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Nurse and Family Perceptions of Family-Centered Care in Phase I Recovery

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Abstract

Background: Including family in the pediatric post-operative post-anesthesia care unit (Phase I PACU) benefits children and families. Seattle Children's Hospital's (SCH) Bellevue campus PACU routinely involves families in Phase I but, despite the same mission that includes family-centered care, the Seattle PACU does not consistently involve families in Phase I. The purpose of this quality improvement project was to analyze nurse and family perceptions of Phase I and to propose a practice change that promotes family-centered care in the Seattle Phase I PACU.

Methods: A survey (11 to 31 multiple choice, Likert style and open-ended response questions) was offered to SCH PACU nurses working in both locations. The following variables were also compared between the two locations for day surgery tonsillectomy patients including: recovery room length of stay (LOS), American Society of Anesthesia (ASA) physical status classification, primary spoken language and seven SCH family experience survey (FES) questions.

Results: Seattle and Bellevue nurses agreed that family presence benefits children and families. Seattle nurses reported that child and environmental factors contribute most to having family in Phase I, but that family presence may negatively impact the PACU care environment and nursing workflow. Bellevue nurses were significantly more satisfied than Seattle nurses with their current care model. Recovery room LOS was significantly longer in Seattle than in Bellevue, but there was no significant difference in ASA level and no correlation between ASA level and recovery room LOS. Seattle had significantly older and non-English speaking patients. There was no significant difference between results for any of the FES questions.

Conclusions: Results of this project provided nurse perceptions of Phase I care and a foundation for implementing a practice change that would consistently reunite families with their children in Phase I across SCH sites.

Keywords: quality improvement, pediatric nursing, post-anesthesia care unit (PACU), family-centered care, family visitation.

Nurse and family perceptions of family-centered care in Phase I recovery

More than 10,000 children have surgery at Seattle Children's Hospital (SCH) each year in one of two surgery centers: Bellevue and Seattle (Seattle Children's Hospital, 2020). The two locations have different practices as to when families are reunited with children after surgery. In Bellevue, families are involved in the entire perioperative process. In Seattle, variability exists as to when and where families are reunited with their child after surgery. Individual nurses decide when to bring parents back to the immediate post-operative care area (Phase I), an inconsistency that has led to poor family satisfaction (Maurice, N., personal communication, June 25, 2020; Shafer et al., 2018).

Family presence in the pediatric recovery room is an intervention that has been found to maximize pain management, shorten recovery room length of stay (LOS), and reduce post-anesthesia emergence delirium (Byun et al., 2018; In et al., 2019; Khin Hla et al., 2014). Despite these advantages, nurses cite the following barriers to having family in Phase I: increased post-operative complications, worsened pain management, increased LOS, space constraints and privacy issues (Lee et al., 2015; Nadeau et al., 2016). Nurse perceptions of family-centered care in SCH's Seattle Phase I PACU have not been formally evaluated.

This project analyzes SCH nurse perceptions of reuniting caregivers with their children in Phase I recovery and compares family satisfaction and LOS between the two different locations to inform a process change in the Seattle PACU.

Theoretical Framework, Purpose, and Aims

Family-centered care, a concept that focuses on the involvement and importance of families in all aspects of patient care, was the theoretical framework for this project (Institute for Patient and Family-Centered Care, 2020). Family-centered care is foundational to SCH's mission (Seattle Children's Hospital, n.d.). The purpose of this quality improvement project was to compare nurse, family, and operational implications of family presence between SCH's two PACU locations. The aims were to: 1) analyze nurse perceptions of having family members in

Phase I recovery, 2) compare family satisfaction scores and recovery room LOS between locations and 3) develop a practice change proposal for the Seattle Phase I PACU.

Setting and Population

SCH, a tertiary pediatric medical center in Washington State, performs surgeries on patients aged newborn to 21 years old from the Washington-Alaska-Montana-Idaho region on two campuses. In Seattle, care is provided to children from all American Society of Anesthesiology (ASA) classification levels and children may either be discharged home (day surgery) or admitted to the hospital after surgery (American Society of Anesthesiology, 2020). The Seattle PACU is one large room with twelve patient bays, separated by curtains; patients are transferred to a separate physical location for ongoing hospital care and/ or discharge teaching (Phase II). The Bellevue surgery center performs day surgery procedures only on children who are otherwise healthy or who have only mild-to-moderate systemic disease (ASA level I or II) (Maurice, N., personal communication, February 2021). All post-operative care at the Bellevue site is provided in private patient rooms and patients do not physically move locations between Phase I and Phase II care.

Nurses from both locations were recruited for participation in the nurse survey portion of the project. To control for patient acuity and procedure type, FES, LOS, and ASA analyses were limited to day surgery tonsillectomy patients. With approximately 2,500-3,000 performed annually, tonsillectomies are one of the most common surgical procedures at SCH and may be performed at either location (Maurice, N., personal communication, August 10, 2020).

Literature Review

Research supports having family members reunited with their children in the PACU after anesthesia yet variability in practice exists, resulting in unclear expectations for families and children (American Society of Perianesthesia Nurses, 2019; Nadeau et al., 2016; Lee e al., 2015). Without a standard process in place, PACU nurses decide if/ when to invite family into Phase I; they may delay this reunion due to perceived risk of airway complications, inadequate

pain management, disruption of patient care, increased LOS, lack of space or poor patient privacy (Lee et al., 2015; Nadeau et al., 2016). The literature related to including family in Phase I care will be discussed in the following areas: family-centered care, emergence delirium, post-operative pain assessment, and family satisfaction.

Family-centered care

Family-centered care, an "an approach to the planning, delivery, and evaluation of health care that is grounded in mutually beneficial partnerships among health care providers, patients, and families," includes collaboration and active family participation in care (Institute for Patient and Family-Centered Care, 2020). Restricting family members from Phase I conflicts with family-centered care. Inconsistent processes may result in perceived lack of transparency, unshared decision-making and family not feeling informed about their child's status. The American Society of Perianesthesia Nurses (ASPAN) describes family visitation in this context and outlines some of the potential benefits of family presence in the PACU: decreased physiological complications, decreased anxiety/ anxiolytic use, reassurance to family members and an improved relationship between family and staff (American Society of Perianesthesia Nurses, 2019). Including families in Phase I is an application of family-centered care.

Emergence delirium

Emergence delirium is a state of agitation, disorientation, hyperactivity, and hypersensitivity that occurs in up to 50% of pediatric patients after anesthesia (Lerman, 2020). Emergence delirium is more common in toddlers and preschoolers and may be misinterpreted as pain, especially in young children who are unable to verbalize their emotions. Emergence delirium may also result in accidental removal of lines and drains, damage to post-operative dressings and incisions, uncontrolled mobility-related injuries, and unnecessary pharmacological interventions; some children also demonstrate behavioral changes and sleep disturbances up to two weeks after surgery after experiencing a difficult emergence from anesthesia (Hoch, 2019; Lerman, 2020; Mason, 2017).

