



PURC



Understanding Antibiotic Utilization and Prophylaxis Prior to Biopsy

PURC Biopsy Working Group Survey Results

June 2017



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PURC Collaborative Overview

Background

Established in February 2015, PURC is an initiative that brings urology practices together in a physician-led, data sharing and improvement collaborative aimed at advancing the quality of diagnosis and care for men with prostate cancer. Participating practices submit data into the PURC registry on a variety of prostate cancer quality measure categories, including biopsy, imaging, treatment, radical prostatectomy, cancer characteristics, and volume. Thus far, the nine (9) participating practices have entered nearly 5,500 patients into the PURC data portal.

Collaborative Goals

1. Provide a reliable, sustainable platform for prostate cancer data collection
2. Reduce variation in care delivery and utilization of services for men with newly diagnosed prostate cancer
3. To measure, understand, and influence outcomes following prostate biopsy and radical prostatectomy
4. Improve patient-centered decision making among men faced with treatment choices for clinically localized prostate cancer

Collaborative Participants

Einstein Health Network
Fox Chase Cancer Center
Geisinger Health System
Hospital of the University of Pennsylvania
Jefferson Urology Associates
MD Anderson at Cooper University Hospital
Penn State Milton S. Hershey Medical Center
Temple University Hospital
Urology Health Specialists – Main Line

Physician Leadership

- PURC Executive Director: Robert Uzzo, MD, FACS; Fox Chase Cancer Center
- Regional Clinical Champion: Marc Smaldone, MD, MHSP; Fox Chase Cancer Center
- Practice Site Physician Champions:
 - John Danella, MD; Geisinger Health System
 - Serge Ginzburg, MD; Einstein Health Network
 - Thomas Guzzo, MD, MPH; Hospital of the University of Pennsylvania
 - Thomas Lanchoney, MD, FACS; Urology Health Specialists – Main Line
 - Jay Raman, MD; Penn State Milton S. Hershey Medical Center
 - Adam Reese, MD; Temple University Hospital
 - Jeffrey Tomaszewski, MD; MD Anderson at Cooper University Hospital
 - Edouard Trabulsi, MD; Jefferson Urology Associates

Executive Team and Working Groups

An executive team convenes on a triannual basis for the purpose of evaluating collaborative progress and determining collaborative direction. The committee, which consists of physician champions, clinical abstractors, urology leaders, and patient advocates, is chaired by Marc Smaldone, MD, Fox Chase Cancer Center and supported by the Health Care Improvement Foundation. The purpose of the executive team meetings is for members to collaborate and provide expert input into the following:

- Continual analysis and evaluation of regional patterns of care and treatment outcomes;
- Identification of unwarranted variations in care and outcomes;
- Identification of specific care processes associated with better patient outcomes;
- Development and dissemination of improvement strategies and best practices;
- Periodic review of program activities and deliverables to ensure optimal support of participants.

In addition, PURC has established four (4) working groups, which are comprised of providers and clinical abstractors from participating practices. The working groups allow for the opportunity to review registry data, develop measures, identify quality improvement opportunities, and share protocols and experiences. Working groups share their findings and recommendations with the executive team for continued collaborative discussion. The four (4) working groups are as follows:

- Active Surveillance Working Group, Chair Adam Reese, MD, Temple University Hospital;
- Biopsy Working Group, Chair Thomas Lanchoney, MD, Urology Health Specialists;
- Genomics Working Group, Chair Jeffrey Tomaszewski, MD, MD Anderson at Cooper University Hospital;
- Imaging Working Group, Chair Serge Ginzburg, MD, Einstein Health System.

