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NEW IMAGING TECHNIQUES (S RAIS-BAHRAMI AND K PORTER, SECTION EDITORS)

Developing a National Center of Excellence for Prostate Imaging

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Abstract

Purpose of Review The purpose of this review is to summarize the most current literature regarding the most important aspects to consider when developing a center of excellence for prostate imaging and biopsy.

Recent Findings Multiparametric MRI (mp-MRI) has changed the way we diagnose and treat prostate cancer. This imaging modality allows for more precise identification of areas suspicious in terms of harboring prostate cancer, enabling performance of targeted mp-MRI-guided biopsies that have been demonstrated to yield superior cancer detection rates. Centers worldwide are increasingly adopting this technology. However, obtaining results comparable with those findings published in the literature can be challenging. The imaging and biopsy process entails the need for a multidisciplinary team including a dedicated radiologist, urologist, and pathologist. Adequate mp-MRI interpretation for accurate lesion identification, acquaintance with the biopsy technique selected, and precise characterization of Gleason Score/Grade Groupings are equal determinants of accurate biopsy results. Furthermore, all specialists are required to attain appropriate learning curves to ensure optimal results.

Summary In this review, we characterize crucial aspects to consider when developing a center of excellence for prostate imaging and biopsy as well as insights regarding how to implement them.

Keywords Multiparametric magnetic resonance image · Prostate · Biopsy · Fusion · Gleason · ISUP

Introduction

Multiparametric magnetic resonance imaging (mp-MRI) has changed the paradigm of how we diagnose and treat prostate cancer. Conventionally, the suspicion of this disease was based on an elevated prostate-specific antigen (PSA), abnormal digital rectal examination, and TRUS images, all known to have low sensitivity and specificity for cancer diagnosis. Consequently, a systematic 12-core TRUS-guided biopsy was indicated that sampled 6 main areas of the prostate (bilateral apex, base, and mid). This systematic, not image guided, and thus inherently random approach has shown to lead to under-detection of clinically significant prostate cancer and over-detection of indolent tumors [1–4]. During the past decade, mp-MRI has played an increasing role in more accurately depicting areas suspected to harbor cancer, allowing us to perform an image-directed biopsy of these regions of interest, thus increasing the diagnostic yield of the procedure [5]. These mp-MRI-guided biopsies can be performed using different techniques: in bore, cognitive, or using mp-MRI-TRUS software fusion biopsy platforms that fuse the mp-MRI with real-time ultrasound. Furthermore, the role of this imaging technique has expanded beyond detection of cancer, including preoperative evaluation and staging of tumors as an aid in surgical planning, evaluation of extracapsular extension and seminal vesical invasion, and improved characterization of possible candidates for active surveillance and follow-up of these patients as well as an increasing role in both patients with elevated PSA and prior negative biopsy and in the evaluation of biopsy-naïve patients [6–11, 12•]. Mp-MRI in addition to a targeted biopsy approach has quickly gained

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momentum with several institutions worldwide adopting it. However, the results obtained differ from center to center due to the relatively new advent of the technology and a required multidisciplinary approach including dedicated radiologists, urologists, and uropathologists. In this review, we address the elements that we consider to be crucial in terms of developing a successful prostate cancer imaging and diagnostic center.

Current Indications for Mp-MRI and Targeted Biopsy for Prostate Cancer Detection

Increasing evidence supports the use of mp-MRI in several scenarios of suspicion of prostate cancer. Initially, it was recommended for patients with a prior negative biopsy. In a study by Vourganti et al., the authors describe a group of 195 patients with elevated PSA and a negative systematic TRUS-guided biopsy, where 37% of patients were found to have cancer when using a MRI-TRUS fusion biopsy of which 21 (11%) patients had clinically significant disease (CS) (defined as Gleason Score ≥ 8) [13]. However, despite positive mp-MRI findings, a proportion of patients continue to present with benign pathology even when performing a targeted approach. In a study by Truong et al., 46.3% of patients with a prior negative biopsy presented false-positive mp-MRI examinations. The authors present a nomogram with an AUC of 0.825 as a tool for predicting benign pathology in this group of patients after fusion biopsy in order to avoid unnecessary biopsies. Using this instrument, 21.4% of patients would have avoided performance of unnecessary biopsy, and CS cancers would have been missed in only 1.4% of cases [14••]. At our center, the diagnostic yield of fusion biopsy after a prior negative procedure is similar to that described by the authors. We use a similar approach considering prostate-specific antigen, prostate volume, PSAD, and PIRADS scores to determine a follow-up approach that includes imaging and repeat biopsy.