The Pediatric Anesthesia Emergence Delirium (PAED) scale is a validated scale for the assessment of emergence delirium in children aged 18 months to 6 years. Clinicians use this scale by observing children for behavioral cues, scoring each item, and calculating a score to determine a level of delirium (Appendix A; Sikich & Lerman, 2004; Somaini et al., 2016). Using the PAED in conjunction with age-appropriate pain assessment tools may help distinguish between delirium and pain and improve post-operative management of emergence delirium and post-operative pain. Evidence also indicates that children who hear their mother's voice or have a family member in Phase I have lower PAED scores and may have a shorter PACU recovery period (Byun et al, 2018; Hai et al., 2020; In et al., 2019). These studies support the use of both formalized emergence delirium assessment and family presence in Phase I.

Pain management

While school-aged children and adolescents often self-report pain using a numeric pain scale and/ or a visual "FACES" scale, clinicians routinely use behavioral pain scales to calculate pain scores for younger children (Wong-Baker FACES Foundation, n.d.). The "Face, Legs, Activity, Crying, Consolability," (FLACC) scale, is a reliable, validated behavioral pain assessment tool that is widely used for these age groups (Merkel et al., 1997). Clinicians use the FLACC scale by observing the child, assigning a score for each category, and totaling the individual criteria for an overall pain score (Appendix B).

While parental presence may not necessarily reduce FLACC scores, pain scores of parents and children correlate closely and tend to be higher than scores calculated by clinicians; this discrepancy may result in undertreated pain (Brudvik et al., 2017; Byun et al., 2018; Hai et al., 2020; Khin Hla et al., 2014). When a young child is upset, it is also difficult to differentiate pain from generalized distress/ stranger anxiety/ fear without the help of a family member. Family presence in Phase I comforts the child, may provide a more reliable pain assessment, and result in improved post-operative pain management.

Patient & family satisfaction

Families demonstrate less anxiety and higher levels of satisfaction when expectations are clear, when they are part of the perioperative care process, and when they interact directly with their child's caregivers (Ehwerhemuepha et al., 2017; Espinel et al., 2014; Shafer et al., 2018). Less family anxiety may also assist children in reducing their anxiety level, leading to improved perioperative outcomes (Mason, 2017). Family presence in the PACU has the potential to positively impact patient experience and FES scores.

Methods

The results of this quality improvement project are not generalizable to other institutions and was determined to be exempt from Human Subjects Review by the Institutional Review Boards at both Seattle Children's Hospital and Seattle University.

Design

This project analyzed nurse, family, and operational aspects of reuniting families with their children in Phase I. Nurses working in both the Seattle and Bellevue PACUs were emailed a survey to assess nurse perceptions of reuniting families and children in Phase I. LOS was compared between locations to understand the influence of family presence on PACU LOS. A retrospective analysis of the hospital's existing FES was completed to compare family satisfaction levels with both care models. The results of these analyses were used to develop a practice change proposal related to reuniting families and children in the Seattle Phase I PACU.

Participants, Recruitment & Stakeholders

Nurses in both locations were the primary participants for this project. Bellevue leadership was sent information about the project which they then emailed to Bellevue PACU nurses. Seattle nurses were educated about the project at a shared governance council meeting and two staff meetings; scripted information was also included in two weekly perioperative newsletters (Appendix C). Using SCH's online staff directory, a list of Registered Nurses (RNs) working in the Seattle and Bellevue PACUs was compiled using the search terms "Recovery

Room" (Seattle) and "Bellevue Surgery Center" (Bellevue). Once the list was compiled, a copy was sent to leadership for review and all nurses on the list were sent a link to the survey via email. FES and LOS data was collected from existing survey results and electronic health record data. Other stakeholders included patients, families, recovery room leadership team members, anesthesia providers, certified nursing assistants, surgery center staff, child life specialists, and patient and family relations staff.

Data Collection

This project used data from two surveys and electronic medical record information (Appendix D). The results of these data sets were analyzed using quantitative and qualitative methods, resulting in a practice change proposal. All data that included nurse and/ or personal health information was stored on SCH's network for data security; patient identifiers were removed prior to opening files outside of the network.

The survey used by Nadeau et al. (2016) was adapted to assess nurse perceptions of having families in Phase I; permission was granted from S. Nadeau via email prior to survey distribution. The nurse survey was created in SCH's REDCap system, a Health Insurance Portability and Accountability Act-compliant, web-based data collection application (Appendix E; REDCap, n.d.) REDCap generated unique links for each participant, preventing nurses from submitting the survey multiple times; the participant identifier function was disabled to ensure anonymity. The survey was open for twenty-one days and two weekly, automated reminders were sent to participants who had not yet responded. Participation in this survey was voluntary.

Current Procedural Technology (CPT) codes were used to identify hospital encounter numbers for patients who underwent day surgery tonsillectomies and/ or adenoidectomies ("tonsillectomies") between October 1, 2019, and September 30, 2020. Hospital encounter numbers were used to generate FES data for a one-year timeframe prior to the transition to a new electronic health record system that was implemented in October 2020. After initial analysis, a low number of responses was noted for multiple items, so an additional year was

added for analysis for a total date range of October 1, 2018, through September 30, 2020. Seven questions were chosen for analysis as they correlated with the aims of this project. Open-ended FES comments were requested but were unavailable for analysis.

The same hospital encounter numbers were also used to generate a report with the following fields using electronic medical record data: encounter number, date of service, age, sex at birth, primary spoken language, race/ ethnicity, payor type, zip code, time child entered, and time child was discharged from the recovery room. LOS, primary spoken language, and patient age was extracted from this report for further analysis.

Due to a large number of day surgery tonsillectomy patients and the need for manual chart reviews, a random sample of patient records was used to compare ASA levels between locations. Using an assumed standard deviation of 0.5, 17 medical records per location was generated using SAS. ASA level was recorded for each of the records from anesthesia provider documentation entitled “surgery center pre-anesthesia evaluation” (Bellevue) and “pre-anesthesia evaluation” notes (Seattle).

Results

Nurse Survey

Quantitative analysis

The survey was sent to 127 nurses with an overall response rate of 48% (n=61). Incomplete surveys were excluded from analysis, resulting in a total of forty-three Seattle (46.7%) and twelve Bellevue (34.2%) analyzed surveys. Age, years of experience as an RN and years of PACU experience were compared using Fisher’s Exact test (SAS, Table 1). There was no significant difference in age (p = .29) or years of PACU experience at SCH (p = .61). Seattle nurses had significantly higher RN experience than Bellevue nurses (p = .01).

Table 1

Nurse survey participant demographics by location

Demographic characteristic	Seattle		Bellevue		*p*
	n	%	*n*	%	
Age (years)					
20-29	4	9	0	0	
30-39	15	35	6	50	
40-49	9	21	5	42	.29
50-59	8	19	1	8	
>60	7	16	0	0	
R.N. Experience (years)					
<1	0	0	0	0	
1-5	1	2	0	0	
6-10	11	26	2	17	
11-15	11	26	4	33	.01
16-20	4	9	4	33	
21-25	1	2	2	17	
>25	15	35	0	0	
PACU Experience (years)					
<1	5	12	2	17	
1-5	17	39	7	58	
6-10	13	30	2	17	.61
11-15	3	7	1	9	
>15	5	12	0	0	

Seattle and Bellevue nurse care model perceptions were assessed using four Likert scale questions; results were compared using the Wilcoxon Two-Sample Test (SAS, Table 2). Despite more Bellevue nurses strongly agreeing that children and families benefit from being together in Phase I, there was no significant difference (p = .13 and p = .23, respectively).

