



# Barriers and Facilitators to Effective Pain Management by Parents After Pediatric Outpatient Surgery

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**Introduction:** The purpose of this study was to describe the experience of postoperative pain management from the perspectives of parents and identify areas for improvement.

**Method:** Forty parents or legal guardians of children aged 5–18 years who underwent outpatient surgery at BC Children's Hospital were recruited. Qualitative semistructured interviews were conducted to explore participants' experiences with the discharge instructions and at-home pain management.

**Results:** Overall, participants reported positive experiences with pain management. Facilitators in pain management communication included the combination of verbal and written instructions. Barriers to effective pain management included discrepancies in

the information provided by different health care professionals and the experience of stress at the time of pain management communication.

**Discussion:** The exploration of parent narratives highlighted the need for detailed information resources and patient-centered care surrounding pain management. The practical recommendations identified will inform future research and improve the quality of care for pediatric pain. *J Pediatr Health Care.* (2020) 34, 560–567

## KEY WORDS

Pediatric surgery, pain, pain management, communication

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## INTRODUCTION

Pain management after pediatric surgery remains a critical concern despite efforts in providing care information at hospital discharge. Failure to effectively manage pain can have several consequences for the child including longer recovery time, additional postoperative complications, sleep disturbances, behavioral changes, and in some cases, posttraumatic stress disorder and chronic pain issues (Ferland, Vega, & Ingelmo, 2018; Kotiniemi, Ryhänen, & Moilanen, 1997; Nuseir, Kassab, & Almomani, 2016). For outpatient surgical procedures, postoperative pain management takes place in the home environment and is usually carried out by parents or legal guardians (for simplicity, referred to broadly as “parents” henceforth). In these cases, it is vital that parents receive effective pain management instructions to provide appropriate care for their children at home.

The communication process about pain management between health care providers (HCPs) and parents is critical. How parents are instructed to administer pain medication may influence how parents understand their child’s pain levels (Kaminsky et al., 2019). In some cases, how pain management instructions are communicated may lead parents to overestimate their child’s pain and, as a result, administer a greater amount of analgesics (Kaminsky et al., 2019). At the other end of the spectrum, a lack of information exchange can be detrimental for parents who hold misconceptions about analgesia use and undertreat their child’s pain (Rony, Fortier, Chorney, Perret, & Kain, 2010). With few evidence-based guidelines on postoperative pain management and surgery often being a child’s first contact with opioids (Bass, Heiss, Kelley-Quon, & Raval, 2020), it is important that pain management information is communicated effectively between HCPs and parents. Information exchange between HCPs and parents in the first 24 hr after surgery is most critical. Within this timeframe, parents often experience high levels of distress and anxiety, which may interfere with their ability to communicate with HCPs and understand pain management instructions (Scrimin, Haynes, Altoè, Bornstein, & Axia, 2009). In addition, parents often connect with a variety of HCPs involved in their child’s surgery and may receive inconsistent views on pain management (Kankkunen, Vehviläinen-Julkunen, Pietilä, & Halonen, 2003; Rony et al., 2010).

Health literacy is also a key factor in pediatric pain management. Parents have pointed to a lack of information, inadequacy of communication, and poor timing of discharge instructions delivered by HCPs (Kankkunen et al., 2003; Nascimento et al., 2010), among other factors. Compounding these challenges, parents may have been exposed to misconceptions concerning pain treatment (Vincent et al., 2012), and are often concerned about adverse side effects from pain medication drugs (Batiha, 2014). In turn, under-medication can result in suboptimal pain care for the child at home (Batiha, 2014; Finley, McGrath, Forward, McNeill, & Fitzgerald, 1996).

Studies on pediatric pain management to date have focused primarily on assessment, measurement, and

effective treatment. Traditionally, pain in children is quantified by the intensity and rely on self-report pain tools. Others suggest using multiple sources of self-report measures in combination with behavioral and physiological observations (Bailey & Trottier, 2016; Cohen, Donati, Shih, & Sil, 2020; Lawson et al., 2019). As such, the involvement of parents in assessing pain in children contributes to effective pain management. As parents make most health care decisions for their children and are responsible for their child’s recovery at home, their experiences and insights of their child’s pain play a significant role in the pediatric pain patient experience (Longard, Twycross, Williams, Hong, & Chorney, 2016; Tutelman et al., 2019).