Another well-established indication for mp-MRI is patients with suspicion of anteriorly located lesions. These lesions are usually missed by conventional systematic TRUS-guided biopsy. In a study by Volkin et al. of 499 patients undergoing fusion biopsy, 162 patients had anterior lesions and 40.2% of these lesions were diagnosed by the targeted biopsy compared with 25% diagnosed by the systematic TRUS-guided approach [15]. Additionally, in the past 2 years, accumulating evidence supports the use of mp-MRI in biopsy-naïve patients. The PROMIS study evaluated the diagnostic accuracy of mp-MRI in a cohort of 576 patients with elevated PSA. These patients underwent both systematic TRUS-guided biopsy and template biopsies. They defined CS disease as Gleason Score 4 + 3 = 7 or cancer core length > 6 mm. On template biopsy, 71% of men had prostate cancer and 40% CS disease. When comparing mp-MRI with systematic TRUS-guided biopsy, mp-MRI was demonstrated to be more sensitive (93%, 95% CI 88–96%) compared with systematic TRUS-guided biopsy. The use of mp-MRI yielded a 5% reduction of detection of clinically insignificant disease and an 18% increase in detection of CS cancers. Moreover, the authors reported that mp-MRI as a triage test prior to biopsy avoided performance of 27% of unnecessary biopsies [16].

In addition to becoming familiar with current biopsy indications, it is important that the multidisciplinary imaging biopsy team is acquainted with international reported cancer detection rates for mp-MRI in order to project realistic diagnostic results. When analyzing the most current evidence, a study by Kasel-Siebert at al. described a sensitivity of 91% and specificity of 81% for PIRADS 4–5 lesions [17]. The PROMIS study showed that when using the LIKERT scale (scale used prior to PIRADS by some centers), mp-MRI had a 93% sensitivity but only 41% specificity for the detection of CS prostate cancer [16]. Additionally, the PRECISION study reported that mp-MRI had a 29% detection rate of CS cancer (defined as Gleason Score ≥ 3 + 4 = 7) for PIRADS 3 lesions, 40% for PIRADS 4, and 31% for PIRADS 5 [18••]. Familiarity with the published literature allows for realistic expectations of prostate cancer detection rates and can give insight regarding the diagnostic performance of each center to detect possible areas for improvement to ensure best-quality biopsy outcomes.

Imaging

Technical Aspects of Mp-MRI

The imaging and biopsy process first requires performing a high-quality mp-MRI to identify areas of interest susceptible to targeted biopsy. The radiologist is able to determine the regions suspected to harbor cancer and assign a score based on the Prostate Imaging Reporting and Data System PIRADS version 2.1 [19]. Image quality is of pivotal importance to achieve accurate diagnosis of suspicious lesions on mp-MRI. The 3.0-T magnet systems are usually preferred to 1.5-T magnets. 3.0-T magnets provide twice the signal-to-noise ratio (SNR), which results in increased spatial-to-temporal resolution allowing for acquisition of superior image quality. Even though the use of 3.0-T magnets is encouraged, 1.5-T magnets can still guarantee good-quality images for adequate lesion identification. In a recent study by Ullrich et al., the authors compare SNR and contrast-to-noise ratio (CNR) of T2W and DWI using a 1.5-T versus a 3.0-T magnet. They reported that SNR and CNR were similar in both groups ($p <$;0.01) and that the PIRADS assigned were also comparable for both field strengths ($p = 0.05$).

Another technical aspect to consider is the use of an endorectal coil. This coil produces improved SNR when

compared with standard surface coils. In a study by Mirak et al., the authors compared lesion detection rates with and without use of endorectal coil using a 3.0-T magnet. When using the endorectal coil, prostate cancer detection rate was 50.5% versus 48.2% if no coil was employed [20]. This evidence suggests that when acquiring images using a 3.0-T magnet, the use of an endorectal coil does not significantly improve lesion detection rates. Similarly, a study by Ullrich et al. demonstrated that when using a 1.5-T magnet, the use of an endorectal coil was not warranted to obtain high-quality images if an adequate optimization of images in T2W was obtained [21]. However, given that most centers are still developing their learning curve for image interpretation of mp-MRI, guidelines encourage the use of endorectal coils when using a 1.5-T magnet to better ensure image quality, an approach which can facilitate lesion identification [22]. Each center should adjust their mp-MRI protocols to attain the best possible image quality. Hence, it is important to be familiar with PIRADS recommendations for acquisition of images and to render constant feedback between radiologist and technologist to guarantee the best standards.

