

AUA
2026
Washington, DC

MAY 15-18

Navigating Prostate Imaging for Precision Diagnosis

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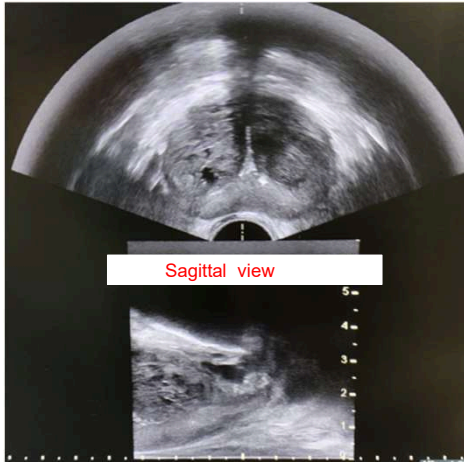
Disclosures

- Civco

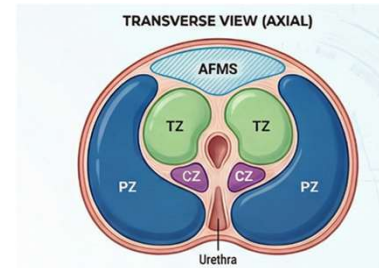
- Ultrasound (US)
- Magnetic Resonance Imaging (MRI)
- Prostate-Specific Membrane Antigen (PSMA PET)
- Micro Ultrasound

- Non invasive
- High frequency sound waves to create an image in **real time**
- **Axial** and **sagittal** views for biopsy needle guidance
- Optimizes needle placement for both cognitive and software-based fusion biopsies

Axial view



Sagittal view



The Sagittal Plane (Longitudinal)

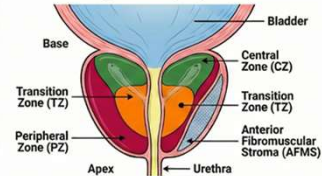


Image source: Lori Guelman library and Notebook LM

- Non invasive, radiation free, uses magnetic waves
- PROMIS Study (2017) and PRECISION Trial (2018)
- Standardized Risk Reporting: PI-RADS v.2.1
- Recommended prior to initial biopsy

Ahmed HU, et al. *Lancet*. 2017.
Kasisvisvanathan V, et al. *N Engl J Med*. 2018.
AUA/ASTRO/SUO Guidelines (Updated 2023)
NCCN Guidelines (2026)

- Peripheral Zone (PZ)
- Transition Zone (TZ)
- Central Zone (CZ)
- Anterior Fibromuscular Stroma (AFMS)

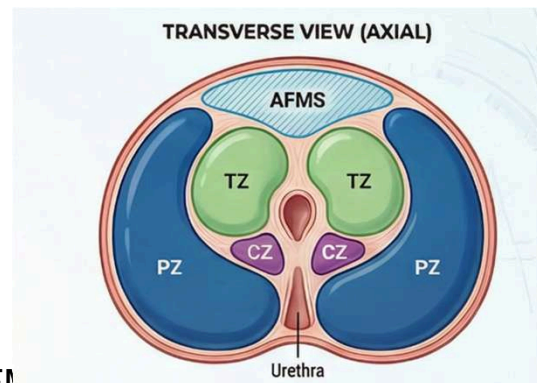


Image source: Notebook LM
McNeal JE (1981); PI-RADS v2.1 (2019)
Turkbey B, et al. *Eur Urol.* 2019.

- **T2-Weighted (T2W):** High-resolution
- **Diffusion-Weighted Imaging (DWI):**
- **The ADC Map:** low values correlate with higher Gleason grades.

Turkbey B, et al. *Eur Urol.* 2019.