Executive Summary

Survey Development and Administration

In June 2017, PURC distributed a survey to all actively participating urologists to understand the variation in prophylaxis approaches prior to performing a prostate biopsy. The Biopsy Working Group, chaired by Thomas Lanchoney, MD, requested the development and distribution of this survey after viewing data that displayed vast variation in antibiotic practices prior to biopsy. In addition to collecting information on antibiotic preferences and uses, the Biopsy Working Group hoped to identify the prevalence of other prophylactic techniques, such as rectal swab use and biopsy needle cleaning. Ultimately, the Biopsy Working Group wants to establish recommendations of best practices and reduce variation in care.

The *Antibiotic Utilization and Prophylaxis Prior to Biopsy Survey* asked sixteen (16) questions in total. The first four questions asked information specifically about the urologist responding to the survey, such as name, organization, title, and years of experience. The next four questions referred to antibiotic prophylaxis use, including the prevalence of prescribing a single or multiple antibiotic and how urologists determine which antibiotic to prescribe. Remaining questions assessed the prevalence of alternative prophylaxis measures, including the use of enemas, rectal swabs, and biopsy needle cleaning.

Survey Response

The PURC coordinating center distributed the survey to the 88 active urologists participating in PURC. Of these 88 urologists, 45 completed the survey, resulting in a response rate of 51%. At least one urologist from all 9 practices completed the survey.

Summary of Survey Results

Antibiotic Use

- 71.1% of respondents indicated that they prescribe a single antibiotic prophylaxis prior to a prostate biopsy.
- When prescribing a single antibiotic, respondents specifically mentioned three types of antibiotics: Ciprofloxacin, Ceftriaxone, and Cefpodoxime.
- Respondents mentioned nine (9) different ways in which they prescribe Ciprofloxacin, accentuating the extent to which variation in prophylaxis practices exist across providers.
- 35.6% of respondents indicated that they prescribe multiple antibiotic prophylaxis prior to a prostate biopsy.
- Some urologists exclusively or almost always prescribe multiple antibiotics. For those that only do so occasionally, multiple antibiotics are generally reserved for at risk patients, such as health care workers, animal husbandry workers, and patients with prior Ciprofloxacin exposure, antibiotic allergies, and history of antibiotic resistance or sepsis.

- When prescribing an antibiotic, urologists consider professional guidelines and recommendations, patient allergies, previous antibiotic exposure, risk status, medical history, rectal swab results, and antibiogram results.

Alternative Ways to Prevent Infection

- 43.2% of respondents indicated that they perform a topical rectal antiseptic prep prior to a TRUS biopsy. Rectal antiseptic preparations include betadine, chlorhexidine, chlorhexidine mixed with bacitracin, and povidone.
- 65.9% of respondents encourage or require the use of an enema.
- Only 2 of the 45 respondents perform a rectal swab prior to biopsy. Those that perform rectal swabs utilize the result to determine the most appropriate and targeted prophylaxis for their patients.
- 22.2% of respondents wash their biopsy needles between testing cores. Those that wash their biopsy needles indicated that they do so using a chlorhexidine solution, formalin, betadine with sterile water or saline, iodine and water, saline on its own, or simply sterile water. Two respondents indicated that they exclusively use new disposable needles.
- Additional measures employed by PURC urologists to reduce infection include adding gentamycin in the lidocaine injected for local anesthesia, urine cultures prior to biopsy, betadine in rectal vault, bisacodyl the day before the biopsy, single use gel per case, and check a UA on day of the biopsy.

