How Do I Read Prostate MRI

Prostate MRI
- Basic facts about PCA
- How & When
  - MRI Technique
- Why do MRI and What to Look for

Prostate Cancer
- PSA level
- Gleason Score
  - $3 + 4 \neq 4 + 3$
- T Stage

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**Value of T1-weighted Images**

**Extracapular Extension**

- **Specificity** is more important than **Sensitivity**
  - To prevent patients being excluded from potentially curative treatment
- **How good are we?**
  - With endorectal MRI for all comers
    - Accuracy varies from 60 – 90%

**Why**

- **Main Role of MRI**
  - Local Staging of Prostate Cancer
    - Extracapsular extension or SV involvement (T3a, T3b)
  - MRI is cost effective
    - Patient with prior probability of extracapsular extension of at least 30%
      - PSA > 10 ng/mL or Gleason > 7
    - Extracapsular extension or SV involvement
      - Higher risk of recurrence after resection

**Extracapular Extension**

- Most specific MRI findings of extracapsular extension
  - Asymmetry of Neurovascular bundle
  - Blunting of the recto-prostatic angle
  - Direct tumor extension outside capsule
- **Less specific**
  - Focal bulge
Extracapular Extension

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BPH
Prostatitis
Hormonal Therapy
Focal Prostatitis
Beware of anterior tumors

Structured Approach

- Before looking at MRI exam
  - Check where was the cancer was on recent biopsy (remember they already know patient has tumor)
  - Check to see if > 6 weeks have passed since last biopsy
  - Check the most recent PSA and pathologic Gleason Grade

Structured Approach

- MRI
  - T1W
    - Hemorrhage within the gland
    - Adenopathy
    - Bone lesions
    - Remember to look for incidental pathology such as aortic aneurysm, sigmoid diverticulitis, colonic carcinoma, and bladder cancer

Structured Approach

- MRI
  - T2W
    - Low signal intensity in peripheral zone; make sure there is no corresponding hemorrhage on T1W
    - Look for signs of extracapsular extension or seminal vesicle involvement
    - Lymphadenopathy (personally favor T2 over T1 for detecting lymph nodes)