

THE EXPERIENCE OF ACUTE PAIN IN THE HOSPITALIZED
YOUNG CHILD: A QUALITATIVE STUDY

by

ROBERTA WOODGATE

A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

MASTER OF NURSING

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ABSTRACT

The purpose of this qualitative study was to: describe how young children respond to the experience of acute pain in a hospital setting, identify factors influencing children's responses, and explore meanings associated with the children's responses.

A sample of eleven surgical pediatric patients, two to six years of age, were followed during their course of hospitalization. Their families and hospital staff caring for them were also included in the sample.

The design incorporated tenets from ethnography and grounded theory. Triangulation of data collection methods included: participant observation, semi-structured face to face interviews, play interviews, hospital chart reviews, and use of a reflexive journal. Data analysis was based on the constant comparative method.

Analysis revealed that the pain experience determined how hospitalization was experienced overall by the children. When in pain, the children were less likely to feel or act like themselves. "My hurts" emerged as the basic psychosocial problem. "Getting better" was the process children used to deal with the pain. Strategies used by the children included: "hiding away," "fighting it," and "making it good." Factors affecting the children's experiences included: who the child was (i.e., "who I am"), how others "took care," and "things"

in the environment which made the children feel either "good" or "bad." In the process of "getting better" there were four possible phases that the children experienced.

Implications for nursing practice, education, and research based on the study findings were discussed. The study revealed the importance of providing more support not only to children experiencing pain, but also to the families of the children. Increased curriculum content related to pediatric pain in both nursing and medical education is also needed. Further testing of themes and concepts generated from this study is necessary to advance theory development on childhood pain.

DEDICATION

This thesis is dedicated to Samantha, Adam, David, and all the other children who shared their experiences with me and helped me to understand what being in pain meant for them. Because of them, pediatric nurses will begin to understand and promote quality human experiences!

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CHAPTER I

OVERVIEW OF THE STUDY

Introduction

This chapter outlines the purpose and research questions addressed in this study. A discussion of the theoretical underpinnings that guided this study is provided and major concepts are defined. Rationale supporting the need for the study, as well as choice of conceptual framework, is also identified.

Statement of the Problem

"Pain is one of the universal experiences - expressions of pain know no language barrier" (McCaffery, 1972, p.1). Although this universality exists, the experience of pain is still not adequately understood. This is especially true for hospitalized young children in pain. Relatively little is known about how this population experiences pain (Beyer & Knapp, 1986; Dilworth, 1988; Stevens, 1990).

Part of this lack of understanding can be attributed to the very nature of pain, as pain is described as the most complex of human stressors. "It is a multidimensional phenomenon that encompasses physical stimuli, autonomic changes, and sensory physiology, but also involves cognitive functions, affective states, and behavioural phenomena" (Ross & Ross, 1988, p.1).

Most significant, is the unavoidable fact that the experience of pain is a private, personal event, which cannot be truly measured, but only inferred from the person's verbal and non-verbal behaviour (Loeser, 1990). This inherent subjective quality results in problems both for the researcher studying pain, and for the health care professional assessing the individual's pain.

Appraisal of pain in young children is even more difficult and is attributed to their level of cognitive development which has a notable influence on children's perceptions and reports of pain (McGrath & Craig, 1989; Smith, 1976; Varni, 1990). Young children's lack of experience with pain and decreased language skills may prevent them from sufficiently expressing what they are feeling. A host of additional factors such as illness, separation from parents, fear, and anxiety also may compound and conceal pain experiences (Aradine, Beyer, & Tompkins, 1988). Moreover, the notion that adults may be relatively amnesic about how they experienced the world as children (Craig, Grunau, & Branson, 1988), complicates matters, and adds to the challenge for adults to understand childhood pain. Another barrier is the lack of well validated pain assessment tools (Beyer & Byers, 1985; Beyer & Knapp, 1986; Beyer & Wells, 1989; Jeans, 1983).

The difficulty associated with understanding how children experience pain is believed to have contributed to the current

state of inadequate pain management in hospitalized children (Gadish, Gonzalez, & Hayes, 1988; Schechter, Bernstein, Beck, Hart, & Scherzer, 1991; Stevens, 1990). More importantly, the younger the child, the less adequately it appears is pain managed (McCaffery & Beebe, 1989).

Survey studies consistently show that children receive fewer analgesics in comparison to adults with similar diagnoses (Beyer, Degood, Ashley, & Russell, 1983; Eland, 1974; Eland & Anderson, 1977; Schechter, Allen, & Hanson, 1986). In fact, it has been shown that many children received subtherapeutic doses or no analgesics at all. Eland (1985a) found this to be the case when she evaluated analgesic prescription and administration of 2,000 children admitted to various hospitals. Sixty-six percent of the children received no analgesics for relief of their pain, and this included some children with burns or with surgical interventions such as spinal fusions and nephrectomies.

Findings from another study which evaluated the intensity of pain in 170 children recovering from surgery, indicated 16 percent of the patients did not have analgesic orders and in cases where analgesics were prescribed, doses were frequently too small or too infrequent. Nurses also preferred to administer non-narcotics analgesics over narcotic analgesics (Mather & Mackie, 1983). This in spite of the fact that only 25 percent of the patients were pain free on the day of

surgery, and 40 percent still reported moderate to severe pain by the first post-operative day.

The consequences of unrelieved acute pain is of special concern. Untreated pain has the potential to enhance abnormal reflex responses which can lead to multiple complications and delay recovery (Chapman, 1984; Loeser, 1990). It is also hypothesized that children's ego development and self-esteem, and future reactions to pain, may be affected by the experience (Stoddard, 1982). Improving pain management in hospitalized young children, is therefore, of the utmost importance. Ongoing advancements, however, will only be achieved through the integration of research with clinical practice (Miles & Neelon, 1989). Specifically, health professionals need to know how children of different ages experience pain in various situations.

To date, however, there have been very few systematic studies examining the experience of pain in hospitalized young children. For the most part, the development and validation of pediatric pain assessment tools has been advocated as the essential research focus (Beyer & Knapp, 1986). Although necessary, such research is often lacking in describing how process and contextual variables influence children's experiences. Except for two studies that described pain behaviours in hospitalized young children (Mills, 1989a, 1989b; Taylor, 1983), there have been virtually no field

studies describing young children's responses.

The overwhelming majority of studies that did include younger children, investigated children's responses to pain of short duration (e.g., immunization, venipuncture, dental restoration). "To date, much of the focus on pain has been on its short-term impact" (Miles & Neelon, 1989, p.106). Another area of focus involves exploring perceptions of pain in the older school aged children who are considered more adept and cooperative in discussing pain (Broome & Lillis, 1989; Broome, Lillis, & Smith, 1989).

Although valuable, findings from these studies cannot be generalized to young children's experiences with acute pain in hospital settings because the type of response or expression manifested by a person in pain is considered to be determined in part by the social context in which it takes place (Chapman, 1985; Zborowski, 1969). Furthermore, the responses the person makes to environmental factors are profoundly conditioned by the symbolic interpretation the person places on stimuli impinging on them (Dubos, 1980). In other words, as first defined by Chapman (1984, 1985) and later expanded on by Ross and Ross (1988), children's responses to pain, whether acute or chronic, are the result of factors within them, as well as complex transactions between the children and their environment.

This implies that in order to better understand the

experience of acute pain in hospitalized young children, one needs to not only take into account children's responses, but interpret their responses in relation to factors affecting how children respond. Recognizing situation-specific child factors, social environmental factors, and non-social environmental factors is, therefore, necessary (Chapman, 1985; Covelman, Scott, Buchanan, & Rosman, 1990; Ross & Ross, 1988). This has yet to be adequately studied. Therefore, the purpose of this study was to examine and describe how young children respond to the experience of acute pain in a hospital setting, identify factors influencing children's responses, and explore meanings related to the children's responses.

The Research Questions:

The following research questions were examined in this study:

1. What behaviours are exhibited by young children experiencing acute pain in a hospital setting?
2. What differences in pain behaviours exist within the sample's age range?
3. What differences in pain behaviours are exhibited by children during various periods of hospitalization?
4. What influence do situation-specific child factors have on children's responses to pain?

5. What influence do environmental factors (social and non-social) have on children's responses to pain?
6. What meanings are associated with children's responses to pain? (This includes meanings identified by the children, the children's parents, hospital staff, and researcher.)

Significance of the study

It is recognized that there is deficient knowledge in many areas of childhood pain (Pomietto, 1990; Varni, 1990). Further, it has been suggested that this lack of knowledge has contributed to children experiencing pain that is poorly managed. Findings from this study will add to the existing knowledge and current understanding about how hospitalized young children experience pain. This valuable information will be a benefit for health care professionals interested in improving the quality of care in this particular group of children.

Conceptual Framework

The study was guided by a sensitizing framework. This allowed one to be sensitized to specific concepts, yet at the same time be true to the factor-searching nature of the study's descriptive design. Theory-generating was the goal, as opposed to theory-testing used in experimental designs. This

was appropriate, considering to date, no theory exists which comprehensively explains the complex experience of pain in children. According to Stevens, Hunsberger, and Browne (1985), there is a need for theoretical development and clarification of the pain phenomenon in children.

The concepts that guided this study came from Melzack's and Wall's (1965) gate control theory of pain, and family systems-based theories. The gate control theory emphasizes that pain is a complex phenomenon influenced by many variables within the individual. Systems-based theories, conceptualize the individual as an open system interacting and in total interface with his or her environment. When combined with the gate control theory, this allowed one to view children's responses to pain as a dynamic process that are influenced by the interacting individual and environmental factors. This discussion, therefore, will include an overview of both theories, as well as application of the theories to the study's purpose.