Critically missing from the body of evidence to support best practices in pain management communication and at-home pain management is in-depth empirical knowledge gathered through the lens of patient experience, with support from experiential knowledge from the perspective of nursing staff. The goal of this study is to describe the experience of postoperative pediatric pain management from the perspective of parents and identify areas for improvement in communication. Through the qualitative approach in this study, data about the experience of pediatric pain management provides a deeper understanding of the factors that affect the care of the pediatric patient community and their families.

## METHODS

### Participants

Ethics approval for this study was obtained from the University of British Columbia Children’s and Women’s Research Ethics Board. Forty parents and legal guardians of children aged 5–18 years (25 boys and 15 girls) who underwent outpatient surgery at BC Children’s Hospital between June 2019 and August 2019 were recruited for this study. The most common types of surgeries experienced by children included circumcision, hernia repair, tympanomastoidectomy, and adenoidectomy. Participants were included if the patients were cared for on the anesthetic care unit, discharged home on the same day of surgery, and were fluent in English. Excluded from the study were patients who were admitted after surgery to maintain consistency as pain instructions were provided differently in other units. Recruitment was carried out with the close collaboration and support from clinical nurse coordinators at BC Children’s Hospital. Parents of children scheduled for any type of outpatient surgery were contacted by a nurse a week ahead of their child’s surgery date regarding the details of the study. Only parents who expressed interest in the research and met the inclusion criteria were approached for the study and sent study details, consent, and assent forms by e-mail to review. Eighty-seven percent of parents and patients that were approached agreed to participate and provided written consent and assent, respectively, on the day of surgery before the procedure.

**TABLE. Interview guide themes and examples of questions asked**

Interview Theme	Examples of Questions
Pain management	Have there been any challenges so far in managing your child's pain?
Pain management resources	
At the hospital	Did your child receive any medication at the hospital to cope with the pain? How did you feel about the wait time to receive the medication?
At home	Was your child prescribed medication at discharge? Did you give the medication to your child as prescribed? Why or why not?
Reflecting on pain management resources	Are there any resources at home you have used to help manage your child's pain?
Reflection on pain management communication process	Did you feel that you understood the instructions given to you? How did you feel about the information provided by the nurse in managing your child's pain after leaving the hospital?
Areas of improvement around communication and pain management	What do you think could be improved about how the instructions were presented to you?

## Interviews

Interviews were conducted with parents as they played a primary role in their child's pain management at home. The interview guide was developed based on a review of the literature, the discharge instruction recordings, and in consultation with experts in nursing and surgical operations (T. P.), nursing and quality improvement in surgery (L. L.), lived experience (I. J.), and pediatric pain (C. T. C.). Questions focused on barriers and facilitators to pain management at home, pain management resources, communication of pain management instructions, and areas of improvement surrounding communication and pain management (Table). An initial sample ( $n = 3$ ) of the audio recordings were listened to by the principal investigator to ensure that the interview themes captured all the relevant information around pain management and the communication process.

During the first phase of this study, the research team coordinated with the nursing staff to audio record the verbal pain management instructions given to the families after surgery. The purpose of the recordings was to establish baseline data and capture relevant information about the nature of the instructions provided, such as the material covered in the verbal and written instructions and the interactions between nurses and families. However, the research team did not listen to the recordings before conducting the interviews to limit bias and ensure a consistent interview experience for all participants. The full analysis of this data is beyond the scope of this present report.

Following discharge in which parents were given pain management instructions by a nurse, the research team contacted the families 1–2 business days later, by phone. Semi-structured interviews were conducted, lasting up to 20 min, on the parents' experiences with their child's pain management and the pain management instructions provided. Interviews were audio-recorded on confirming participants' consent. A strength of this protocol is that the interviews were conducted at the time of pain management at home, thus eliminating potential issues related to recall.

All audio recordings were transcribed verbatim, and any identifying information of participants was removed from the transcripts. The transcripts were analyzed qualitatively

using the MAXQDA software (VERBI GmbH, Berlin, Germany).

## Qualitative Description and Reporting

The use of qualitative description in this study is aimed at providing rich narratives of certain experiences in which little knowledge exists (Sandelowski, 2000; Sandelowski, 2010). Grounded in the principles of naturalistic inquiry, a qualitative description is valuable for exploratory research to understand the experiences, perspectives, or values of the group being studied (Armstrong, 2010). This approach steers away from a priori theoretical deductions, therefore, allowing researchers to remain close to the descriptive data with the goal of understanding a phenomenon of interest through the perspectives of those who have direct experience (Kim, Sefcik, & Bradway, 2017; Sandelowski, 2010). By applying this method to the current interview data set, we were able to uncover detailed insights into the parents' experiences in managing their child's pain.

