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Same-Day Cancellations of Anesthesia-Assisted Magnetic Resonance Imaging in Children: A Seven-Year Retrospective Analysis and Assessment of a Preoperative Evaluation Clinic

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Abstract

Background/Objectives: As demand for pediatric magnetic resonance imaging (MRI) continues to increase, anesthesia assistance is often required for children who cannot cooperate. This study described the incidence and causes of same-day cancellations and evaluated the impact of a Preoperative Evaluation Clinic (PEC) for children undergoing elective MRI under sedation or general anesthesia at a tertiary-level children's hospital. **Methods**: This single-center retrospective study reviewed children scheduled for elective anesthesia-assisted MRI at the Montreal Children's Hospital between January 2013 and December 2019. Same-day cancellations were included, and reasons for cancellation were categorized as preventable, possibly preventable, or unpreventable. A pilot anesthesia-led PEC operated from January 2018 to December 2019, and its effect on same-day MRI cancellations was assessed. **Results**: Of 4518 MRIs scheduled between 2013 and 2019, 549 (12.2%) were canceled on the same day, with the annual cancellation rate declining from 14.6% in 2013 to 9.4% in 2019. Possibly preventable patient illness and no-shows accounted for 61% of cancellations. Of 1383 MRIs scheduled in 2018–2019, 602 (43.5%) were assessed in the PEC and 781 (56.5%) were not. Same-day cancellation occurred in 131/1383 (9.5%) cases: 48/602 (8.0%) in the PEC group versus 83/781 (10.6%) in the non-PEC group ($p = 0.07$). PEC attendance was associated with fewer no-shows (1.0% versus 2.8%, $p = 0.017$). **Conclusions**: Patient illness and no-shows were the main causes of same-day cancellations. PEC attendance was associated with fewer no-show cancellations, although this trend cannot be attributed to a specific intervention and should be interpreted with caution. Alternative cost-effective interventions should be explored to further reduce same-day MRI cancellations.

Keywords: MRI; computed tomography; PEC; pediatric anesthesia; preoperative evaluation clinic; cancellations

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1. Introduction

Magnetic resonance imaging (MRI) is increasingly recognized as the preferred method for investigating and monitoring a broad spectrum of diseases in children. Sedation or general anesthesia is commonly requested for children who are unable to remain motionless. Short-notice or same-day cancellation of MRI appointments results in inefficient utilization of this high-cost resource and exacerbates patient waiting lists [1,2], particularly when examinations necessitate anesthesia care [2–4]. With a growing number of patients being admitted on the same day as the procedure, there is a pressing need to establish a system that facilitates perioperative planning and reduces same-day cancellations [5,6].

The Preoperative Evaluation Clinic (PEC) plays a significant role in improving patient outcomes in surgical settings [6–9]. By facilitating comprehensive patient assessment, optimizing conditions, prescribing targeted tests and investigations, and initiating appropriate therapies [7,9–13], the PEC can help diminish perioperative risk, plan the safest anesthetic approach, and avoid unnecessary routine consultations and tests [6,7,12], thereby improving overall efficiency. In addition, the PEC can adequately prepare patients and their families for the perioperative course, optimize therapies, and ensure they meet their hospital appointments [6,9,12,14]. However, the evidence base for PEC effectiveness derives predominantly from surgical populations, and pediatric MRI presents distinct clinical and logistical aspects that may influence the likelihood of same-day cancellations.

Pediatric MRI differs from the surgical setting in several key aspects. The procedure is lengthy, necessitates sustained immobility, and the noise may induce significant stress in the child [2], frequently requiring general anesthesia to ensure successful completion in uncooperative patients. This requirement places considerable strain on a shared anesthesia service utilized by both surgical and non-surgical facilities, often resulting in extended waiting periods. In this context, the PEC may represent a plausible solution for mitigating same-day cancellations of anesthesia-assisted MRI. Implementing the PEC requires substantial investment in human resources—including nurses, pediatricians, and anesthesiologists—which limits the number of patients who can be accommodated. Therefore, selecting patients who benefit most from the PEC visit is paramount. To date, no studies have investigated the efficacy of PEC in reducing pediatric MRI cancellations.