Bellevue nurses would want to be with their own child family member in Phase I more than Seattle nurses ($p = .009$) and were more satisfied with their current care model ($p < .001$).

Table 2

R.N. care model perceptions by location

	Seattle		Bellevue		*p*
	n	%	*n*	%	
Children benefit from having a family member in Phase I					
Strongly agree (1)	13	30	7	58	
Agree (2)	19	44	3	25	
Neutral (3)	10	23	2	17	.13
Disagree (4)	1	2	0	0	
Strongly disagree (5)	0	0	0	0	
Family members benefit from being with their child in Phase I					
Strongly agree (1)	13	30	6	50	
Agree (2)	19	44	4	33	
Neutral (3)	10	23	2	17	.23
Disagree (4)	1	2	0	0	
Strongly disagree (5)	0	0	0	0	
If a child in my family needed surgery, I would want to be with them in Phase I					
Strongly agree (1)	13	31	9	75	
Agree (2)	15	36	2	17	
Neutral (3)	11	26	1	8	.009
Disagree (4)	3	7	0	0	
Strongly disagree (5)	0	0	0	0	
I am satisfied with the current care model related to having a family member in Phase I					
Strongly agree (1)	4	9	9	75	
Agree (2)	16	37	2	17	
Neutral (3)	15	35	1	8	<.001
Disagree (4)	8	19	0	0	
Strongly disagree (5)	0	0	0	0	

Seattle nurses were asked twelve Likert scale questions about perceived barriers to reuniting family members with their children in Phase I. A list, rank-ordered by mean, outlined these barriers (Microsoft Excel, Table 3).

Table 3

Barriers that prevent Seattle nurses from reuniting family members with children in Phase I.

Survey Question	Rank	*M*	*n*
There is not enough space in Phase I for each child to have a family member present.	1	1.78	42
Having family members present in Phase I compromises patient privacy and confidentiality.	2	2.33	41
Having family members present in Phase I increases Phase I length of stay.	3	2.63	42
The noise level is too high when there are family members in Phase I.	4	2.88	41
Having family members in Phase I prevents me from doing my job.	5	3.36	42
It is difficult to have a family member in Phase I if they do not speak English.	6	3.40	42
I do not want family members to see their child in pain.	7	3.43	42
I feel pressured and stressed when a family member is at the bedside in Phase I.	8	3.45	42
It is unsafe to have family members in Phase I.	9	3.50	41
Children are more distressed when a family member is present in Phase I.	10	3.51	42
I am at greater risk of a lawsuit if a family member is present at the bedside in Phase I.	11	3.71	42
I am not confident enough in my practice to have a family member present in Phase I.	12	4.08	40

Note: Questions were Likert style with the following values: strongly agree (1), agree (2), neutral (3), disagree (4), strongly disagree (5).

Qualitative analysis

The nurse survey included six open-ended questions related to: factors that contribute to the decision to bring family members to Phase I, benefits of having family members in Phase I and drawbacks to having family members in Phase I. One open-ended question, "If you chose "never" [to the question 'in your current practice, how likely are you to reunite a family member with their child in Phase I'], please describe what contributes to your decision," did not have any response as no respondents answered "never" to the question.

Inductive content analysis was used to qualitatively analyze open-ended comments (Elo & Kyngas, 2008). Comments from all questions were reviewed for content and coded using color coding in Microsoft Excel. After initial coding, records were sorted by participant identification number to ensure that the same participant's feedback was not counted more than once. Comments were excluded from coding for the following reasons: comments related to Coronavirus-19 (COVID-19) infection prevention practices, comments related to anesthesia induction instead of recovery, duplicate reasons from the same participant and comments that were deemed to be outside of the purpose/ aims of this project.

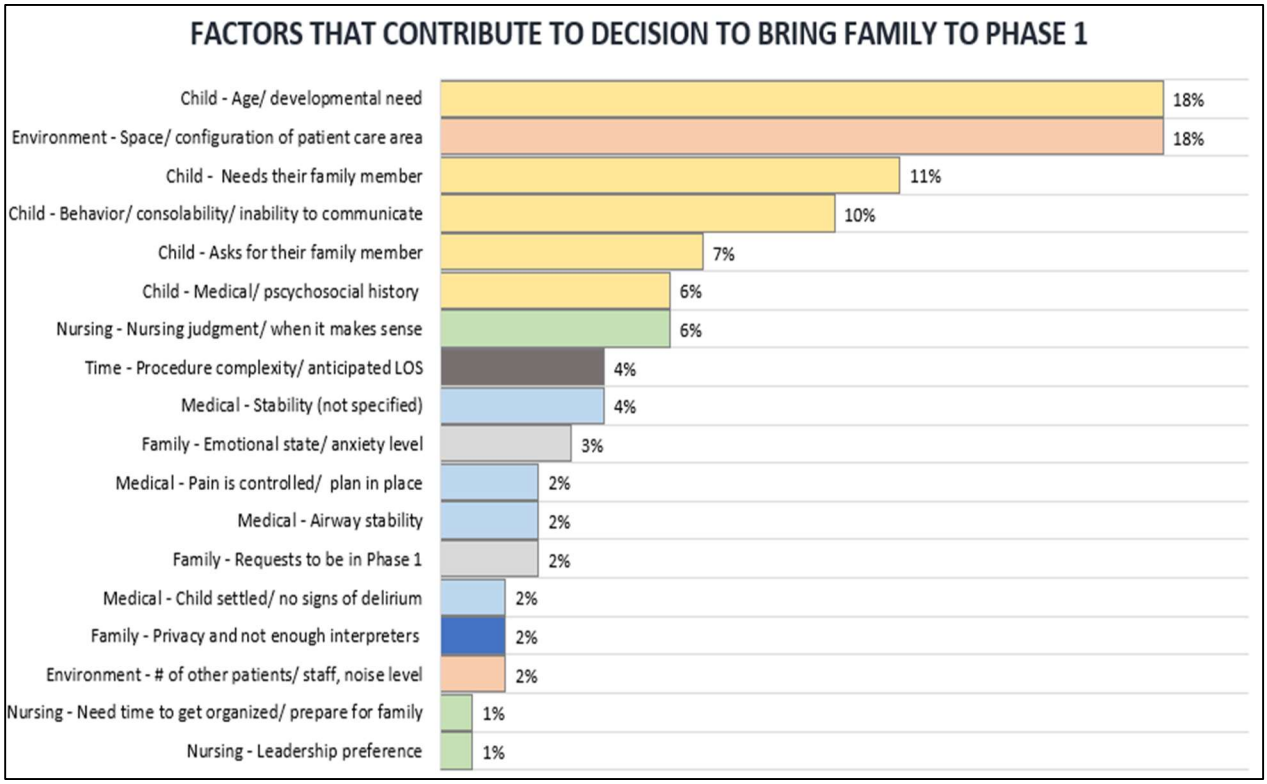
Themes were not exclusive to individual questions as there was crossover in responses between questions so, after initial coding, the information was sorted into three categories: 1) factors that influence the decision to bring family members to Phase I (Seattle nurses only), 2) benefits of, and 3) drawbacks to having family members in Phase I (Seattle and Bellevue nurses). Codes were then categorized into six overarching themes: child-related factors, nurse-related factors, environment-related factors, family-related factors, time-related factors, and medical-related factors (Appendix F).