## Coding and Analysis

Using qualitative description methods, we conducted a descriptive content analysis of the parent interviews to uncover emerging themes regarding pain management after surgery. A preliminary coding guide was developed by an independent coder (M. T. T.) based on an initial 10% of the interviews ( $n = 4$ ), and a second coder (J. M. R.) applied the guide to the same set of interview transcripts to ensure reliability. The coding guide consisted of a hierarchy of data-driven themes and subthemes. The initial agreement between the two coders was 80%, and any disagreements or discrepancies were discussed and resolved through consensus. The coding guide was then further refined by the research team (M. T. T., J. M. R., and I. J.) through an iterative process. The resulting coding guide was applied to a previously uncoded subsample of the interviews ( $n = 4$ ), and the interrater reliability score between independent coders reached 88%. The final coding guide was used by a primary coder (M. T. T.) to code the remaining sample. The following data will be represented as follows: the number of documents with the code ( $n$ ) over the total number of documents ( $N = 40$ ), percentage (%).

## RESULTS

### Experience with Pain Management Instructions

Through the exploration of parents' experiences with the instructions on pediatric pain management, three factors play a role in their understanding: (1) barriers to understanding, (2) facilitators to understanding, and (3) questions and concerns about instructions. Parent narratives are presented, followed by their participant number.

#### Barriers to understanding

Some parents reported receiving different information from doctors and nurses or encountering different content in what they were being told, and what was written on the forms they had taken home (6/40, 15%). These discrepancies confused some participants. The inconsistency in the details of scheduling medication was captured by one parent's experience:

I was given slightly different versions of things, because the two forms I was given say two different times, so one showed 5 hour difference so to give it at 4:30, and one showed me to give it at 5:30. It was easy to follow if I made my own calculation but there was a difference in what I was told, and what was written down on the two pieces of paper, because one was for pain management and one was for care, but they both included the bit about the drugs. (P21)

The environment (6/40, 15%) and emotional state of parents (9/40, 22.5%) at the hospital impacted their ability to listen to the instructions presented to them. It was common for some parents to feel stressed at the time instructions were given, focusing their attention toward their child who had just returned from surgery:

You know as much as you acknowledge the trauma is really on your child and what is happening, as a parent though you are so invested into their well-being that you are not capable of hearing everything [ . . . ] You try to but there is going to be something that you are going to miss because you are fixated on something that is going on around you. Yeah and you are just kind of worried right, like you just want everything to be okay for them. (P32)

#### Facilitators to understanding

Most parents felt that the instructions provided were clear and easy to understand (39/40, 97.5%). Pain management instructions were better understood by parents when they were presented thoroughly or "step-by-step," as some parents explained (14/40, 35%), and provided in a written form. They articulated the importance of having the written information for reference (20/40, 50%), especially after being discharged home, as well as the nurse reviewing the information as they were explaining the instructions (19/40, 47.5%):

She went over the sheet that she gave me so that was good to have her talking with showing me where it was

written down [ . . . ] So, having them both at the same time as opposed to talking and then given a sheet afterwards, I think that is helpful. (P11)

Feeling prepared was also an aspect that aided parents' understandings of the expectations and needs after they left the hospital. This aspect involved being provided instructions and information presurgery (10/40, 25%) as well as not feeling rushed (5/40, 12.5%) to leave postsurgery.

Having the parents involved during the discussion of pain management facilitated their understanding, as they were given the opportunity to ask questions about the process or provide any feedback or experiences of pain with their child (11/40, 27.5%). When parents' insights were invited, they felt more equipped to go home:

I think she really explained it step-by-step and tried to collaborate with me and get my input on how I would be able to best manage it [ . . . ] I think that made me and it would make anybody else quite comfortable going home dealing with this thing. (P31)

Parents receiving follow-up phone calls from the hospital a day after discharge was also a helpful resource to touch base with the nurses on their child's progress (4/40, 10%). This resource allowed parents to raise any additional concerns or questions that they encountered on their own at home.