This study aims to determine the incidence and causes of same-day anesthesia-assisted pediatric MRI cancellations at our institution and to assess whether implementation of PEC was associated with a reduction in such cancellations.

2. Materials and Methods

This retrospective, single-center study was conducted at the Montreal Children's Hospital, a university-affiliated tertiary and quaternary care pediatric teaching hospital in Montreal, Canada, and it is reported in accordance with the Reporting of Observational Studies in Epidemiology (STROBE) checklist [15]. Institutional ethics approval (REB #2023-9242) was obtained, and the requirement for informed consent was waived due to the retrospective design of the study. Data from children scheduled for elective MRI under sedation or general anesthesia between 1 January 2013, and 31 December 2019 were screened. Cases in which the MRI procedure was canceled on the day of the scheduled examination were included. Inpatient and emergency procedures were excluded.

2.1. Anesthesia-Assisted MRI and PEC at the Montreal Children's Hospital

In our institution, "anesthesia-assisted MRI" denotes any MRI performed with an anesthesia care team in attendance, encompassing general anesthesia with or without mechanical ventilation. Children under 5 years of age, patients with developmental, behavioral, or neurological conditions, and those who did not succeed in previous awake MRI proce-

dures are routinely scheduled for anesthesia-assisted MRI. Strategies such as patient play preparation, mock-scanner familiarization, or audiovisual distraction are not offered. Scans are routinely performed with spontaneous breathing or with a supraglottic device to ensure airway patency, unless the patient's clinical condition (e.g., airway obstruction) or the type of scan (e.g., cardiac MRI) warrants tracheal intubation and mechanical ventilation. Our current database does not capture the number of patients requiring tracheal intubation and mechanical ventilation. During the study period, fasting guidelines followed the 8–6–4–2 rule (i.e., 8 h for solids, 6 h for formula milk, 4 h for breast milk, and 2 h for clear fluids).

Because the anesthesiologist is not present for scans under natural sleep (i.e., in neonates) or for cooperative patients, only anesthesia-assisted MRIs were analyzed in the present study.

An interdisciplinary PEC involving anesthetists and pediatricians was established at the Montreal Children's Hospital in 2018. Before its implementation, anesthetists limited their evaluations to medically complex patients, children with behavioral disorders, or those scheduled for complex surgeries. In 2015, the hospital progressively expanded the PEC into a multidisciplinary service for infants or medically complex children, and it became fully functional in 2018. In December 2019, the hospital initiated a Quality Improvement project to document the reason for same-day cancellations. The COVID-19 pandemic severely disrupted the PEC service, which was progressively reimplemented in late 2022. Nevertheless, because of the concurrent implementation of a new booking and charting system, as well as fasting and screening protocols, the study period could not be extended.

Referral to the PEC was at the discretion of the referring physician, and no formal screening criteria were in place. As the daily PEC capacity was limited to 20 patients, some children underwent pre-MRI evaluation through alternate care pathways. Unlike the PEC, documentation in these pathways was not available for review by stakeholders before the MRI appointment. Children who were not seen in the PEC were assessed by the attending anesthesiologist immediately before the scan on the day of the appointment.

The PEC visit consisted of an in-person consultation attended by a nurse, a pediatrician, and an anesthesiologist, and comprised seven components: (1) a structured medical history and physical examination, including assignment of the American Society of Anesthesiologists Physical Status (ASA-PS) class; (2) airway and respiratory screening, covering recent upper respiratory tract infection, asthma, snoring, and obstructive sleep apnea; (3) review of medications, allergies, and previous anesthetic exposures; (4) ordering of targeted investigations where indicated (e.g., sickle cell screening); (5) counseling of the child and caregivers on pre-procedural fasting requirements and the date, time, and location of the scheduled MRI; (6) chart review, including post-MRI disposition, and visit of medically complex children by the anesthesiologist; and (7) systematic telephone reconfirmation of the appointment in the days immediately preceding the MRI.

Counseling was provided verbally during the PEC visit and reinforced with a standardized written information sheet handed to caregivers.