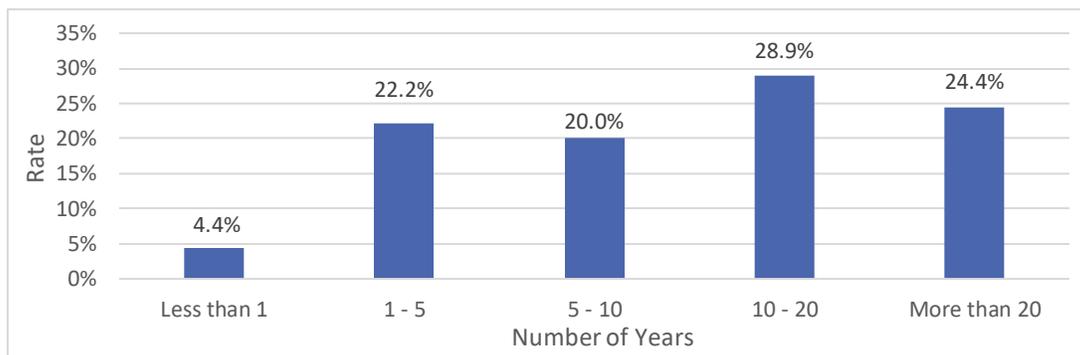
Recommendations

Based on survey results, findings in recent research publications, and AUA guidelines, the Biopsy Working Group endorses Ciprofloxacin 500 mg q 12 hours x 2 doses starting 2 hours before biopsy or Rocephin (Ceftriaxone) 1 gram IV/IM one hour prior to biopsy to prevent infections. Gentamycin 5mg/kg IM 1 hour before biopsy would be a suitable alternative.

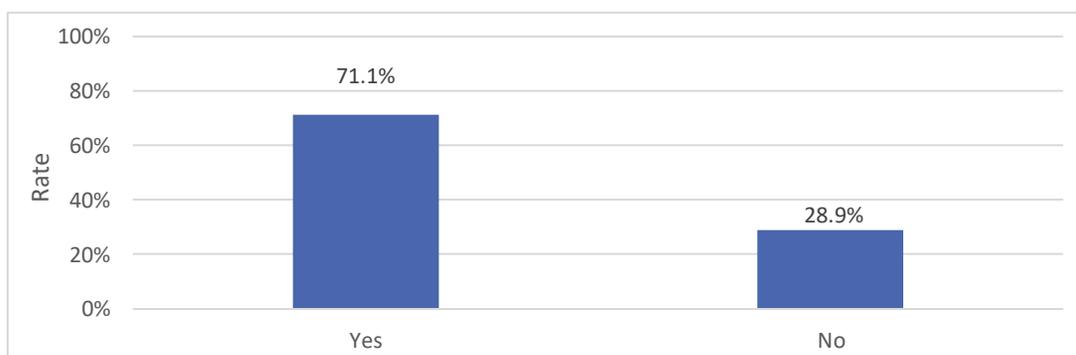
The Biopsy Working Group will evaluate the use of Chlorhexidine versus Betadine as viable options for rectal instillation of antiseptics and offer recommendations in the future.

Appendix: Survey Results

1. How many years have you been practicing Urology? (45 Responses)



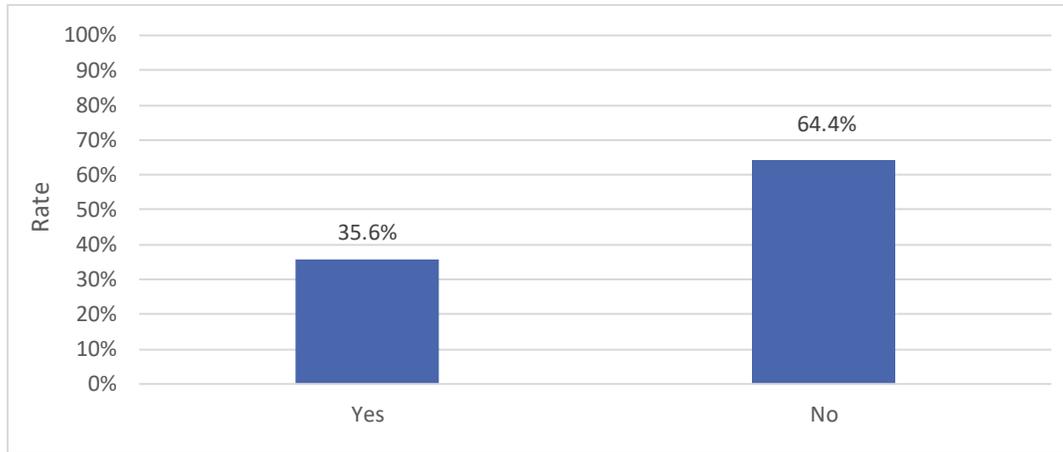
2. Do you prescribe single antibiotic prophylaxis prior to a prostate biopsy procedure? (45 Responses)



