



SETTING UP A WORKFLOW: OPTIMIZING THE WAIT TIMES IN THE MRI ANESTHESIA

Author Block: M. Vicente¹, C. d. Silva², M. A. Reis³, L. Costa⁴, C. Pessini⁵, F. Gregorio⁶, I. Domingues⁷, M. R. Queiroz⁸

Department of Radiology, Hospital Israelita Albert Einstein

Corresponding author
Maria A. Vicente
Maria.avicente@einstein.br

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Diagnostic Imaging Department



BACKGROUND

Magnetic Resonance anesthesia is a complex process that involves several areas and a multidisciplinary team

Due to the high cancellations rate and recurrent reschedules of this procedure in our Institution, the purpose of this study was to investigate the daily practice and the causes that may interfere in the MRI with anesthesia exams schedules



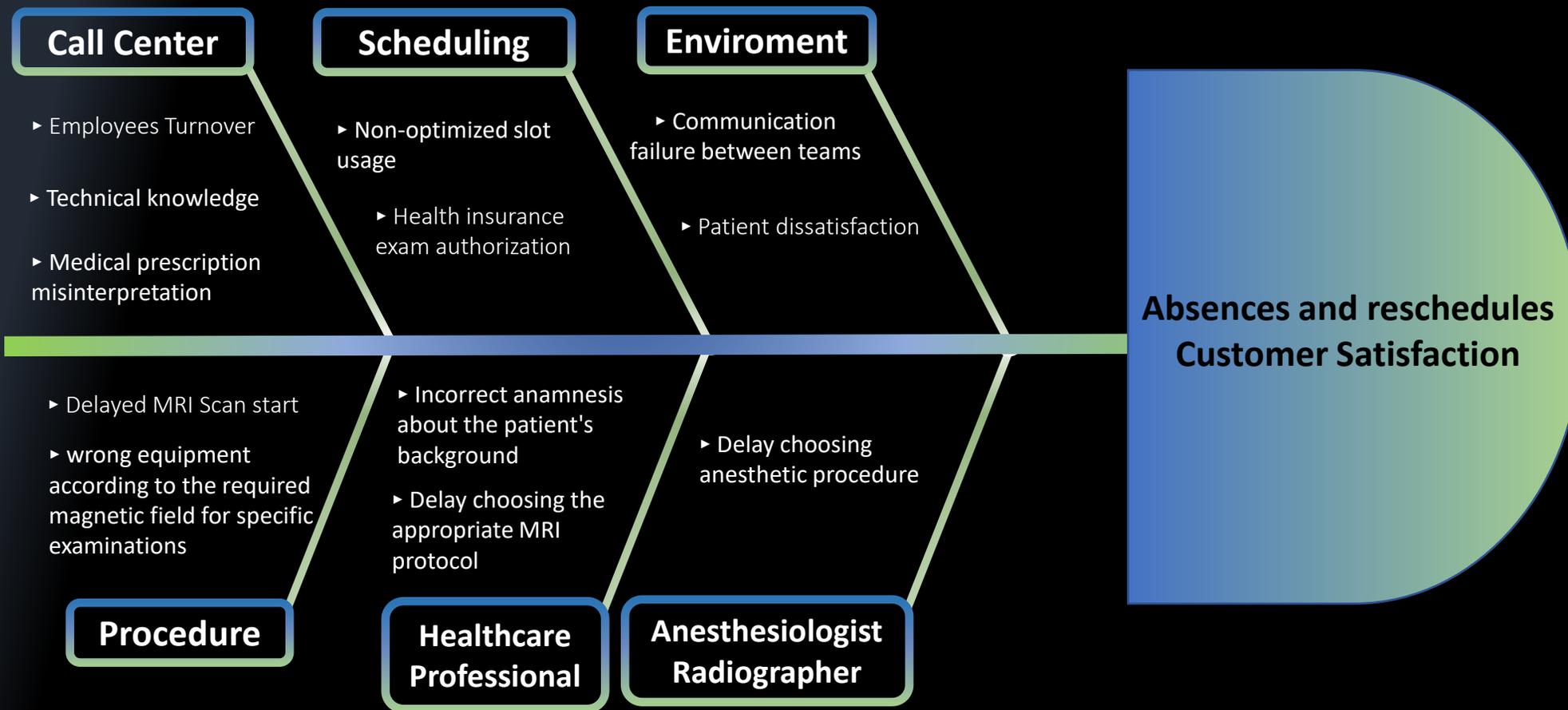
PURPOSE

- Investigate the daily practice and the causes that may interfere in the anesthesia exams schedules
- Reduce MRI anesthesia procedures cancellations
- Minimize errors such as discrepant information, inadequate preparation, and misinterpretation of medical prescription, enabling the optimization of schedules times and ensure customer satisfaction



METHODS

IDENTIFYING THE PROBLEM



The PDCA method (Plan-Do-Check-Act) was used to understand the main points of improvement and to help to create an MRI anesthesia workflow. In an initial investigation, many points were recognized such opportunities: errors related to call center scheduling, the non-optimized slot usage, health insurance authorization, communication failure between teams, delay in schedules, wrong equipment according to the required magnetic field for specific examinations, incorrect anamnesis about the patient's background and delays associated to choose the appropriate MRI protocol and the choice of anesthetic procedure



METHODS



N° of successful MRI
performed with anesthesia



Month of completion



Optimized schedule time due to prior