2.2. Endpoints and Data Collection

The study's primary endpoint was to describe the causes of anesthesia-assisted MRI cancellations in children. The secondary endpoint was to evaluate whether the PEC reduced the incidence of same-day cancellations.

Same-day cancellations were defined as cancellations on the day of the scheduled MRI exam. The reasons for cancellation were determined and logged by the nurses. Only one reason could be assigned for each cancellation; in the event of multiple reasons, the choice was at the nurse's discretion.

For each MRI scheduled during the 7-year study period, the reasons for MRI cancellation, as well as children's demographic characteristics and visits to the PEC, were recorded individually. One of the authors (A.L.) manually entered data in an ad hoc Excel database, and a second author (G.B.) independently verified data accuracy. Patient data and number of MRIs performed were extracted from the database Centricity Opera software (v. 5.0, General Electric Company, Schenectady, NY, USA) and patient electronic charts on OACIS (Open Architecture Clinical Information System v 7.5.0, TELUS Health Solutions GP, Montréal, QC, Canada). Data on the number and date of PEC visits were extracted from the PEC administrative database (MédiVisit v 04.05.01, Healthvision Progiciels et Solutions, Montréal, QC, Canada). The PEC visit date was recorded from OACIS. The ASA-PS class was obtained from the PEC assessment or from the anesthesia record completed on the day of the scan.

Reasons for same-day cancellations were classified by one author (G.B.) as preventable, possibly preventable, or unpreventable, as previously published (Table 1) [16]. A cancellation was considered preventable when it arose from an administrative, scheduling, or communication failure that was, in principle, wholly within the hospital's control or could have been averted had the family been given correct information in advance. A cancellation was considered possibly preventable when the proximate cause lay outside institutional control, but the same-day loss of the slot might still have been avoided had the event been identified and acted upon before the day of the scan. Unpreventable cancellations were those arising from a contingency on the day of the scan that could not reasonably have been foreseen at the time of scheduling.

Table 1. Classification of reasons for same-day cancellation of anesthesia-assisted MRI as preventable (system- or patient-related), possibly preventable, or unpreventable.

Preventable cancellation	
System-related	
	Admitting department did not contact the patient
	Office booking error
	MRI list changed by radiologist
	Overbooking by radiologist
	Patient needs further investigation
	Preop documentation incomplete or unavailable
	MRI already performed/no longer indicated
Patient-related	
	Patient unavailable or refused MRI
	Patient not NPO (not fasted)
Unpreventable cancellation	
	Anesthesiologist unavailable (sickness)
	Case standby
	Other emergency MRI
	Environmental issues
	Equipment failure
	Equipment supplies unavailable
	Hospital/ICU/PACU bed unavailable
	Nurse unavailable
	Patient did not have accompaniment
	Patient late
	Previous case too long
	Radiology team unavailable
Possibly preventable cancellations	
	Patient unfit for the procedure (sickness)
	Patient no-show

MRI, Magnetic resonance imaging; NPO, Nil per os; ICU, Intensive care unit; PACU, Post-anesthesia care unit.

Reasons for preventable, possibly preventable, and unpreventable MRI cancellations are listed in Table 1. Missing cancellation reasons were coded as "unknown" and excluded from the analysis.

2.3. Statistical Analysis

Descriptive statistics were used to summarize demographic and MRI cancellation characteristics. A Pearson correlation was used to analyze the MRI same-day cancellation rate from 2013 to 2019. The aggregate same-day cancellation rate during the period 2013–2017 (pre-PEC) was compared with that during 2018–2019 (pilot PEC) using the Chi-squared test. The Chi-squared and Fisher's exact tests were used, as appropriate, to evaluate the effect of same-day cancellations on categorical variables; no adjustment for multiple comparisons was performed. The Mann–Whitney U test was used for continuous variables. A multivariate logistic regression analysis was conducted to identify factors associated with same-day cancellations. The model was fitted with the following variables: gender, age, ASA-PS, and PEC visits. Effect sizes were reported as odds ratios and 95% confidence intervals. As ASA-PS was missing for some patients, the model was fitted as a complete-case analysis. No imputation was performed.

