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## Understanding both sides of the blood draw: The experience of the pediatric patient and the phlebotomist

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### Cover Page Footnote

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## Understanding both sides of the blood draw: The experience of the pediatric patient and the phlebotomist

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### Abstract

A phlebotomist's words and actions play a crucial role in success of a blood draw and in providing a supportive patient experience. This study examined use of comfort measures during a pediatric blood draw. The phlebotomist's use of soft words, positioning, distraction, coaching/support were observed with sixty children between 3-14 years of age during a blood draw. The level of fear /anxiety before and during the blood draw was recorded by an RA. The child's level of fear/anxiety was observed and reported by the parent/caregiver after the procedure. Comfort measures provided by phlebotomists, the parent/caregiver's report of their child's usual response, and the parent's level of fear with needles were compared. Comfort measures were offered inconsistently across age groups. Distraction was the most frequent measure (85%), followed by coaching/support (72%). Positioning was used more often with younger children (42%) than with older children (7%). Despite the high use of comfort measures, many children (56%) had levels of 2-4 fear/anxiety. The parent/caregiver often predicted their child's level of fear/anxiety. Phlebotomists can benefit from interdisciplinary collaboration opportunities and developmentally appropriate education, including comfort measures, to mitigate patients' pain and fear. Given the importance of creating a positive patient-family centered environment, introductions, and interactions to build a trusting rapport are crucial. Additionally, this research highlighted the importance of self-advocacy by pediatric patients and families. When providers ask and listen, and children are brave enough to share their voice...the human experience will improve on all sides.

### Keywords

Patient experience, needlestick pain, blood draws, phlebotomist, patient-centered care, health care, communication, pediatric patient care

### Introduction and Background

A needle-insertion for vaccinations and peripheral venous access is a common occurrence when providing health care to pediatric patients. There is a significant body of evidence indicating that regardless of the needle procedure or setting, children may experience pain, fear, and anxiety which can result in short-term suffering and pain sensitivity, maladaptive pain responses, and needle phobia.<sup>1-5</sup> A child who is extremely fearful and anxious when facing a needlestick may refuse to cooperate. They may also fear future health care procedures and become distrustful of health care team members and become non-compliant with future vaccinations.<sup>6-8</sup> Taddio and colleagues surveyed a large sample of parents and children about needle fear and immunizations and found that 7% of parents and 8% of the children said that fear of needles was the primary reason for not having vaccinations.<sup>9</sup>

A child's comfort is important to parents/caregivers but their own fear and anxiety with needles and pain may influence the child's fear and anxiety. Parents are often present during a blood draw and may find it difficult or unable to comfort their child during a needlestick procedure.<sup>10,11</sup> When a child is distressed, parents/caregivers and health care staff may experience helplessness and guilt which can make the procedure more difficult. Lack of preparation, fear, anxiety, and limited use of comfort strategies may result in an experience that is less than ideal for the child, the parents and the health care staff. The position statement on procedural pain management from American Society for Pain Management Nursing (ASPMN) states that "a procedure should be considered a biopsychosocial experience, for the patient rather than simply a task" for the health care professional and that patients of all ages should receive care for their fear, anxiety and pain.<sup>12</sup> A blood draw is not only a collection task for the phlebotomist, but also a procedure

that requires interventions to promote comfort and an experience that provides support and collaboration. A plan for a child undergoing a blood draw may include pharmacological, non-pharmacological, psychological, and educational supportive strategies. Non-pharmacologic strategies and psychological interventions for needlestick pain, venous access, anxiety, and fear have been studied and found to be beneficial.<sup>13-19</sup> These strategies can help decrease the associated fear and mitigate the pain of a needle stick or blood draw. Some health care professionals (HCPs) may not be aware of these strategies or have barriers to implementing them. Others may feel the child's anxiety may not warrant extra comfort measure. Despite the reported benefits of preparation, comfort measures and support during a procedure it was found that children being treated in an emergency room and undergoing venipuncture, finger sticks, and catheter placement often did not receive any these comfort measures.<sup>7</sup>

