PLUS</b> metronidazole IV*	50 mg/kg (max 1000 mg) <b>PLUS</b> 15 mg/kg (max 500 mg)	1 gm <b>PLUS</b> 500 mg		
	cefotetan IV*	50 mg/kg (max 1000 mg)	1 gm	2 gm	2 gm
	<i>During cefotetan shortage:</i> cefoxitin	40 mg/kg (max 2000 mg)	2 gm		
	ciprofloxacin IV <b>PLUS</b> metronidazole IV	10 mg/kg (max 400 mg) <b>PLUS</b> 15 mg/kg (max 500 mg)	400 mg <b>PLUS</b> 500 mg		
	clindamycin IV <b>PLUS</b> gentamicin IV		900 mg <b>PLUS</b> 80 mg	900 mg <b>PLUS</b> 120 mg	
	clindamycin IV <b>PLUS</b> aztreonam IV		900 mg <b>PLUS</b> 2 gm		
	clindamycin IV <b>PLUS</b> ciprofloxacin IV		900 mg <b>PLUS</b> 400 mg		
	metronidazole IV <b>PLUS</b> gentamicin IV		500 mg <b>PLUS</b> 80 mg	500 mg <b>PLUS</b> 120 mg	
<b>Hysterectomy</b> (any approach) <b>Hysterectomy</b> (any approach) with colon procedure (any approach)	cefotetan IV*		1 gm	2 gm	2 gm
	<i>During cefotetan shortage:</i> cefoxitin		2 gm		
	clindamycin IV <b>PLUS</b> ciprofloxacin IV		900 mg <b>PLUS</b> 400 mg		
	ciprofloxacin IV <b>PLUS</b> metronidazole IV		400 mg <b>PLUS</b> 500 mg		
	clindamycin IV <b>PLUS</b> gentamicin IV		900 mg <b>PLUS</b> 80 mg	900 mg <b>PLUS</b> 120 mg	
	clindamycin IV <b>PLUS</b> aztreonam IV		900 mg <b>PLUS</b> 2 gm		
	metronidazole IV <b>PLUS</b> gentamicin IV		500 mg <b>PLUS</b> 80 mg	500 mg <b>PLUS</b> 120 mg	
	vancomycin IV <b>PLUS</b> gentamicin IV		1 gm <b>PLUS</b> 80 mg	1.5 gm <b>PLUS</b> 120 mg	2 gm <b>PLUS</b> 120 mg
	vancomycin IV <b>PLUS</b> aztreonam IV		1 gm <b>PLUS</b> 2 gm	1.5 gm <b>PLUS</b> 2 gm	2 gm <b>PLUS</b> 2 gm
	<b>Genitourinary</b>				
<b>Prostate biopsy</b> <ul style="list-style-type: none"> <li>• Needle, punch or incisional approach</li> </ul>	cefazolin IV*		1 gm	2 gm	3 gm
	ciprofloxacin PO		500 mg <i>(clearly document date/time taken if dose was taken PTA on day of surgery)</i>		
	sulfamethoxazole/ trimethoprim PO		800mg/160 mg <i>(clearly document date/time taken if dose was taken PTA on day of surgery)</i>		
	gentamicin IV		80 mg	120 mg	
	aztreonam IV		2 gm		
<b>Penile prosthesis</b> <ul style="list-style-type: none"> <li>• Insertion, removal, revision</li> </ul>	cefazolin IV <b>PLUS</b> gentamicin IV*		1 gm <b>PLUS</b> 80 mg	2 gm <b>PLUS</b> 120 mg	3 gm <b>PLUS</b> 120 mg
	vancomycin IV <b>PLUS</b> gentamicin IV		1 gm <b>PLUS</b> 80 mg	1.5 gm <b>PLUS</b> 120 mg	2 gm <b>PLUS</b> 120 mg
	gentamicin IV <b>PLUS</b> clindamycin IV		80 mg <b>PLUS</b> 900 mg	120 mg <b>PLUS</b> 900 mg	
	aztreonam IV <b>PLUS</b> clindamycin IV		2 gm <b>PLUS</b> 900 mg		
	aztreonam IV <b>PLUS</b> vancomycin IV		2 gm <b>PLUS</b> 1 gm	2 gm <b>PLUS</b> 1.5 gm	2 gm <b>PLUS</b> 2 gm
	aztreonam IV <b>PLUS</b> cefazolin IV		2 gm <b>PLUS</b> 1 gm	2 gm <b>PLUS</b> 2 gm	2 gm <b>PLUS</b> 3 gm