Of the top six reasons that Seattle nurses bring family members to Phase I, five related to the child, including: age/ developmental level, demonstrating a clear need for family, asking for their family, inability to communicate with/ consolability without the family member, and

factors from the child's medical and psychosocial history. Nurses also considered the environment on the unit (noise level, number of patients) when making this decision (Figure 2).

Figure 2

Seattle nurses: Factors that influence the nurse's decision to bring family members to Phase I



When asked about the benefits of and drawbacks to having families in Phase I, Seattle nurses reported that, while family presence is good for children and their families, it may negatively impact nursing workflow and the overall patient care environment (noise level, privacy concerns). Bellevue nurses reported benefits to children and families and that having families in Phase I improves efficiency. Family anxiety was the leading drawback for Bellevue nurses and there were no comments that noted a negative impact on nursing workflow (Figures 3 and 4).

Figure 3

Benefits of having family members to Phase I.

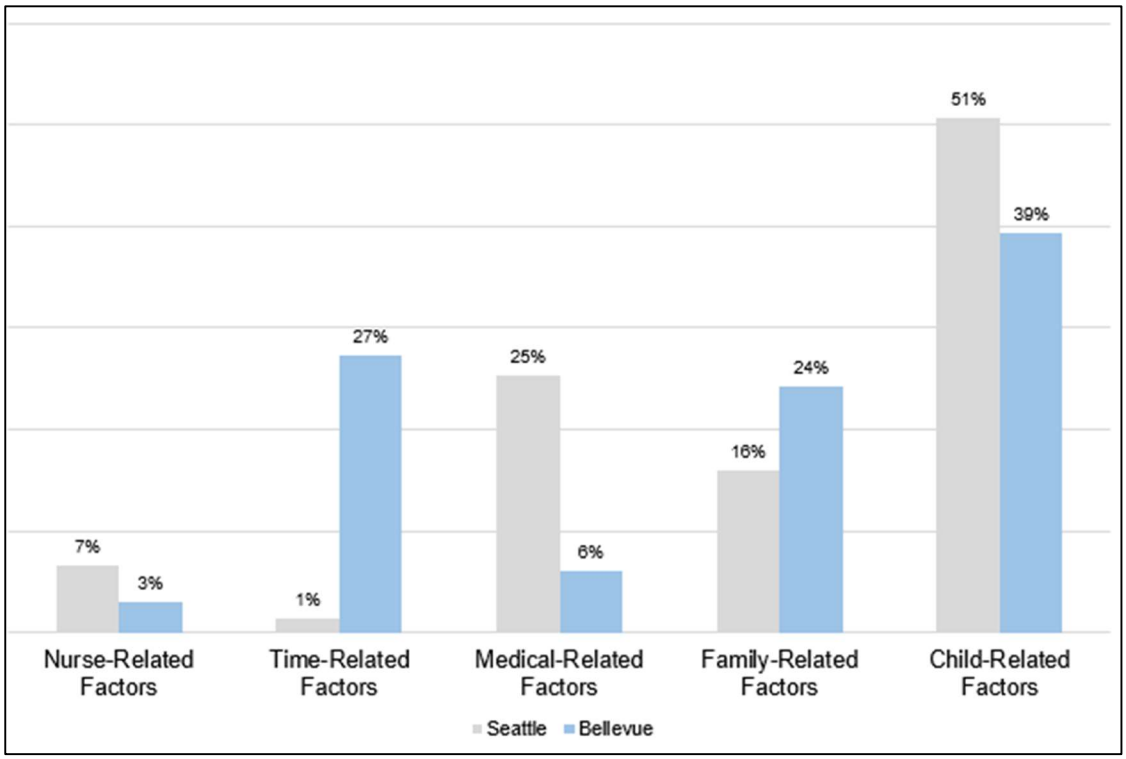
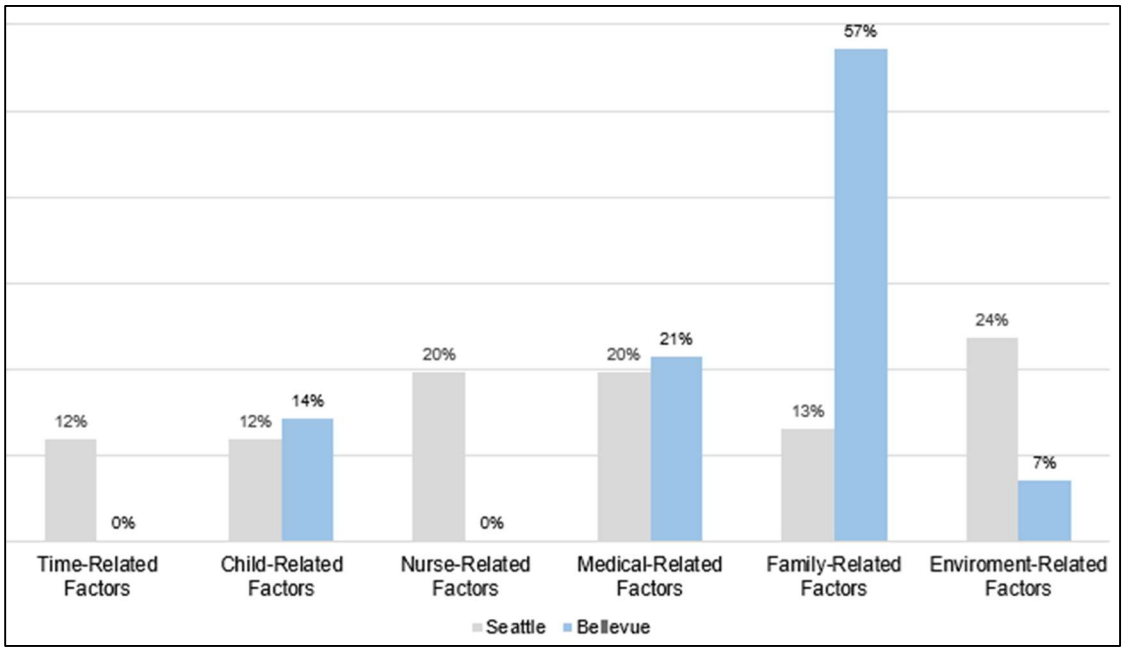


Figure 4

Drawbacks to having family members to Phase I.



Length of Stay & Patient Demographics

Two-sample, unpaired t-tests were used to compare age, LOS, and ASA level (SAS; Table 5). Recovery room LOS was significantly shorter in Bellevue (M = 79.8, SD = 23.9) than in Seattle (M = 130.2, SD = 41); t (288) = 19.35, $p < .001$). Patients were significantly older in Bellevue (M = 6.6, SD = 3.6) than in Seattle (M = 7.9, SD = 4.4); t (317) = 4.4, $p < .001$). There was no significant difference in ASA level between Bellevue (M = 1.76, SD = 0.44) and Seattle (M = 2, SD = 0.71); t (32) = -1.17, $p = .25$). A Spearmen correlation test (SAS) revealed no correlation between ASA level and LOS (correlation coefficient = 0.19, $p = 0.27$).

Table 5

Patient demographics, length of stay and ASA level by location (day surgery tonsillectomies).