Imaging and Radiology Interpretation

Inter-observer Variability for MR Interpretation

Mp-MRI has allowed us to improve identification and accurate localization of clinically significant prostate cancer when compared with conventional ultrasound images [23]. Lesions identified on the mp-MRI are categorized according to the PIRADS v2 score, which was developed based on a consensus among experts in combination with published data. In a recent meta-analysis, Zhang et al. reported a sensitivity of 0.85 (0.78–0.91) and a specificity of 0.71 (0.60–0.8) for mp-MRI diagnostic accuracy in prostate cancer detection [24]. However, one of the main limitations of this system has been inter-observer agreement among radiologists that has been reported to be moderate at best [25, 26]. Smith et al. described that readers with more experience showed better inter-reader reproducibility both in the whole prostate ($p = 0.026$) and the peripheral zone ($p = 0.002$) [26]. The inter-observer variability is thought to be a result of reader experience and localization of lesions, acknowledging that transition zone lesions tend to be more challenging to detect. Similarly, a study by Stolk et al. showed that false-positive rates were significantly higher for radiologists with less reading experience, 50% for PIRADS 3–5 in the less experienced group when compared with only 32% in the experienced group ($p = 0.02$) [27]. As of 2019, a new version of PIRADS, version 2.1, has been published in an attempt to decrease inter-observer variability and to simplify image evaluation [19].

Importance of a Dedicated Radiologist

Adequate imaging and correct interpretation is of significant importance because it will determine whether suspicious lesions are present and if they warrant targeted biopsy, which is a main pillar of the imaging and biopsy process. Experts agree that ideally, the image assessment should be performed by a dedicated radiologist with experience in prostate mp-MRI. However, there is not much evidence suggesting what entails an experienced radiologist. For example, Mullerad et al. compared the differences in detection rates for extracapsular extension between a genitourinary (GU) radiologist and a body radiologist. They reported an increased area under the ROC curve for images interpreted by GU radiologists (AOC 0.833) when compared with general body MR radiologists (AOC 0.646) ($p = 0.019$) [28]. In another study by Rosenkratz et al., the authors analyzed the learning curve for mp-MRI reading and reporting, stating that there is an initial rapid improvement that slows down after 40 cases. The accuracy for the diagnosis of prostate cancer improved from 58.1 to 75.3% and from 58.1 to 77.4% with feedback ($p = 0.027$–0.046). Readers experienced the highest change in sensitivity for tumor detection in the transition zone and in their confidence level [29]. As of today, there is relatively little clarity regarding how many cases constitute an experienced radiologist. However, experts suggest that in order to have adequate quality controls of the mp-MRI readings, it is ideal that cases be analyzed by a multidisciplinary team that warrants constant feedback for each step of the imaging biopsy process. Also, for centers that are beginning their learning curve, constant training for their radiologist through available training programs such as the ACR course (https://www.acr.org/Lifelong-Learning-and-CME/EducationCenter/Prostate-MR) may prove to be beneficial in improving their diagnostic yield as they reach their learning curve. Furthermore, we acknowledge that centers with a high volume of cases and more proficient prostate mp-MRI radiologists tend to yield better diagnostic results because it is these centers that provide us with most of the published literature on the subject.

Biopsy Process

Learning Curve for Targeted Biopsy Approach In general, most urologists agree that lesions graded PIRADS ≥ 3 should be biopsied. Once the biopsy is indicated, it can be performed in bore, cognitive, or using software-based platforms according to the expertise and availability in each center. Table 1 summarizes the advantages and limitations of each approach. When opting for a software-based platform, there are several commercially available devices. Table 2 summarizes the characteristics of different platforms and their accuracy. These devices combine the use of previously acquired mp-MRI with real-time US, allowing for identification of lesions accurately