All data were analyzed using SPSS software (version 22; SPSS, Inc., Chicago, IL, USA). Continuous variables are presented as mean ± standard deviation if normally distributed and median [interquartile range] if not normally distributed. Categorical variables are presented as numbers and percentages [n (%)]. A p-value < 0.05 is considered statistically significant.

3. Results

From 2013 to 2019, a total of 4518 elective anesthesia-assisted MRI exams were scheduled, of which 549 (12.2.%) were canceled on the same day. All canceled MRIs were included in the analysis (Figure 1).

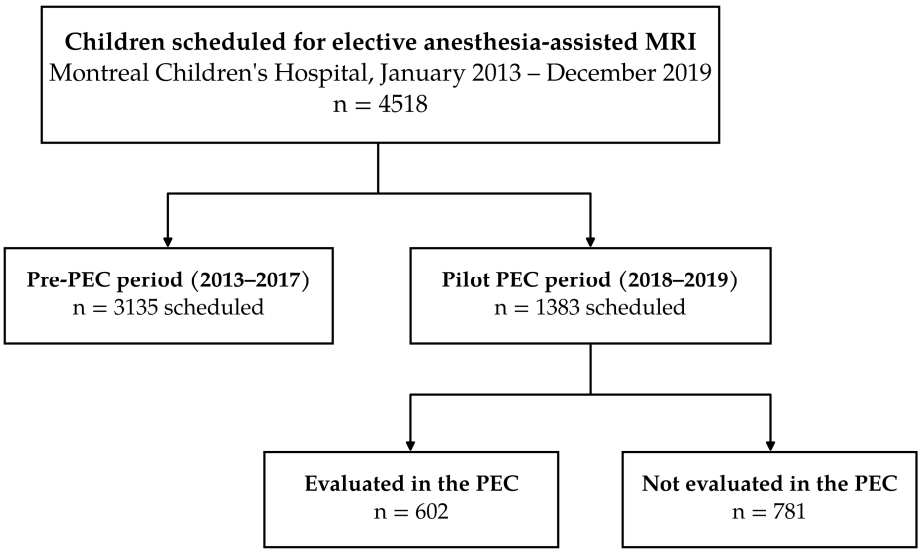


Figure 1. Study flow diagram.

The annual cancellation rate declined over the study period, from 14.6% in 2013 to 9.4% in 2019 ($R^2 = 0.62$, $p = 0.036$), although the rate rose again to 13.8% in 2016 (Figure 2).

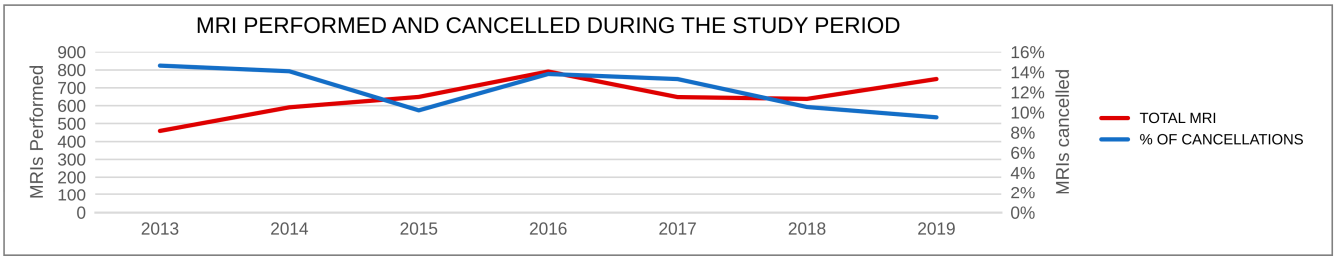


Figure 2. Number of magnetic resonance images (MRIs) performed and percentage of MRIs canceled during the 7-year study period.

Most of the cancellations were preventable or possibly preventable (Figure 3) and mainly related to system issues (Figure 4). The most common reasons for cancellations were patient illness, followed by "patient no-show", both of which accounted for 61% of all cancellations (Table 2).