	Seattle		Bellevue		*p*
	n	M	*n*	M	
Age (years)	262	7.9	1687	6.6	< .001
Length of stay (minutes)	261	130	1687	80	< .001
ASA level	17	2	17	1.77	.25

Primary spoken language for day surgery tonsillectomy patients also was compared between locations; 89.03% of Bellevue patients had English as the primary spoken language compared to 82.52% in Seattle. A Chi-Square test was used to compare populations; Seattle has significantly more non-English speaking patients and families than Bellevue (Microsoft Excel, $N = 1949$, $p = .01$).

Family Experience Survey

Seven FES questions were compared between locations. Using the Wilcoxon Two-Sample tests (SAS), no significant difference was noted between the results for any of the chosen questions (Table 6).

Table 6

Family experience survey results by location

Family experience survey question	Seattle	Bellevue	*p*
	n	*n*	
Question 6: Did you receive consistent information from all care providers during this visit?	65	392	.52
Question 7: Were you able to be involved in your child's visit as much as you wanted?	65	387	.15
Question 9: How would you rate your experience with outpatient surgery?	64	376	.44
Question 10: How likely would you be to recommend this facility to your family and friends?	63	369	.16
Question 16: Did you have confidence and trust in the nurses treating your child?	9	60	.63
Question 17: Did the staff do everything they could to help your child with their discomfort?	11	62	.93
Question 18: Did you have enough input or say in your child's care?	9	57	.28

Discussion

Seattle and Bellevue PACU nurses reported that having family members in Phase I is beneficial to children and families; most would want to be with their own child family member if surgery was needed. Multiple comments noted the following themes: children tell family members information they do not share with nurses, family members know their children best and families can often help distinguish between pain, fear, and anxiety.

Bellevue nurses, who have a consistent process already in place, are more satisfied with their current care model. Seattle nurses are less satisfied, but comments indicated that they may be ready for a practice change, relaying that having family members in Phase I could help build rapport with the family, improve communication, comfort the child, and reduce anxiety.

Despite the benefits and interest by some Seattle nurses to change current practice, some cited barriers that should be addressed as part of a practice change. Environmental issues, including space constraints, privacy considerations, and noise level, ranked in the top five barriers to bringing families into Phase I. Comments described some issues that arise when a family member is present: difficulty reaching phones, inability to ensure confidentiality with divider curtains, managing the noise level with extra bodies in an already tight space and feeling closed in with the curtains that are currently being used in Phase I.

Beyond operational concerns, nurses also noted family member presence may negatively impact nursing workflow and patient care. Some shared personal examples of times when family presence had compromised patient safety (ex: needing to attend to a parent who fainted while managing a sedated child) and when family questions prevented them from being able to focus adequately on the child. Currently, families are not provided detailed preoperative information about what to expect in Phase I, as family presence in Phase I is an exception. Before proceeding, educational materials and scripted information about patient safety, what to expect in Phase I and patient care priorities should be developed to review with families preoperatively. Proactive family preparation may answer many questions and reduce the impact of family presence on Phase I patient care.

FES results did not reveal any significant differences for the seven questions that were chosen for analysis. Open-ended comments were unavailable for review in the timeline of this project so in-depth family experience could not be fully evaluated.

Recovery room LOS was significantly shorter for day surgery tonsillectomy patients in Bellevue, indicating that family presence does not necessarily increase LOS. ASA level was also analyzed to assess whether higher patient acuity might contribute but, without a significant difference in ASA levels, patient acuity is not likely to be the primary cause for this difference. Seattle has a larger proportion of non-English speaking patients and families so the increased

need for language interpretation may impact overall LOS; this is an issue that should be further explored through additional data collection and analysis.

Other factors that may lengthen recovery LOS in Seattle include unit layout, provider mix and opioid analgesia use. In Seattle, there is a need to physically move patients from one location to another for Phase II; this is not an issue in Bellevue. There are resident surgical and anesthesia physicians in Seattle while Bellevue is staffed by attending anesthesiologists/ certified registered nurse anesthetists; having trainees involved in care may influence efficiency (Maurice, N., personal communication, February 2021). In Bellevue, tonsillectomy patients rarely receive opioid analgesia, but they are more commonly administered in Seattle; this may require longer patient monitoring times and increased LOS in Phase I (Christensen, P., personal communication, May 31, 2021). These additional factors should be considered when planning specific patient flow processes related to having families in Phase I.

Implications for Practice

The final aim of this project was to formulate a practice change proposal. To maximize the success of future implementation, the following elements are advised (Lee et al., 2015; Nadeau et al., 2016; White, 2014):

- Identify nurses who believe in the change to act as champions and engage other staff.
- Provide staff education specific to the evidence that supports the process change, including the results of this quality improvement project.
- Develop a plan for consistent pre-operative education for children and their families.
- Acknowledge staff experience and address unit culture/ readiness for adopting change.
- Create a process for staff feedback throughout implementation.
- Engage leadership and other stakeholders throughout planning and implementation.
- Consider timing of implementation amongst other unit-based and institutional initiatives.

Test of Change

The literature supports emergence delirium assessment and early reunion of family members with their child in Phase I, neither of which are currently practiced in the Seattle Phase I. Nurse respondents rated age as the leading reason for bringing families to Phase I and comments noted that having a family member present calms and provides emotional support to the child. Preschool aged children may benefit most from having a family member in Phase I recovery due to the increased incidence of emergence delirium, difficulty communicating needs, developmentally appropriate fear and anxiety and challenges distinguishing pain from distress.

A test of change model is recommended for this practice change proposal (Institute for Healthcare Improvement, n.d.). Rather than implementing a new policy for all patients, the recommended test of change includes delirium assessment for children aged 18 months to 6 years and a standard process that reunites family members in Phase I for all children 6 years of age or younger. To monitor success of this change, it is also recommended that to develop a visual system to track metrics including, but not limited to, process compliance, nursing feedback, family experience feedback, and length of stay.

Delirium Assessment

Mason (2017) asserts that post-anesthesia delirium assessment should be considered an additional vital sign; the PAED is the most widely used scale. Best practice would be to incorporate the PAED into the electronic medical record but, if this is not feasible, a simplified approach to delirium assessment could also be considered (Appendix G).

Preoperative Process and Family Education

Preoperative assessment, education and consistent practice are imperative to the success of this process. Family members should be provided information that will prepare them for what to expect in the Phase I environment, provide them anticipatory guidance for what their child will look like when emerging from anesthesia, outline nursing care priorities and describe emergency preparation processes if needed. While the standard process excludes children

older than 6 years old, nurses may assess that it would be beneficial for families to be present for some older children. In this case, preoperative nurses should directly communicate this plan with Phase I staff to promote a consistent experience for the family (Appendix H).

Postoperative Process

One drawback that nurses described was the impact on being able to do their job effectively with families present. Comments reflected concerns about being able to get assessments completed, feeling distracted by family member questions, having families not follow safety guidelines and planning in case of an emergency. To mitigate for these concerns, the proposal allows nurses to complete post-surgical handoff, perform an assessment, provide emergent care, and complete initial documentation prior to calling for the family. If Phase I reunion would delay transfer (ex: child is ready to transfer quickly), the nurse should reunite the family in Phase II or the inpatient room. Otherwise, the nurse should call for the family, prepare for their arrival and provide a brief orientation to the family upon arrival (Appendix I).

Next Steps

The results of this project and practice change proposal will be presented to staff nurses and additional stakeholders; PACU and shared governance leadership will be provided with a project planning logic model that outlines next steps and additional steps that should be taken as this project is more fully developed (Appendix J).

