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Barriers to adoption and implementation of Transperineal Prostate Biopsy under local anesthesia

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INTRODUCTION AND OBJECTIVE: Despite the clinical advantages and renewed interest in transperineal prostate biopsy (TPBx), its uptake has been limited. A number of factors may pose unique challenges to TPBx implementation. We aimed to assess adoption, attitudes, and barriers to implementation of real-world TPBx under local anesthesia.

METHODS: Providers from the Michigan Urological Surgery Improvement Collaborative (MUSIC) and Pennsylvania Urologic Regional Collaborative (PURC) were administered an anonymous tiered online survey to assess beliefs and educational needs regarding TPBx. The survey included provider/practice demographics. Providers were divided into 2 groups, those who performed or did not perform TPBx under local anesthesia. The MUSIC registry was queried to understand practices patterns since introduction of freehand TPBx in the collaborative. We reported results using descriptive analytics and bivariate analysis to determine associations between provider/practice demographics and attitudes regarding TPBx.

RESULTS: Since 2019, adoption has increased 3-fold to 29.8% and 10.4% in MUSIC practices performing TPBx and across all practices respectively (Fig 1.). The overall response rate was 32%. 91 complete responses were analyzed with 23% performing TPBx. The provider estimated learning curve was <10 procedures in both those performing and not performing TPBx and this was not associated with provider age, experience, practice setting (academic vs. community), or biopsy volume. TPBx was most commonly performed using direct skin puncture (38.1%) or a TPBx access device (33.3%). The major perceived benefits were similar between groups and included decreased risk of sepsis, improved cancer detection rate and antibiotic stewardship. The 2 most common cited challenges to implementation included access to equipment and patient pain/experience for both groups. Urologists performing TPBx cited the learning curve as an additional barrier, while those not performing TPBx cited duration of procedure.

CONCLUSIONS: Access to equipment and patient experience concerns remain substantial barriers to adoption of TPBx. Dissemination of techniques utilizing existing equipment and optimization of local anesthetic protocols for TPBx may help facilitate the continued adoption of TPBx.

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Figure 1: Transperineal prostate biopsy adoption across implemented and all MUSIC practices