#### Concerns and questions about instructions

The main concerns and unanswered questions that arose following pain management communication were regarding the medication information (7/40, 17.5%), timeline to be discharged home (3/40, 7.5%), limitations of physical activity for their child postsurgery (3/40, 7.5%), and the expectations during the healing trajectory when they returned home (3/40, 7.5%): "There's so many—I don't know if it's a marketing thing—but Tylenol and Advil, there are so many different types out there. There's one for muscle pain, headaches, you know, it's like which Tylenol should I be getting?" (P8), "Is there a reason that they don't want to keep them longer or is it just that they are so confident that he is fine that they know he will be happy at home?" (P33), "[Child] was bouncing a ball, . . . and I don't really know if that is going to affect his pain or not" (P11), "I think it was also scary because it was the first day so we really didn't know what it could be like" (P17).

#### Pain Management Experience

Despite most of the parents reporting their understanding and the clear communication of pain management instructions, only a portion of the parents (14/40, 35%) expressed that their experiences with pain management were good overall. When analyzing the experiences of parents with their child's pain management, four main themes emerged: (1) experience with medication at home, (2) experience with nonmedication management at home, (3) barriers to pain management, and (4) facilitators in pain management.



## Experience with medication at home

One of the main resources in managing a child's pain was the medication given at home by their parents. All parents were suggested to provide Advil (40/40, 100%) and Tylenol (40/40, 100%) to manage a child's pain. There were no mentions of the use and prescription of opioids, though some parents expressed their fear of its use (2/40, 5%). At the time of the study, it was common practice at BC Children's Hospital to provide minimal to no prescription of opioid medication for outpatient surgeries. Approximately half of the parents reported that they followed the instructions on giving pain medication as suggested by the nurse (21/40, 52.5%), and in some cases, parents provided medication as they feel it was needed by their child (19/40, 47.5%). Most parents mentioned that the suggested or prescribed pain medication was adequate in managing their child's pain (33/40, 82.5%), and felt that the medication was easily accessible to them (27/40, 65.5%). If the pain became uncontrollable even with the suggested medication and doses, parents spoke about having the option to contact a doctor, nurse, or go to the hospital (10/40, 25%).

In terms of managing their child's pain at home, some parents emphasized a critical period (9/40, 22.5%) in which the first 24–48 hr were important in their child's pain management as they believed pain levels were the highest during this period. It was also important that during this timeframe parents knew what to expect, what they needed to do to handle their child's pain to monitor for signs and symptoms of pain (5/40, 12.5%), and to manage their medication accordingly:

I think the most challenged time is within the first 48 hours. Right now, we have already gone through 24 hours so far so the Advil and Tylenol still work normally very good. I believe it should be enough for the rest of the time. (P24)

## Experience with nonmedication management at home

In addition to medication, parents used several nonpharmacological methods to handle their child's pain. Examples of these methods included attending to the surgical wound and caring for the bandages and dressings (9/40, 22.5%), placing ice or heat on the area affected (13/40, 32.5%), engaging their child in activities as distractions away from the pain (9/40, 22.5%), managing their food (9/40, 22.5%), assisting their child in walking (6/40, 15%), bathing (4/40, 10%), and toileting (4/40, 10%). Over half of the parents provided more time for their child to sleep and rest at home as an effective method in managing the pain (22/40, 55%): "I think her being able to sleep like now that she's comfortably back in her own home makes a big difference" (P9).

## Barriers to pain management

Several challenges arose for parents as barriers to managing their child's pain, such as children who experienced other illnesses and symptoms (e.g., headaches, nausea, and fevers: 7/40, 17.5%) or had decreased sleep because of the pain (5/40, 12.5%).

The age of the child also played a role in the pain management process (3/40, 7.5%). Parents expressed the difficulty in controlling their younger children, given their abundant energy levels. By contrast, one parent noted similar challenges in gaining the control of their older child who was just as active:

[. . .] just because he is older and a lot of the kids who go [to the hospital] would be a lot younger and have the control of the parents . . . but he is not under my control at the moment obviously. (P11)

Other parents were simply overwhelmed with the various aspects of pain management and expressed the need to keep track of it to appropriately stay on top of the pain (3/40, 7.5%).

## Facilitators to pain management

Despite the challenges, certain factors allowed parents to manage their child's circumstances better. Parents who revealed that they had previous medical experiences (13/40, 32.5%), personally or with their children, were more familiar with what to expect during the surgical and healing process. They were less worried even with regard to managing the schedule of medications, as illustrated by the following participant:

But again, because I am a parent who has had a few of these surgeries or procedures, I am just aware of how the schedule works. If it was my first time, I probably would have asked a lot more questions. (P20)

Parents who had a medical education background or had family or friends in the field felt confident in managing their child's pain given their expertise and understanding of the processes and needs of their child (10/40, 25%):

I think that is also again partly due to the fact, or greatly due to the fact that my husband is a physician and I am a nurse so we felt very comfortable with what we should be doing next kind of thing [. . .] We have good knowledge anyways from our own working, dealing with our patients, etc. (P29)

## Recommendations for Improvement

Given their experiences, over half of the parents (21/40, 52.5%) provided recommendations for (1) improving pain management communication, (2) improving the overall experience with pain management, and (3) promoting patient-centered care.