To date, the gate control theory is the most widely accepted theory of pain mechanism (Harrison & Cotanch, 1987). Specifically, the theory proposes that neural mechanisms located in the dorsal horns of the spinal cord operate like a gate in regulating the flow of nerve impulses from peripheral fibres to the spinal cells cord which project to the brain (Melzack, 1986; Melzack & Wall, 1965, 1970). Conceptually,

when the gate is opened, pain impulses can be transmitted, and when closed, no pulses flow through. The gate can also be partially opened where only some impulses are transmitted to the brain. Nociceptive impulses (i.e., somatic input) are therefore, influenced by this gating mechanism before they elicit pain perception and response.

The gating mechanism is controlled by the activity of sensory nerve fibres of the spinal cord. This includes large fibres within the spinal cord that inhibit nociceptive transmission (i.e., the gate closes) and small fibres that facilitate it (i.e., the gate opens). Melzack and Casey (1968) further proposed that the rapidly conducting spinal systems contribute to the sensory-discriminative dimension of pain (cited in Melzack, 1986; Melzack & Wall, 1970).

Additionally, structures originating in the brain, influence the gating mechanism. First, activation of the reticular and limbic structures forms the basis for the motivational and unpleasant affect that trigger the individual into action or escape. Secondly, a mechanism called the central control trigger activates neocortical processes, such as anxiety or attention, which in turn may affect the discriminative and motivational systems. Altogether, the sensory-discriminative, motivational-affective, and cognitive-evaluative dimensions interact with one another to provide perceptual information, as well as influence motor responses

that characterize pain (Melzack, 1986; Melzack & Wall, 1965, 1970).

The strength of the gate control theory lies in viewing pain not solely as a simple sensory experience, but as a complex, dynamic phenomenon controlled both by peripheral input, as well as central input. Sensory nerve patterns evoked by physical stimulation alone, do not determine the quality of the pain experiences. Instead, psychological factors such as anxiety, fear, and meaning attributed to the pain event come into play (Melzack, 1986).

This guided the study by recognizing that children's pain experiences are based on how children feel, act, and think. Furthermore, with so many processes involved, the individuality and variability of pain responses were appreciated. The theory also provided explanation for how certain actions and interventions resulted in pain-enhancing or pain-reducing consequences, depending on what effect the actions had on the gating mechanism.

A limitation of the gate control theory is that most of the theory integrated research has involved adult-focused studies; hence refinement and expansion from the perspective of children is crucial. Another limitation, is that while the theory takes into account the effects of environmental factors on pain responses, such effects are generally viewed as being basically fixed with no bidirectional and escalating influence

(Covelman et al., 1990; Ross & Ross, 1988). This ignores the fact that an individual's pain behaviour is not merely a consequence of the environment, but also an influence on it. The importance of context is ignored. To address individual-environmental transactions, concepts from systems-based theories developed by family theorists were incorporated into the framework.

Originally introduced by Ludwig von Bertalanffy in 1936, systems-based theories provide researchers with concepts that allow them "to think in terms of facts and events in the context of wholes, rather than as being created and sustained in a vacuum" (Friedman, 1986, p.11). Since then, family therapists have expanded on the systems theory to incorporate concepts related to control and communication.

A major premise of systems theories involves viewing the individual as a living system composed of interdependent and interacting parts (Friedman, 1986; Wright & Leahey, 1984). Each living system is situated within a larger suprasystem, yet also contains subsystems of their own. An example of this would be the family existing as a system with a parent-child subsystem. The individual child in turn, would be composed of numerous subsystems, such as the cognitive and affective subsystems.

Each system, however, is more than simply the addition of each unit; that is, systems are best understood when studied

as a "whole" within the larger context. This is relevant to understanding the assumption that a change in one part of the system affects all other parts of the system, as well as the larger suprasystem. Each system's responses and subsequent changes, will have an effect on and influence others within the larger system. The concept of circular causality rather than linear causality, is therefore, supported.

Another important concept of systems theories is the notion that boundaries can exist on a variety of levels (Karpel & Strauss, 1983). They can be concrete or physical in nature, such as closed doors or the number of people in a family. They can also be more abstract in nature and exist in the form of rules, beliefs, roles, and expectations. Such boundaries can help regulate energy, information, and access to an individual by including and excluding different people or systems from the individual. Boundaries in fact, identify who will participate, and in what ways in different subsystems.

The ability of a boundary to control the degree of exchange is also important (Friedman, 1986; Karpel & Strauss, 1983). When boundaries are too unclear and permeable, systems become overly responsive to other systems, and when they are too closed or impermeable, systems become less responsive to one another. This can result in the inability of a system to achieve a balance between the forces operating within and upon

it, and therefore, preventing a balance between change and stability (Wright & Leahey, 1984). The degree to which a system can monitor responses, and balance and control exchanges determines whether or not the system will survive.

Communication is another major channel for regulating systems (Karpel & Strauss, 1983; Wright & Leahey, 1984). Communication involves verbal as well as non-verbal behaviour. All messages communicated, also have two components. The first is the content or the information the sender wishes to convey. The second, refers to the message's intended influence on the receiver's behaviour; in other words, the sender of the message attempts to influence the receiver. Again, being true to the concepts of interdependence and interaction, each message affects and is affected by the relationship between individuals involved.

From this conceptualization, one was able to view the experience of pain in children as being influenced by systems within the children, as well as systems external to them. This supported an assumption of the gate control theory that the pain experience is a complex phenomenon influenced by intellectual, emotional, and behavioural subsystems within the individual. Moreover, the children's family, and health professionals, and the surrounding hospital environment could also be considered within this conceptualization. Children's responses to pain were seen as a function of the reciprocal

feedback system between the children and their social context (Covelman et al., 1990). It allowed one to view children as ever changing in relation to their pain experiences.

Changes in how children appraised their pain experiences were also viewed as being dependent on new information (i.e., verbal and non-verbal messages) from the environment. Also, how well children and others dealt with the pain, was influenced by the type of input received from the environment, and how well it was processed and received by children. This process in turn, was manifested in individuals' verbal and non-verbal behaviours which were dependent on the particular context of the situation.

To conclude, concepts from the gate control theory and family systems-based theories, provided the researcher with a guide to study children in pain from their own unique viewpoints and conditions, and helped the researcher to consider the set of surrounding circumstances that might have influenced their responses.

Assumptions Underlying the Study

The major theoretical assumptions of this study included:

1. All normal children have the ability to feel pain (McCaffery & Beebe, 1989).

2. "The human experience of pain is the child's communicated perceptions of pain including cognitive, affective, and behavioural responses to pain" (Hester & Barcus, 1986a, p.172).
3. The communicative nature of pain must be considered in relationship to two primary systems with whom the pediatric patient comes in contact; the child's immediate family and the health professional (Crook, 1985).
4. There is not a direct and linear relationship between the noxious stimuli and the individual's perception of pain. There can be marked differences in children's responses even when the degree of aversive stimulus is the same (McCaffery & Beebe, 1989; Ross & Ross, 1988).

Definition of Terms

For the purpose of this study, the concepts relating to the study's questions were defined as follows:

1. Young children: are children between the ages of two years to six years.

This age range was selected for the study as children within this age range are considered to be in the preoperational stage of cognitive development and therefore, are hypothesized to have similar thought

processes (Piaget & Inhelder, 1969). It was assumed by the researcher, however, that there would be variability in the children's pain responses due to the differences each child brought to the particular situation. This age range was also selected by the researcher because past experience has indicated that children within this age range appear to experience an increased vulnerability to pain situations.

2. Acute pain: is pain which consists of unpleasant sensory, emotional, and mental experiences and certain autonomic, psychological, and behavioural responses triggered by trauma, disease, treatment, or inflammation (Chapman, 1984). It is characterized by a sudden onset; and can be of variable duration (Ross & Ross, 1988).

For the purpose of this study, acute pain was defined as pain experienced in response to surgical wounds, burns, and fractures.

3. Response: refers to the ways in which an individual expresses pain, and is manifested on affective, cognitive, and behavioural levels. Responses are profoundly influenced by the individual's perceptions of an event; the responses are frequently the manifestations of feelings and attitudes stimulated by the presence of pain (Dubos, 1980; Zborowski, 1969).

This differs from a "reaction" where there is no symbolic interpretation.

In this study the children's pain responses were assessed on two levels: the children's behaviour during the pain experience and the meanings associated with the responses.

4. Pain behaviours: refer to the actions and words the children use in response to the pain experienced. Pain behaviours in themselves are deemed meaningful, purposeful, and understandable forms of communication (Meinhart & McCaffery, 1983).

In this study all verbal and non-verbal behaviours exhibited by the children such as paraverbal sounds (e.g., moans, sighs), facial gestures, restlessness, body posturing and gesturing, and physical contact with others, were studied. The pain behaviours were assessed through the participant observation. Validation of observations were elicited from the children, the children's parents, and health professionals caring for the children.

5. Meanings: refer to the phenomenological component of the children's pain experiences (McGrath, Cunningham, Goodman, & Unruh, 1986).

In this study meanings included all feelings, symbolic images, and statements relating to pain

experiences, as expressed by the children. The concept also included: (a) all feelings, symbolic images, and statements expressed by the researcher, the children's parents, and health professionals relating to what the children were experiencing; (b) what others were experiencing during the children's pain experiences; and (c) what others' actions and words implied in relation to the children's pain responses. Meanings were elicited through formal and informal interviewing.