confirmation



Month of the procedure

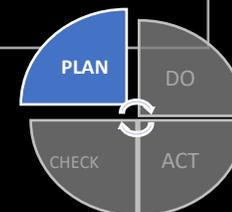
The analysis was performed using the **number of successful MRI performed with anesthesia / month of completion** and the **optimized schedule time due to prior confirmation / month of the procedure**



METHODS

According to the PDCA framework, several action plans were implemented, such as schedule control sheets, checklist to be applied during a triage telephone call with guiding questions that allow filtering failures before the client arrives at the hospital and clarify the patient's doubts regarding anesthesia

Action	What	Why	How	How much
1º	Create a schedule control sheet	To control the calls flow	Team meeting to discuss the main points for screening	zero
2º	Telephone calls prior to MRI scans for screening information	Reduce rescheduling due to lack of information, exam confirmation, carrying out anamnesis, clarifying doubts and prepare the team/area for the attendance	Call to patients days before the procedure	zero
3º	Screening for allergic reaction risks	Ensure patient safety due to the imminent risk of allergic reactions using Gadoline Contrast	Analysis of patient's allergic history	zero
4º	Clarifying patient doubts	Humanizing the patient experience focusing on their own individualities	Guide and answer questions from patients about the procedure	zero
5º	Flow and conduct definition	Ensure safety, efficiency and success in the procedure and maintain exam quality	Workflow design	zero



METHODS

Three tasks were implemented as action plan:

1



MRI ANESTHESIA SCHEDULING WORKFLOW

INICIAL SCREENING

Exam date: _____ / _____ / _____ Time: _____
ID: _____ Age: _____
Patient name: _____
E-mail: _____
Exams scheduled: _____

MRI TECHNOLOGIST

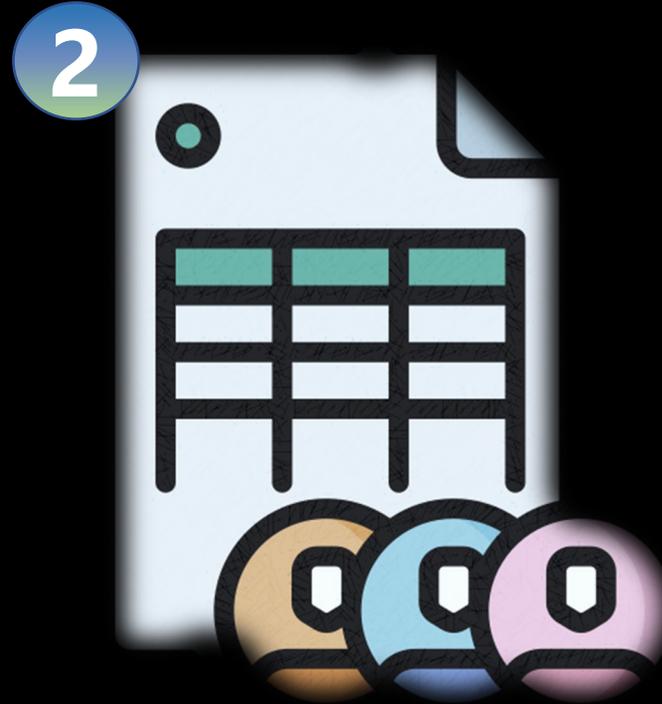
Physician requesting: _____ Phone: _____
Contact with: _____ Phone: _____
Medical request description: _____
Exam with contrast? _____
Reasons for MRI Scan: _____

