

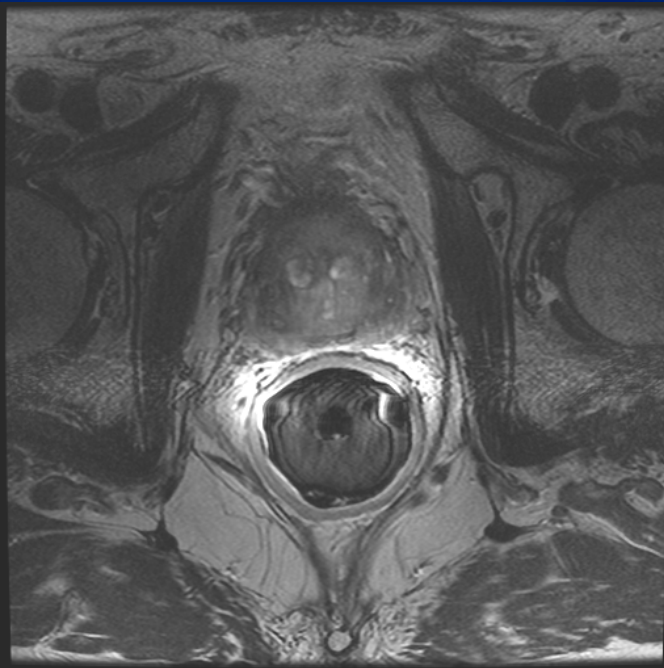


SAR Prostate DFP case

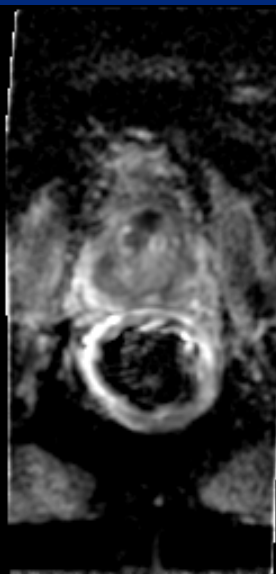
Adam T. Froemming MD (Radiology)
Lance A. Mynderse MD (Urology)

70 year old man

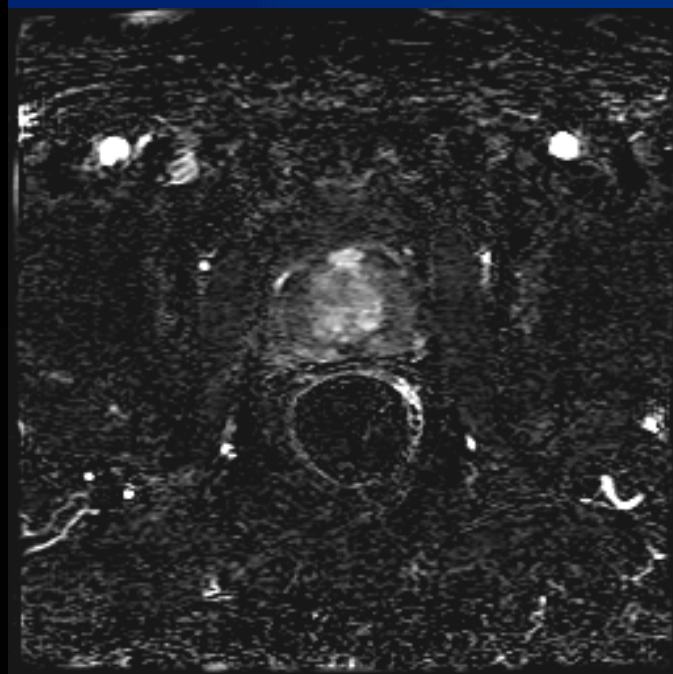
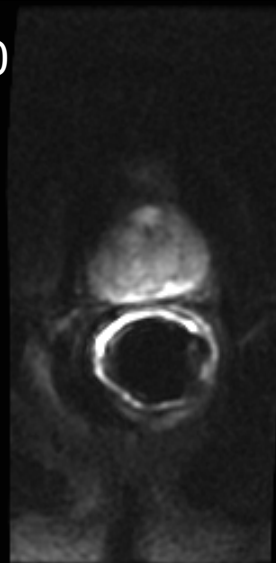
- History of Gleason 7 prostate adenocarcinoma (2009) status post external beam radiation therapy and androgen deprivation therapy.
- Biochemical recurrence (2017).