Table 1 Comparison of MRI-targeted biopsy approaches

Biopsy approach	Strengths	Limitations
In gantry MRI-targeted biopsy	• Direct visualization of lesions and needle trajectory on MRI • Fewer cores needed • Transperineal route with less rate of infections	• Length of procedure • Higher cost associated with increased use of MRI time • Steep learning curve
Cognitive MRI-targeted biopsy	• Less cost, does not use software-based platforms • Less procedure time (< 30 min)	• Operator dependent • Requires operator expertise on MRI lesion localization • Not standardized • Less cancer detection in smaller lesions
Transrectal US-MRI fusion biopsy	• Increased detection of CS cancers and less non-significant tumors • Less procedure time (< 30 min)	• Higher cost of technology acquisition • Higher learning curve for operator

identified and marked on the mp-MRI with real-time US images to then perform the targeted biopsy. The main advantages are that the procedure can be performed in an outpatient setting, with local anesthesia and minimum discomfort for the patient. It is important to consider that regardless of the platform of choice, for the urologist to be proficient with the device, he/she needs to become acquainted with the fusion software-based platform and develop an appropriate learning curve. A study by Kasabwala et al. aimed to quantify the learning curve for fusion biopsy using the Artemis device by evaluating targeted biopsy accuracy and the pathological quality of systematic biopsy. To assess targeted biopsy accuracy, the authors calculated the distance between planned and actual core trajectory. A significant improvement in targeted biopsy accuracy for up to 98 cases was described, reporting a difference in distance between area of interest and actual core trajectory of 6.7 to 5.4 mm and 0.06 mm with increasing number of cases performed ($p < 0.01$). Also, there was a decrease in fibromuscular tissue obtained from 10.5 to 2.7% ($p < 0.01$) in the systematic approach as the number of cases increased. The authors suggested that there is a significant learning curve for both targeted and systematic biopsy because improvement in both accuracy and sampling quality appear to be dependent on the operator's experience [30]. In another study by Meng et al., the authors analyzed the institutional learning curve for mp-MRI ultrasound fusion targeted biopsy for 1813 prostate biopsies performed during a 4-year time period. They compared time of biopsy during the learning curve with detection of CS cancers and concluded that prostate cancer detection for lesions graded PIRADS 4–5 significantly increased by 26% over time [31]. This evidence emphasizes the importance of selecting and becoming acquainted with the biopsy technique employed. Also, acquiring an appropriate learning curve for performing fusion biopsies should be independent of the platform selected due to the fact that the urologist's acquaintance and experience is a key determinant of accurate biopsy results.

Ensuring Best Biopsy Results

To further warrant quality outcomes, the imaging biopsy team should be up to date with best approaches for performing an mp-MRI-targeted biopsy. An important element to consider is the accuracy of targeted versus systematic approaches, and number of cores required in order to properly counsel patients on the benefits and limitations of the procedure, as well as to aim for optimal results. There has been an increasing body of literature on these subjects, including the MRI-FIRST trial that evaluated whether mp-MRI-targeted biopsy improved the detection of clinically significant prostate cancer (defined as the presence of Gleason Score $\geq 3+4=7$ disease) and if it could potentially eliminate the need to perform the systematic TRUS-guided biopsy. They reported that mp-MRI before biopsy improved the detection of CS cancer by 5.2% (95% CI 2.8–8.7) and that performing only a systematic approach would have missed 7.6% (4.6–11.6) of CS tumors. Therefore, the authors suggested an additive value for

Table 2 Comparison of available software-based platforms for fusion biopsy

Platform	Country	Needle tracking [48, 49]	Registration [48, 49]	Accuracy (mm) [34, 48–52]
UroNav (In Vivo)	USA	Electromagnetic	Rigid/elastic	2.3 ± 0.9
Artemis (Eigen)	USA	Mechanical	Rigid/elastic	1.2 ± 1.1
Urostation (Koelis)	France/Norway	By images	Elastic	2.35/2.92 (hypoechogenic/isoechogenic lesions)
BiopSee (Pi Medical)	Greece/Germany	Mechanical	Rigid	1.7 ± 1.7
BioJet (BK Ultrasound)	USA	Mechanical	Rigid	1.77 (IQR 1.35–2.47)
Virtual Navigator (Esaote)	Italy/France	Electromagnetic	Rigid	–
Real-Time Virtual Sonography (Hitachi)	Japan	Electromagnetic	Rigid	3.15

IQR interquartile range

improved accuracy of the procedure when combining mp-MRI-targeted cores to the systematic approach [32].