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		Pediatrics (<80 kg) If applicable	Wt <80 kg	Wt 80-119 kg	Wt ≥ 120kg
<b>Colonized with MRSA</b>	vancomycin <b>PLUS</b> antibiotics listed below	15 mg/kg (max 1000 mg)	1 gm	1.5 gm	2 gm
<b>Gastric/Biliary</b>					
<b>PEG placement</b>	cefazolin IV*	30 mg/kg (max 1000 mg)	1 gm	2 gm	3 gm
	ciprofloxacin IV <b>PLUS</b> clindamycin IV	10 mg/kg (max 400 mg) <b>PLUS</b> 10 mg/kg (max 900 mg)	400 mg <b>PLUS</b> 900 mg		
	clindamycin IV <b>PLUS</b> gentamicin IV		900 mg <b>PLUS</b> 80 mg	900 mg <b>PLUS</b> 120 mg	
	vancomycin IV <b>PLUS</b> gentamicin IV		1 gm <b>PLUS</b> 80 mg	1.5 gm <b>PLUS</b> 120 mg	2 g <b>PLUS</b> 120 mg
	vancomycin IV <b>PLUS</b> ciprofloxacin IV		1 gm <b>PLUS</b> 400 mg	1.5 gm <b>PLUS</b> 400 mg	2 gm <b>PLUS</b> 400 mg
<b>Pubovaginal Sling</b> <ul style="list-style-type: none"> <li>Sling operation for stress incontinence (fascia or synthetic)</li> <li>Paravaginal defect repair (including repair of cystocele)</li> </ul>	cefotetan IV*		1 gm	2 gm	2 gm
	<i>During cefotetan shortage:</i> cefoxitin		2 gm		
	clindamycin IV <b>PLUS</b> ciprofloxacin IV		900 mg <b>PLUS</b> 400 mg		
	clindamycin IV <b>PLUS</b> gentamicin IV		900 mg <b>PLUS</b> 80 mg	900 mg <b>PLUS</b> 120 mg	
	clindamycin IV <b>PLUS</b> aztreonam IV		900 mg <b>PLUS</b> 2 gm		
	metronidazole IV <b>PLUS</b> aztreonam IV		500 mg <b>PLUS</b> 2 gm		
	metronidazole IV <b>PLUS</b> gentamicin IV		500 mg <b>PLUS</b> 80 mg	500 mg <b>PLUS</b> 120 mg	
	vancomycin IV <b>PLUS</b> gentamicin IV		1 gm <b>PLUS</b> 80 mg	1.5 gm <b>PLUS</b> 120 mg	2 gm <b>PLUS</b> 120 mg
	vancomycin IV <b>PLUS</b> aztreonam IV		1 gm <b>PLUS</b> 2 gm	1.5 gm <b>PLUS</b> 2 gm	2 gm <b>PLUS</b> 2 gm
	vancomycin IV <b>PLUS</b> gentamicin IV		1 gm <b>PLUS</b> 80 mg	1.5 gm <b>PLUS</b> 120 mg	2 gm <b>PLUS</b> 120 mg
<b>Cesarean Delivery</b>	cefazolin IV once		1 GM	2 GM	3 GM
	clindamycin IV once <b>PLUS</b> gentamicin IV once		900 mg <b>PLUS</b> 80 mg	900 mg <b>PLUS</b> 120 mg	900 mg <b>PLUS</b> 120 mg
<b>Urologic</b>					
<b>Urologic without entry into the urinary tract</b>	cefazolin IV*	30 mg/kg (max 1000 mg)	1 gm	2 gm	3 gm
	clindamycin IV	10 mg/kg (max 900 mg)	900 mg		
<b>Urologic involving entry into the urinary tract or involving intestines</b> <ul style="list-style-type: none"> <li>Bladder resections</li> <li>Gastrointestinal fistulas</li> </ul>	cefotetan IV*	50 mg/kg (max 1000 mg)	1 gm	2 gm	2 gm
	<i>During cefotetan shortage:</i> cefoxitin	40 mg/kg (max 2000 mg)	2 gm		
	ciprofloxacin IV <b>PLUS</b> metronidazole IV	10 mg/kg (max 400 mg) <b>PLUS</b> 15 mg/kg (max 500 mg)	400 mg <b>PLUS</b> 500 mg		

