Active Surveillance Monitoring

MEN AT LOW RISK

Limited life expectancy, many co morbidities

Appropriate follow up

MEN AT MODERATE AND HIGH RISK (pre-programmed follow-up)

6 MONTHS

- PSA every 6 months
- TRUS-PSAD, urine culture, PVR (post void residual)
- Biomarkers
- MRI if none previous
- TRUS/MRI Fusion Targeted Biopsy as indicated

12-36 MONTHS

- Repeat MRI, compare to previous
- TRUS-PSAD, urine culture, PVR
- Biomarkers
- TRUS/MRI fusion targeted biopsy

MRI and advanced biomarkers are replacing the need for serial repeat biopsy sessions

Prostate cancer doubling time is 4 years. Missing an in-between or aggressive cancer causes no harm. Active Surveillance with MRI and pre-programmed follow-up will diagnose them.

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an educational pamphlet

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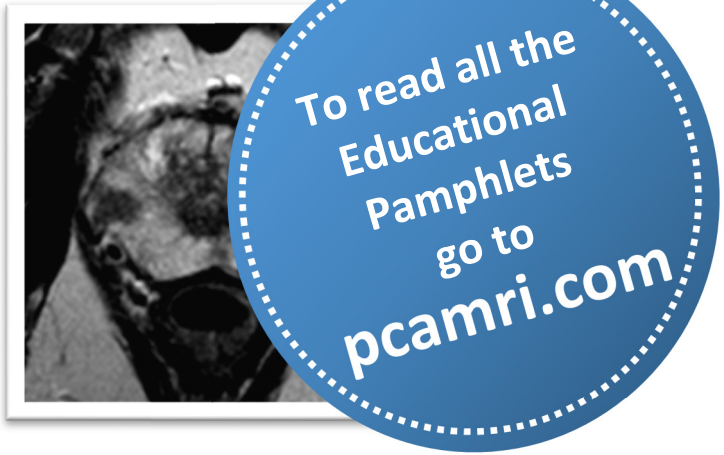
Prostate Cancer MRI
Accurate Diagnosis and Treatment

Active Surveillance



PSA to Prostate MRI

for patients and curious doctors

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Franck Bladou, M.D.
Armen Aprikian, M.D. & Marc Emberton, M.D. Forewords

I've been diagnosed with prostate cancer, what if I decide to just do nothing?

Active Surveillance

Selection And Monitoring Of Untreated Prostate Cancer

Sparing patients with not-aggressive and in-between prostate cancers the pain, risks and side effects of unnecessary treatment.

Prostate Cancers

Not-Aggressive *In-Between* *Aggressive*

indolent, insignificant
low grade, low risk, non-invasive

biologically active, significant
high grade, high risk, invasive

Most Prostate Cancers are Not-Aggressive

> Common, frequent, slow growing, cause no illness
> PSA slow progression ; PSA density ≤ 0.10 (prostate volume obtained from TRUS or MRI)
> Men with Not-Aggressive prostate cancers die from other causes
> Small volume Gleason grades 6
(low grade favorable microscopic appearance)
> **Not imaged on MRI**

In Between

> PSA progression variable
> PSA Density (PSAD) 0.10 – 0.15
> Sometimes visualized on **MRI**, cancer nodule 0.2 – 0.5 cc
> Small volume Gleason 6, 7 (3+4)

Some Prostate Cancers are Aggressive

> Less frequent, grow faster, cause serious illness and death
> PSA rapid progression
(prostate infections, urine retention can also cause rapid rise in PSA)
> PSA density ≥ 0.15
> **Usually imaged on MRI** (cancer nodule usually ≥ 0.5 cc)
> Biopsy Gleason grades 7 (4+3), 8, 9, 10
(high grade unfavorable microscopic appearance)

PSA

For Diagnosis

no assigned normal limits

- 4 ng/ml upper limit of normal incorrect
- The higher the PSA value the greater likelihood of cancer
- Less than 4 ng/ml aggressive cancers can be present
- Over 4 ng/ml mostly BPH caused
- PSA Density, PSA Progression better cancer predictors

After treatment

PSA is a sensitive, reliable biomarker for monitoring cancers

Learn more
Pamphlet #17

Criteria for Active Surveillance

- **Age, Life expectancy**
- **PSA, PSA Progression, PSA Density**
- **MRI PI-RAD Score**
- **% Cancers in biopsy cores**
- **Local-Regional Stage (MRI)**

Gleason Grade 6, 7 (3+4)

- **Biomarkers**
- **MRI cancer nodule(s) volume, location**
- **Number of cores with cancer**
- **Body Bone Scan Stage**

Active Surveillance Outcomes

25 % have higher Gleason grades than initially diagnosed
10 % develop worst cancers over many years
30 % require or request treatment
3 % die from prostate cancer

These percentages are expected to decrease with Prostate MRI, targeted biopsies and MRI used in selection and monitoring for Active Surveillance

- The majority of men with not-aggressive and in-between cancers avoid treatment with Active Surveillance
- Very few men on Active Surveillance become ill from prostate cancer
- Pre-programmed follow-up with PSA, biomarkers, MRI and repeat biopsies diagnose the aggressive cancers before they cause trouble

Gleason Grade 3+4
Less than 10 % pattern 4 is suitable for Active Surveillance
Greater than 10 % pattern 4 has 4 times higher prostate cancer mortality

Prostate MRI

> New complex prostate imaging technology
detailed anatomy, cellular physiology, microvasculature
> 90 % accurate in identifying aggressive cancers
  - Targets specific nodule(s) to biopsy
  - Predicts Gleason Grade
  - Local-regional staging
> Provides **image based** criteria for Active Surveillance selection and monitoring
> **Baseline MRI** a reference for repeat monitoring MRIs
> MRI best done before **biopsy artefacts** which makes interpreting the MRI much more difficult
> Prostate MRI requires experienced **Radiologist**, MRI knowledgeable **Urologist** and **Pathologist** to prove the presence of cancer from tissue samples
> **5 alfa reductases inhibitors** downplays aggressive cancers
  - Lowers PSA
  - Decreases MR Imaged nodule(s) volume and score
  - Gives a false sense of PSA security