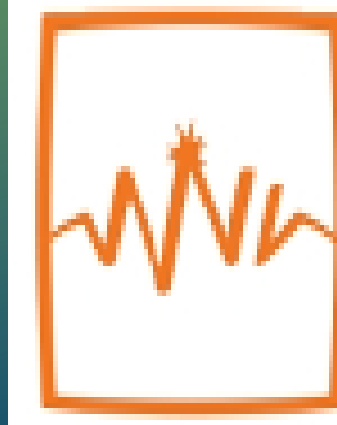


## Enhancing MRI Outpatient Scheduling and Clinical Operations through Improved Work Processes at Neuroradiology Department

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### Problem Statement

- Due to the growing demand of Magnetic Resonance Imaging (MRI) request, averaged MRI waiting time at National Neuroscience Institute (NNI), Neuroradiology stands at 17 weeks.
- This poses a challenge in scheduling urgent or early scans (which ranges from within few days up to 2 weeks).
- Due to the long waiting time, patients who requires urgent or early scans were put on MRI waitlist.
- MRI waitlist gets longer over time, burdening the over-stretched MRI appointment.

### Project Aim

- Maximize the MRI slots and shorten the MRI waiting time.
- Early detection of under declared active implants.
- Early rectification of ordering and logistics matters.
- Implement changes in clinical operations and monitor for any improvement, 3 months post implementation.

### Lessons Learnt

- This multi-team collaboration has effectively tackled the number of patients on MRI wait list to zero.
- With improved MRI clinical operations, MRI technical teams able to perform more efficiently and thus reduce scanner idle time, scan delay and improvement in patient's experience.

#### Challenges:

- Each team needs to be well versed and keep up with their assigned duty.

#### Tips:

- Prepared a reference guide and description of assigned duty for each team.

### Potential Solutions

Multi-team collaboration was implemented 3 days prior to patient's MRI appointment.

| Team         | Assigned activity   | Days in advance |
|--------------|---|-----------------|
| Nurses       | Check Creatinine test and risk factors                                      | 3               |
| PSA          | Call patients for confirmation of MRI attendance                            | 2               |
| Radiologist  | Vet and protocol of MRI request   | 2               |
| Radiographer | Pre- screening of MRI Safety Questionnaires                                 | 1               |
| RA           | Match protocolled request forms with pre-screened MRI Safety Questionnaires | 1               |

### Outcomes & Impacts

- Monthly, averaged patient on MRI waitlist dropped from 30 to zero.
- On average, a 41% dropped in wasted MRI slots from 110 to 65.
- Before implementation: monthly, average of 8 cancellation and rescheduling of scan due to undeclared active implants, incorrect order or duplicate scans on patient's arrival. Post implantation, numbers dropped to zero.
- Pre-procedural times shortened by 50% due to prescreening of MRI safety Questionnaires.

Monthly improvement (on average): Pre and Post Multi-team collaboration

| Improvement in clinical operations         | Pre implementation | Post implementation |
|--|--------------------|---------------------|
| Patient on MRI wait list                   | 30                 | 0 ↓                 |
| Wasted MRI slot                            | 110                | 65 ↓                |
| Cancellation of MRI appointment on arrival | 8                  | 0 ↓                 |
| Pre Procedural time (minutes)              | 10                 | 5 ↓                 |