Blood draws are done in medical and laboratory settings and performed by trained professionals. As a trained HCP, phlebotomists must be able perform the insertion of needles, obtain the sample, and provide instruction and support to the patient. Phlebotomists who draw blood from children must also be able to provide care to decrease the fear, anxiety and pain associated with the blood draw. The words and actions of the phlebotomist play a crucial role in the success of the blood draw and in providing a supportive patient experience. A recent study examined phlebotomists' knowledge, experience and training related to their use of comfort techniques when performing pediatric venipunctures and blood draws.<sup>20</sup> Results indicated that while phlebotomists had experience, their training was focused on technique more than comfort measures and there was minimal if any child development information in their training. Phlebotomists also identified addressing child and parent anxiety as a barrier to their work and reported they often resorted to trial and error with various non-pharmacologic strategies.<sup>20</sup> As part of a system-wide effort to improve and individualize pediatric care associated with needlesticks, a team was formed to gather information about blood draws.

Since there is limited information about the phlebotomist's knowledge, skills and their effect on the child, this study focused on both sides of the pediatric blood draw with the goal of investigating the child's fear, parent/caregiver experience with needles, and the phlebotomist's use of comfort strategies during a blood draw. The study team included front-line phlebotomy staff, child life specialists, nurses, and a pediatric psychologist. Input from front-line phlebotomists, patient-family advisors from the children's hospital's patient experience advisory council and interdisciplinary healthcare staff was used to develop surveys, select observation scales, and prepare instructions

and consent forms. The goal of the study was to identify techniques phlebotomists can use to build patient-family centered rapport and increase comfort on both sides of the blood draw.

The goals of this study were to explore:

1. The association between a phlebotomist's self-reported child development education and the use of comfort techniques during their blood draw practice.
2. The relationship between observation of the child's fear and the phlebotomist use of comfort techniques.
3. The relationship between parent-reported experiences with blood draws, stress, and their child's fear.

## Methods

### *Setting*

This observational study was conducted in an ambulatory blood draw area within a regional children's and women's hospital embedded in a large Midwestern academic medical center. The hospital consists of 287 pediatric beds. Children and parents sit in a waiting area adjacent to a large area with individual blood draw spaces that have side walls and a curtain entrance. The phlebotomist calls the patient's name and walks with the child and parent from the waiting room to the blood draw area. The average number of ambulatory blood draws occurring in this setting per year is 42,100. At the time of the study, child life specialists were accessible for consult if requested by phlebotomy team, provider, or parent/caregiver. However, due to case load for the child life specialist it was not always possible for them to provide support. The study was reviewed and approved by the Institutional Review Board.

### *Participants*

*Phlebotomists:* Twelve phlebotomists (10 females and 2 males) from a total of 24.2 full time phlebotomists were recruited at a departmental staff meeting by the primary investigator. Participants signed a consent to participate in the research and completed a demographic survey which included self-reported knowledge, education, experience, and use of comfort measures with pediatric patients. Eight were trained on the job or through a certificate program. Four had educations at either a technical college, or from a 2- or 4-year degree school. Seven reported at least one child development course and two had a degree in a child development related field. Five phlebotomists reported "a lot" or "high level" of knowledge of comfort measures used with pediatric patients. Another five phlebotomists reported a "moderate" amount and two phlebotomists reported having a "slight" amount of knowledge.  
*Children and Parents:* A convenience sample of children between 3-14 years of age, accompanied by an English-speaking parent or adult, waiting for a scheduled blood draw, were invited by a trained research assistant (RA) to

participate in the study. Subjects were recruited over a 4-week period. If a child gave his/her assent to be observed during the blood draw, then the parent/adult was asked to sign a consent for the observation of the blood draw and for a parent/caregiver survey which was to be completed post blood draw. There were 60 children (33 females and 27 males). Twelve had no blood draw experience in the past six months, thirty-nine had “a few” blood draws, six had “a lot” and three had “too many to count.” Thirty-two (67%) of the children were under the age of ten and twenty-three (38%) were ten years and older. Of the parents/adults accompanying the child; 47 were mothers, 11 were fathers and two were others.

