NM Surgical Prophylaxis
Pharmacy Urology Culture Review Process

The purpose of this protocol is to allow pharmacists to automatically substitute or add culture-directed preoperative antibiotics for urologic patients undergoing a procedure expected to cross the urinary tract mucosal barrier. **See NM Surgical Prophylaxis Protocol for full recommendations.**

Inclusion Criteria:

Table 1 outlines alternative antibiotic options when a patient undergoing a urologic procedure designated for culture review meets each of the following criteria:

1. It is the most recent positive urinary tract culture (if more than one documented) or rectal swab culture (for transrectal prostate biopsy only)
2. Culture is within the prior 1 month from surgery date
3. The organism(s) grown is not susceptible to the usual, primary prophylactic agent for that procedure per the NM System Surgical Prophylaxis Protocol (usually cefazolin) and is susceptible to the secondary or tertiary options listed below

Procedure when inclusion criteria met:

1. Review the following:
   a. Most recent urine culture and susceptibilities from the previous 1 month
   b. Allergies and renal function (e.g., Scr/GFR)
2. Determine most appropriate option from Table 1 based on the above (e.g., most recent culture not susceptible to primary antibiotic per protocol, susceptibilities, allergies, and renal function)
3. The pharmacist will automatically perform the recommended action if all above inclusion criteria are satisfied
4. If the above criteria do not apply, a surgeon order for an alternative agent will be necessary (follow local process for clarification of alternative agents)

Table 1: Alternative Antibiotic Options for Urologic Procedures[a]

Organism	Secondary Antibiotic	Tertiary Antibiotic (listed in order of preference)	Action
Aerococcus viridans or sanguinicola[c] [May use cefazolin for Aerococcus urinae or spp.]	Ampicillin	Vancomycin OR Linezolid	Add to primary antibiotic per protocol
Enterococcus spp.	Ampicillin	Vancomycin OR Linezolid OR Daptomycin	Add to primary antibiotic per protocol
Gram-negatives	Ceftriaxone	Tobramycin[b] OR Cefepime	Tobra: Add to primary antibiotic Others: Substitute for primary antibiotic
ESBL Gram-negatives	Tobramycin[b]	Meropenem	Tobra: Add to primary antibiotic Mero: Substitute for primary antibiotic
MRSA	Vancomycin	Linezolid OR Daptomycin	Add to primary antibiotic per protocol
Pseudomonas spp.	Tobramycin[b]	Cefepime OR Piperacillin/tazobactam	Tobra: Add to primary antibiotic Others: Substitute for primary antibiotic

[a]Urologic procedures designated for culture review per NM System Pre-Operative Prophylaxis Protocol
[b]Do not use tobramycin if CrCl < 20mL/min
[c]Aerococcus urinae has good empiric susceptibility to cefazolin and is most common; ok to use cefazolin if reported as urinae or spp.
Note: Skin flora such as coagulase-negative Staphylococci, Corynebacterium, and yeast may not need preoperative coverage. Recommend against additional coverage for these organisms in the urine given minimal association with urinary tract infection.

References

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2. Nicolle LE, Gupta K, Bradley SF, et al. Clinical practice guidelines for the management of asymptomatic bacteriuria: 2019 update by the Infectious Diseases Society of America. *Clin Inf Dis* 2019; 68(10):e83-e110. doi: [10.1093/cid/ciy1121]
3. Krishnan A and Nadeau L. 1468.Determination of antibiotic susceptibilities in Aerococcus urinae urinary isolates. *Op For Infect Dis* 2019; 6(Supp2):S536. doi: 10.1093/ofid/ofz360.1332.
4. Senneby E, Petersson AC, Rasmussen M. Epidemiology and antibiotic susceptibility of aerococci in urinary cultures. *Diagn Micro Infect Dis* 2015; 81:149-51. doi: 10.1015/j.diagmicrobio.2014.11.009.
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Version history:
1/2026 Approved by NM System ADSP P&T
1/2026 Adjusted action for tobramycin to be added to primary agent instead of replacing it