Comments:

- Ciprofloxacin Use:
 - One hour before and 12 hours after biopsy
 - Two hours before and 12 hours after biopsy
 - 500 mg, taken twice per day for 2 days before and 3 days after biopsy
 - 500 mg, taken twice per day before, day of, and day after biopsy
 - 500 mg night before and morning of biopsy
 - 500 mg for 2 doses
 - 1,000 mg day before, 1,000 mg following biopsy
 - For 4 days
 - 24 hours prior
- Ceftriaxone Use:
 - IM one dose
 - 1 g IM at time of biopsy
 - Just prior to biopsy
- Cefpodoxime Use:
 - For 3 days
- Multiple antibiotics used depending on risk factors, allergies, past exposure

3. Do you prescribe multiple antibiotic prophylaxis prior to a prostate biopsy procedure? (45 Responses)



Comments:

- Add 1 g IM Ceftriaxone once to Cipro regimen for patients at risk of harboring Cipro resistant organisms. At risk patients include prior Cipro exposure, health care workers, and animal husbandry worker.
- Bactrim and Ceftriaxone
- Cipro morning and night on day of biopsy, Ceftriaxone IM before biopsy
- Add Gentamycin to Cipro regimen if history of resistance or sepsis
- Ceftriaxone x 1 dose; cupronickel x 3 days
- Fluoroquinolone x24 hrs, and IM dose of ceftriaxone
- Cipro and Cefuroxime twice during the day of biopsy
- Oral Cipro and IM Ceftriaxone
- If rectal swab shows fluoroquinolone resistance, to cover rectal flora will give swab-guided IM antibiotic

4. Do you prescribe "other" antibiotic prophylaxis (NOT Single or Multiple) prior to a prostate biopsy procedure? (33 Responses)

Responses:

- Add an additional antibiotic depending on risk factors, allergies, or past exposure. Common additional antibiotics include: Ceftriaxone, penicillin, and gentamycin

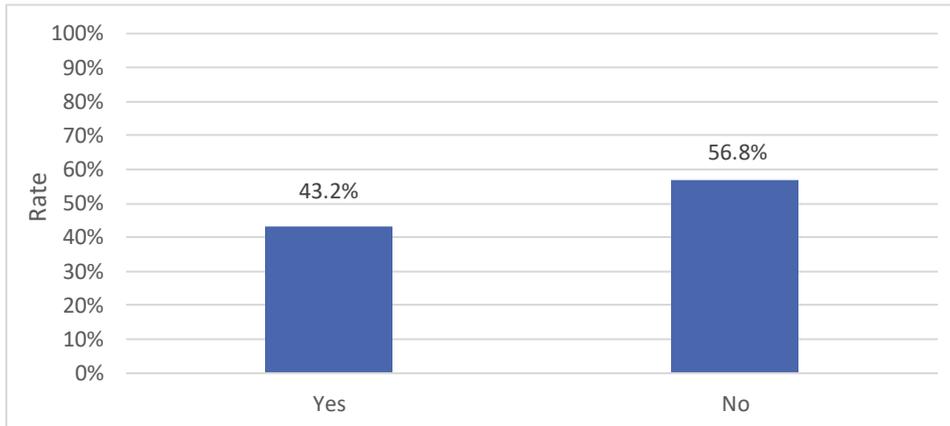
5. How do you decide which antibiotic to use? (41 Responses)

Reponses:

- Professional guidelines and recommendations
 - AUA
 - MUSIC
- Antibiogram
- Patient allergies
- Bacterial coverage
- Recent antibiotic exposure/use

