

# Antibiotics prophylaxis before prostate biopsy in practice: Review of online clinical guidelines

Sir,

The inaugural American Urologic Association (AUA) Quality Improvement Summit on January 25, 2014 introduced the directive to compile a white paper on the incidence, prevention, and treatment of complications related to prostate needle biopsy. We believe this summit brings to the urologic community's attention the critical fact that published guidelines in antibiotic prophylaxis do not reflect the escalating danger of post prostate needle biopsy infections. The known infectious complication rates range from 0.1% to 7%, depending on the antimicrobial agent used.<sup>[1]</sup> Even with prophylactic antibiotics, 5% of men will develop asymptomatic bacteriuria and 2–3% will develop symptomatic urinary tract infection.<sup>[2]</sup> The current AUA best practice policy statement on urologic surgery antimicrobial prophylaxis, last updated in February 2012, recommends fluoroquinolones or 1<sup>st</sup> through 3<sup>rd</sup> generation cephalosporins as the prophylactic antimicrobial agents of choice preceding prostate needle biopsy. This recommendation does not account for the fact that the overall risk of post-biopsy infections has risen over the past decade.<sup>[2-4]</sup> It also does not account for the increasing rate of quinolone resistance, as evidenced by the dramatic 22% of men found to have quinolone-resistant flora on prebiopsy rectal swab.<sup>[1]</sup> While the origin of this change in microbial sensitivity is likely complex and multifactorial, possibly related to increased, inappropriate, or repeated utilization of antibiotics, the fact remains that our guidelines for prophylaxis need to reflect these factors in order to effectively protect patients receiving prostate needle biopsies.

We conducted an online search of www.pubmed.gov and other medical websites for United States publications in English offering guidelines on antibiotic prophylaxis before prostate biopsy for the purpose of reducing the risk of infectious complications using the key words “surgical, antimicrobial, prophylaxis, guidelines.” We identified only 17 publications between 2007 and 2014, and 13 of them were available to review in full text. The first-line prophylaxis regimens included primarily cephalosporins or fluoroquinolones (13/13). Trimethoprim-sulfamethoxazole was included as an appropriate first line antibiotic in one of the studies, another two included combinations of gentamicin, ampicillin, metronidazole and clindamycin as the first line prophylaxis. While

**Table 1: Online published guidelines for antibiotic prophylaxis before prostate biopsy in the United States**

Organization	1 <sup>st</sup> line prophylaxis	2 <sup>nd</sup> line prophylaxis
Johns Hopkins Hospital (2013)	Cefotetan	Ciprofloxacin Gentamicin/ metronidazole
University of Pittsburgh Medical Center (2005)	Ciprofloxacin	
New York Presbyterian Hospital (2005)	Cefoxitin	Clindamycin/ gentamicin
St. Joseph Hospital (Private Hospital-California, USA) (2009)	Ciprofloxacin Levofloxacin	Gentamicin/ metronidazole
Christ Hospital (Private Hospital-Ohio, USA) (2013)	Levofloxacin Ceftriaxone Gentamicin/ clindamycin Metronidazole	*
The Mayo Clinic (2011)	Ciprofloxacin	*
Orlando Regional Medical Hospital (Private Hospital-Florida, USA) (2006)	Cefazolin	Ciprofloxacin
St. Mary's Hospital (Private Hospital-Wisconsin, USA) (2013)	Cefazolin	Ciprofloxacin Clindamycin/ gentamicin
Sarasota Memorial Hospital (Private Hospital-Florida, USA) (2007)	Ciprofloxacin	*
Ohio State University College of Medicine (2003)	Ciprofloxacin TMP-SMX	*
Agency of Healthcare Research and Quality (2014)	Fluoroquinolone (unspecified) TMP-SMX Cefazolin	Aminoglycoside± clindamycin
American Urological Association (2014)	Fluoroquinolone (unspecified) Cephalosporin	TMP-SMX Aminoglycoside
Clinical Practice Guidelines for Antimicrobial Prophylaxis in Surgery (2013)	Fluoroquinolone (unspecified) TMP-SMX Cefazolin	Aminoglycoside± clindamycin

\*No second line treatment recommended.  
TMP-SMX: Trimethoprim-sulfamethoxazole

their infectious complication rates fell well within the 0.1–7% quoted in the literature, the wide variety of regimens used, and the fact that some even differed from the known guidelines, further proves the need for an updated consensus [Table 1].

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