When opting for an mp-MRI-TRUS software fusion biopsy platform approach, it is critical to determine the number of cores to obtain per lesion that will warrant best results. For this determination, the operator should consider the accuracy of the chosen platform, considering that this accuracy varies between devices ranging between 1.0 and 2.9 mm [33–35]. To further increase the diagnostic yield and accuracy of each biopsy, Calio et al. analyzed the impact of performing a saturated biopsy approach for index lesions identified on mp-MRI. A total of 208 patients underwent both systematic 12-core TRUS-guided biopsy, of which 86 patients were biopsied using an index lesion (defined as a lesion with the largest diameter on T2W images) saturation method (obtaining a biopsy core every 6 mm), versus 122 patients who underwent a 2-core biopsy per index lesion. The authors reported that the upgrade rate was significantly lower for combined fusion and systematic biopsy when a saturated index lesion approach was used (7% versus 18%, $p = 0.021$). Additionally, they described no difference in upgrade rates when comparing systematic approaches in both groups [36]. Therefore, this evidence suggests that the saturated index lesion strategy could further improve diagnostic yield of mp-MRI-targeted biopsies. As of today, the recommendation is to perform a systematic 12-core TRUS-guided biopsy in addition to at least 2 targets per lesion identified.

Once the cores are obtained, the biopsy samples are then analyzed, ideally by a dedicated uropathologist. It is critical to understand that each part of the biopsy process including imaging, biopsy, and pathology report is crucial when aiming for a successful diagnostic procedure and reliable results.

Importance of a Dedicated Pathologist

The different treatment options available for prostate cancer are based on risk stratification for which appropriate pathology diagnosis and assignment of Gleason Score/Grade Groupings is pivotal. MR-targeted biopsies have been reported to be more efficient in diagnosing CS prostate cancer when compared with a standard 12-core systematic approach. For example, in a study by Gordetsky et al., the authors compared the 2 techniques, reporting that a MRI/US fusion–guided prostate biopsy approach was equivalent to standard biopsy for overall cancer detection but was significantly superior in diagnosing higher-grade disease ($p = 0.009$) [37]. When comparing standard 12-core TRUS-guided biopsy pathology results with those results obtained after radical prostatectomy, the available literature describes rates of under-staging between 6 and 36% and over-staging 4–28% [38–40]. Biopsy pathology grading is crucial because it will guide treatment options with a direct impact on patient oncologic outcome. The available evidence supports the importance of an experienced pathologist to assign accurate Gleason Score/Grade Groupings. For example, a study by Majoros et al. evaluated the influence of the pathologist's experience in undergrading and upgrading of prostate cancer in patients undergoing radical prostatectomy. They compared pathology reports performed by an academic group versus non-academic institutions, detecting significant differences in preoperative Gleason Score values assigned to specimens, 6.5 ± 1.5 for the academic pathologists versus 5.6 ± 1.7 for the non-academic, $p = 0.0001$, as in the rate of well, moderately, and poorly differentiated cancers: 52.8%; 26.1%; and 21.1 for the academic group versus 65.8%; 25.9%; and 8.3% for the non-academic, $p = 0.005$ [41]. Similarly, Mortezavi et al. described the concordance of biopsy specimens with those specimens obtained after surgery when analyzed by a uropathologist versus a community pathologist. They reported that discordance between specimens was significantly more frequent when performed by a community pathologist than a dedicated uropathologist: 50.5% versus 33.1% $p < 0.001$ rates of upgrade respectively [42]. However, when comparing pathology reports between dedicated uropathologists, the inter-observer variability was low, with reports of a kappa index of approximately 0.56 to 0.7, observing higher variability when describing Gleason Score 6 and 7 (47%) versus Gleason Score ≥ 8 (25%) [43]. These studies and others support the importance of a dedicated pathologist for accurate diagnosis and reliable assignment of Gleason Score/Grade Groupings. To decrease inter-observer differences, experts agree that it is important to obtain better samples that represent the highest amount of analyzable tumor tissue, for which a mp-MRI-targeted approach has proven to be more effective. Of crucial importance is to define the method employed for reporting tumor grade and volume selected by each institution given that a targeted approach frequently samples several cores from each lesion of interest, and this report represents the conjunct sample for grade and cancer volume involvement. Two methods for reporting targeted samples have been described in the literature. The first report evaluates cancer involvement on a per-core basis as suggested by the International Society of Urological Pathology Grading Committee and the 2016 World Health Organization Classification of Tumors of the Urinary System and Male Genital Organs. The other approach involves evaluating all samples taken from the lesion in an aggregate manner to give the overall grade and tumor volume [44, 45]. At our institution, the pathologist uses the aggregate approach measuring the foci of carcinoma present in each core, excluding areas with no cancer within that core and obtaining a percentage for cancer involvement in relation to the total core length.