Limitations

Evaluation of the chosen FES questions did not reveal any significant differences between family experience between locations, but open-ended comments were not available for review in the allotted timeline for this project. Anecdotally, families of children undergoing day surgery tonsillectomy have reported lower family satisfaction comments for Seattle when compared to Bellevue (Maurice, N, personal communication, June 25, 2020). Due to this delay, future work should include analysis of open-ended comments to compare additional elements of family experience between the two locations.

Another limitation relates to nurse recruitment and survey completion. Bellevue leadership requested to email nurses for recruitment while Seattle leadership encouraged a wider recruitment strategy (staff meetings, newsletters, and survey email). Some nurses reported that they did not receive the link; these nurses had primary worksites outside of the recovery room/ work part time in the PACU so were missed when email lists were compiled. In the future, if a similar survey were conducted, measures should be taken to ensure a complete list of nurses and consistency between recruitment strategies to reduce recruitment bias.

Additional hospital circumstances may also have affected data collection. First, the Seattle location operating rooms were going through a significant infection control issue which impacted operations and, potentially, some of the data that were collected. Next, the nurse survey was rolled out within a couple months of the implementation of a new hospital-wide electronic medical record system which may have affected nurse participation. Finally, this project was conducted during the COVID-19 pandemic which may have affected interest in adopting a potential practice change.

Conclusion

Having a child undergo through surgery is a difficult experience for families; worry, fear and unclear expectations may increase anxiety for both the family and the child. Reuniting children with a family member after surgery has many benefits to the child and the family and creating a process that provides consistent expectations has the potential of improving family experience with the perioperative process. The Seattle PACU has some attributes that make it difficult to bring all family members back, but this project has demonstrated that nurses are open to change. With some focused work on removing barriers and including nurses in the design of a new process, potential exists to create a system that would reunite families with their children. Beginning with a small population of the youngest children would provide additional data upon which the Seattle PACU can build to enhance family-centered care in the perioperative care process.

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Appendix A

Pediatric Anesthesia Emergence Delirium (PAED) Scale

Behavioral assessment	Scoring Options
The child makes eye contact with the caregiver	4 – Not at all 3 – Just a little 2 – Quite a bit 1 – Very much 0 - Extremely
The child's actions are purposeful	
The child is aware of his/ her surroundings	
The child is restless	
The child is inconsolable	

Note: To use this scale, the clinician provides a score for each behavior based upon their assessment; scores are totaled for an overall delirium score (Sikich & Leman, 2004).

Appendix B

Faces, Legs, Activity, Crying and Consolability (FLACC) Behavioral Pain Assessment Scale

Category	0	1	2
Face	No expression or smile	Occasional grimace, or frown, withdrawn, disinterested	Frequent to consistent quivering chin, clenched jaw
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arches, rigid or jerking
Crying	No cry (awake or asleep)	Moans or whimpers; occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging, or being talked to, distractible	Difficult to console or comfort

Note: To use this scale, the clinician provides a score for each behavior based upon their assessment; scores are totaled for an overall pain score (Merkel et al., 1997).

Appendix C

Project/ survey information script that was emailed/ shared in perioperative staff newsletters.

My name is Anjanette Allard, and I am a nurse in the Recovery Room at the main campus. In addition, I work as a nursing instructor at Seattle University and working on my Doctor of Nursing Practice (DNP) for Health Systems Leadership.

Throughout my time working in the PACU, I have observed variability in practice related to the involvement of families in in Phase I care. From multiple conversations with my peers, there are a number of barriers that, to this point, have not been formally evaluated so, for my DNP project, I am developing a survey to assess and describe nurse perceptions and the barriers that exist related to involving family members in Phase I care.

The survey will be distributed via email in mid-January to all Seattle Children's recovery room nurses and participation is optional. By participating in this survey, your experiences and perceptions will provide insight to help address the inconsistencies that currently exist in the main campus Phase I area.

Thank you in advance for considering to participation in this project and please do not hesitate to contact me if you have further questions.

Anjanette Allard, MN, RN, CPN
DNP Health Systems Leader Student
Seattle University College of Nursing
allardj@seattleu.edu

Appendix D

Data collection procedures, sources, and instruments

Data collection procedure	Data sources/ instruments
PACU nurses were provided project information and that they would be invited to participate in an online survey.	• Email sent to Bellevue nurses. • Shared governance and staff meetings (Seattle) • Two weekly perioperative newsletters (Seattle)
A nurse survey was created and distributed to all Seattle and Bellevue recovery room nurses.	• System: Seattle Children's Hospital REDCap • Structured questions • Open-ended comments • Open for 21 days
A report was generated by Seattle Children's Hospital data analyst to capture recovery room length of stay for day surgery tonsillectomy patients in both locations.	• System: Electronic health record, "CIS" • Recovery room length of stay • Demographic information • Date of Service: 10/1/2018 to 9/30/2020
A report will be generated by Seattle Children's Hospital data analyst to capture family experience survey results for day surgery tonsillectomy patients in both locations.	• System: Seattle Children's Hospital's "Family Experience Survey" • Eight questions • Structured responses • Open-ended comments • Date of Service: 10/1/2018 to 9/30/2020

Appendix E

Nurse survey that was distributed to all Bellevue and Seattle recovery room nurses.

Nurse perceptions of family-centered care in phase 1 recovery

This project aims to analyze nurse perceptions of involving families in the main campus Phase 1 Recovery Room at Seattle Children's Hospital.

Participation is this survey is optional and your responses are anonymous.

It is possible that some questions may make you upset or feel uncomfortable, and you may choose not to answer them. If you do participate, you are free to skip any questions or discontinue your participation at any time. Although there is no personal benefit from taking part in this project, your responses may help us understand more about how nurses and families perceive family-centered care in Phase 1 recovery.

The Institutional Review Boards (IRB) at Seattle Children's Hospital and Seattle University have both determined that this study is exempt from IRB review in accordance with federal regulation criteria.

If you have further questions about this survey or my project, please feel free to contact me at allardj@seattleu.edu.

Sincerely,

Anjanette Allard, MN, RN, CPN

DNP Health Systems Leader Student, Seattle University College of Nursing

DEMOGRAPHIC INFORMATION

Your age:	◯ 20-29 ◯ 30-39 ◯ 40-49 ◯ 50-59 ◯ >60
Number of years that you have worked as a Registered Nurse:	◯ < 1 ◯ 1-5 ◯ 6-10 ◯ 11-15 ◯ 16-20 ◯ 21-25 ◯ >25
Number of years that have you worked in the Seattle Children's Hospital Post-Anesthesia Care Unit (PACU):	◯ < 1 ◯ 1-5 ◯ 6-10 ◯ 11-15 ◯ >15
Seattle Children's Hospital Surgery Center/ PACU in which you currently work:	◯ Seattle Campus ◯ Bellevue Campus ◯ I work in both sites of care
Permanent or temporary (ex: traveler) staff:	◯ Permanent staff ◯ Temporary staff

CARE MODEL PERCEPTIONS

Rate how much you agree/ disagree with the following statements:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Children benefit from having a family member in Phase 1.	○	○	○	○	○
Family members benefit from being with their child in Phase 1.	○	○	○	○	○
If a child in my family needed surgery, I would want to be with them in Phase 1.	○	○	○	○	○
I am satisfied with the current care model related to having a family member in Phase 1.	○	○	○	○	○