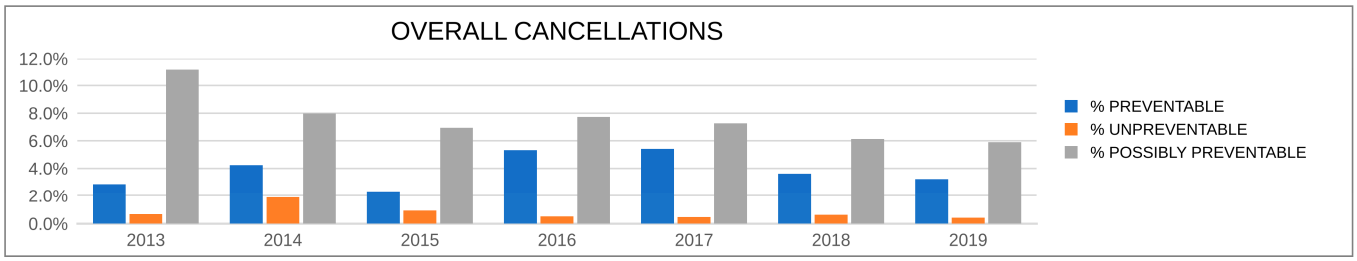


Figure 3. Type of overall cancellations during the study period.

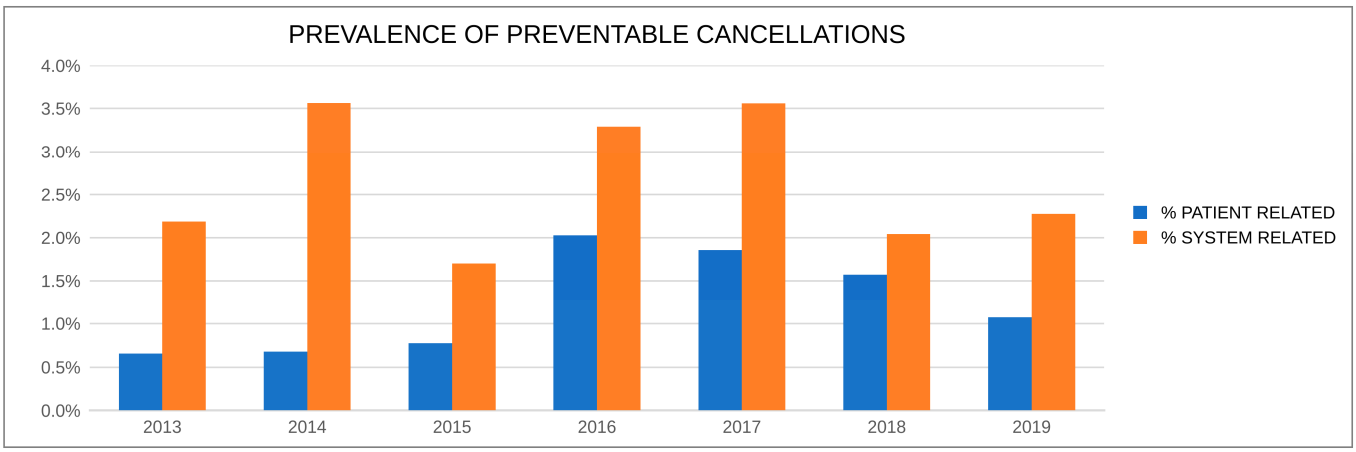


Figure 4. Prevalence of patient-related and system-related preventable cancellations in the study period.

There were no missing cancellation reasons (i.e., unknown). ASA-PS classification was missing for 43 (33%) same-day cancellations and 158 (13%) non-cancellations, leaving 1182 patients available for logistic regression analysis. The same-day cancellation rate was significantly lower in the 2018–2019 period (during PEC implementation) compared to the 2013–2017 pre-PEC period (10.0% versus 13.1%, respectively, $p = 0.003$).