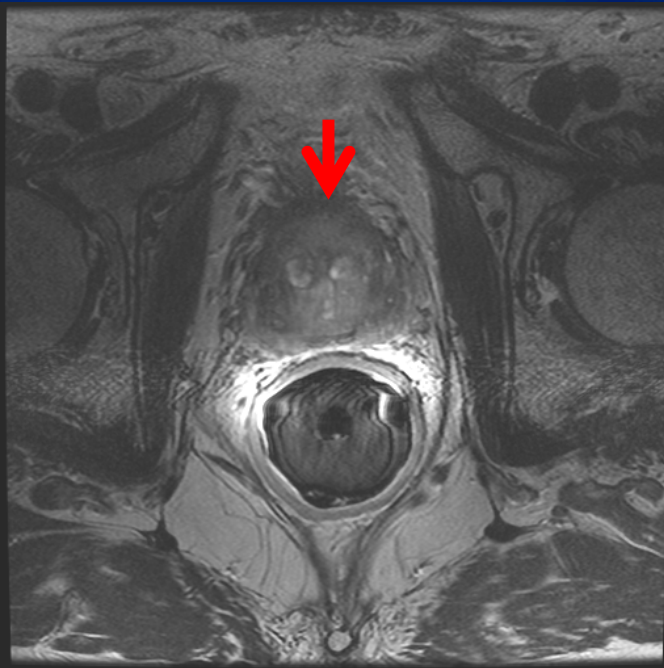


ADC

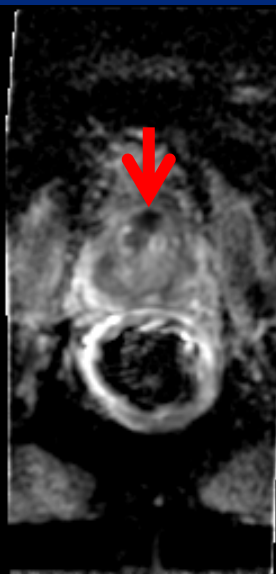


b2000

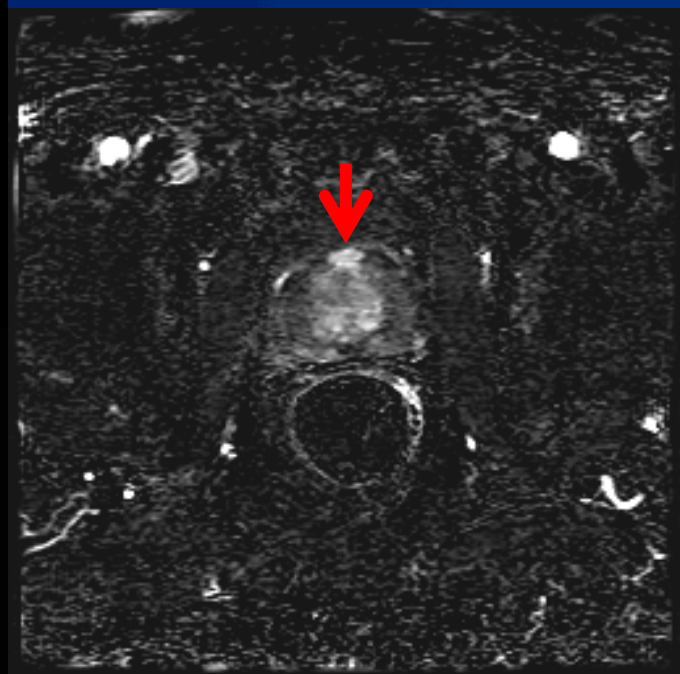
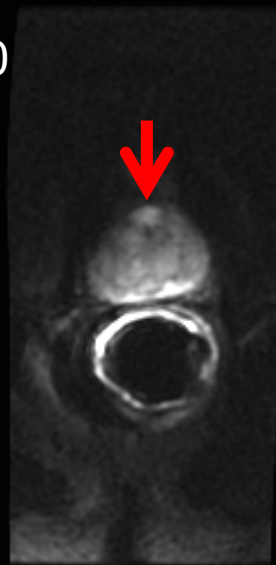




