

Practice Patterns of Transrectal Prostate Biopsy Antibiotic Prophylaxis in almost 5,000 Patients from the Pennsylvania Urologic Regional Collaboration (PURC)

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Introduction:

- Rising rates of infectious complications are reported following transrectal ultrasound guided prostate needle biopsy (TRUS PNB).
- Several American Urological Association (AUA) publications have proposed strategies to limit infections.
 - Urologic Surgery Antimicrobial Prophylaxis (Best Practice Statement)
 - Prevention and Treatment of Prostate Biopsy Complications (White Paper)
- Extent to which such publications have standardized practice patterns for prophylaxis remains unclear.

Objective:

- To review antibiotic prophylaxis practice patterns for TRUS PNB in a large statewide quality registry with a focus on the extent of heterogeneity.

Methods:

- PURC
 - Established in 2015
 - Physician-led statewide quality collaborative focusing on prostate cancer diagnosis and therapy.
 - 9 practices with 95 physicians have accrued over 7,100 patients to date.
- Cohort of interest
 - 4,982 TRUS PNB procedures performed in 4,597 patients at one of the 9 practices.
- SAS version 9.4 (Cary, NC) for analysis.

Results:

- **Table** highlights characteristics of biopsy cohorts.
- Peri-procedural antibiotic prophylaxis regimens (4,280 documented cases).
 - 3,394 (79%) single agent
 - 856 (20%) dual augmented therapy
 - 30 (1%) three or more antibiotics
- Patients undergoing repeat biopsy more likely to receive augmented regimen.
 - 81% vs. 51%, $p < 0.005$
- 74 unique antibiotic prophylaxis regimens.
- Ciprofloxacin and Ceftriaxone (in combination or alone) most heavily used agents.
- **Figure 1** highlights 10 most common prophylaxis regimens.
- Rectal cultures with targeted antibiotics infrequently used (<1% of cases).
- Infectious complications (documented UTI or urinary sepsis).
 - 53 (1%) patients
 - No specific antibiotic regimen associated with infections.
- **Figure 2** summarizes cost of 10 most common prophylaxis regimens (source Lexicomp Online).

Conclusions:

- Significant practice pattern variability exists across providers in this collaborative with regards to TRUS PNB antibiotic prophylaxis.
- Local antibiograms, published AUA recommendations, and cost considerations can potentially aid in better standardizing regimens.

Supporting Data:

Table. Descriptive data on 4,982 TRUS PNB biopsies performed in 4,597 patients

Variable	Number (%)
Number of prior biopsies	
Initial biopsy	3,637 (73)
Single prior biopsy	563 (11)
Multiple prior biopsies	220 (4)
Not specified	562 (11)
Biopsy type	
Conventional TRUS PNB	4,368 (88)
MRI Fusion TRUS PNB	614 (12)
Abx prescribed before biopsy	
Yes	4,372 (88)
No	119 (2)
Not specified	491 (10)
Enema prior to biopsy	
Yes	1,746 (35)
No	925 (19)
Unknown	2,311 (46)
Biopsy result	
Positive	2,726 (55)
Negative	2,256 (45)
UTI post TRUS PNB	32 (0.6)
Sepsis post TRUS PNB	21 (0.4)