During the period 2018–2019, the hospital performed 1383 elective anesthesia-assisted MRIs, of which 602 (43.5%) were assessed in the PEC and 781 (56.5%) were not. A total of 131 MRIs (9.5%) were canceled on the same day for a preventable or possibly preventable reason: 48 of 602 (8.0%) among children assessed in the PEC and 83 of 781 (10.6%) among those who were not ($p = 0.07$; Table 3). The incidence of preventable cancellations did not significantly differ between patients who were evaluated in the PEC and those who were

not (Table 3). The number of patients who did not show up to their scheduled MRI was significantly lower in patients who attended the PEC ($p = 0.017$; Table 3).

Table 2. Distribution of same-day MRI cancellations during the 7-year study period according to primary reason.

	2013	2014	2015	2016	2017	2018	2019	Total
Patient sickness	41	20	36	40	23	23	33	216
Patient no-show	10	27	9	21	24	16	12	119
MRI list changed by radiologist	9	20	4	17	18	11	14	93
Patient not NPO	1	2	3	9	7	7	8	37
Patient unavailable/refused MRI	2	2	2	7	5	3	0	21
Patient needs further investigation	0	1	1	5	4	1	0	12
Office booking error	1	0	3	3	1	0	1	9
Equipment failure	0	0	1	1	2	3	0	7
Anesthesiologist unavailable	0	5	0	1	0	0	0	6
Hospital bed unavailable	0	2	1	1	1	1	0	6
Other emergency MRI	0	4	0	0	0	0	0	4
Environmental issues	3	0	0	0	0	0	0	3
Previous case too long	0	0	3	0	0	1	2	6
Rebooked on elective list	0	0	0	2	1	0	0	3
Admitting office did not contact the patient	0	0	1	0	0	0	1	2
Case standby	0	0	1	1	0	0	0	2
MRI no longer indicated	0	0	1	1	0	1	0	3
Total	**67**	**83**	**66**	**109**	**86**	**67**	**71**	**549**

MRI, Magnetic resonance imaging; NPO, Nil per os; ICU, Intensive care unit; PACU, Post-anesthesia care unit.

Table 3. Prevalence of unpreventable, preventable and possibly preventable cancellations from 2018 to 2019.

	Evaluated in the PEC ($n = 602$)	Not Evaluated in the PEC ($n = 781$)	*p*-Value
Unpreventable cancellations, *n* (%)	4 (0.7%)	3 (0.4%)	0.48
Total Preventable and Possibly preventable cancellations, *n* (%)	48 (8.0%)	83 (10.6%)	0.07
Preventable cancellations			
System-related			
Office did not contact the patient, *n* (%)	1 (0.2%)	0 (0.0%)	0.44
Office booking error, *n* (%)	1 (0.2%)	0 (0.0%)	0.44
MRI list changed by the radiologist, *n* (%)	13 (2.2%)	12 (1.5%)	0.52
Patient needs further investigation, *n* (%)	0 (0.0%)	1 (0.1%)	1.00
MRI no longer indicated, *n* (%)	1 (0.2%)	0 (0.0%)	0.43
Patient-related			
Patient unavailable/refused MRI, *n* (%)	0 (0.0%)	3 (0.4%)	0.26
Patient not NPO, *n* (%)	5 (0.8%)	10 (1.3%)	0.42
Total, n (%)	21 (3.5%)	26 (3.3%)	0.99
Possibly preventable cancellations			
Patient sickness, *n* (%)	21 (3.5%)	35 (4.5%)	0.35
Patient no-show, *n* (%)	6 (1.0%)	22 (2.8%)	0.017 *
Total, n (%)	27 (4.5%)	57 (7.3%)	0.03 *

The percentage of patients canceled for anesthesia-assisted MRI was calculated by dividing the number of patients canceled by the total number of patients evaluated (602) or not evaluated (781) in the PEC. The single unpreventable cancellation reasons are not reported. Statistical comparisons were performed with Fisher's exact test. * Significance level was set at $p < 0.05$ and not adjusted for the family-wise error rate. PEC, preoperative evaluation clinic; MRI, magnetic resonance imaging; NPO, Nil per os.

Upon comparing patients whose MRI was canceled with those whose it was not, we found no statistically significant differences in gender, age, ASA-PS, or the time between the PEC visit and the same-day cancellation (Table 4).