ADC

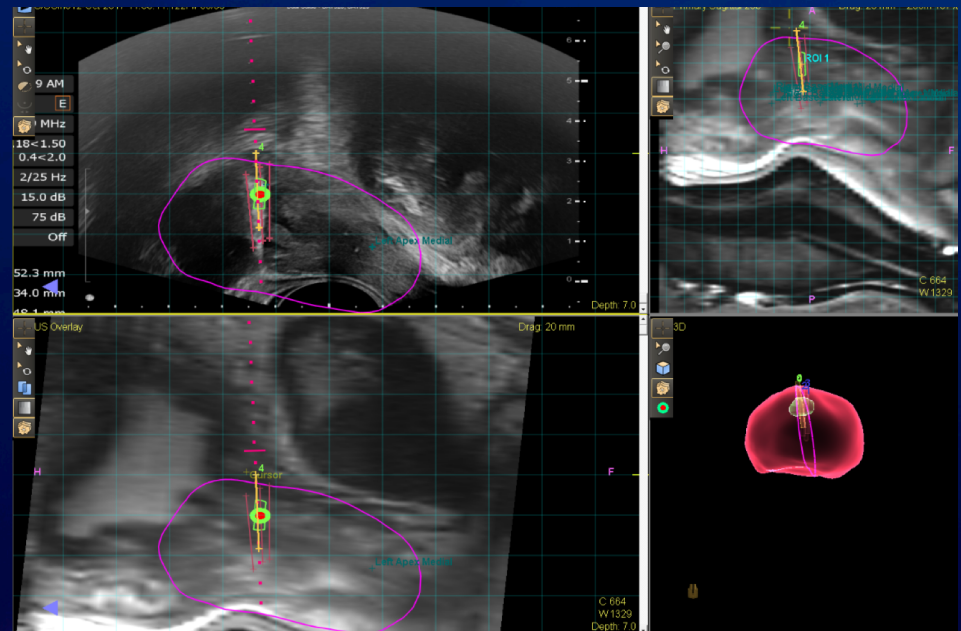


b2000



- Findings: Focal lesion anteriorly, homogeneous on T2WI with indistinct margins, marked diffusion restriction, and corresponding marked focal hyperenhancement.