### **Measures**

*Fear Scale:* The Children’s Fear Scale (CFS) was used for observation of child fear during the blood draw by both the observer and the parent/caregiver participants. This scale was adapted by McMurtry and colleagues<sup>21</sup> from the Faces Anxiety Scale developed by McKinley and colleagues to measure anxiety/fear in adults in intensive care. The scale consists of a row of five gender neutral faces ranging from a neutral face show no fear (0), a little fear (1), a little more and more (2 and 3) to a face showing extreme fear (4). Scale and instructions are available for download:

<http://pphc.psy.uoguelph.ca/index.php/the'children'fear'scale/>

*Blood Draw Observation Sheet:* Comfort measures were listed and checked if offered and or used during the blood draw. The RA also recorded if the parent/caregiver or child gave any suggestions to the phlebotomist about what to do or how to help their child with the blood draw. The RA used the CFS to select a face that best represented the fear/anxiety observed in the child before and during the blood draw. As an additional observation of the environment of care, the RA recorded whether the phlebotomist introduced themselves at the beginning of the encounter with the child and parent/caregiver.

*Parent/Caregiver Survey:* This survey was completed by the parent/caregiver after the blood draw was finished. Using the same list of comfort measures that was used by the RA observers, parents/caregivers were asked to indicate the items that were offered and used during the blood draw. The parents/caregivers were also asked if they or their child made any suggestions for doing the blood draw. In addition, parents/caregivers were asked to indicate the amount of fear their child experienced with prior blood draws, fear during the blood draw and the amount of fear the parent experienced with their own blood draws.

*Phlebotomist survey:* An online 5-item Qualtrics® survey that included gender, phlebotomy training, general education, child development education, and knowledge of comfort

techniques that could be used during a blood draw was completed prior to the study.

### **Data Collection**

Prior to collecting study data, two RAs (undergraduate pre-medicine students) reviewed the observation materials, discussed child responses to needles and pain, and practiced observations with the nurse lead on the study team. After this training the RAs completed practice observations of blood draws to establish interrater reliability of the use of the CFS and the comfort measures checklist.

Recruitment of the subjects and signing of the consent was done by the RA in the waiting area of the blood draw clinic. The RA accompanied the child and parent/caregiver to the designated space for the blood draw. Fear scores for the child before and during the blood draw as well as the phlebotomist’s code were recorded by the RA. The purpose of assigning a number to each phlebotomist was to link the phlebotomist observation data to the blood draw observations for the same phlebotomist. The file with the identification numbers was only accessible by the study team. The RA also checked off the comfort measures offered and provided. Following the blood draw procedure, the RA accompanied the child and the parent/caregiver to the waiting room to complete their survey. After completion, the family was given a \$10 gift card. Confidentiality of subjects was protected by a secured database with no names or other Personal Health Information (PHI).

### **Results**

The small sample size of 12 phlebotomists prevented analysis of the association of their education with the use of comfort techniques, however 9 phlebotomists had some specific education related to child development. The phlebotomists introduced themselves to the child and parent/caregiver 58% of the time. All 60 blood draws were successful. The blood draw was completed in one attempt for 55 children, two attempts for 4 children, and one child required 3 attempts.

Some of the data was summarized using counts and counts with percentages. A McNemar Chi-Square test was used to determine the degree of agreement between the RA and parent/caregiver observations of comfort measures. To facilitate the analysis of agreement the comfort measures were organized into four categories: soft words, comfort positions, distraction, and coaching/support. See Table 1. The change in fear (no fear=0 to extreme fear=4) related to comfort items was used.

### **Use of Comfort Measures**

The twelve phlebotomists offered or provided 161 comfort measures to the 60 children in the study. A

**Table 1. Comfort Measures**

Soft words: used instead of harsh words (slide vs. stick; needles vs. tiny straw; jab vs. poke).
Comfort Positions: child on lap, sitting up, holding parent's hand etc.
Distraction: counting, singing, telling a story, bubbles, talking, electronic device (iPad™, phone), squeezing ball, coughing
Coaching/Support: <ul style="list-style-type: none"> <li>• Prepare child with step-by-step instruction</li> <li>• Explaining, words of support or comfort (take a deep breath, you seem nervous, I like how you sat still)</li> <li>• Called for Child Life support/assistance</li> <li>• Parent support and assistance</li> </ul>
Pharmacological and Non-Pharmacological Pain Interventions <ul style="list-style-type: none"> <li>• Numbing medication</li> <li>• Vibration Device (Buzzy™)</li> </ul>