Table 4. Demographic data of patients who were canceled or not canceled on the same day of the anesthesia-assisted MRI appointment during the period 2018–2019.

Demographic Data	Same-Day Cancellations	No Cancellation	OR (95% CI)	*p*-Value
Gender				
Male, *n* (%)	70 (53.4%)	714 (57.0%)	0.9 (0.6 to 1.4)	0.66
Female, *n* (%)	61 (46.6%)	538 (43.0%)	Reference	
Age, median [IQR]	3.4 [2.4 to 5.2]	4.0 [2.0 to 6.0]	1.0 (0.9 to 1.1)	0.72
ASA-PS				
I, *n* (%)	28 (31.8%)	280 (25.6%)	0.9 (0.4 to 1.7)	0.68
II, *n* (%)	45 (51.1%)	664 (60.7%)	0.6 (0.3 to 1.2)	0.63
III–IV, *n* (%)	15 (17.0%)	150 (13.7%)	Reference	
Visit to PEC	47 (35.9%)	555 (44.3%)	0.7 (0.4 to 1.1)	0.12

ASA-PS percentages were calculated among patients with available data (see text for details). OR, Odds ratio; CI, Confidence interval; ASA-PS, American Society of Anesthesiologists physical status; PEC, Preoperative evaluation clinic.

4. Discussion

This retrospective analysis showed a reduction in same-day cancellations for elective pediatric MRI procedures from 14.6% in 2013 to 9.4% in 2019. However, this trend is based on only seven annual data points and should be interpreted as a descriptive summary rather than evidence of a direct causal relationship. Nevertheless, this reduction is consistent with other investigations reporting 7% and 42% same-day cancellation rates, although before surgery and not MRI [10,17–20]. The same-day cancellation rate was lower than previously reported in children undergoing cardiac MRI [4] (9.4% versus 11.4%) and was similar to other recent studies [21,22], but more than twice that reported elsewhere [3]. It is noteworthy that definitions of cancellation reasons vary across studies, and some [3] measured cancellations only among patients who arrived at the hospital, excluding no-shows.

Our study showed that the same-day cancellation rate for anesthesia-assisted MRI remained higher (9.4% versus 3.5%) than for surgical services using the same PEC pathway in our institution [16]. Moreover, the PEC was primarily associated with decreasing patient-related cancellations (i.e., "no-show"). However, this association should not be interpreted as causation given the study's retrospective design, and it would not remain statistically significant after Bonferroni correction for multiple comparisons. Conversely, our prior investigation showed that the PEC reduced both system-related (e.g., list changed by the surgeon) and patient-related (i.e., "patient not NPO") cancellations [16].

Since the majority of MRI cancellations resulted from patient illness or no-shows, it is conceivable that patients undergoing MRI and presenting at the PEC with minor respiratory symptoms were not promptly rescheduled. In our institution, anesthesia-assisted MRI procedures rarely necessitate airway manipulation, which is known to be a risk factor for preoperative respiratory complications, particularly in patients with respiratory infections and undergoing surgical procedures [23]. As our dataset did not record the type of illness leading to cancellation, this hypothesis remains purely speculative and warrants future, more granular investigations.

Compared with the pre-PEC period, implementing a pilot PEC for 2 years significantly reduced same-day MRI cancellations (10.0% versus 13.1%). However, it must be noted that the comparison of PEC and non-PEC patients in 2018–2019 showed no statistically significant

difference in total preventable and possibly preventable cancellations (8.0% versus 10.6%). Although the PEC may result in better parental education and patient scheduling, cancellation rates may be institution- and service-specific, as supported by other publications [17].

Notably, the implementation of the PEC was not associated with a significant reduction in the incidence of cancellations for patients not NPO, which was the second most important cause of same-day cancellations in another MRI suite investigation [3]. Indeed, up to 80% of families may not understand the importance of preoperative guidelines, such as fasting [24].

Adequate patient preparation or effective administrative management can avoid preventable cancellations, such as those secondary to a lack of preoperative investigations or booking errors. Unpreventable cancellations, such as a lack of beds in the intensive care unit [10,11,25,26], cannot be foreseen.