Targeted biopsy:
Gleason 7 prostate
adenocarcinoma



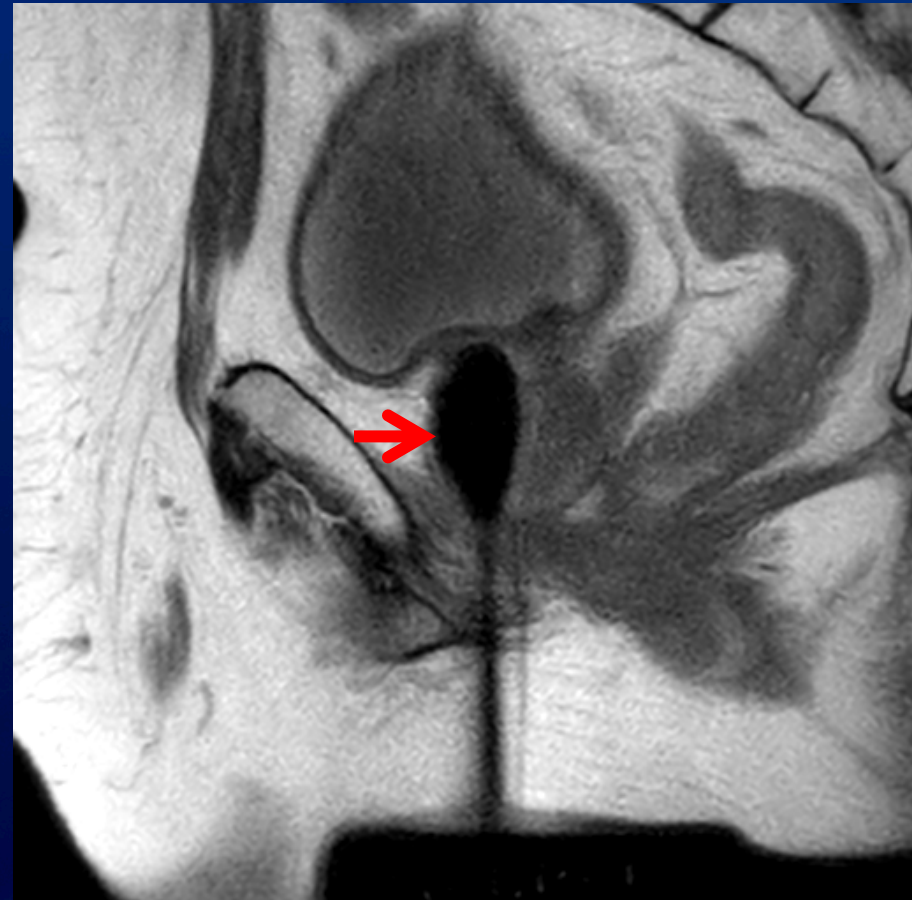
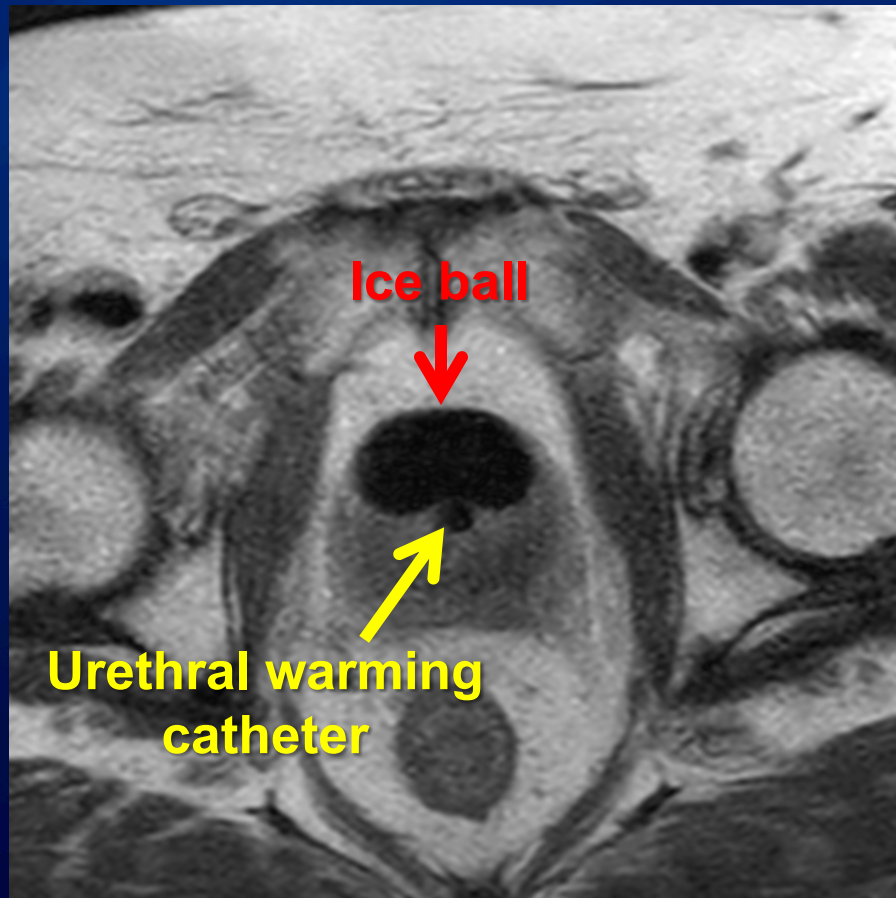
After discussion of a range of treatment options, this patient elected MRI guided cryoablation.