Normal Prostate - T2 Image

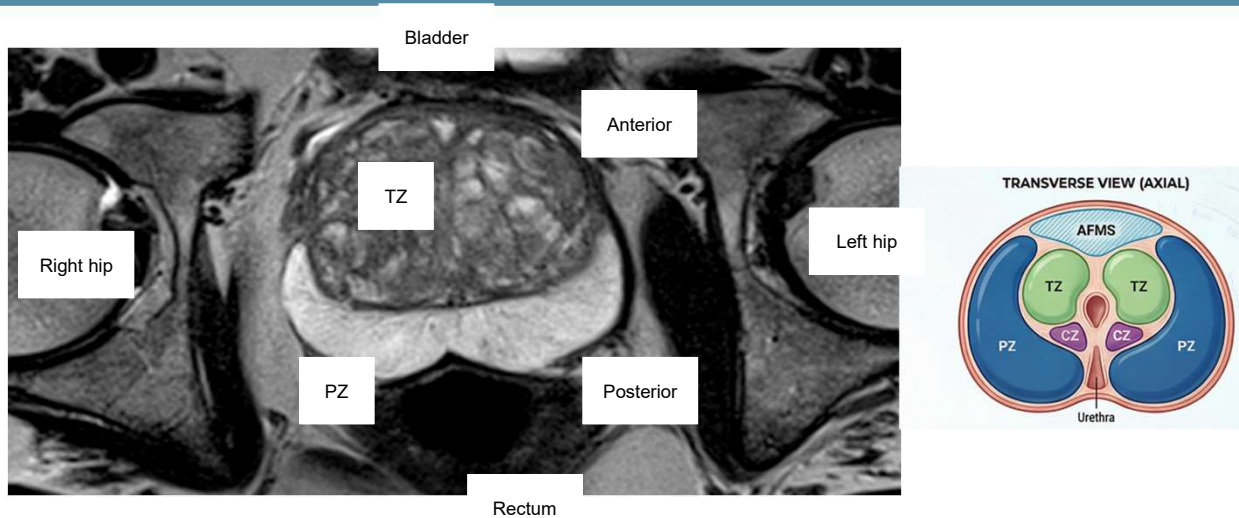


Image source: Lori Guelman and Notebook LM

Right PI RADS 4 lesion



Image source: Lori Guelman

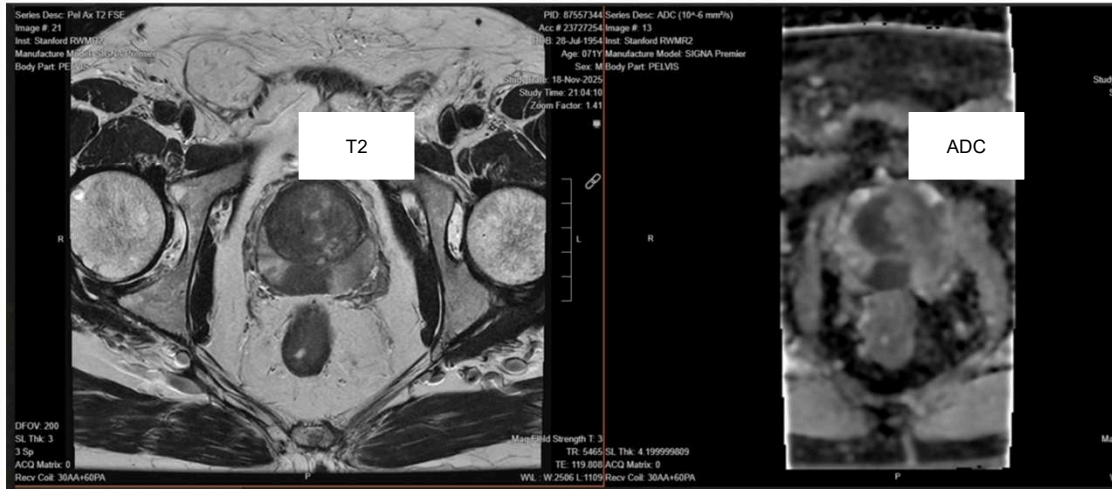


Image source: Lori Guelman

PSMA PET - Advanced Modality

- Diagnostic Accuracy
- ORIOLE Trial, 2022
- Molecular MOA
- Treatment

AUA/ASTRO/SUO Guidelines (Updated 2023.)
Phillips et al. *JAMA Oncol.* 2020.
NCCN Guidelines (2026).