Have any known disease? If yes, which? _____
Have Asthma, bronchitis? _____ Last episode: _____
Have sickle cell anemia? _____
Has he/she ever been submitted to any surgery? Which? _____

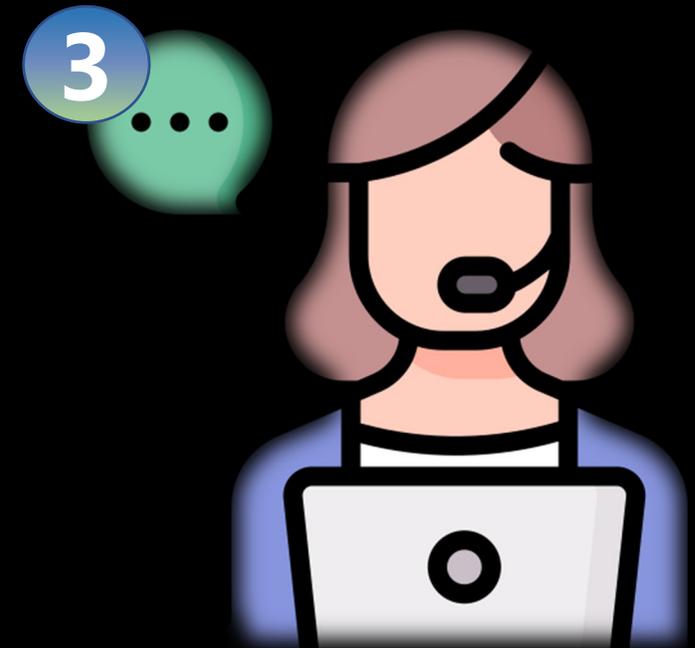
Previous allergic reaction to the contrast, medicines or other substances? If yes, which? _____
Desensitization is necessary? _____
Has he/she ever done MRI scan with contrast? If yes, had allergic reaction? _____
Which? _____
Did endoscopy or colonoscopy with clip placement? _____
Have Piercing or tatoo? _____ Have claustrophobia? _____
Any other device or metallic/electronic material inside the body? If yes, specify? _____
Have DVP valve? If yes, which model? _____
Fasting time has been confirmed? _____ Arrival time has been confirmed? _____
Clinical conditions: _____
Collect PCR for COVID 19? _____
Additional comments: _____

Name of the person who collected the information: _____
Signature: _____ Date: _____ / _____ / _____