Note that focal cyroablation is NOT standard of care, and this was done as part of a formal clinical trial.

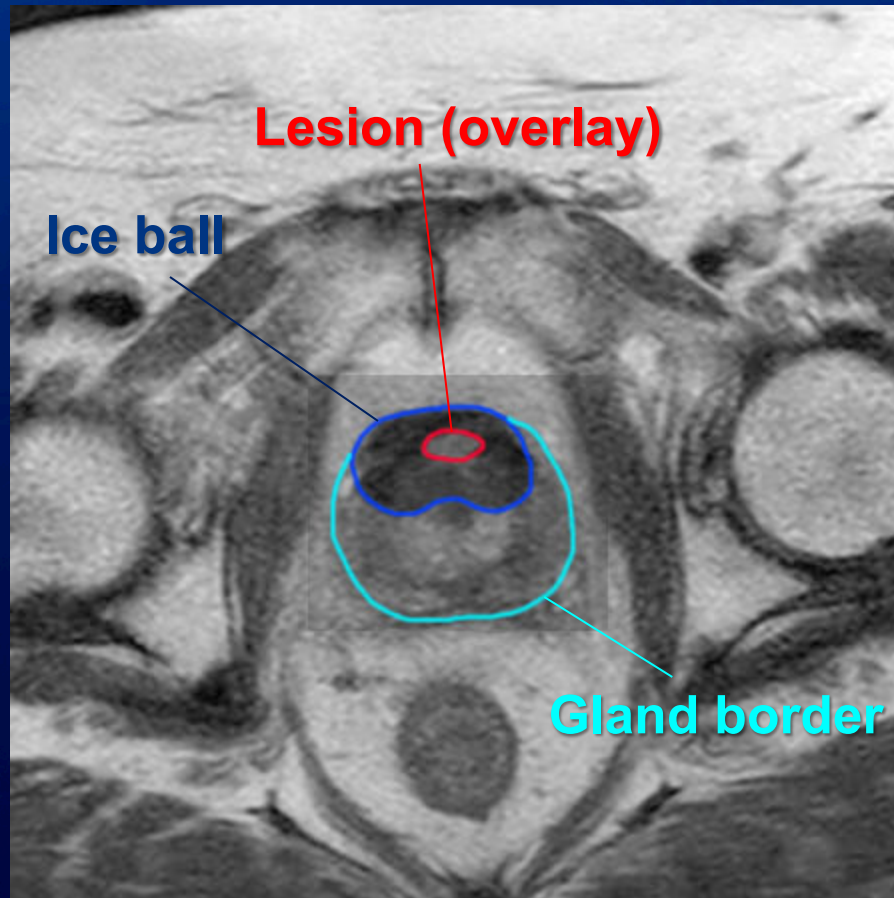
Biopsy in this setting also included systematic cores of the rest of the gland and of the seminal vesicles to more confidently determine focal, localized disease.