### Improving pain management communication

Parents provided suggestions to improve the presentation of instructions in a way that would facilitate their understanding. The Box outlines all communication-focused recommendations as given by parents.

### Improving overall experience with pain management

Additional factors played a role in parents' overall experience with pain management outside of the communication

## BOX 1. Recommendations to improve pain management communication after pediatric outpatient surgery

### Content

- Provide more details of medication (e.g., types of food to eat with medication)
- Provide detailed written medication schedule for the first 24 or 48 hr
- Provide more information on the healing trajectory
- Include pictures with written instructions
- Organize written instructions into specific sections
- Provide instructions based on the season (e.g., specific instructions for winter and summer)

### Resource type

- Provide a child resource to share details of the pain management process with them
- Provide instructions through e-mail
- Provide take-home audio recordings of verbal instructions
- Provide reminders to parents for the use of written instructions at home
- Use technology to manage the scheduling and medication information for each child

### Instruction format and delivery

- Combine instructions from the doctor and the nurse into one take-home package
- Consider the sensitivity to timing when presenting instructions (e.g., before a child wakes or after a child has awakened and is alert)
- Offer translation services for verbal instructions
- Provide medication needed for the first 24 hr

process. One parent felt that setting expectations related to the specific surgery were needed for better personal preparation, and another expressed the need for improvement in other services supporting the surgical procedure such as the pharmacy at the hospital.

### Patient-centered care

In line with the recommendations that parents provided for improvement, patient-centered care emerged as a key factor in pain management (11/40, 27.5%). Parents expressed that each child was unique; therefore, care and instructions on pain management should be provided according to certain aspects of the child such as their age, pain tolerance threshold, and type of surgery: “[. . .] to kind of accommodate to each child based on what their pain tolerance or pain levels are and how they adapt and deal with certain levels of pain” (P23).

Parents also emphasized that as primary caregivers, they understand their children best, and including them in the decision-making process and care for pain allows a more specific and comprehensive plan to manage the pain experienced:

I know my child’s body better and there may be certain things that they need to be aware of that may or may not work with whatever suggestion that they are giving me. I mean to put your full trust 100% is great but you can still be aware that it may not be effective, it may not work, or you might need something else and it’s not whatever they said right. (P31)

## DISCUSSION

Qualitative analysis of the narratives of the lived experiences of pediatric pain management yielded insights about (1) the

importance of patient-centered care, (2) the specific barriers and facilitators in the process of pain management communication, and (3) the barriers and facilitators to pain management at home, which led to (4) recommendations for improvement.

Given the complexity of pediatric pain management, applying qualitative methods in research from the lens of patient experience can help capture nuances that may not have been easily captured in quantitative work. For example, research on the topic of pediatric pain commonly focuses on assessment and monitoring using tools such as the Numeric Rating Scale, Visual Analogue Scale, Pediatric Pain Questionnaire (Manworren & Stinson, 2016). These tools provide important value, for example, in identifying effective interventions and the magnitude of their impact. Other qualitative studies look at the experiences of families over the entire surgical process and perioperative intervention delivery (Rabbitts et al., 2017). These lines of evidence can be complemented by qualitative methods that consider the broader context of pain management, from postoperative instruction delivery and specific considerations such as the availability of pain medication to more subjective experiential factors such as feelings of empowerment in pain management. However, challenges can arise in distinguishing the different factors that contribute to the patient experience across their journey.

The present study highlights several strengths within the established communication process delivered by the nursing staff in the anesthetic care unit at BC Children’s Hospital. All participants received the same standard information from nurses, and the majority found the instructions to be clear and easy to understand. It was also beneficial when written instructions were reviewed during the presentation

of verbal instructions. As a result, parents expressed confidence in their ability to manage their child's pain as well as knowledge of resources they may access if they were encountering issues. These factors contributed to an overall positive framing of the patient experience of pediatric pain in our study.