- Is the patient a health care worker?
- Medical history
- Rectal swab
- Risk status
- Institutionally agreed protocol

6. Do you routinely perform a topical rectal antiseptic prep prior to a TRUS biopsy?
(44 Responses)

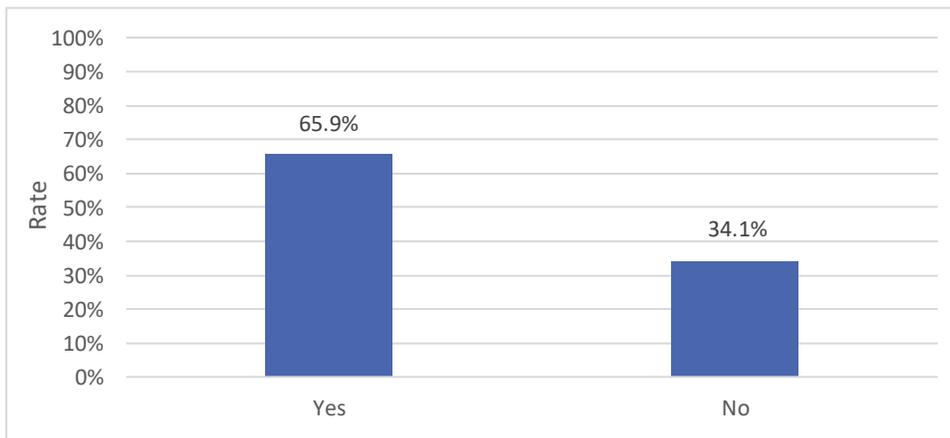


7. If yes, please specify what type of rectal antiseptic preparation is performed.
(21 Responses)

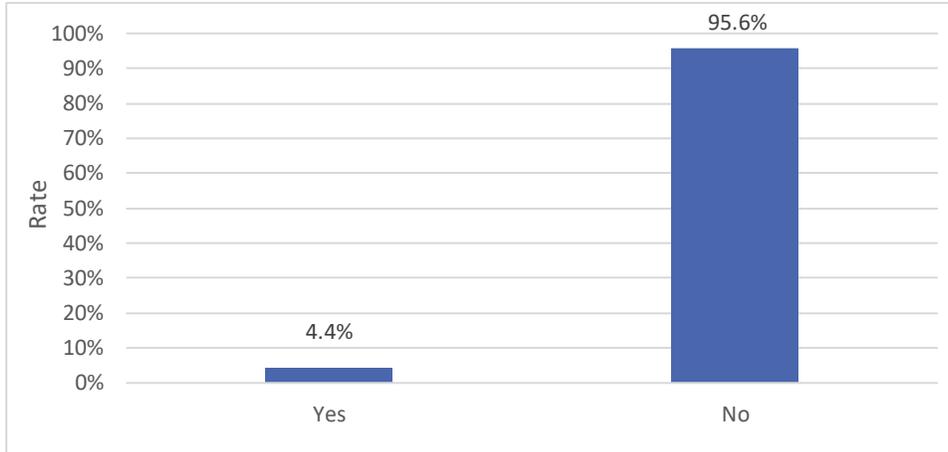
Responses:

- Betadine
 - Instill 10 ml into rectum at biopsy
 - Prep of buttocks, perineum, perianal, rectal vault
 - Perirectal and intrarectal prep
- Chlorhexidine
- Chlorhexidine mixed with bacitracin
- Povidone