Treatment: MR cryoablation

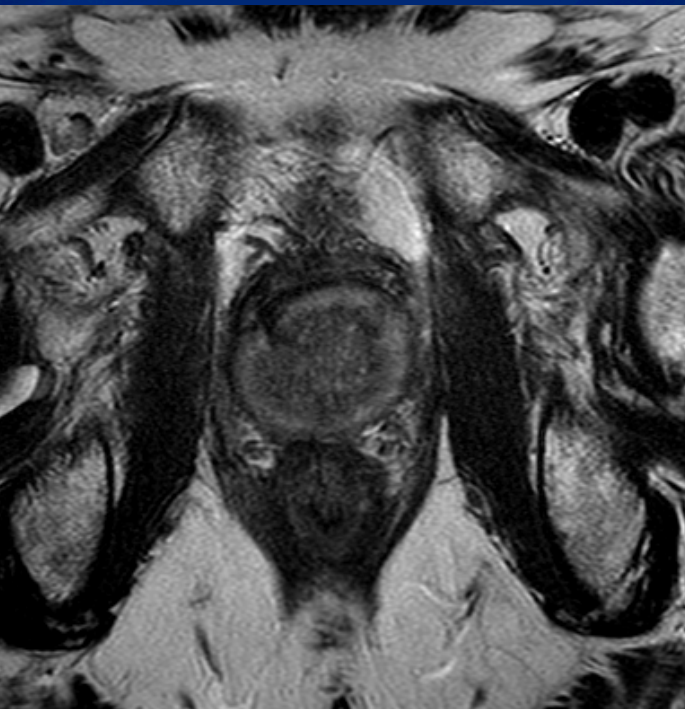


Fusion

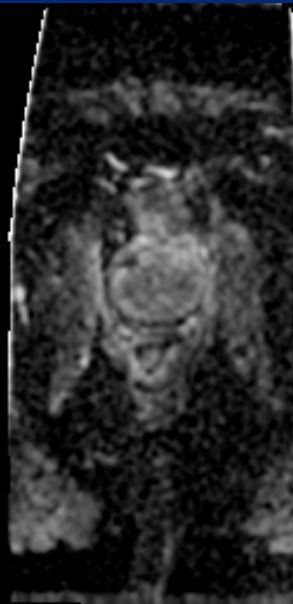


- Successful MRI guided cryoablation
- Ablation zone covered lesion well, with adequate borders (>5mm)
- No complications.

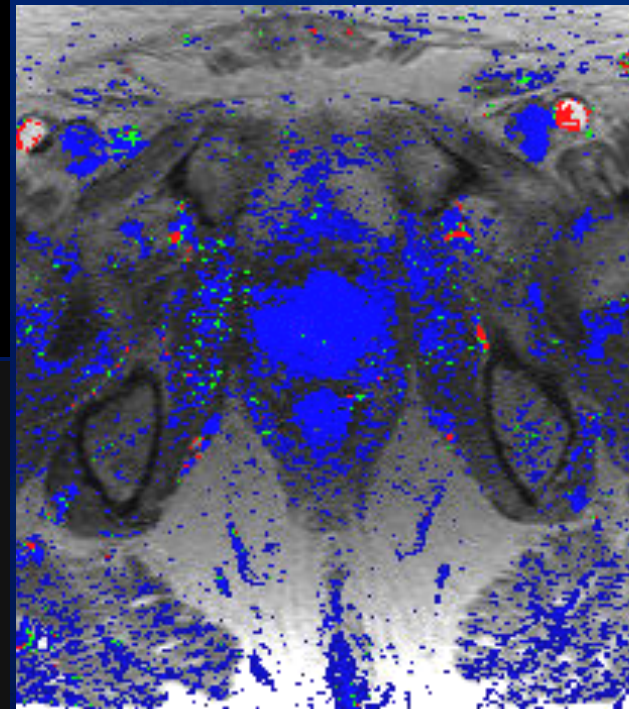
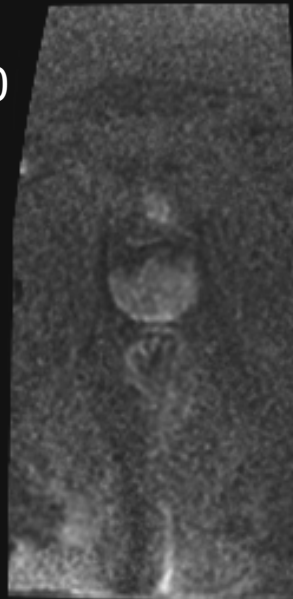
Followup MRI:



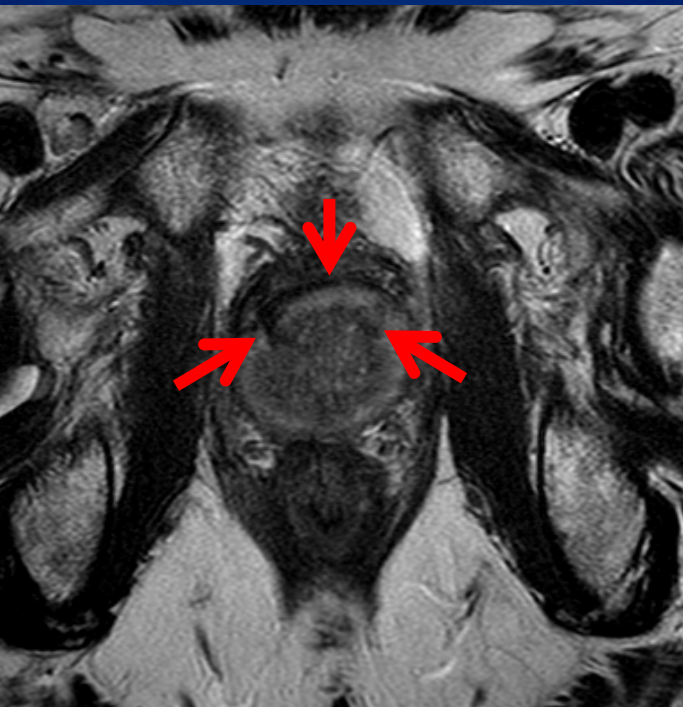
ADC



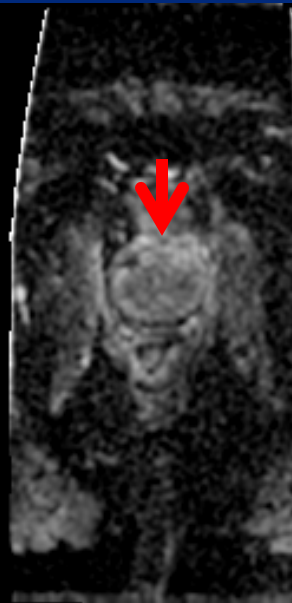
b2000



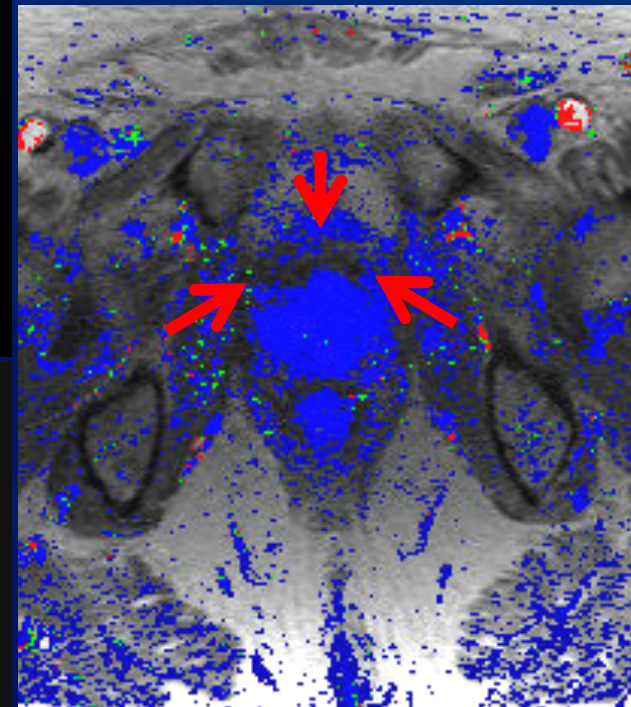
Followup MRI:



ADC



b2000



- PSA 0.9 ng/mL
- Normal appearance post ablation
 - Resolution of focal diffusion restriction and enhancement at site of prior cancer
 - Ablation zone with T2 dark borders, no internal enhancement
- No evidence of disease.

Teaching points:

- Recurrence detection by MRI after radiation/hormonal therapy is dependent on functional imaging- DCE and DWI
 - T2WI is critical for anatomic definition, but is much less sensitive and specific for tumor.
 - PET with specific agents can also be useful (PET was negative in this case)
- After cryoablation the defect typically has a T2 dark border, heterogeneous T2 internal signal, will be non-enhancing, and will not have diffusion restriction.