Check list before exam



Control sheets



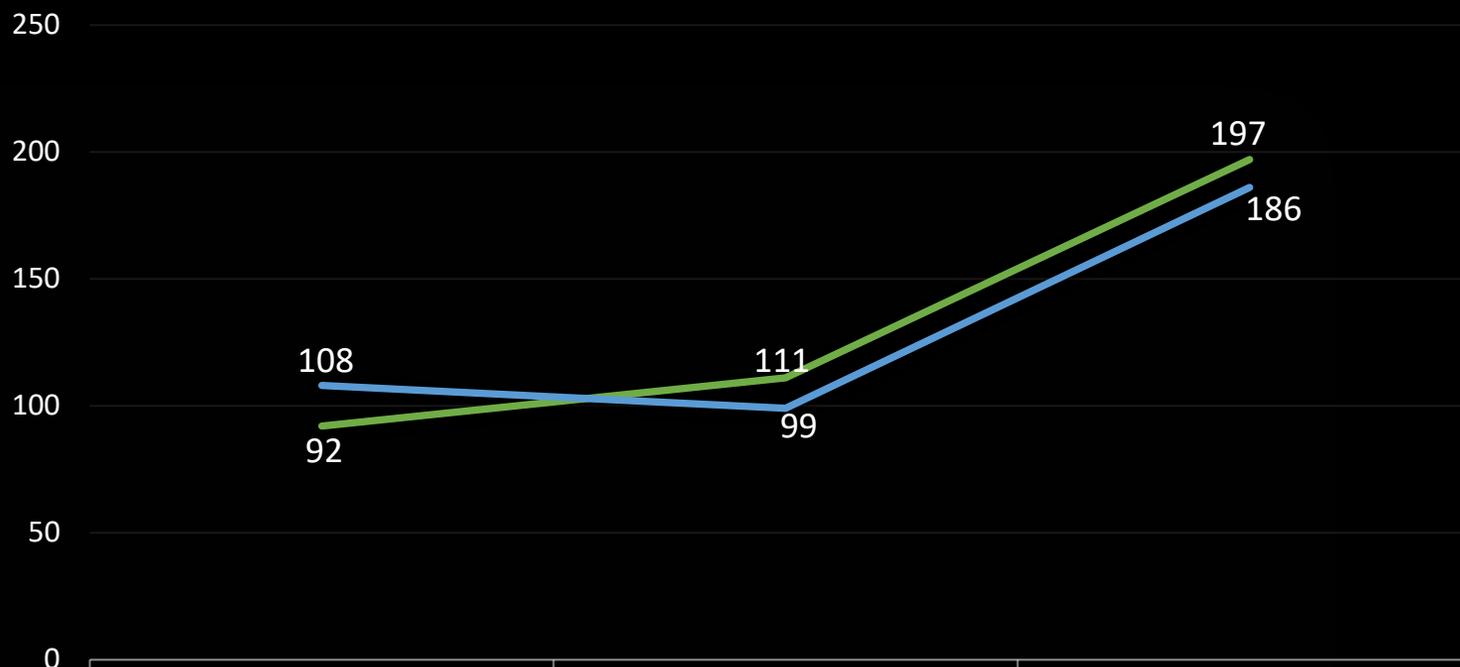
Call to patients and/or guardians before the exam date to reinforce guidelines and clarify possible doubts



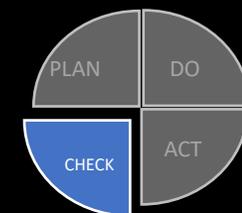


RESULTS

After the project implementation, from July 2020 to September 2020, 400 outpatients underwent magnetic resonance anesthesia, of which 393 were analyzed



	JULY	AUGUST	SEPTEMBER
TOTAL OF MRI ANESTHESIA PERFORMED	92	111	197
TOTAL MRI ANESTHESIA SCREENING	108	99	186



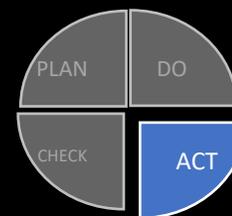


RESULTS

Through prior confirmation, we were able to optimize more than 30 hours of exams, making available an average of 45 MRI exams for scheduling.

2020	OPTIMIZED SCHEDULE TIME	SCHEDULING OPPORTUNITY
JULY	09:10h	13 EXAMS
AUGUST	09:30h	14 EXAMS
SEPTEMBER	12:30h	18 EXAMS

With this strategy we also managed to reduce the waiting time for scheduling exams. Before the actions the waiting time was 26 days; after the actions it was reduced to 12 days





DISCUSSION

In addition to all the schedule optimization work, this workflow proved to be effective in terms of guidance to the patient in advance, clarifying doubts, humanizing the patient experience focusing on their own individualities, increasing customer satisfaction and loyalty levels, exceeding their expectations

With the information and patient history obtained before the exam date, it was also possible to reduce errors related to exams scheduling, optimizing the wait times and improve throughput caused by absent patients in the MRI department