

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

Figure 1. Antibiotic prophylaxis regimens in statewide collaborative

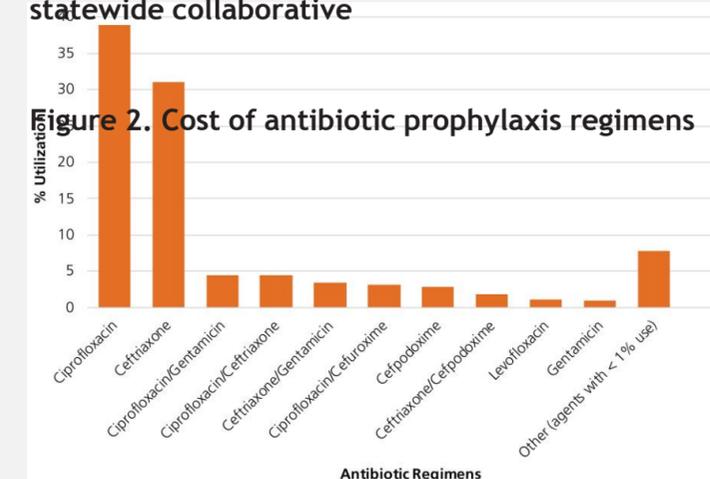
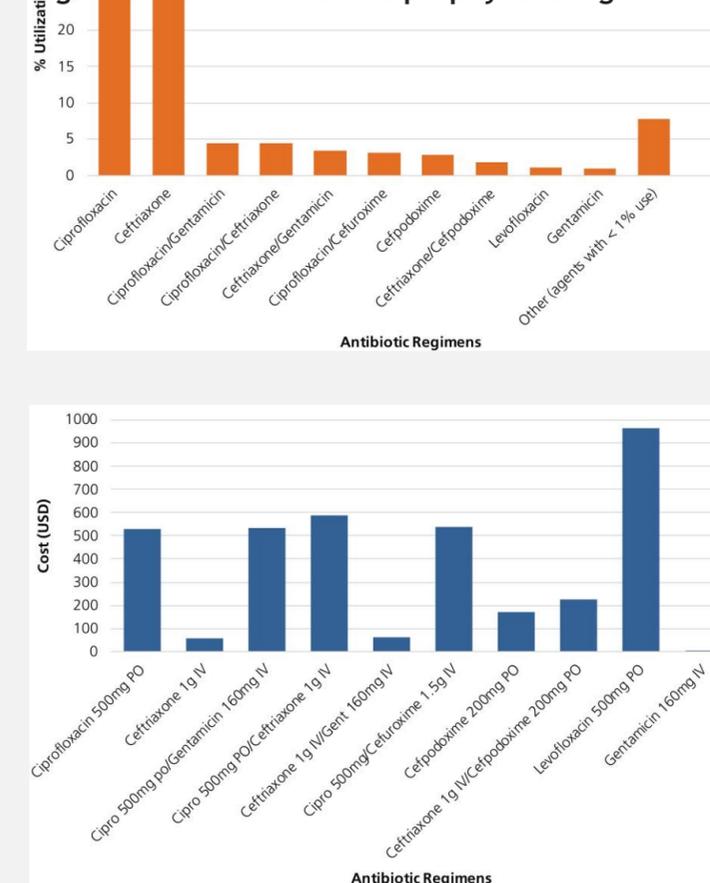


Figure 2. Cost of antibiotic prophylaxis regimens



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