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# PROSTATE MRI WITH RECALL SYSTEM FOR CONTRAST: EFFECT ON EFFICIENCY AND COST SAVINGS

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# Disclosure

- ▶ No conflict of interest for all authors.

# BACKGROUND

- ▶ During the COVID-19 pandemic
  - ▶ Prostate MRI scans had to be limited to urgent cases only
  - ▶ Most exams were deferred
  - ▶ This exacerbated an already existing backlog of referrals with a waitlist of one year.
- ▶ A bi-parametric protocol without gadolinium was, therefore, implemented to maximize the use of resources
  - ▶ Recall system was established for gadolinium, if necessary.

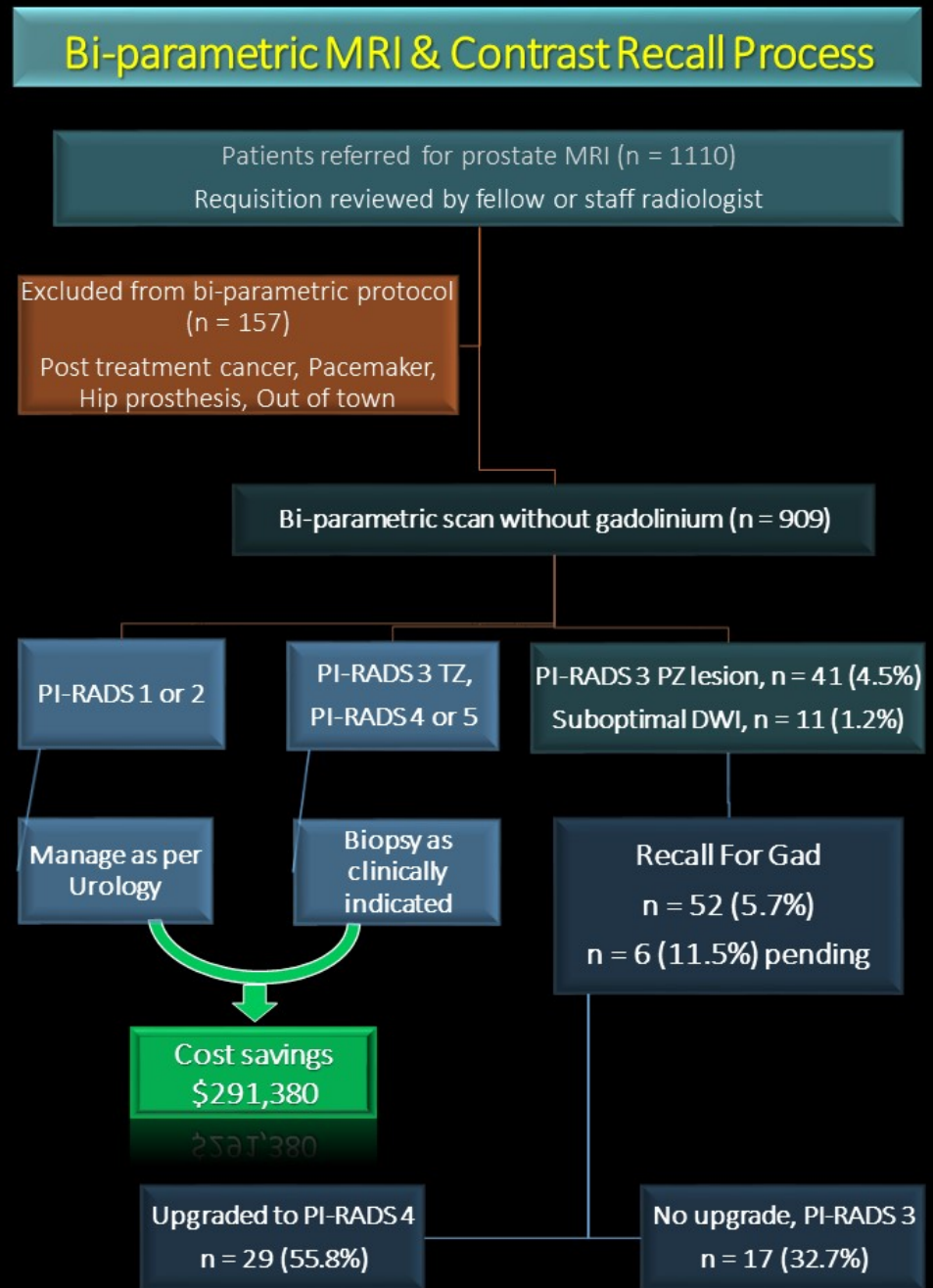
THE AIM OF THIS QUALITY IMPROVEMENT PROJECT WAS TO REVIEW  
THE EFFICACY OF THIS RECALL SYSTEM.

# METHODS

- ▶ Bi-parametric prostate MRI protocol was instituted July 27, 2020, for all patients **excluding**
  - ▶ Those with post-treatment prostate cancer.
  - ▶ Patients with hip prosthesis (suboptimal DWI).
  - ▶ Patients with pacemaker (logistical challenges)
  - ▶ Those who lived out-of-town (difficult to recall).
  - ▶ These patients had full multi-parametric MRI with gadolinium as per PI-RADS v 2.1.
- ▶ Bi-parametric protocol only eliminated the post Gad sequence and consisted of
  - ▶ T2-weighted images in 3 planes,
  - ▶ DWI sequences with low and intermediate b-values (to generate ADC map), and high b-value (1500); in accordance with PI-RADS v 2.1.
- ▶ After interpretation of bi-parametric study, patients with a PI-RADS 3 lesion in peripheral zone (PZ) or suboptimal DWI scan were recalled for contrast.

# RESULTS

- Out of 909 patients, only 52 (5.7%) were recalled
  - 11 (21.2%) were recalled owing to suboptimal DWI
  - Rest of 41 (78.8%) cases were PZ PI-RADS 3 lesions.
- On assessment of post-gadolinium imaging
  - 29 (55.8%) were upgraded to PI-RADS 4
  - 17 (32.7%) remained PI-RADS 3.
- This protocol avoided gadolinium in 857 pts, saving \$68,560 in contrast costs.
- 6min time saved per patient – saving a total of \$291,380 in contrast & time costs.



# Advantages for patients

- ▶ Avoid the inherent risks of contrast
- ▶ Can be scheduled out of hours at times when
  - ▶ There is limited technologists on shift and limited availability of IV therapy services, if the technologist is not able to start the IV line.
  - ▶ Physicians were not readily available to supervise injection, thereby decreasing waiting times.
- ▶ By November 2020, the waiting time of 1 year had decreased to 2-3 weeks.

# CONCLUSIONS

- ▶ Bi-parametric MRI prostate with a robust recall system for contrast not only **eliminated the marked backlog** that was aggravated during the pandemic but was also **cost-effective without compromising quality of patient care**



## RECOMMENDATION

Once experience with multi-parametric MRI has been achieved, bi-parametric MRI with a robust recall protocol should be considered in other centers that have a similar backlog of exams and want to increase their efficiency & cost-effectiveness.



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THANK YOU