6. Situation-Specific child factors: are characteristics relating specifically to the children that are relevant to the context in which the pain is experienced (Ross & Ross, 1988).

In this study these factors included all child characteristics (cognitive and emotional) identified and described by the researcher, the children, the children's parents, or health professionals, that were interpreted as having an influence on the children's pain experience.

7. Environmental factors: are circumstances within the immediate environment that exert an influence on the children's pain responses (Ross & Ross, 1988).

In this study environmental factors involved social elements (i.e., people present in the immediate situation). Environmental factors also included all non-social elements (e.g., frightening equipment).

All environmental factors observed and identified by the researcher, the children, the children's parents, or health professionals interpreted of having an influence on the children's pain experience were considered.

Conclusion

The study of hospitalized young children's experiences with acute pain was a significant research problem requiring further attention. The proposed conceptual framework provided an orienting perspective that directed the research process toward a qualitative design which valued children's perceptions of pain experiences, the context in which the pain experiences occurred, and the perceptions of those individuals who were apart of the children's world. The next two chapters present background literature related to the study's purpose and the research design. The following discussion confirms support for the research questions and design.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

A review of the literature and research related to childhood pain, reveals a substantial increase within the last decade. In spite of this, the knowledge of childhood pain is still in the early phases. This is especially the case when focusing on the pain responses of hospitalized young children. Most of what is understood about this group is still based on informal clinical observations and untested theoretical assumptions. Due to this paucity of research findings, it was necessary to review studies that focused on children of all age groups and in various settings. The literature review supported decision to include major the following variables: (a) the influence of situation-specific child factors on the pain experience; (b) the influence of environmental factors on the pain experience; and (c) behavioural responses associated with pain. This critical examination provided justification for both the research purpose as well as researcher's choice of methodology.

Situation-Specific Child Factors

Situation-specific child factors are one group of factors that account for many of the puzzling differences in the

response of individuals to pain, and are considered relevant to the immediate pain situation (Chapman, 1985). Specifically, the discussion will focus on the cognitive processes and emotional state of the child in pain.

Cognitive processes are those involved in thinking, and include memory, expectation, attention, and attribution of meaning to the present event (Chapman, 1984, 1985). They are critical determinants of the pain experience because these processes determine how the individual expresses pain, that is, how they organize symbols internally and how they will respond (Meinhart & McCaffery, 1983). Considered most influential on the pain experience, is the meaning of pain to the individual.

Children's accounts of their pain experiences in the last decade have received increased research attention. Studies using various research designs have focused on certain aspects of children's interpretations of past and present pain events (Abu-Saad, 1984a, 1984b; Alex & Ritchie, 1992; Branson, McGrath, Craig, Rubin, & Vair, 1990; Ely, 1992; Gaffney & Dunne, 1986, 1988; Gordon, 1981; Hurley & Whelan, 1988; Jerret & Evans, 1986; Reissland, 1983; Ross & Ross, 1984; Savedra, Gibbons, Tesler, Ward, & Wegner, 1982; Savedra, Tesler, Ward, Wegner, & Gibbons, 1981; Savedra, Tesler, Ward, & Wegner, 1988; Schultz, 1971; Spence, Miller, & Hendricks, 1992; Tesler, Wegner, Savedra, Gibbons, & Ward, 1981). Questions

frequently asked relate to children's definitions of pain, reported worst pain, and perceptions of what helped them during the event. A limitation of these studies is that they primarily involved school aged children.

Regardless of this, these studies have yielded some significant findings. Common trends include children: (a) being able to remember and describe pain events graphically; (b) viewing most pain as bad with no positive value; and (c) identifying medication, rest, and support from family and friends as frequent strategies to deal with their pain. Most importantly, children have their own unique way of interpreting a pain event, as previously emphasized by Eland and Anderson (1977).

Differences in children's reports have also been identified and are related to numerous variables. One variable in particular is the influence the child's level of cognitive development on pain reports. Studies have revealed that besides underreporting clinical symptoms (Leikin, Firestone, & McGrath, 1988), younger children also describe their pain in limited terms in comparison to the more descriptive reports by older children (Hurley & Whelan, 1988). Younger children were also identified as being less likely to conceive of coping strategies especially cognitive coping strategies and had a tendency to rely on their parents (Brown, O'Keefe, Sanders, & Baker, 1986; Reissland, 1983). Another study also

found that older children with arthritis tended to attribute more negative meanings to their disease and in turn, perceived more unpleasant and stronger joint sensations in comparison to younger children with the same disease (Beales, Kean, & Holt, 1983).

However, in comparing two of the larger scale interview studies ($n > 500$), findings were conflicting. Whereas Ross and Ross (1984) reported no appreciable age differences in their pain reports; Gaffney and Dunne (1986, 1988) found children's definitions of pain followed age-linked developmental patterns which were consonant with the corresponding Piagetian stages of cognitive development. Gaffney and Dunne also indicated that the younger children were limited in their ability to describe pain. Ross and Ross (1988), however, attributed the differences in the findings to the type of interview format. In their study, questions were open-ended and were specific to children's experience. In comparison, Gaffney and Dunne used incomplete sentences of a general nature which could have contributed to the limited responses in the younger children. These results suggest that the use of a semi-structured, open-ended interview format when conducting interviews with children might yield more complete and valid data.

There have also been studies indicating that older children have limited self-initiated coping strategies (Adams, 1990; Alex & Ritchie, 1992; Ross & Ross, 1984) and like

younger children, found having the presence of a parent or significant other during the pain event important (Fowler-Kerry, 1990; Hester 1989; Hester & Barcus, 1986a; Ross & Ross, 1988; Savedra et al., 1982; Savedra et al., 1981; Weekes & Savedra, 1988). This suggests that besides age or cognitive development, there are other factors that come into play.

One such factor is whether or not children are hospitalized or ill. In comparing the pain experiences between hospitalized and non-hospitalized school aged children, it was revealed that hospitalized children more often than non-hospitalized children selected pain words that were related to tension, fear, and overall intensity of pain (Savedra et al., 1982; Savedra et al., 1981; Tesler et al., 1981). Hospitalized children's coping responses were also related to the immediacy and novelty of their pain experience; the dynamics of the individual-environment interaction helped determine how they managed. Not surprisingly, the hospital experience also precipitated specific causes of pain which included pain related to illness and treatment (e.g., nasal suctioning).

Wong and Baker (1988) revealed in their study examining the perceptions of hospitalized children between the ages of three to eighteen years that the children's perceptions were very individualized. Although invasive procedures (e.g., venipunctures, fingersticks) were most frequently listed as

painful, there was variability in pain rating of procedures. Moreover, the unexpected finding of bodily symptoms being associated with higher pain ratings was also reported.

These findings were in contrast to another study that involved non-hospitalized children rating 24 pictures of pain-evoking situations (Lollar, Smits, & Patterson, 1982). Results indicated that the picture of the child getting a needle was rated 17th in perceived pain intensity and 23rd in duration by the participants, which suggests that pain perceptions change over time. Jerret (1985) also found that there is a tendency for children to perceive the most recent pain as being the most painful. If this holds true for all pain events, it would be of value to examine children's perceptions of the event during or soon after the event.

Another factor to consider when studying pain, is the child's emotional state. Besides thoughts, a multitude of feelings can occur during a pain experience including feelings of anxiousness, loneliness, confusion, irritability, and guilt (Meinhart & McCaffery, 1983). Further, it is hypothesized that if children experience such emotions during a pain event, their attention will more likely be focused on the event (Beales, 1982). Perhaps of all emotions, anxiety is most often associated with acute pain. "Anxiety potentiates pain, and pain itself promotes anxiety" (Stoddard, 1982, p. 737).

Specifically, two types of anxiety have been identified:

trait and state anxiety. Spielberger, Gorus, and Lushene (1970) identified state anxiety as a dynamic emotional state that varies in intensity and fluctuates over time, and trait anxiety as a personality disposition that remains fairly constant (cited in Scott, Clum, & Peoples, 1983). Although the general personality of the child is argued to play a role in how children manage hospitalization (Beuf, 1979) and in fact, influences how children report symptoms (Leiken et al., 1988), it is state anxiety that is believed to have a greater significant effect and present more substantial problems. The two major factors contributing to state anxiety in relation to acute pain and hospitalization, are fear of losing control and uncertainty (Chapman, 1985).

The fear of losing control and uncertainty was evident in a 1982 study undertaken by Ross and Ross who investigated non-hospitalized and hospitalized school aged children's perceptions of acute pain. Most children interviewed perceived acute pain experiences (e.g., burns, lacerations, fractures) as landmark events (cited in Ross & Ross, 1988). Feelings of helplessness and fear associated with the unpredictable character of the whole event were described. Coping strategies were seldom reported by the children, leaving the researchers to conclude that the uncertainty experienced by the children weakened their ability to deal with the pain.

Indeed, other research studies and clinical accounts have

supported that the pain experience intensifies when an individual feels powerless (Beales, 1982; Weekes & Savedra, 1988). Clinical studies involving adults, have also demonstrated that higher levels of post-operative anxiety were associated with higher levels of post-operative pain (Oberle, Wry, Paul, & Grace, 1990; Scott et al., 1983).

