

Is Routine Antibiotic Prophylaxis Required for Transperineal Prostate Biopsy?

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INTRODUCTION AND OBJECTIVE: Transperineal prostate biopsy (TPBx) has successfully reduced the risk of infectious complications compared to the transrectal approach. Contemporary guidelines continue to recommend antibiotic prophylaxis due to potential rectal/skin flora contamination or entry into the urinary tract; however, this inherently risks escalating antimicrobial resistance. We sought to evaluate the current practice patterns of antibiotic prophylaxis (ATB) for TPBx and the associated rates of infectious complications.

METHODS: Men in the Michigan Urological Surgery Improvement Collaborative (MUSIC) prostate cancer registry who underwent non-fusion (systematic) TPBx between 2017 and 2022 were analyzed. Patient demographics, disease characteristics, and peri-procedural outcomes were assessed. The primary outcome was infectious complications after TPBx. Infections were defined as fever, sepsis, and/or UTI.

RESULTS: We identified 2212 men who underwent non-fusion (systematic) TPBx in the study period, 669 (30%) of whom did not receive ATB for TPBx (Table 1). The yearly percentage of patients with no ATB rose from 0.81% in 2017 to 65.6% in 2022 (Figure 1). Between patients with ATB and no ATB, there were no statistically significant difference in rates of infection (0.65% vs 0.45%, $p = 0.77$) or infectious hospitalizations (0.32% vs 0.45%, $p = 0.70$).

CONCLUSIONS: Use of antibiotic prophylaxis for TPBx has decreased over time in the state of Michigan. Antibiotic prophylaxis was not associated with rates of infection and infectious hospitalizations after transperineal fusion biopsy.

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	ATB	No ATB	p-value
No. Patients	1543	669	
Race			
White	1259 (81.6%)	341 (51.0%)	<0.001
African American	188 (12.2%)	255 (38.1%)	
Other/Unknown	96 (6.2%)	73 (10.9%)	
Charlson Comorbidity Index			
0	1014 (65.7%)	421 (62.9%)	<0.001
1	232 (15.0%)	144 (21.5%)	
>=2	297 (19.2%)	104 (15.5%)	
History of Diabetes Mellitus	176 (11.4%)	118 (17.6%)	<0.001
Prior Sepsis History	9 (0.6%)	3 (0.4%)	0.692
Age	66.0 (60.0-71.0)	67.0 (61.0-72.0)	<0.001
BMI	28.3 (25.7-32.0)	28.5 (25.4-31.8)	0.518
Note: cell values are n (%) or median (IQR).			

Table 1. Demographics of patients who received antibiotic prophylaxis for TPBx (ATB) and who did not receive antibiotic prophylaxis for TPBx (no ATB).

Use of Antibiotic Prophylaxis Before Transperineal Biopsy (ATB) over Time (2017-2022)

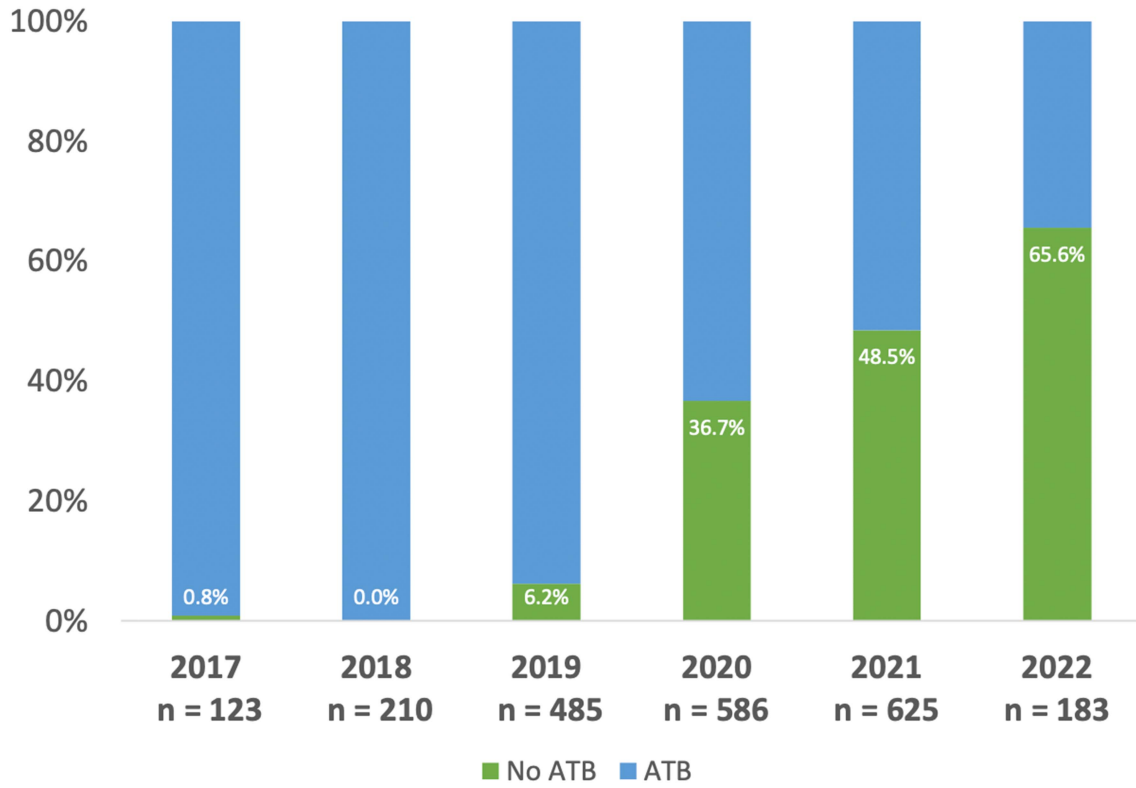


Figure 1. Use of Antibiotic Prophylaxis Before Transperineal Biopsy (ATB) over Time (2017-2022).