Consistent with other publications [10,18,19,26], patient illness was the main reason for same-day cancellation in children. Although it has been suggested that acute patient illness represents a type of cancellation that could be mitigated through a preoperative consultation with the PEC [10,26,27], our study suggests that the PEC is ineffective in preventing it.

These results need to be contextualized within the existing framework of our institution's PEC. It included a multidisciplinary approach involving nurses, a pediatrician, and anesthesiologists. Other institutions implemented different measures, such as a dedicated telephone line to address issues over the weekend, which may also reduce preventable cancellations [10]. Our PEC has recently introduced telephone reminders 48 h prior to the scheduled MRI and favors telephone calls for chart reviews, limiting in-person visits to patients undergoing their initial scan or those presenting with complex comorbidities, such as metabolic disorders. While our PEC primarily reduced patient no-shows, alternative low-cost interventions for children undergoing anesthesia-assisted MRIs warrant consideration. Ultimately, our findings suggest that although the PEC plays a role, exploring complementary, less resource-intensive, and more cost-effective strategies may be equally important in reducing cancellations and improving efficiency.

Limitations

Our study has several limitations, primarily due to its retrospective, single-center design. The available data did not allow for a detailed assessment of specific aspects of the PEC that may have reduced same-day cancellations, and potentially important predictors may be missing. Patients selected for PEC were not randomized, which may have introduced selection bias. In particular, some physicians may have preferred the PEC visit over others, and certain families, based on their child's medical complexity, travel distance from the hospital, socioeconomic status, or previous hospital experiences, may be more likely to attend appointments. Due to the design of our collection system, this information was not gathered and included in the analysis.

In addition, each case was assigned a single primary reason for cancellation, which may oversimplify complex situations and introduce subjectivity into the categorization process.

Cancellation rates are also influenced by other external factors, including hospital type and distance, national healthcare system and policies, regional practice patterns, and patient demographics and socioeconomic status [3,21,22]. Omitting these factors may leave residual confounding in the association between PEC attendance and non-attendance and limit the applicability of our findings to other settings. Data regarding the distance from the hospital, socioeconomic status, and previous no-show history were not accessible for analysis. Likewise, 14.5% of ASA-PS information was absent, which limited the utility of the multivariable analysis conducted in 2018–2019, and therefore, such findings should be interpreted with caution. Because ASA-PS was unavailable for children who missed their

appointment or had their scan canceled before the anesthesiologist's evaluation, we could not retrieve this information from the medical records.

Finally, the study spans seven years, during which our PEC practice gradually changed. In the absence of distinct implementation timepoints, the downward trend in cancellations cannot be fully attributed to specific PEC processes; it may also be influenced by other institutional practices, improvements in scheduling systems, or any hospital-wide measures introduced during the study period.

5. Conclusions

In the time frame analyzed, children's illness and no-shows were the most common reasons for same-day cancellations of anesthesia-assisted MRIs at the Montreal Children's Hospital. Implementation of the PEC was associated with fewer same-day cancellations for elective pediatric anesthesia-assisted MRIs, primarily due to a reduction in patient no-shows. However, these associations do not imply causation and may reflect patient selection, concurrent institutional changes, and other unmeasured institutional or systemic factors. While the PEC may promote hospital efficiency, its impact on preventing certain cancellations appears limited. These findings highlight the potential value of exploring complementary, low-cost strategies to further reduce cancellations and improve efficiency in pediatric MRI services.

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Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Ethics Committee (Research Ethics Board) of McGill University Health Centre (protocol code # 2023-9242, approved on 4 December 2020).

Informed Consent Statement: Patient consent was waived due to the retrospective nature of the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author due to the patient's information confidentiality.

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

ASA-PS	American Society of Anesthesiologists physical status
CI	Confidence interval
ICU	Intensive care unit
IQR	Interquartile range
MRI	Magnetic resonance imaging
NPO	Nil per os
OR	Odds ratio
PACU	Post-anesthesia care unit
PEC	Preoperative evaluation clinic

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