bkFusion:
Advancing Prostate Biopsies

Fusing real-time ultrasound images with pre-exam MRI data provides better guidance to help accurately target lesions identified on the MRI, potentially reducing the risk of missing high-grade tumors or under-staging tumors for active surveillance.

bkFusion keeps urologists in control of MR-ultrasound fusion prostate biopsies while offering:

- An efficient, guided workflow that follows the familiar biopsy procedure
- Reduced registration errors and minimal registration adjustments with Predictive Fusion®[1]
- Outstanding imaging that provides anatomical details for confident biopsies

bkFusion Explained

Fusion Challenges

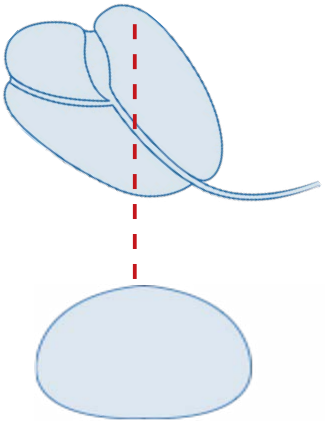
MRIs are taken with the patient in the supine position while biopsies are performed in either the left lateral decubitus (LLD) position for transrectal scans or the lithotomy position for transperineal scans. Due to the differences in patient positioning, the prostate will appear differently on MR and ultrasound images.

Predictive Fusion®

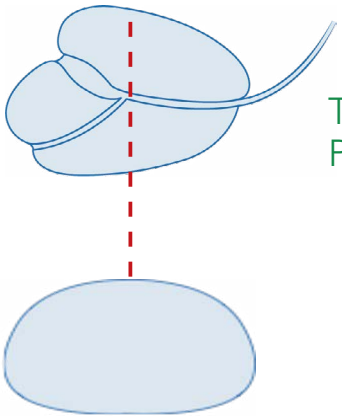
The bkFusion workflow utilizes rigid registration and a unique algorithm called Predictive Fusion® to reorient the supine MRI into LLD or lithotomy position before the patient's procedure. By reorienting the prostate in this manner, urologists can follow a familiar biopsy workflow without the need to conduct additional ultrasound sweeps. This workflow, exclusively on bkFusion, results in an efficient fusion biopsy.

Rigid Registration

The main advantages of rigid registration are that the urologist can immediately see any errors in the overlay of MR and ultrasound images, and data sets maintain their integrity and are not stretched, morphed or manipulated, which is a common source of error in elastic registration.



MRI Mid-gland Prostate



Ultrasound Mid-gland Prostate

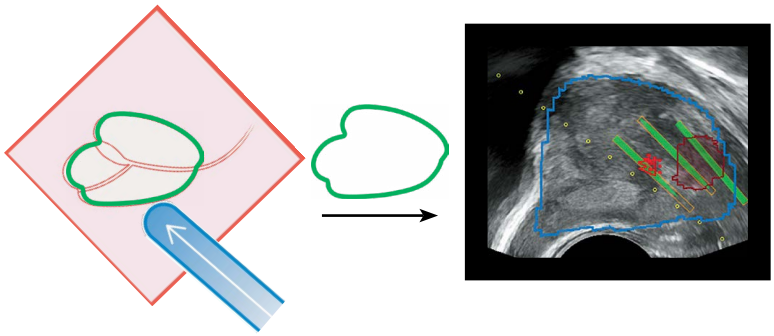
To learn more about Predictive Fusion, click here

bk medical

Urologist Workflow

bkFusion offers an easy and familiar workflow to make prostate biopsy procedures in either the free-hand transrectal approach (sidefire or end-fire) or the transperineal approach as efficient as possible. The MRI data sets are closely aligned to the real-time ultrasound image upon import, requiring minimal adjustments to the fused ultrasound. If changes are needed, simple one-touch micro-adjustments will quickly update the registration.

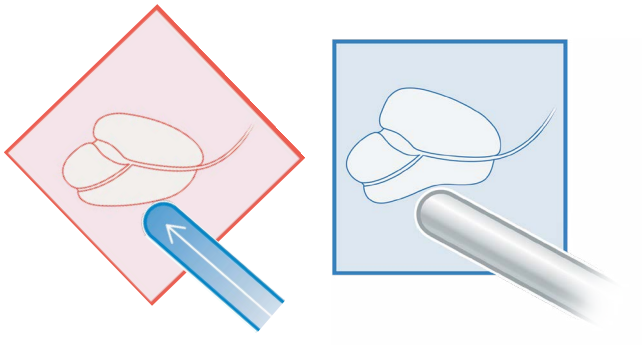
The urologist maintains control of the entire procedure and can freely adjust ultrasound gain and depth, or choose to scan in different planes (transverse, sagittal and endfire) to better target areas of concern, without the need for recalibration during procedures.

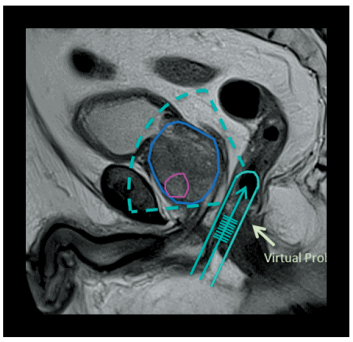


MRI image | Fuse | Ultrasound fused with MRI

Radiologist Workflow

The radiologist contours the prostate and lesions on the MRI, then places a virtual probe (ReSlicer®) parallel to the mid-posterior wall and the reference plane at the base. This reorients the supine MRI to match the live ultrasound image in the LDD or lithotomy position, removing the greatest source of registration uncertainty and saving time.





[1] Predictive Fusion® is a Registered Trademark by MIM Software Inc.

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