Figure 1. Antibiotic prophylaxis regimens in statewide collaborative

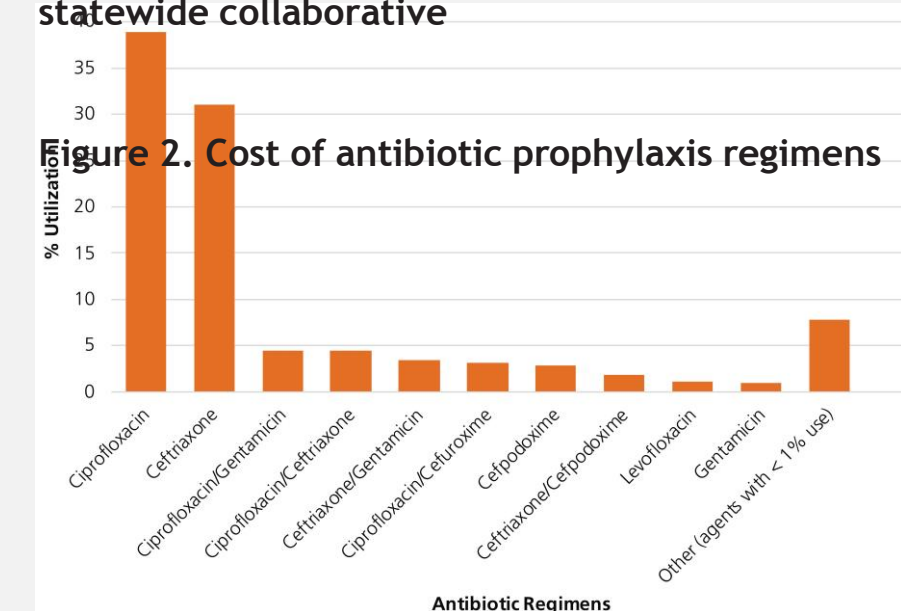
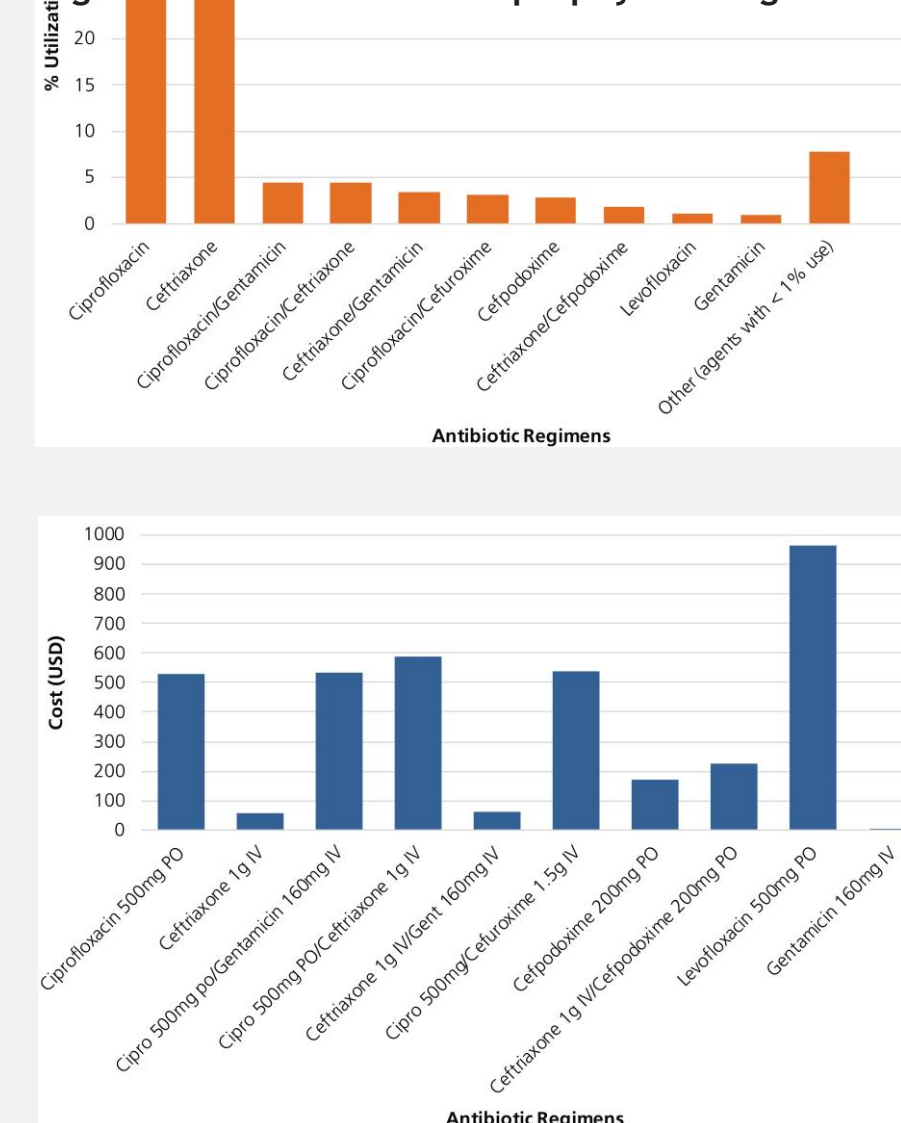


Figure 2. Cost of antibiotic prophylaxis regimens



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