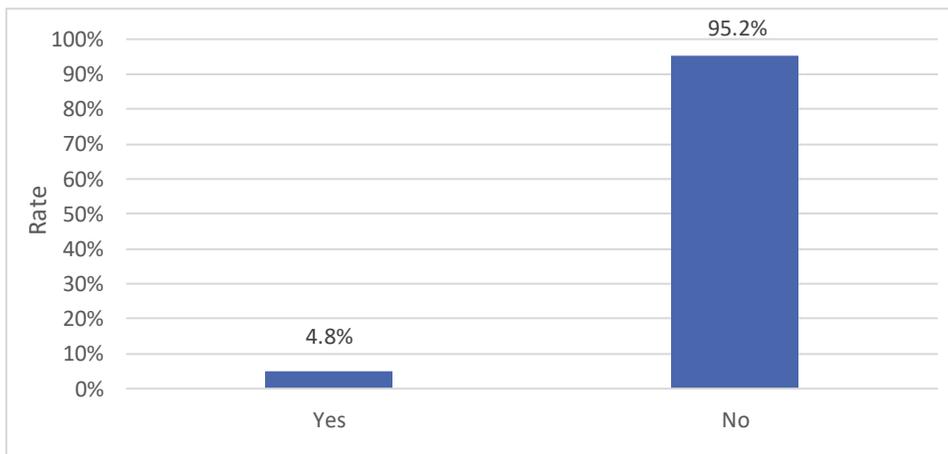
8. Do you encourage/require the use of an enema? (44 Responses)



9. Do you perform a rectal swab prior to biopsy? (45 Responses)



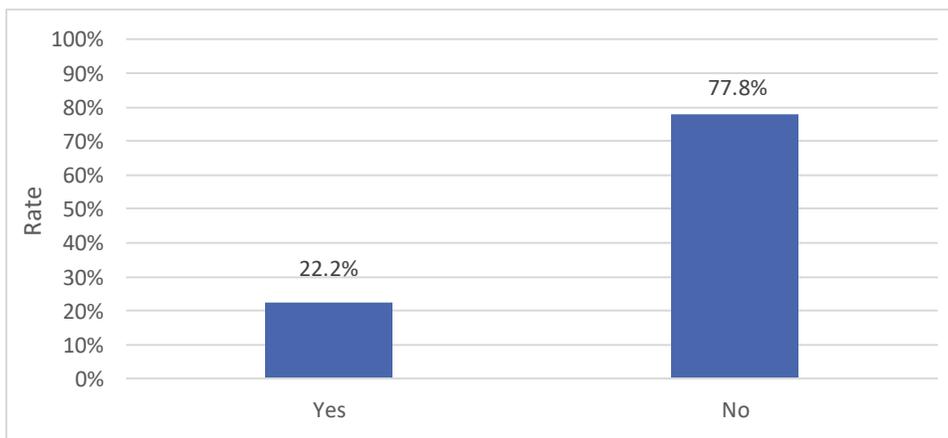
10. Do you use a targeted prophylaxis based on rectal swab? (42 Responses)



Comments:

- One doctor responded that he used to perform rectal swabs, but found that there was no difference in outcomes and costs had increased.

11. Do you treat/wash your biopsy needle between the testing of biopsy cores? (45 Responses)



12. If yes, please specify what you treat/wash your biopsy needle with between the testing of biopsy cores? (12 Responses)

Responses:

- Betadine and sterile water
- Betadine followed by saline
- Chlorhexidine solution
- Formalin
- Iodine and water
- Saline
- Sterile water
- New disposable needles

13. What other, if any, measures do you take to decrease the potential for infection? (16 Responses)

Responses:

- 80 mg gentamycin in the 10 mL of lidocaine injected for local analgesia
- Urine cultures prior to biopsy
- 10 cc betadine into rectal vault
- 20 mg bisacodyl day before biopsy
- Single use gel per case
- Check a UA on day of biopsy

Notice: Reports, data, and charts are STRICTLY CONFIDENTIAL. Use of these data and reports is restricted solely to each participating practice FOR INTERNAL QUALITY IMPROVEMENT PURPOSES ONLY. Unauthorized disclosure or duplication is strictly prohibited.

If you have any questions about this report, please contact Claudette Fonshell at cfonshell@hcfonline.org or (215) 575-3747.