The experience of painful and intrusive procedures have also been identified as major fears or concerns of children when interviewed about hospitalization (Broome & Hellier, 1987; Eiser & Patterson, 1984; Ellerton, Caty, & Ritchie, 1985; Erickson, 1958; Siaw, Stephens, & Holmes, 1986). Fear in toddlers and preschoolers is especially suspected to be a powerful component associated with painful situations (Hutton, 1986; Jeans, 1983). When questioned, parents also found intrusive procedures to be especially difficult for their young child (Caty, Ritchie, & Ellerton, 1989). However, while the effects of separation anxiety on hospitalized young children have been given considerably attention (Ack, 1983; Goslin, 1978; Thompson, 1985; Vernon, Foley, Sipowicz & Schulman, 1965), the examination of the relationship between hospitalization and fear of pain, is still wanting.

Although these studies have yielded significant information, most were retrospective or prospective and mainly involved interviewing children greater than six years of age. Also, responses from children in the age range of five to

seven years are often grouped in a general category for all children less than seven years, as was the case in Hurley's and Whelan's 1988 study. A disadvantage of this approach is that valuable qualitative differences in children's responses may be missed. It has also been reported that older children sometimes have difficulty remembering pain events prior to four years of age (Ross & Ross, 1988) and that younger children are sometimes less consistent in their reporting of past pain (Lehman, Bendebba, & DeAngelis, 1990).

This points to the need for more clinical studies similar to Kueffner's (1975) study involving a direct investigation of children's responses to a painful event. Specifically, severely burned, isolated school aged children were followed through their hospital experience. Data collection which involved direct observations of pain events and informal interviews yielded in-depth information of the children's experiences with pain. The researcher reported that pain was designated as having the greatest influence on the children's behaviour. Several strategies used by children to cope with the pain were also identified and included distraction, postponement of procedures, reduction of threat, and creating distance between self and the pain. Also, the children did not always prefer to be helped by the hospital staff as was evident in one of the more revealing comments: "when people help, they hurt." Although the study had a small sample (n=6),

the nature of the design produced findings that provided a comprehensive understanding of what this pain experience may have been like for these children.

In a similar design, Hester and Barcus (1986a) also produced rich data in their study examining the human experience of pain in hospitalized children. The sample consisted of 28 children, ages 5 through 15 years hospitalized for orthopaedic and medical-surgical reasons. Significant findings included: (a) children not understanding the word "pain"; (b) children thinking a lot about their pain while experiencing it; and (c) children expressing the need to be in charge of their pain experience and in charge of what is done for them. Moreover, in comparison to some past retrospective studies, a variety of self-initiated comfort and coping strategies (e.g., comic relief, distraction, yelling) were identified.

Lastly, while recognizing that younger children have decreased verbal abilities, this in itself should not discourage researchers from understanding what the pain experience is like for young children. Although a challenge, it has been reported that even children younger than three years of age have their own set of infantile pain descriptors (Hahn & McLone, 1984). The tendency to rely exclusively on parents' perceptions of their child's pain experience, therefore, should not be the only means to understanding

children's pain experiences. Although studies have demonstrated that parents' ratings of their child's pain paralleled the child's self-report (Fradet, McGrath, Kay, Adams, & Luke, 1990; Leiken et al., 1988; Monipour, Donaldson, Wallace, Hiraga, & Joss, 1990; Schneider & LoBiondo-Wood, 1992), the reports are still not identical (Goodman & McGrath, 1991).

By applying data collection methods appropriate to the child's age, researchers have shown it is possible to gather data on young children's perceptions of certain events (Gelman, 1979). First, research is increasing in the development and testing of self-report measures for younger children (Beyer & Wells, 1989). Although some believe that such measures are of no value in assessing pain in children less than four years of age (McGrath et al., 1986), others believe that they may be useful in helping children to communicate (Ellis, 1988).

Self-report measures include the Faces Scale (Adams, 1990; Bieri, Reeve, Champion, Addicoat, & Ziegler, 1990; Maunuksela, Olkkola, & Korpela, 1987; Pothmann, 1990; Wong & Baker, 1988) and the Oucher which is a derivative of the Faces Scale (Aradine, Beyer, & Tompkins, 1988; Beyer & Aradine, 1986, 1987, 1988; Beyer, Denyes, & Villarruel, 1992). Basically the Faces Scale is a rating scale based on a series of faces varying in emotional expression with each face

representing a different level of pain. The Oucher is similar except it consists of photographs of a preschooler's face in varying expression. Other measures include: the Poker Chip Tool which consists of poker chips that are equated with "pieces of hurt" (Hester, 1979); and the Eland's Colour Scale that involves different colours representing varying degrees of pain (Eland, 1981; 1985a; Eland & Anderson, 1977).

Of all self-report measures, the Faces Scale and Oucher have demonstrated the most reliability and validity. Nonetheless, with these self-report measures there is the concern of not knowing for certain if the distances between each pain level is seen as equal intervals by children and whether it represents a single attribute of the pain experience (McGrath, 1987, 1989; Ross & Ross, 1988). Of additional importance, is the issue of whether or not "we can justify using a single item to measure a complex phenomenon" (Stevens, et al., 1985, p.147). With respect to the Oucher, Ross and Ross (1988) also question how clear-cut the photographs are to children in comparison to cartoon faces. One also wonders whether or not children in pain can relate to a photograph of a stranger.

Creative strategies such as play, have also been advocated when eliciting information about what children are thinking (Deatrick & Faux, 1989; Kotzer, 1990). This was demonstrated in a study that investigated the concerns of

hospitalized young children, ranging in age from two to five years (Ritchie, Caty, & Ellerton, 1984). Data was collected using a play interview method which involved recording children's verbal as well as non-verbal activities, while children played with hospital equipment and figures. The symbolic, verbal and non-verbal, representations of concerns were studied while children played.

Another valuable source of information, is the use of children's drawings. Di Leo (1970, 1973, 1983), who extensively studied children's drawings, found children's drawings can serve as symbols that represent the children's mental representation of objects; the drawings help to bridge the gap between the child's inner world and the world outside. By utilizing a combination of drawings and interviews to elicit responses from school aged children about their pain experiences, Jerret (1985) elicited responses that were quite unique and graphic (e.g., "it's like a bullet, it's like a whole bunch of mosquitoes poking around in my ears").

In summary, these studies emphasize the uniqueness of children's pain events and that pain experiences are influenced both by children's thoughts and feelings. There is, however, information lacking about young children's thoughts and feelings in response to acute pain in a hospital setting. By utilizing appropriate data collection methods, knowledge of young children's pain experience will be advanced.

Environmental Factors

Like situation-specific child factors, environmental factors are also hypothesized to influence children's responses to pain (Covelman et al., 1990; Ross & Ross, 1988). The discussion here will focus on both social and non-social environmental factors.

One social environmental factor that is considered to have a significant effect on children's pain experiences, is the family (McGrath & Craig, 1989). This includes not only the present social context, but also the past learning history of children (Chapman, 1985). It is believed that children learn about pain initially from their family, where certain responses to pain are rewarded and others are ignored or punished (Goodman & McGrath, 1989; Meinhart & McCaffery, 1983).

This was exemplified in a study that examined the differences in mother-child interaction in relation to coping and non-coping behaviours of adolescents with chronic benign intractable pain (Dunn-Geier, McGrath, Rourke, Latter, & D'Astous, 1986). Results not only showed that the behaviour of non-coping adolescents differed from the coping adolescent, but also revealed that mothers of non-copers frequently discouraged coping behaviours in comparison to the mothers of the coping adolescents.

Familial factors are also believed to assume an important

role in the etiology or maintenance of recurrent pain syndromes (Goodman & McGrath, 1991; McGrath, 1987). Studies examining pain responses in children revealed that positive correlations emerged between parent and child symptom severity (Apley, 1975; Mikail & von Baeyer, 1990).

A family's cultural background is also believed to affect both pain and its expression (Chapman, 1985). To date, however, there has been minimal investigation examining pain responses in children of different cultural backgrounds. Abu-Saad (1984a, 1984b) did investigate perceptions of pain in children from various cultural backgrounds (i.e., Arab-, Asian-, and Latin-American). Although similarities existed between the three groups, some differences were noted pointing to the need for further research in this area.

More attention has been directed to examining ethnocultural differences in adults. This includes Zborowski's (1969) classic work which revealed that there were definite differences in how adults from the various ethnic groups responded to pain. In a more recent adult-focused study, results indicated that while each cultural group involved in the study were different with respect to factors which influenced their pain responses, all the groups were found to be similar in their responses (Lipton & Marbach, 1984). The researchers concluded that the differences may not be an all-or-none phenomena as previously assumed, which would

support the need for accounting for other factors besides cultural background when assessing pain in children.

Considered even more important than familial and cultural traits, is the effect the presence of parents have on children's responses in the immediate pain situation. Whereas familial characteristics are associated with a probable range of pain response; the presence of a significant other during a pain event is believed to contribute to the variability in response (Chapman, 1985; Ross & Ross, 1988). Children's responses are believed to be governed more by the available information on the affective reaction of parents than the actual noxious stimuli (Craig, 1978).

This assumption was investigated by Shaw and Routh (1982) in two studies. In each study young children were randomly assigned to a condition with the mother absent or to a condition with the mother present, while receiving an immunization. Findings revealed that in both studies, the mother-present group exhibited more behaviour defined as negative (i.e., crying, fussing) than the mother-absent group. The researchers concluded that given a painful experience, children's crying would be more likely to be rewarded by effective comforting and would thus be more likely to occur if the mother was present than if she was absent; whereas the absence of the mother inhibited protest in the children.