Given the importance of using a universal language when reporting tumor grade and burden, it is crucial to encourage the specialization of pathologists so that they are acquainted with the new ISUP classification developed to substitute Gleason Score/

Grade Groupings, and to concentrate cases to develop more experience in the assessment of difficult pathology material [46].

In terms of pathology reports when opting for mp-MRI-targeted biopsy, an important aspect to warrant adequate quality control of results is to perform continuous comparison between international literature and local data in terms of average reported Gleason Score/Grade Groupings upgrade. In a study by Xu et al., the authors compared biopsy specimens with those specimens obtained after radical prostatectomy to report Gleason Score/Grade Groupings upgrade in 92 patients who underwent MRI-targeted biopsy and 137 who underwent standard systematic biopsy. They described an overall upgrade of 26.9% for the mp-MRI-targeted group versus 73.1% for the systematic approach ($p = 0.02$). When analyzing PIRADS 3, 4, and 5 lesions, they found 53.8%, 26.9%, and 19.2% upgrade rates in Gleason Score/Grade Groupings respectively [33]. The authors concluded that MRI-guided biopsy yielded a significantly better Gleason Score/Grade Groupings concordance with radical prostatectomy than the TRUS-guided biopsy. In a similar study, Arsov et al. compared radical prostatectomy Gleason Score/Grade Groupings with those results obtained by systematic 12-core TRUS-guided biopsy and mp-MRI-targeted biopsy. In a total of 52 patients, the mp-MRI-guided approach showed lower rates of highest Gleason Score/Grade Groupings upgrading versus the standard biopsy (21.2% and 32.7%, respectively). Furthermore, the combination of a systematic 12-core TRUS-guided biopsy approach and mp-MRI-targeted biopsy provided even lower rates of highest Gleason Score/Grade Groupings upgrade (OR 0.27, 95% CI 0.10–0.75, $p = 0.0123$) [47]. Constant revision of the available literature combined with assessment and report of local results can further provide instances for detection of areas of improvement contributing to optimal biopsy results.

Most Significant Challenges When Developing a Prostate Cancer Image-Biopsy Center

At out institution, when developing the prostate image/biopsy program, our first challenge was to define a team of excellency that would yield best results through all image/biopsy stages: a dedicated radiologist, urologist, and pathologist; that is to say, a multidisciplinary team willing and able to perform high-quality work and provide constant feedback between each other to ensure imaging, biopsy, and pathology reports of the highest quality meeting international standards. In terms of a targeted biopsy approach, an important decision was to define the approach (in bore versus cognitive versus fusion) in which, given our training, we opted for the fusion biopsy method. Consequently, the next step was to select an appropriate software-based platform. We opted for the Trinity from Koelis because our team was familiar with this platform and it was one of the few pieces of software that provided continuous trouble-shooting and technical support in South America.

We believe that becoming acquainted with a specific platform can be laborious because it has a learning curve of its own that needs to be achieved prior to obtaining optimal biopsy results. Finally, an additional challenge to be encountered is the continuous education of the urology community regarding the new imaging modalities and targeted biopsy indications, as well as reporting the center's results to warrant adequate image-biopsy indications for our patients.

Summary

Mp-MRI of the prostate and MR-targeted prostate biopsy is rapidly gaining momentum because an increasing body of literature supports its use in different clinical scenarios. Institutions all around the world are implementing this technology and performing biopsies using either cognitive, in-bore method, or acquiring different MRI-TRUS software-based platforms depending on availability and user experience. The goal is to obtain diagnostic results similar to those findings published by reference centers in the international literature. However, this aim may prove to be challenging at a local level. Establishing a center of excellence for prostate imaging and targeted biopsy requires a multidisciplinary team including a dedicated radiologist, urologist, and pathologist. To ensure optimal diagnostic results, all specialists need to attain an appropriate learning curve and maintain constant interaction to ensure feedback between every step of the imaging and biopsy process. These factors are crucial in terms of establishing quality controls and providing an opportunity to detect possible areas for improvement and guaranteeing the highest-quality results over time.

Compliance with Ethical Standards

Conflict of Interest Annerleim Walton-Diaz, Manuel Madariaga-Venegas, Nicolas Aviles, Juan Carlos Roman, Ivan Gallegos, and Mauricio Burotto each declare no potential conflicts of interest.

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

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