**Table 2: Comfort Measures Offered/Used by Phlebotomists During a Pediatric Blood Draw**

Comfort measure	Research Assistant Observations N=60			Parent/Caregiver Observations N=60		
	%(n)	Patients <10 yrs.	10 yrs. +	%(n)	Patients <10 yrs.	10 yrs. +
Soft words	63% (38)	43% (26)	20% (12)	70% (42)	45% (27)	25% (15)
Comfort Positions	48% (29)	42% (25)	7% (4)	62% (37)	52% (31)	10% (6)
Distraction	85% (51)	55% (33)	30% (18)	58% (35)	35% (21)	23% (14)
Coaching/Support	72% (43)	52% (31)	20% (12)	53% (32)	42% (25)	12% (7)

*n* = number of children offered or provided the comfort measures in the category  
*N* = total number of children observed

vibrating device (Buzzy™) was used twice and numbing medication was never used. The comfort measures used, as observed by the RA and the parent/caregiver, were not significantly different (paired sample = 0.0 with a corresponding *p-value* of 0.5). Cohen's Kappa coefficient confirmed with the McNemar test and showed that the raters tended to agree. Parents/caregivers and RAs made similar observations of the use of soft words. There was a greater difference between the RA and parent/caregiver observations of the comfort items associated with distraction and coaching. Phlebotomists provided comfort positions to the children less than 10 years of age to a greater extent than for older children. Younger children

were more likely to require assistance with holding still. See Table 2.

More comfort suggestions were offered according to the parent/caregiver report than were observed by the RA. Parents/caregivers also reported phlebotomists honoring their comfort suggestions more often than observed by the RA. See Table 3. The post-blood draw report by the parents/caregivers about their suggestions for comfort may not reflect the specific number of suggestions, but an evaluation of the opportunity given by the phlebotomist to discuss or provide comfort strategies.

**Table 3: Comfort Measures Suggested by Parents/Caregivers and Children**

Comfort Measures	RA Observation	Parent/Caregiver Report
Parent/Caregiver suggested	6	14
Phlebotomist provided	5	13
Child suggested	6	11
Phlebotomist provided	6	10

**Children's Observed Fear**

The RA recorded the observed level of fear when the child entered the room and during the blood draw. When entering the room for the blood draw, forty-three (72%) of the children had a fear/anxiety level of 0 or 1 and 28% (17) had a fear level of 2, 3 or 4. See Table 4. During the blood draw twenty-six (43%) children were observed as having 0 or 1 fear and thirty-four (57%) had a fear level of 2, 3, or 4. Thirty children entered the blood draw area with 0 fear and 13 exhibited 0 fear during the blood draw. Twenty-four children (40%) were observed having a 3-4 level of fear/anxiety during the blood draw and children under 10 years of age appear to have had more fear as the blood draw proceeded.

The post blood draw survey completed by the parent included questions about how much fear/anxiety their child generally felt with blood draws. Table 5 shows the relationship between the parent/caregiver report of their child's usual level of fear and the fear observed by the RA. The parent/caregiver knew their child's fear response.

A comparison of the parent's/caregiver's report of their own fear of needles and the RA observed fear in their child is reported in Table 6. Fifty parents/caregivers (83%) reported having a level of fear/anxiety at 0, 1 or 2 in the past. Thirty-seven (74%) of the children of these parents/caregivers also had a 0, 1 or 2 level of fear observed during the blood draw. However, thirteen (26%) of the children of these parents/caregivers were observed to have increased fear to level of 3 or 4. Ten parents/caregivers reported their fear of needles at a level of 3 or 4 and six (60%) children of these parents/caregivers were observed as also having fear/anxiety at a level of 3 or 4. While it appeared that some of the children whose parents/caregivers reported more fear/anxiety with needles exhibit higher levels of fear, due to the small number of subjects and the inability to control past blood draw experience, it was not possible to determine a specific relationship between the parent/caregiver's report of needle fear/anxiety in the past and the fear/anxiety observed in their children.