A strength of these studies was in illustrating that

children do respond differently to seemingly different equivalent stimuli. The researchers, however, were limited in suggesting possible causes for the differences. For instant, perhaps the children in the mother-absent group were too afraid to respond, especially considering there were other adults in the room during the procedures. The increased crying in the mother-present group could have been an indication of the children's plea for help. Also, the researchers never questioned what effect the nurse giving the injection had on the children's responses. Differences in the nurse's responses could have influenced the children's responses.

In a similar study, Broome and Endsley (1989) found that a mother's presence had no significant effect on children's behaviour during immunizations. In explaining the difference in findings, the researchers indicated that in their study, none of the children received any painful stimulus prior to the immunization and those children who required restraining had their behaviour rated prior to restraint. These conditions, however, were not accounted for in Shaw's and Routh's studies. Broome and Endsley concluded that perhaps the effects of parental presence are dependent on the particular stress situation and circumstances surrounding it. One limitation of these studies was not gathering information from the parents about the children's past pain experiences and interpretation of their child's behaviours.

Accuracy of parents' descriptions, however, is still undetermined. Whereas some argue that parents quickly learn to interpret the behavioural-manifestations of pain in their children and can provide valuable cues (Hawley, 1984; Hutton, 1986; Wofford, 1985); others believe that parents are not always able to do so, especially during stressful periods during hospitalization (Beales, 1982; Eland, 1985a). Findings from studies interviewing parents about their child's pain behaviours are also conflicting. Mills (1989a) found that parents were unable to distinguish pain behaviour from well and ill behaviour when questioned. In another study, however, parents easily identified pain behaviours in their child with the majority of parents commenting that their child had a special cry (Watt-Watson, Evernden, & Lawson, 1990). Further investigation is warranted in this area.

The need for research to describe how parents manage their child's pain is especially needed. Although there is evidence suggesting young children benefit from parental support during hospitalization (Peterson, Mori, & Carter, 1985), research that focuses on identifying strategies performed by parents during painful or intrusive events (Coty, et al., 1989; Savedra, 1981) is still minimal.

Determining what effect hospital personnel have on children's pain experience also needs to be addressed. This especially holds true when assessing nurse-patient interaction

as the quality of nurse-patient relationships is considered to be of prime importance in the patient's pain management (Peric-Knowlton, 1984). Extensive field studies focusing on hospitalized adults experiences with pain have demonstrated that an individual's pain response and ability to deal with pain is, to a great extent, determined by the organizational setting and staff-patient interactions - from how pain expression is handled, to the ability of staff to carry out "comfort work" (Fagerhaugh & Strauss, 1977; Fagerhaugh, Strauss, Suczek, & Wiener, 1987; Strauss, Fagerhaugh, & Glaser, 1979). Numerous social factors appear to influence the patient's response to pain. For example, there are accounts of children being too afraid to confide to their nurse about their pain (Eland & Anderson, 1977; Eland, 1985a; Mather & Mackie, 1983). However, except for such accounts, minimal attention has been directed at staff-child interactions. Similarly there are only a few studies directly examining measures used by nurses to relieve pain in children (Davis & Calhoon, 1989; Orsuto & Corbo, 1987).

Studies to date, are primarily retrospective chart audits and surveys identifying the type and amount of medication administered, as well as identifying how nurses and physicians assess and manage pain. It is well documented that children are not only prescribed less pain medication by physicians in comparison to adults, but are also administered

less medications, especially for post-operative pain (Beyer et al., 1983; Burokas, 1985; Eland, 1974; Eland & Anderson, 1977; Schechter et al., 1986).

In assessing the presence of pain, numerous criteria have been identified in research. The most utilized criteria include: physiological measures, non-verbal behaviour, affect, and oral expression (Bradshaw & Zeanah, 1986; Burokas, 1985; Davis, 1990; Gadish et al., 1988; Powers, 1987; Rauen & Holman, 1989; Varchol, 1983). Although findings have been mixed, what is common in all these studies is that most nurses do not adopt a comprehensive approach to pain assessment; that is, their choice of criteria is limited. Unfortunately interpretation of these studies is limited because the actual behaviours of the nurses were not measured. Questions asked, did not pertain to the nurses' pain management of children they were presently caring for. Had this been the focus, important cues and characteristics of the children's behaviours may have been elicited.

Another trend has been to compare nurses' estimates of a child's pain, to the child's estimates. Except for a study by Powers (1987) which revealed there was a high degree of concordance between nurses' and children's ratings, most studies demonstrated that nurses were not always accurate in their assessment of the pain level in children (Fradet et al., 1990; Lukens, 1982; Schneider & LoBiondo-Wood, 1992; Varchol,

1983). Even when nurses' estimations are accurate, it has been shown that pain in children may not necessarily be attended to or satisfactorily managed (Foster & Hester, 1989). Further investigation to identify why this may be the case is warranted.

In interviewing children, some interesting information has been elicited about nurse-patient interactions. Hester (1989) and Hester and Barcus (1986a) reported that hospitalized school aged children experiencing pain, identified caring behaviours to include: being told what is going on, ensuring appropriate use of medication, being touched, and listening and understanding from others. Non-caring behaviours included being told to be brave or being told that they are not in pain. A successful partnership between staff and children, therefore, was significant to the level of comfort experienced by the children.

On recollecting experiences with pain, adolescent oncology survivors commented that coping with medical procedures was made easier if hospital personnel were known and trusted by them (Fowler-Kerry, 1990). They also defined hospital staff as "mean" if the staff spoke sharply, handled them roughly, would not listen to them, or rushed them in the preparation of procedures. These findings are important considering painful procedures were identified as one of the most difficult aspect of having cancer. In fact, some of the

adolescents revealed that if their cancer recurred they would refuse medical treatment due to the painful procedures.

Another factor to consider is how nurses interact with children's parents. Studies examining parent and nurse roles and responsibilities, reveal that inconsistencies exist between nurses' and parents' perceptions of roles (Algren, 1985; Brown & Ritchie, 1990; Hayes & Knox, 1984; Knafl, Cavallari, & Dixon, 1988; Ogilvie, 1990). Specifically, the amount of responsibility assumed by the parent is not always congruent with hospital staff's expectations. Sometimes parents want to assume more control, whereas at other times they are content to have staff take responsibility. The problem with these discrepancies is that they can lead to poor care and inadequate treatment (Molzahn & Northcott, 1989). This could in turn, affect the level of pain experienced by children.

In investigating parents' perceptions and concerns of their child's acute pain experience Watt-Watson et al. (1990) found that 86 percent of the parents preferred to stay with their child during painful procedures. Several parents, however, described being asked to leave during the procedures. This supports Brown's and Ritchie's (1990) study which revealed less than half the nurses felt that parents should stay with their child during a painful procedure or restrain the child as well. Elander, Linberg, and Quarnstrom (1991)

also found that although nurses and parents described similar pain indicators in infants, their opinions differed when it came to infant pain-relief.

Other hospitalized children are also believed to have an effect on children's responses. Moreover, observations of pain responses of others in pain, are used by children as one source of information about pain (Meinhart & McCaffery, 1983). When studying severely burned children, Kueffner (1975) found this to be true as the children associated screaming in others with pain and burns. In experimental laboratory studies, it also has been shown that the degree to which an individual displays distress while experiencing a noxious stimulus can influence the amount of distress experienced by the observer (i.e., adult subject) to a similar painful event (Craig, 1978; Craig & Prkachin, 1978). However, the extent to which hospitalized children serve as role models for other children in pain, has yet to be adequately studied.

Non-social environmental factors within the immediate setting are also considered to have an influence on children's responses (Covelman et al., 1990; Ross & Ross, 1988). This relates to the many aspects of the built environment or hospital architecture, such as strange surroundings, loud noises, heating, lighting and communication systems (Wainwright, 1985). In Fowler-Kerry's 1990 study, adolescents identified such things as the infusion of intravenous

solution, crowded rooms, and cold, as making the procedural pain worse. Hester and Barcus (1986a), identified shut down of environmental stimuli, was as one of the coping strategies used by the children.

To date, however, much of the discussion on the effects of environmental factors on children's pain experiences is limited, especially for young children in pain. Considering expressions of pain are believed to symbolize a need for help (Craig, 1980; Szasz, 1975), further investigation is warranted to assess how parents and nurses respond to children in prolonged acute pain, and how this in turn, influences children's responses. How do they interact and what factors in the environment decrease or increase the quality of interactions?

Behavioural Responses Associated with Pain

Children's pain behaviours are considered the final pathway of physiological, psychological, and social influences that are represented by the children's verbal and behavioural "language"; it is the public expression of a private experience (Barr, 1983). A thorough assessment and understanding of the individual's experience cannot be made without consideration of the individual's behavioural response to pain (Meinhart & McCaffery, 1983). There are few systematic studies, however, examining expressive cues in children

(McGrath, 1989).

One area that has been given attention, deals with the investigation of behavioural distress in children with cancer undergoing bone marrow aspirations (Jay, Ozolins, Elliot, & Caldwell, 1983; Katz, Kellerman, & Siegel, 1980, 1981; LeBaron & Zeltzer, 1984). In these studies, distress was determined by utilizing a structured behavioural rating scale that measured children's behaviours during predetermined phases of the procedure. The concept, distress, was used to signify both anxiety and pain.