Despite the overall positive experiences, some barriers were encountered during the communication process relating to both content and format. Inconsistent information provided by different HCPs confused parents in terms of the processes and expectations for pain management. Unmet information needs revolved primarily around medication information, return to physical activity, the healing trajectory, and the time to be discharged from the hospital. Some parents felt hesitant about medication dosage, administering multiple medications, or overmedicating their child. Consistent with other work in pediatric pain, we also uncovered concerns around side effects and opioid medication (McGrath & Finley, 1996). Taken together and in combination with results from other studies of postoperative pain (Karling, Renström, & Ljungman, 2002), these findings support the need for detailed educational resources about pain medication. Although the healing trajectory and ability to return to physical activity are two concerns that are highly variable and depend on the procedure, child, and other factors, our data support the inclusion of high-level information on these topics in the discharge instructions. Finally, several parents indicated some level of surprise at how rapidly their child was discharged. Providing clarity around the timelines ahead of the interventions may alleviate any concerns associated with this finding.

Feelings of being overwhelmed or stressed, at times, limited parents' abilities to process information received at the hospital as well as managing their child's pain at home. The design of the present study, which included the audio recording of discharge instructions, uncovered an interesting finding whereby participants expressed a desire to take the recording home. Although this request was not possible under the study protocol, as approved by the Research Ethics Board, the idea for discharge instructions to be recorded or prerecorded should be explored further.

One of the parents' recommendations to assist them with pain assessments and at-home pain management was the development and use of an eHealth tool, such as a mobile app or website. A recent systematic review of eHealth tools for pediatric pain assessment and management identified 53 such tools, but only 15 of these being available to parents as of 2018 (Higgins et al., 2018). The authors of the systematic review uncovered key system-level barriers that prevented the launch, adoption, and use of eHealth tools for pain management, such as lack of infrastructure and commercialization support (Higgins et al., 2018). Although the unregulated environment of eHealth resources (Robillard et al., 2015; Robillard et al., 2019) makes it difficult for HCPs and staff to endorse or promote specific tools, as these may change or become no longer supported, it may be valuable to explore potential options available to the patient

community on an ongoing basis and to raise awareness about the availability of high-quality tools for pediatric pain management where they exist.

Overall, parents experienced effective communication processes and positive experiences with at-home pain management. This finding may be due to sampling bias as day surgeries are usually minor, whereas longer or more complex interventions may have yielded different results. Nevertheless, useful insights were gathered from parents in this study, especially around barriers and facilitators to pain management with a focus on how it was communicated. Many of these factors involved features of either the child or the parent in terms of their previous experiences with surgery, medical knowledge, or age. Taken together, and because pain is subjective by nature, these findings support the need for patient-centered care to pain management, which includes recognizing the developmental stage of the child. Our results are well aligned with recent calls for patient-centered approaches to pain management that prioritize meaningful outcomes for each patient (Birnie, McGrath, & Chambers, 2012).

We acknowledge the limitations of the present study in addition to the sampling bias issue raised above. As different types of surgery were included in this study, parents and children may have received varying preoperative information from their appropriate surgical teams. This preoperative information was not recorded in this study and had the potential to play a role in the inconsistency of information across HCPs and participants' overall pain management experiences. The use of a validated pain measure tool, such as the Parents' Postoperative Pain Measure (Chambers, Finley, McGrath, & Walsh, 2003), might have allowed us to determine if any relationships exist between assessed levels of pain and pain management experience. The results were based on parent report and narrative comments alone and, therefore, difficult to confirm whether parents followed the pain management instructions as reported. Although parent demographics were not captured for this study, we acknowledge that this information could contribute to differences in their pain management experiences. Finally, this study did not include interviews with children on their experiences with pain. This limitation is salient in light of evidence that parents tend to underestimate their child's pain (Chambers, Reid, Craig, McGrath, & Finley, 1998). Future work will aim to complement the present findings with the children's experiences.

Despite these limitations, the body of work presented here has provided the opportunity to capture practical recommendations to improve the communication process around pain. These recommendations are being disseminated back to the patient community as well as to relevant staff and HCP groups in the hospital. HCPs such as pediatric nurses and nurse practitioners play a crucial role in the evaluation and improvement of educating children and families about postoperative home care and pain management. Future direction will include collaborative workshops with members of the patient community and nurses and staff, to revisit and improve discharge instructions and develop an ongoing evaluation framework. Taken together, the new knowledge generated by this study, and the

recommendations will inform future research in this field and will lead to an improved communication process at BC Children's Hospital and beyond.

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