**Table 4: Level of Fear Observed Before and During the Blood Draw Experience**

Fear Level	Total N=60		3-4 years of age n=10		5-9 years of age n=25		10-14 years of age n=25	
	Entering	During	Entering	During	Entering	During	Entering	During
0	30	19	5	1	12	5	14	13
1	13	7	3	3	3	-	6	3
2	7	10*	-	-	5	10	2	1
3	5	17*	1	4	3	6	1	7
4	5	7*	1	2	2	4	2	1

N= Total of children observed  
n= number of children in each of the age categories  
\*-Thirty four (57%) of the children had a level of 2,3 or 4 fear during the blood draw

**Table 5: Parent/Caregivers Estimation of Child’s Fear compared with RA’s Observed Child’s Fear During the Blood Draw**

Parent’s Estimation of Child’s Fear N=60	RA’s Observed Fear of Child During Blood Draw N=60				
	0	1	2	3	4
0 n=12	7	4	1	-	-
1 n=11	7	2	1	1	-
2 n=12	4	-	2	6	-
3 n=15	-	1	5	6	3
4 n=10	1	-	1	4	4

*N= the total number of estimations my parents and children observed.*

*n= the number of children parents estimated to have a specific level of fear*

*Arrows: Level of fear on the Children’s Fear Scale*

*Example: Twelve parents estimated child to have fear level of 0; seven had 0, four had 1 and one had a 2 level of pain*

*Shading indicates the fear levels that matched or were 1 level above or below the parents’ estimation of their child’s fear*

**Discussion**

The results of this observational study provided additional insights as to the phlebotomists’ child development education and their use of comfort items during a blood draw as well as the relationship of a parent’s fear on the child’s fear. While there was no study objective to determine how caregiving relationships were established, the observation that the phlebotomist’s introduction only occurred with 58% (36) of the patients is significant. This low rate of introduction could indicate a lost opportunity to establish a caring relationship with the child and parent/caregiver and identify individual comfort measures that might be beneficial to mitigate pain and fear. The additional education and knowledge about child development and comfort measures acquired by nine of these phlebotomists may have resulted in offering and providing a high number of comfort measures observed during the blood draws.

The most frequently offered/used comfort measures were distraction options. These measures can easily be incorporated into a blood draw procedure. Comfort

positions were provided to the children under 10 years of age to a greater extent than for older children. Comfort positions can be taught to phlebotomists and parents/caregivers can often assist in doing comfort holds for their child during a blood draw. Soft words were used with thirty-eight (63%) of the children. While many of the children were either offered or received a comfort measure during the blood draw, some were not offered or provided comfort measures. Post blood draw, parents/caregivers reported that they and their child offered more comfort suggestions which were honored more times than observed by the RA. The parent/caregiver survey was completed post blood draw and this data could be based on feelings about the overall experience and the communication with the phlebotomist.

Ten of the children had a fear/anxiety level of 2, 3 or 4 when entering the blood draw room, however this number increased to thirty-four having higher fear/anxiety during the blood draw. When looking at the effect of the comfort items on the child’s fear, there was no change 40-45% of the time when items were offered, and an increase of fear 24-31% of the time despite comfort items being offered.

**Table 6: Parent/Caregivers Fear of Needles vs. Observed Fear of the Child During the Blood Draw**

Parent's Fear of Needles N=60		Observed Fear of Child During Blood Draw N=60				
		0	1	2	3	4
n=22	0	6	7	3	5	1
n=18	1	9	-	2	4	3
n=10	2	1	-	4	2	3
n=6	3	2	-	1	3	-
n=4	4	1	-	-	3	-

*N*= total number of parents indicating their level of needle fear and children observed.

*n*= The number of parents indicating a specific level of pain

*Arrows*: Level of fear on the Children's Fear Scale

*Example*: Four parents indicate a 4 level of fear and three of their children have a 3 level.

*Shading*: Number of children who had the same fear level or 1 level higher than their parent's fear of needles

Children experiencing their first blood draw and those who may have had fearful experiences with prior blood draws may demonstrate more fear. Some of the children may have had prior experience that helped them develop strategies for handling the fear of blood draws and needles. A specific conversation with the child and/or parent/caregiver about strategies to help mitigate fear, anxiety and pain might encourage a self-advocacy approach. A plan made for the immediate blood draw could also be used with future needle procedures.