A common finding found in these studies was that a significant relationship existed between age and both quantity and type of distress behaviour; that is, younger children (i.e., approximately less than 7 years of age) tended to express their behaviour in a more intense, overt, and movement oriented than older children. Older children also showed greater physical control and fewer emotional outbursts. Specifically, results indicated that age was negatively correlated with total distress scores (r values ranging from $-.45$ to $-.76$, $p < .001$). These differences were explained by the argument that younger children are less inhibited in their behavioural expression of anxiety and that possibly, older children have a greater understanding of medical procedures. A strength of these studies was in illustrating some of the qualitative and quantitative differences in behaviour for the

various ages.

One needs to take caution, however, in interpreting that the younger children indeed experienced more anxiety and pain than the older children. All that can be concluded is that younger children may exhibit more intense overt behaviour in comparison to older children in response to aversive stimuli as the behaviours cannot be considered simple and direct expressions of children's pain (McGrath, 1987). LeBaron and Zeltzer (1984) in their study, also observed additional behaviours not identified on the scale leading them to conclude that the scale could be age biased. Additional patient self-reports further revealed no differences between the various age groups. They concluded that younger and older children experienced equal amounts of distress.

It is also important to account for other factors besides the child's developmental level when interpreting behavioural responses. This was exemplified in a study that tested different pain assessment methods between two cultural groups, Hispanic and Anglo children, in response to bone marrow aspirations (Adams, 1990). The researcher reported a significant inverse relationship between age and behavioural response (the significance level and magnitude of the correlation were not provided). With the Hispanic children, however, there was a tendency for them to exhibit control earlier in their behaviour, even though their self-reports of

pain and anxiety were similar to the Anglo children. This implies that possibly the children's cultural background may have had an influence on the children's responses.

Temperamental characteristics are also considered significant to how an individual's response (e.g., adaptability, intensity of reaction) (Chess & Thomas, 1985). To date, however, studies examining the relationship of these characteristics to pain responses have produced inconclusive findings (Schechter, Bernstein, Beck, Hart, & Scherzer, 1991; Wallace, 1989; Young & Fu, 1988). It is still uncertain which dimensions of an individual's temperament are significant to the pain experience.

In dealing specifically with studies that examine acute pain behaviours in hospitalized children, only two descriptive studies have been undertaken. In the first of the two studies, direct observations of toddlers and preschool children were made during the first three hours post-surgery in a recovery room and day surgery unit (Taylor, 1983). Results revealed that children utilized a repertoire of movements and vocalizations indicating pain. The overall behavioural trend was generalized restlessness, to controlled restlessness, to immobility as time progressed. Some definite developmental trends were noted (e.g., older children relied more on verbal statements than the younger children to indicate pain).

A strength of this study was in providing a detailed

description of how children responded to post-operative pain. The researcher also identified possible child and environmental factors that may have been responsible for differences, although more attention could have been focused on describing environmental influences. A limitation of the study was a lack of follow-up on how children's pain and their responses to pain progressed. Given that within the first three hours there was considerable change in the children's behaviours, it would have been beneficial to know if children were still experiencing pain and if any of the behaviours were retained the following day.

Interestingly, in a study that examined pain behaviours of adult patients in the acute phase of a burn injury, results showed that patients did develop adaptive behaviours even though they were suffering significant levels of pain (Klein & Charlton, 1980). Moreover, it was suggested that some of the behaviours were reinforced inadvertently by staff.

The second study examining acute pain in hospitalized children, involved observing the behaviour of 32 children, from birth to 36 months of age, who had undergone surgery or who were diagnosed with fractures and burns (Mills, 1989a, 1989b). A matrix of pain behaviours according to the child's developmental level was presented. Results indicated that there were clear developmental trends. It was noted, however, that individual differences in pain response occurred even in

the youngest child. A limitation of the study was that each child was observed less than 90 minutes. Minimal attention was also given to the social context or individual factors when assessing the behaviours of the children.

One study that did take into account data from the social environment, focused on describing changes in pain expression in infants (two to 24 months old) receiving immunizations (Craig, McMahon, Morison, & Zaskov, 1984). An interval-sampling, behavioural observation system was developed for the study which allowed encoding of various categories of behaviour of the infants as well as the mothers' and nurses'. As was found in the previous study, findings revealed that while there were definite developmental trends in the infants, there were also substantial variation in how infants interacted. Some rare reactions were also reported to have occurred. This supports the belief that there is no direct linear relationship between tissue insult and observable manifestations of pain (Craig & Prkachin, 1983).

Variations in the mothers' behaviour was noted as well, and were associated with the infant's age, sex, and observational event. The nurses' behaviour was quite consistent in social interactions patterns. Unfortunately, the researchers did not identify what influence the mothers' and nurses' behaviour had on the infants, although they did recognize that the causal direction of the mother-child

interaction needs to be studied.

Although all these studies add to the understanding of types of expressive behaviours of children in pain, knowledge is still wanting. For the most part, studies investigating the behaviours of hospitalized young children (Byers, 1987; Colvin, 1978; Gerhart, 1979; Pidgeon, 1981; Ritchie, Caty, & Ellerton, 1983; Vulcan, 1984; Woods, 1979) focus on examining children's responses or coping behaviours to hospitalization in general, and not to pain events in particular. Lastly, because it is believed that children are capable of a wide range of behavioural expressions when experiencing pain (Meinhart & McCaffery, 1983), substantial work still needs to be done on identifying "the characteristics and organization of pain as it relates to other patterns of behaviour and various intrinsic and extrinsic events at various stages of development" (Craig et al., 1988, p.326).

Conclusion

A review of the literature reinforced two significant points: (a) the investigation of acute pain in hospitalized young children is limited and warrants further study; and (b) in viewing pain as a complex human stressor one must acknowledge that not only do sensory processes contribute to the pain response, but so do emotional, cognitive, and social dimensions. Therefore, in order to gain an understanding of

the experience of pain in young children, attention was given to these dimensions when investigating the phenomenon. Moreover, considering the nature of the phenomenon under investigation, a qualitative design using multiple data collection methods was the most appropriate approach to employ. This was based on the judgement that pain research requires more descriptive studies of patients in pain in clinical settings to provide a foundation for development of new hypotheses for testing (Kim, 1980).

CHAPTER III

RESEARCH METHODOLOGY AND PROCEDURES

Introduction to the Research Design

A descriptive design faithful to the naturalistic mode of inquiry with integration of tenets from ethnography and grounded theory was used. Major underpinnings of this approach supported in the study included the following: (a) reality is complex, constructed, and ultimately subjective; (b) the phenomenon under study is more than the sums of its parts, not reduced to a few discrete cause-effect relationships; (c) the research act is an interactive process where the researcher's insights are critical to understanding the phenomenon; (d) truth is best achieved by entering the subject's world with the intent of understanding the "context" of behaviour as it unfolds naturally (Lincoln & Guba, 1985; Patton, 1990).

This approach was most suited to the study's purpose, considering the complex, subjective nature of pain and the fact that little is known about childhood pain. It allowed the researcher to search for similarities as well as differences in the children's experiences; the uniqueness of each child's pain experience was appreciated. Moreover, because the goal was to identify process and contextual variables, a qualitative design was the best approach to adopt (Strauss & Corbin, 1990). Also, qualitative methodology is recommended in

research involving children, especially when the intent is to understand children's perspectives of a particular experience (Bernheimer, 1986; Deatruck & Faux, 1989).

The design incorporated methodological triangulation of subjects and multiple data collection methods in order to facilitate describing how young children responded to pain and to ensure identification of significant factors influencing their responses. In an attempt to deal with young children's limited cognitive, linguistic, and fine motor maturation, methodological triangulation is also advocated by pediatric nurse researchers (Deatruck & Faux, 1989). This helped to secure the accuracy, completeness, and understanding of the phenomenon under investigation. Through an exhaustive process of observing, discussing, questioning, and validating, the trustworthiness of the study was, therefore, increased.

Study Setting

The study was conducted on two surgical units of a university-affiliated children's hospital in Central Canada. These units admit children who require treatment for surgical wounds, burns, and fractures. Permission for access was requested from the chair of the ethics committee of the hospital, the director of nursing, and the head nurse of the units (Appendix A). The researcher was known to the units through past and present employment in the hospital.

Sampling children from one hospital setting afforded the researcher the time for in-depth study of the particular sample. This is in keeping with the study's purpose and perspective which is to provide a thick description of the pain experiences and to search for meanings applicable to the study's sample (Strauss & Corbin, 1990).

In describing the units, both were similar in their design. The units were based on a U-shaped design with patients' rooms situated outside all along the "U." The treatment, conference, and supply rooms were located inside the "U." The nurses' desk was located at the bend of the U-shape. Significant to this was that generally, the children diagnosed as being the most unstable or those with the most extensive surgery were placed in rooms closest to and facing the nurses' desk. This included children undergoing abdominal or chest surgery. Whereas children requiring surgery to their limbs or face were usually put in rooms closer to the end of the hallway. Although the nurses strived to meet the needs of all the children, it was sometimes observed that children located in the end rooms were not being checked as frequently as those located in rooms near the desk. These children sometimes waited longer to have their pain assessed and managed especially considering the fact that the medication room was located at the nurses' desk.

Another characteristic that compounded delay of analgesic

administration was the size of the medication rooms. The rooms were small in size limiting the number of individuals who could be in them at any given time. Having to unlock a combination lock to the medication room before entering it, although necessary for safety, was another factor delaying the process.