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PSMA PET

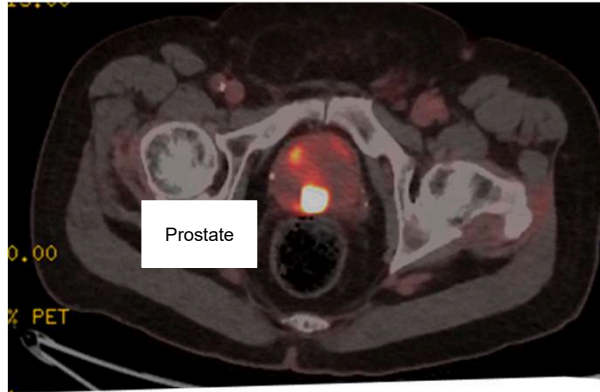


Image source: Lori Guelman

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57 yo, s/p RALP with PSA 0.23

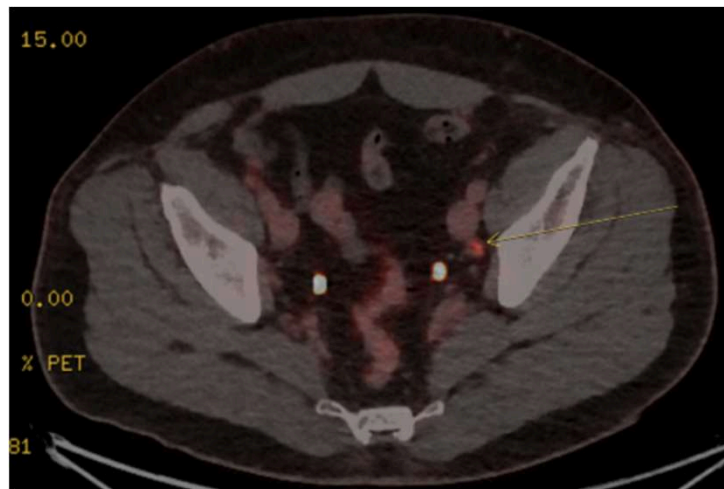


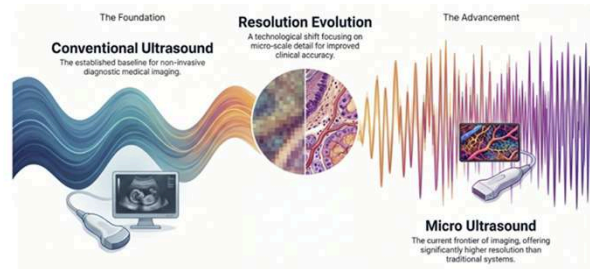
Image source: Lori Guelman

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Micro Ultrasound Comparison

	Traditional (TRUS)	Micro US
Frequency	8 – 12 MHz	29 MHz
Resolution	~300 microns	~70 microns
Imaging Focus	Macro-anatomy	Micro-structure
Risk Scale	Visual suspicion	PRI-MUS™ (1–5)
Primary Use	Systematic Biopsy	Targeted Biopsy

Made with Napkin



Borges, et al. *J Urol.* 2025.
DuBois A, et al. *Urology.* 2025.
Grey AD, Scott R, Shah B, et al. *Lancet Oncol.* 2022.
Harland N, Stenzl A. *World J Mens Health.* 2021.

Images: Napkin AI and Notebook LM.



Imaging Source: Notebook LM

PRI-MUS™ Risk Scale

- **1: Very Low Risk** – "Swiss Cheese" (uniform ducts)
- **2: Low Risk** – Homogeneous, hyperechoic
- **3: Intermediate** – Mild heterogeneity / "Bright Echoes"
- **4: High Risk** – "Cauliflower" / "Starry Sky" appearance
- **5: Very High Risk** – Irregular shadowing / Gross irregularity

Borges, et al. *J Urol.* 2025.
DuBois A, et al. *Urology.* 2025.
Grey AD, Scott R, Shah B, et al. *Lancet Oncol.* 2022.

- Multi-modal approach
- APP Role
- Consistent methodical approach

AUA/ASTRO/SUO Guidelines (Updated 2023.)
Borges et al. J Urol. 2022.
NCCN Guidelines (2026).

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