Please provide any additional information that you would like to share about related to having family member(s) in Phase 1 in your site of care: _____

SEATTLE RNs ONLY

Rate how much you agree/ disagree with the following statements:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Having family members in Phase 1 compromises patient privacy & confidentiality.	○	○	○	○	○
There is not enough space in Phase 1 for each child to have a family member present.	○	○	○	○	○
I do not want family members to see their child in pain.	○	○	○	○	○
Children are more distressed when a family member is present in Phase 1.	○	○	○	○	○
The noise level is too high when there are family members in Phase 1.	○	○	○	○	○
Having family members in Phase 1 prevents me from doing my job.	○	○	○	○	○
I feel pressured and stressed when a family member is at the bedside in Phase 1.	○	○	○	○	○
It is difficult to have a family member in Phase 1 if they do not speak English.	○	○	○	○	○

Having family members present in Phase 1 increases Phase 1 length of stay.	○	○	○	○	○
I am at greater risk of a lawsuit if a family member is present at the bedside in Phase 1.	○	○	○	○	○
It is unsafe to have family members in Phase 1.	○	○	○	○	○
I am not confident enough in my practice to have a family member present in Phase 1.	○	○	○	○	○

In your current practice, how likely are you to reunite a family member with their child in Phase 1?

- ○ Always
- ○ It depends
- ○ Never

If you chose "it depends," please describe what contributes to your decision: _____

If you chose "never," please describe what contributes to your decision: _____

Describe any other reasons that influence your decision to bring family member(s) into Phase 1. _____

PACU EXPERIENCE OUTSIDE OF SEATTLE CHILDREN'S HOSPITAL

Have you worked in a Pediatric PACU outside of Seattle Children's Hospital?

- ○ Yes
- ○ No

If you answered "Yes" to having worked in a Pediatric PACU other than at Seattle Children's Hospital, were family members routinely reunited with their child in Phase 1?

- ○ Yes
- ○ No

If you have worked in a PACU where family members were routinely reunited with their child in Phase 1, please describe your experience with that practice. _____

If you have worked in a PACU where family members were NOT routinely reunited with their child in Phase 1, please describe your experience with that practice. _____

BENEFITS/ DRAWBACKS/ ADDITIONAL INFORMATION

Describe any benefits that you feel exist to having family members present in Phase 1. _____

Describe any drawbacks that you feel exist to having family members present in Phase 1. _____

Please provide any additional information that you would like to share related to having family members present in Phase 1. _____

Appendix F

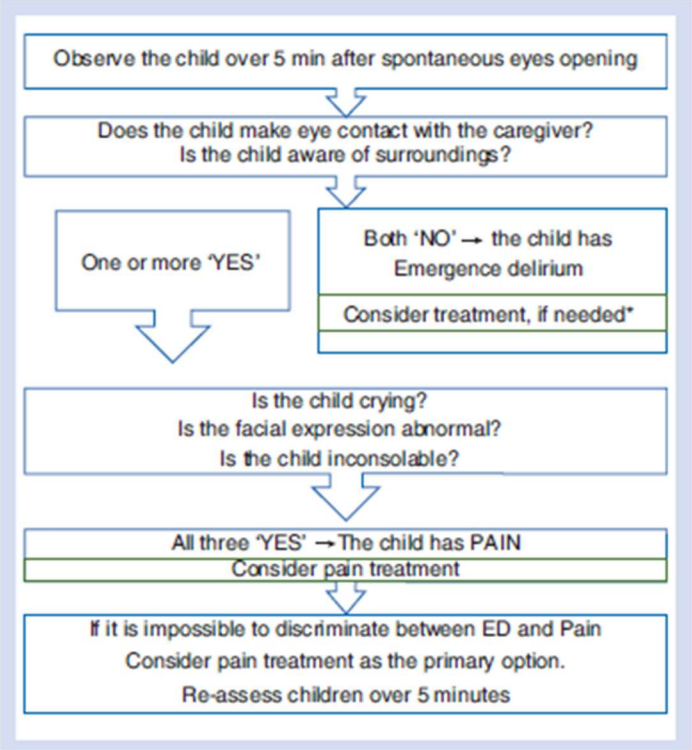
Nurse survey themes and example comments

Theme	Survey Question	Example Comments
Child	Factors that contribute to the decision to bring family to Phase I	"Age of the child, child preference" (Seattle)
	Benefits of having family in Phase I	"Parents know their kids better than we do" (Seattle)
	Drawbacks to having family in Phase I	"Some parents can exacerbate the pain. Some parents anticipate pain and would like to have narcotics unnecessarily" (Seattle)
Nursing	Factors that contribute to the decision to bring family to Phase I	"I still prefer to receive my pt's without the parent initially so that I can monitor the patient and get myself organized" (Seattle)
	Benefits of having family in Phase I	"Extra hands to provide diversional & emotional support" (Bellevue)
	Drawbacks to having family in Phase I	"Parents who talk incessantly or ask a lot of questions can impede focus and charting time, contributing to delay in transfer out of the PACU" (Seattle)
Environment	Factors that contribute to the decision to bring family to Phase I	"Such tight spaces where the computer is bulky and having to squeeze in tight spaces to reach for the phone, O2, supplies." (Seattle)
	Drawbacks to having family in Phase I	"I also have huge concerns about what parents would see in regard to other patients" (Seattle)
Family	Factors that contribute to the decision to bring family to Phase I	"If the parent is deeply anxious, I am hesitant to bring the parent back because it can be challenging to care for the patient at times"
	Benefits of having family in Phase I	"Harder on parents but ultimately with proper prep they are happier" (Seattle)

	Drawbacks to having family in Phase I	"If parents are particularly anxious about anesthesia and not well prepared it is not helpful… if the child wakes up in delirium it is very stressful for the parent too" (Bellevue)
Medical	Factors that contribute to the decision to bring family to Phase I	"We as nurses are trained to have everything settled and child calm before parents reunite" (Seattle)
	Benefits of having family in Phase I	"Parents are helpful in assessing pain and helping with comfort measures" (Seattle)
	Drawbacks to having family in Phase I	"More likely to have a parent that needs comforting which will take away from patient care" (Seattle)
Time	Factors that contribute to the decision to bring family to Phase I	"I encourage it if needed, but don't have family there if not needed for those short stays or if patient is ready to transfer or discharge fairly quickly" (Seattle)
	Benefits of having family in Phase I	"While patient is still sleeping, I go over discharge instruction this way I have parents' attention and when patient does wake up they can focus on their child not instruction (Bellevue)
	Drawbacks to having family in Phase I	"Phase 1 is billed by minute, and I feel our time is better prepared to get the families together in a phase 2 setting to receive juice and quiet time" (Seattle)