Parents/caregivers generally knew their child's fear response. Information about prior experiences may be helpful in planning comfort measures for each child. A conversation about what "helped" last time and planning for additional measures may result in less fear/anxiety. Response to needlesticks is an individual and unique response, and children learn patterns of behavior from their parents'/caregivers' experiences. Many children of parents/caregivers with 0-1 level of fear of needles were observed with high levels of fear/anxiety during the blood draw. It was not possible to determine a specific relationship between the parent/caregiver's report of their fear and the fear of their child. However, six children who

were observed with a fear level of 3 or 4 had parents who reported a 3 or 4 level of fear of needles.

### Limitations

The major limitation of this study was the small number of both the phlebotomists (12) and children (60). Using a more limited and older age range (8 -14 years) would have allowed for self-reports of fear, anxiety, and pain directly from the child experiencing the blood draw, rather than using the RA observations. Parents' observations were likely biased as compared to trained RA observers. However, only the parent/caregiver observations of offering/providing of comfort items, their report of their child's fear/anxiety with blood draws and their own fear/anxiety were used in the data analysis. The potential bias created by the RA on behaviors was considered a possible limitation. An additional limitation was not being able to adjust for children who experienced "many" vs. "first time" blood draws.

## Recommendations for Patient Comfort and Experience

### *Standards and Education*

The phlebotomists at this site used the collaborative experiences and data from the study to make changes to their work and improve the patient/family experience. The World Health Organization's guidelines for drawing blood includes introducing self, verifying the patient's name, observing for anxiety or fear, reassuring the patient, and asking what would make them more comfortable in the process.<sup>22</sup> When data about the frequency of introduction of self was shared with staff, immediate action was taken to make an improvement. The phlebotomy staff established introductions as part of their workflow and as the first step in a positive experience with a blood draw. The words and the conversations that health care professionals choose to have with patients and families matter. The conversations can either open or close the possibilities of hearing the child's stories and letting them help shape their health care experience.<sup>23</sup> Phlebotomists should be encouraged to engage the child and parents/caregivers in planning strategies to help the child with fear, anxiety, and pain. There is a relationship between the positive connections of health care workers' words with the patients and a positive patient experience.<sup>24</sup>

Following the study, the phlebotomists were asked to share their knowledge and skills as they started working on a list of "best words" to use with a blood draw. To expand the knowledge and skills needed for pediatric blood draws across the health system, a phlebotomy toolkit was developed and is in the pilot phase in the inpatient and outpatient blood draw locations of the children's hospital. The *Phlebotomy Toolkit* highlights age-appropriate strategies for distraction, comfort positions, family presence, and best words.<sup>10,12-19</sup> It also includes common pediatric blood draw scenarios that can be practiced as staff development training. Any organizational focus on using evidence-based approaches to reduce needlestick pain requires a comprehensive education program designed to reach all levels of staff. Printed materials about needlesticks and blood draws such as posters, and website educational materials can be helpful for children and their parents.<sup>10,25</sup> The findings of this study can also be used as a stimulus for the phlebotomy training to include child development, age-appropriate comfort strategies for blood draws and patient-family centered practices. Laboratory settings may use these materials and study findings to develop patient-focused strategies that can be incorporated into daily operations. Orientation and continuing education on patient comfort strategies will increase the phlebotomist's skill at decreasing the child's fear and pain, as well as potentially decreasing their own stress. See Table 7 for recommendations on standards and education.

### *Patient Experience*

A blood draw is a biopsychosocial experience for the child rather than a 'simple task' for the phlebotomist. A blood draw can be scary and painful and younger children are more likely to have higher fear/anxiety than older children. All children can benefit from an individualized needlestick procedure plan which includes comfort measures to mitigate fear/anxiety and pain. Some hospitals, clinics and laboratories have established policies and standardized approaches to reduce needle pain.<sup>10,13,25,26</sup> These standard approaches often include numbing the skin, comfort positioning and age-appropriate distraction. Results of a randomized controlled study of 120 children indicated that balloon inflation, ball squeezing, and coughing were effective in reducing fear and pain during a blood draw.<sup>19</sup> Easy to use and effective comfort strategies can be incorporated into the blood draw procedure.<sup>27</sup> An individualized needlestick and procedure plan was developed at this pediatric hospital<sup>28</sup> study site and is now included in the patient's electronic medical record (EMR). Improvements to the EMR system have facilitated access to individual patient plans by phlebotomists. It is expected that this increased access will improve continuity, caring and comfort while further supporting the child and family experience. Changing practice can be slow, however simply asking the child or the parent what could be done to help manage the fear, anxiety and pain with a blood draw can be the first step initiated by any health care professional. Parents know their children and should be encouraged to make suggestions or ask for a specific strategy, i.e., count, look away to help decrease fear and anxiety. It would be beneficial to have children and their parents/caregivers discuss the process and learn about or practice strategies prior to the blood draw.