Overall the general appearance of the units was one that tried to promote a child-centred atmosphere. Walls were painted with warm colours (i.e., blue and peach) and covered with child-appropriate pictures. Each unit also had a playroom although for the most part, children did not spend much of their time in these rooms until they started to feel better or were no longer experiencing pain. The patients' rooms either had single- or double-bed occupancy. Each of the patients' rooms had a window that stretched from the ceiling to almost to the floor. The children, however, only seemed to take interest on what was happening outside when they were feeling better. How "lived in" the rooms appeared, depended on the amount of personal belongings patients brought with them. A lounge which opened up into a cot, was located in each room, where parents could sleep at night.

The last feature of the units that needs addressing is the treatment room which is situated in the centre of each unit. Policy supports that only in this room should treatments be carried out. Although this helped the children feel safe and secure in their own rooms (Garfunkel & Hugh, 1986), it

nonetheless made going into the treatment room difficult for some of the children. This was especially so for the children who had past experiences in this room. The room itself, while trying to be child-centred (e.g., colourful paintings on the wall), was nonetheless sterile and cold in its appearance. Objects such as the treatment table, only reminded the children that something was going to be done which may hurt them.

Study Sample and the Selection Process

The primary subjects in the study were children experiencing acute pain. The children's parents (or significant others) and hospital staff were also part of the sample. Input from parents and hospital staff served to validate and expand on the children's reports and observations made. It allowed for a picture of how the experience was seen by others in the children's environment.

The study subjects were selected through a theoretical, non-probability purposive sampling technique. The objective of this type of sampling is not to focus on the similarities that can be developed into generalizations, but instead, to detail many specifics that give the context its unique flavour (Lincoln & Guba, 1985; Strauss & Corbin, 1990). Instead of being concerned with representativeness of the sample, the concern was with representativeness of emerging themes and concepts. This helped to ensure an understanding of the full

range of the phenomenon. Although a sample of five to ten children and their parents was proposed, the continued selection of subjects was determined by the information obtained in the course of the study and the necessity of theoretical completeness. In the end, a total of eleven children and their families were followed. The research sampling process and collection of data for the research study was completed over a six month period.

Criteria for inclusion of subjects into the study were as follows:

Children -

1. two years to six years of age;
2. with normal cognitive development as determined by the patient's record or parent;
3. who understand English;
4. with a written consent provided by the child's legal guardian;
5. who have parents fitting the criteria for inclusion in the study; and
6. who have experienced tissue trauma known to produce acute pain (and includes surgical wounds, burns, and fractures).

Parents -

1. who understand English verbally and in written form;
2. who are mentally competent to answer open-ended questions; and
3. who have plans to stay with their child during the hospitalization, but not necessarily on a 24 hour basis.

Hospital staff -

1. who are health professionals in the designated study areas assuming responsibility for some aspect of the patient's care (this includes nurses, physicians, physiotherapists, occupational therapists, child life therapists, and nurses aides).

Potential child subjects were identified by reviewing the hospital admission records, surgery schedules, and patient care plans. The head nurse and senior team leader of the surgical units were designated as the intermediaries between the researcher and subjects. After discussion with the head nurse or senior team leader to determine which subjects were eligible for inclusion in the study, the designated nurses approached the potential subjects (i.e., the child's parents), and asked them for permission to allow their names to be released to the researcher (Appendix B).

If subjects agreed to the request, the researcher then met

with them to explain the research project in detail (Appendix C). If the parent agreed to participate, a written consent was provided for parents to sign (Appendix D). At this time or at a time deemed appropriate by the parents, the research project was then explained to the child in terms that he or she was able to understand (Appendix E).

With respect to hospital staff, the researcher arranged daily meetings over a two week period with staff to explain the study and to answer any questions prior to commencing the study. Explanation sheets of the study with disclaimers were available on each unit during the course of the study (Appendix F). A verbal explanation of the project was also provided to any staff members the researcher encountered during the project who were uninformed of the study. At the same time the researcher discussed the study's purpose, staff's verbal consent to participate in the study was also obtained.

Description of the Sample

In describing the children, a summary of their major characteristics is provided in Table 1.

TABLE 1: DEMOGRAPHIC PROFILE OF PATIENTS (N=11)

Characteristics	n	Overall \bar{X}
<u>Age (Months)</u>		
24 - 44	5	37
45 - 64	5	51
over 65	1	79
<u>Gender</u>		
Male	4	
Female	7	
<u>Length of Stay</u>		
4 - 6 days	8	5
7 - 9 days	3	9
<u>Ethnicity</u>		
Caucasian	10	
Other	1	
<u>Surgical Procedure</u>		
Urologic	6	
Plastic	4	
Cardiac	1	

Besides these characteristics a description of the surgical interventions will be provided. For the children undergoing urological procedures this involved: one child who had a pyeloplasty (i.e., repair of the kidney) and the other five who had ureteral reimplantations (i.e., reimplanting the ureters into the bladder). With the urological procedures, all children had catheters inserted into their urinary tract. None of these children had a past history of surgery, although they were admitted in the past for treatment of medical illnesses or for tests.

Two of the children requiring plastic surgery had repairs to their lips and palates (i.e., cleft lip and palate revisions), one child had a scar revision to his scalp, and the last child had a surgical repair to her left toes (i.e., syndactyly release). The child who had a scar revision required numerous hospitalizations and surgeries during the course of the study which allowed the researcher to see how his responses to pain varied over time. The child who had a syndactyly repair also had numerous surgical procedures in the past which were related to repairing congenital deformities to her other limbs.

The last child had cardiac surgery (i.e., closure of an opening in the heart - atrial septal defect). This child post-operatively stayed in the intensive care unit for 24 hours and required an endotracheal tube in his airway which was removed

prior to being transferred back to the ward.

All the children required intravenous therapy for at least 24 hours, while some needed therapy up to 96 hours post-operatively. All experienced removal of some type of foreign body (e.g., sutures or intravenous), while the children who had ureteral reimplantations also required removal of the urinary tract catheters.

All the children had one of their parents stay with them during most of their hospitalization. In most instances, mothers were the primary caregivers. Their reactions and interactions with their child accounted for a good portion of the observation data. For two of the children however, fathers were more frequently observed than mothers. For all the children, both mothers and fathers participated in the interview process. Although the researcher attempted to sample a variety of health professionals and personnel, the majority of observational data specific to hospital personnel involved the nursing staff. This was because nurses spent more time with the children in comparison to the other hospital personnel. For both parents and hospital personnel, social factors that were specific to the pain experiences such as attitudes or level of communication, were significant to how the children responded to pain and will be discussed further in the research findings chapter.

Ethical Considerations

In any research project, subjects have four basic rights that must be maintained: the right to full disclosure, the right of self-determination, the right not to be harmed, and the right of privacy, anonymity, and confidentiality (Wilson, 1985). In order to prevent violation of any individual's basic rights, the researcher employed several strategies.

First and foremost, as previously discussed, the children's parents and hospital staff were provided with a verbal and written explanation of their involvement in the research project. Information addressed included description of: the nature, purpose, and duration of the study, data collection methods, how the data would be used, and the potential risks and benefits.

During selection of the sample it was reinforced to the parents that participation in the study was strictly voluntary and refusal would in no way affect their child's care. Parents were further advised that if their child refused to participate in the study, or were too upset with the researcher's presence, they would be withdrawn from the study. All staff members were also advised that participation in the study was strictly voluntary and refusal to participate would in no way affect their employment status with the hospital. Both parents and staff had the option during the course of the study to withdraw from the project at anytime. Honouring withdrawal from

observing any event as requested by participants was also reinforced, although no such requests were made.

For the children, written consent was obtained from their parents or guardians. Explanation of the researcher's presence was provided to the children in terms that they could understand (Appendix E). Although it is deemed not necessary to obtain verbal assent from children younger than seven years who are involved in no-risk situations (Rae & Fournier, 1986), the researcher made the decision at the beginning of the study to withdraw children who objected at anytime to being in the study.

During the course of the study the researcher concentrated on not trying to inflict any undue psychological or emotional distress on the children or any other of the participants. In general, the potential for risk was deemed minimal because no experimental conditions were being imposed on the participants. Nonetheless, I realized that my presence may have caused some of the participants to be uncomfortable or experience some feelings of uneasiness.

To help prevent this, measures employed included: withdrawing from any events requested by the participants and maintaining an observer-friend role when interacting with the children. With the latter this involved developing a relationship based on trust without having any explicit authority (Fine & Sandstrom, 1988). Assurances of

confidentially was also given to all participants; participants were identified by code numbers. Also, I believe that my past experience working with pediatric patients and families helped provide me with the insight and sensitivity to undertake such a project without compromising the children's recovery or hospital staff's responsibilities.

Interestingly, all participants evaluated their participation in the study as a positive experience and felt that I conducted myself in an appropriate manner. In fact, the majority of parents felt having someone to talk to during the course of their child's hospitalization helped them to deal with this experience. It should also be recognized that talking to individuals about their pain experiences is believed to be beneficial and may even help them reestablish self-esteem and reduce fears related to future pain experiences (Faux, Walsh, & Deatruck, 1988; Meinhart & McCaffery, 1983).

One special problem that needed addressing with this type of research however, was recognizing that the nurse-researcher may be exposed to clinical situations that causes conflict between the role of the researcher as a data collector versus the role of the researcher as a nurse. Specifically, there is the potential for the nurse-researcher to encounter situations where patients may not be receiving adequate care. In dealing with these potential situations, I had planned ahead of time to discuss any concerns regarding patient care with the

patient's nurse. If after such discussion the problem with patient care was not attended to, I had then planned to discuss the matter with the head nurse or senior team leader of the unit. Any observations made during this time would also have not been included in the study's data. Although it was anticipated that such actions would influence the study's findings, I strongly believed that my first responsibility was to the patients, which meant the potential to intervene at times.