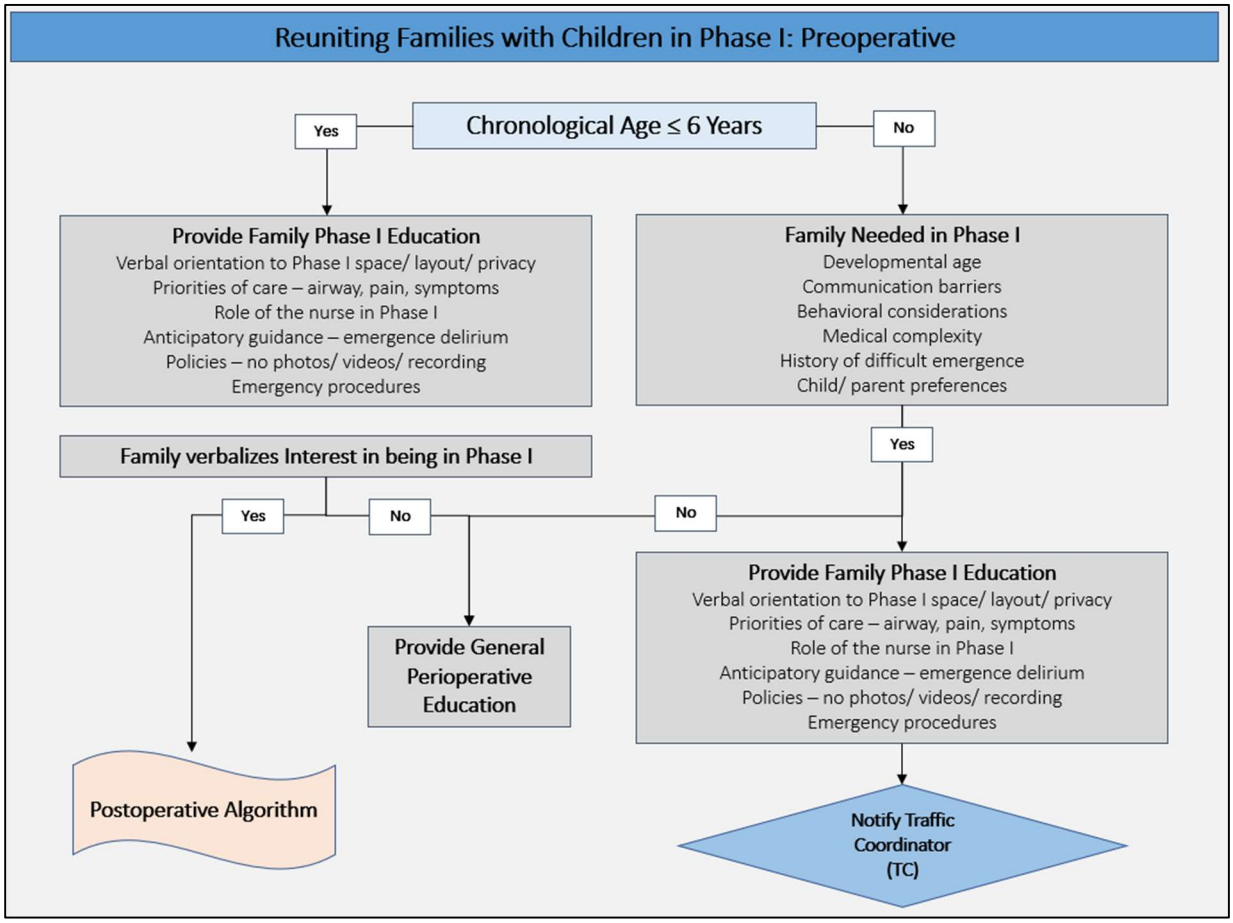
Appendix G

Example of simplified emergence delirium assessment (Somaini, et al., 2016)



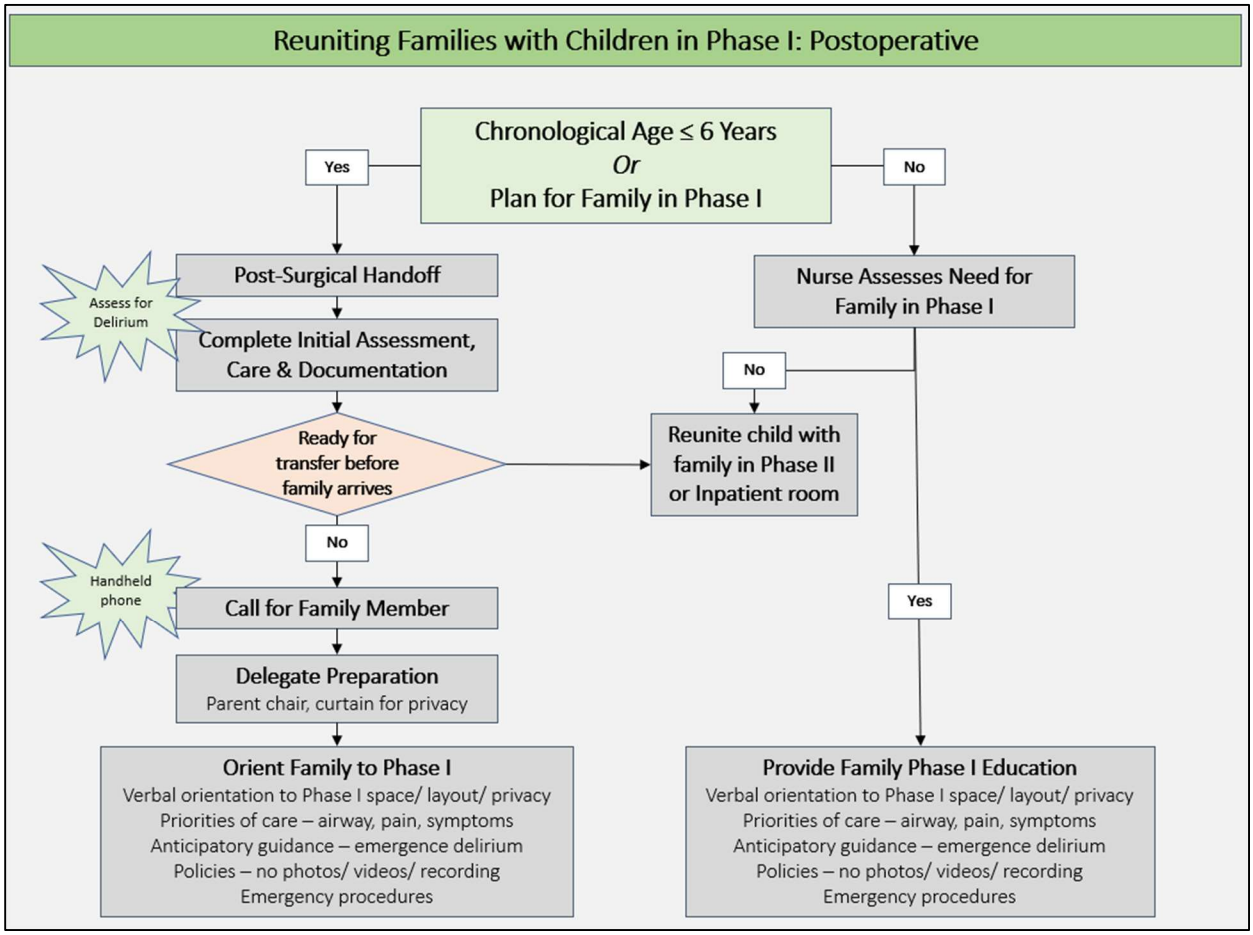
Appendix H

Reuniting families with children in Phase I: Preoperative practice algorithm



Appendix I

Reuniting families with children in Phase I: Postoperative practice algorithm



Appendix J

Logic model: Reuniting families with children in Phase I recovery