Interdisciplinary collaborations to decrease needle pain and the results of this study supported the integration of a dedicated Certified Child Life Specialist as part of the hospital's phlebotomy team. The child life specialist provides opportunities to practice comfort measures with timely coaching for children, adults, parents/caregivers, families, and phlebotomists.<sup>29</sup> While this resource is not always available to every health care setting, there are ways to incorporate available patient and family centered care elements with blood draws. Supporting an open approach of listening to the patient-family experience and suggestions supports compassionate care and builds stronger patient, family, and staff partnerships to achieve more comfortable and satisfying care. Children should have an opportunity to learn techniques to help with fear, anxiety and pain associated with blood draws as well as learn how to advocate for assistance and comfort. Humanizing health care begins with recognition of the fact that although this is a necessary procedure it is vital that caring and comfort is part of the blood draw experience. As a health care team member, phlebotomists have a key

**Table 7: Recommendations for Standards, Education and Patient Experience with Blood Draw**

<b>Strategies for Improving the Child/Family Experience with Blood Draws</b>
<b>Standards and Education</b>
<p><b><u>Phlebotomists</u></b></p> <ol style="list-style-type: none"> <li>1. Education and training will include child development and age-appropriate comfort measures.</li> <li>2. Incorporate strategies for a positive child/family experience with blood draws.</li> </ol> <p><b><u>Health Care Professionals</u></b></p> <ol style="list-style-type: none"> <li>1. Consider a blood draw to be a biopsychosocial experience and children should receive care for their fear and anxiety.</li> <li>2. Attend education programs and incorporate comfort strategies into personal practices.</li> </ol>
<b>Improving the Blood Draw Experience</b>
<p><b><u>Health Care Systems and Organizations</u></b></p> <ol style="list-style-type: none"> <li>1. Develop and implement policies and procedures for all staff to use evidenced based approaches to reduce fear, anxiety and pain with blood draws and needlesticks.</li> <li>2. Provide comprehensive education on strategies for improving the patient/family experience with blood draws/needlesticks.</li> <li>3. Develop and provide website/written materials and interactive resources for parents/caregivers and children/teens to learn about needlestick procedures and practice coping strategies to prepare for procedures.</li> <li>4. Explore opportunities for additional quality and research studies.</li> </ol> <p><b><u>Health Care Professionals</u></b></p> <ol style="list-style-type: none"> <li>1. Incorporate patient and family care elements into the blood draw experience.</li> <li>2. Initiate conversations and choose words to engage children and their parents/caregivers in planning strategies to help with blood draws/needlesticks.</li> <li>3. Use patient centered/individualized plans with blood draws/needle procedures to document history, preferences, and coping strategies.</li> <li>4. Provide opportunities for children/parents to learn about blood draws and how to advocate for specific comfort measures.</li> </ol>

role in managing fear, anxiety and pain during blood draws.

## Conclusion

This observation study created an opportunity for phlebotomists to partner with health care colleagues, learn from patient/family experiences and improve their practice with pediatric blood draws and supported the organizational goal to decrease needlestick pain and fear/anxiety in children. The data supported the benefit of child development knowledge, the use of comfort measures, the expansion of an individualized poke and procedural plan, and the integration of a dedicated Child Life Specialist on the phlebotomy team. The findings from the study can be a stimulus for changes in phlebotomy training and daily operations. Exploring the pediatric blood draw experience from both provider and patient sides of the draw has identified the need for phlebotomists

to initiate caring and comfort measures from the beginning of the encounter. Implementing patient focused strategies into daily routine practice will help decrease the fear, anxiety and pain a child experiences during a blood draw.

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