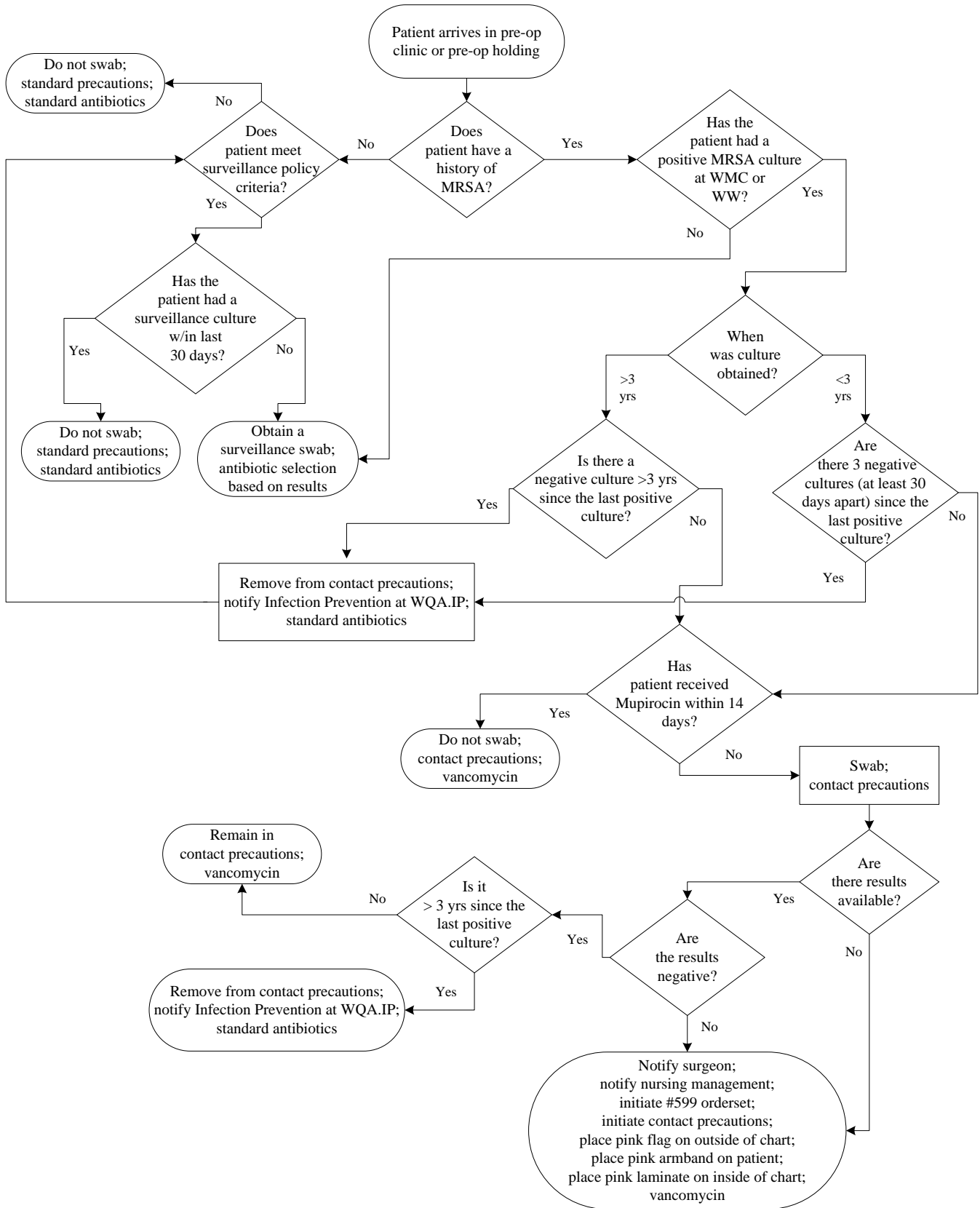
**Special Considerations:**

- The only operations for which oral antibiotics alone are acceptable are the Prostate biopsy and Pubovaginal sling procedures.
- The only operations for which intramuscular antibiotics alone are acceptable are the Prostate biopsy procedures.

**For urologic and pubovaginal sling procedures only:**

If the patient took an oral antibiotic prior to arrival on the date of surgery – please clearly document name of drug, date and time taken.

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	Cefazolin	Cefotetan	Cefoxitin*	Ceftriaxone
Dose	1 gm if <80 kg 2 gm if 80-119 kg 3 gm if ≥ 120 kg Peds: 30 mg/kg	1 gm 2 gm ≥ 80 kg Peds: 50 mg/kg	2 gm Peds: 40 mg/kg	1 gm Peds: 50 mg/kg
Infusion time	3-5 min per 1 gm	3-5 min	3-5 min	3-5 min
Redose if blood loss >1500 ml or case is longer than:	3 hr	6 hr	2 hr	Do not redose

	Ampicillin/Sulbactam	Ciprofloxacin	Metronidazole	Gentamicin	Clindamycin **	Vancomycin ***
Dose	3 gm Peds: 50 mg/kg ampicillin component	400 mg Peds: 10 mg/kg	500 mg Peds: 15 mg/kg	80 mg if <80 kg 120 mg if ≥ 80 kg Peds: 2.5 mg/kg	900 mg Peds: 10 mg/kg	1 gm if <80 kg 1.5 gm if 80-119 kg 2 gm if ≥ 120 kg Peds: 15 mg/kg
Infusion time	30 min	1 hr	15 min	30 min	30 min	1 gm: 60 min 1.5 gm: 90 min 2 gm: 120 min
Redose if blood loss >1500 ml or case is longer than:	2 hr	10 hr	8 hr	Do not redose	6 hr	12 hr

Preferred Agents for most cases

\* May be used in place of cefotetan in times of shortage

\*\* May be used in place of cefazolin in patients with cephalosporin allergy

\*\*\* May be used in place of cefazolin in patients with cephalosporin allergy or in certain high-risk patients.

Prophylactic antibiotics are to be initiated within 1 hour prior to incision.

Vancomycin and fluoroquinolones may be initiated within 2 hours prior to incision.

Pharmacy: 23551 (1<sup>st</sup> and 2<sup>nd</sup> shift)  
22380 (3<sup>rd</sup> shift only)