During the process of data collection, the only difficult situations encountered dealt in fact with some of the children not receiving adequate pain medication. In handling these situations, I would first ask the nurses how comfortable they felt their patients were; that is, I dealt with it through informal questioning (e.g., tell me, do you think . . . , or how do you feel . . . is feeling in comparison to yesterday). This usually triggered the nurses to assess the level of pain in the children and then respond appropriately. Sometimes the nurses asked for my opinion and I then would offer suggestions. Although it is recognized that perhaps the total amount of analgesia administered may have been less had I not intervened, my interference was nonetheless necessary. I do believe that because of my respectful and diplomatic approach to these situations, further data collection was not compromised. However, it is likely that my presence and

interaction in some ways influenced the phenomena studied.

Data Collection

The subjects were the primary sources of data, and the researcher the primary instrument. A variety of data collection techniques were employed in collecting the data. All the techniques, except for one (i.e., the Faces Scale), supported the naturalistic paradigm in that they were not developed from any prior conceptualization of the phenomenon of interest. Data collection methods involved the following:

(1) Parent interview:

A semi-structured, open-ended, face to face interview was administered to the parent(s) (Appendix G). Semi-structured, open-ended interviews were appropriate, as they facilitate respondents in describing their perspective of an experience, therefore, promoting understanding (Faux et al., 1988). Although a question guide was developed, the open-ended technique allowed the researcher to focus the informant's responses into areas previously not anticipated by the researcher or areas deemed significant by the parents (Field & Morse, 1985). Face to face interviewing allowed the researcher to address questions that needed further clarification or elaboration (Wilson, 1985).

The overall objective of the interview was to elicit

information about the parents' perceptions of their child's past experiences with pain (i.e., how children responded and what factors influenced the responses). The data obtained served as a useful guide throughout the observation periods (e.g., made the researcher aware of the words children use to describe pain). Also, details about past pain experiences provided added insight during data analysis. The interview guide was based on the researcher's experience caring for hospitalized children, as well as information from pediatric pain literature and research.

Interviews were conducted within the first 24 hours of the parents agreeing to participate in the study. All interviews were taped recorded in order to preserve their authenticity. Field notes were made immediately following the interview to capture non-verbal behaviours observed during the interview. Interviews were conducted in a room away from patient care. This helped to reduce the potential for interruptions. It also assisted in the development of rapport and trust with the respondents. The interviews took approximately 30 - 40 minutes of the respondent's time. There were no questions that any of the respondents refused to answer.

(2) Participant observation:

This segment of the study involved observing the children in pain, and parents and hospital staff interacting with the children. The objective was to describe how children responded

to and expressed the presence of pain in a given context, as well as to identify factors within the environment that may have been possibly influencing children's responses.

Participant observation was appropriate for the study, as it allowed "the researcher to look beyond statements of ideal behaviour (cognitive conceptualization of culture) to observe behaviours directly (behavioural conceptualization of culture) so that the correspondence or the discrepancy between the real and ideal cultural statements could be described, assessed, and explained" (Germaine, 1986, p.154). It allowed the researcher to maximize discovery and description (Guba & Lincoln, 1981). Moreover, it assisted data collection in instances where communication was difficult. It also served to provide insights as to what effect interpersonal relationships have on children's pain experiences (Garbarino & Stott, 1990).

There are four types of participant observation, classified according to the amount of participation that the researcher has in the setting (Field & Morse, 1985). For this study, observer-as-participant, was the most appropriate level. With this type, the majority of the researcher's time was spent observing and interviewing the subjects, with minimal participation in the work role. The goal was to maximize one's time in observing, yet, at the same time to collect data from the children's, parents', and hospital staff's perspective. Activities were restricted to what was initiated by the

children or parents and included actions such as reading to the children or playing with them. It also involved directed physical care such as helping a parent turn their child in bed or getting their child out of bed. This occurred when the nurses were not available to assist parents. Such activities helped to build rapport and develop trust between the children, parents, and researcher as well as provide further insight into how children and parents responded in different contexts. Also, this type of interaction, described by Fine and Glassner (1979) as observer-friend, helped to create a less frightening, unnatural environment for the children.

In collecting and recording observations, no predetermined behavioural observation tools were used. Although a variety of behavioural rating scales do exist (Jay et al., 1983; Katz et al., 1980; LeBaron, 1984), these scales only assess procedural pain of a short duration, and therefore, could not be applied to acute pain of a prolonged nature.

The Children's Hospital of Eastern Ontario Pain Scale (CHEOPS) which assesses the behavioural responses of children in post-operative pain, was another scale considered for this study. However, although there is preliminary evidence of it being reliable and valid (McGrath et al., 1985), the scale does not take into account what affect the environment may have on children's behaviours. Also, because the scale was originally developed by eliciting recovery room nurses' opinions of the

types of behaviours exhibited by children in pain, the scale may be limited to the immediate post-operative period, and therefore, was not utilized.

Another limitation of these behavioural scales is the issue of the validity of the behaviours selected for the rating (Ross & Ross, 1988). Again, the more intense, overt expression is always rated higher. The scales are evaluative in nature, based on predetermined categories which is not consistent with naturalistic inquiry.

Observations, therefore, were unstructured; that is, a complete description of everything happening was recorded as was possible. Unstructured observation was appropriate for this level of inquiry, as it permitted flexible exploration (Brink & Wood, 1983). Data was recorded in field notes at the time the observations were made or as close as possible to the observed event. To assist in the recording, an observational record was initially utilized which allowed for the chronological recording of the children's behaviours as it occurred (Appendix H). Through the process of data collection however, the researcher found it more appropriate just to write down notes in straight diary format.

In order for the researcher to concentrate on what was happening, notes were kept brief during the observation periods. The notes then were reworked in detail, after observation periods. This involved expanding on the salient

points of the observations, as well as writing up notes relating to methodological, theoretical, and personal issues (i.e., reflexive journal).

Observation periods lasted anywhere from two to eight hours daily and occurred during various periods of the day and evening and a variety of activities in order to facilitate theoretical saturation. The total number of hours observing was approximately 250.

(3) Informal interviewing:

During the observation periods, children, parents, and hospital staff were asked informal questions, depending on the circumstances. Informal interviewing added to the observations and served to clarify meanings the subjects themselves attributed to the situation (Hutchinson, 1986). For the parents and hospital staff, the questions focused on three areas: (a) interpreting what the children's behaviours implied; (b) considering what factors contributed to the behaviours; and (c) inquiring about the parents' and hospital staff's behaviours. For the children, the focus was on whether or not they were in pain and what they felt helped to take away the pain (Appendix I).

It should also be emphasized that the nature of informal interviewing required a flexible research design. Asking questions was dependent on the given context of the situation. Although it was better to ask questions immediately after an

event, this was not always possible (e.g., situations where children's care may have been compromised or when children were too upset).

To help the children communicate, the Faces Scale (i.e., a self-report scale), was also used (Appendix J). This scale is an adaptation of the picture projection technique in which six faces varied in expression and symbolic of different degrees of pain, are presented to children (Wong & Baker, 1988). The faces range from a happy face smiling face representative of "no pain," to a sad tearful face representative of the "biggest" hurt." Although to date, evidence of the scale's validity and reliability still requires further investigation, this type of tool is considered useful for children with language difficulties (Ross & Ross, 1988). Moreover, in a study that compared various scales in children ages 3 to 18 years, the Faces Scale was clearly preferred over all other scales ($p < .001$) (Wong & Baker, 1988).

For this study, the faces were placed vertically instead of the standard horizontal format, as it has been shown younger children had an easier time understanding this arrangement (Beyer and Knapp, 1986; White & Stow, 1979). This could be due to the fact that younger children are first able to recognize and organize vertical dimensions before they can organize horizontal dimensions (Cratty, 1986), and therefore, the notion of increasing or decreasing levels of pain may be more

appropriate with an up and down arrangement than a left to right arrangement (McGrath, 1987).

In using the scale, each child had the scale explained to them in the similar manner and were asked during various periods of hospitalization which one he/she most felt like at a particular time (Appendix J). Interestingly, many of the children refused using the scale during periods when they appeared to be in the most intense pain. Often it was not until they started to feel a little better that they would reflect on their experience through the scale. As will be discussed in the next chapter, this refusal was related to the children's way of dealing with their pain. Another possible explanation for this, could be due to the possibility of the children having difficulty understanding the scale or not feeling comfortable with the researcher.

(4) Chart Review:

Information was gathered from the children's hospital records which related to: (a) demographic factors (i.e., age, sex, past and present health history); (b) procedures performed; (c) type and amount of analgesic prescribed and administered; and (d) reviewing progress notes that related to the children's pain experiences.

(5) Summary interview:

Prior to each child's discharge, the researcher met with the parent(s) and children to discuss the "representativeness"

of the data obtained from the observation period. An open-ended, semi-structured, face to face interview based on themes from the introduction interview was used to collect data from the parents (Appendix K). The interviews were taped recorded and each took approximately 30 - 40 minutes to complete.

For the children, information was collected through a play interview. If the child was not interested in this, a second option was available: a combination of drawing and interviewing (Appendix L). Both play and drawing were selected as they are deemed as valuable tools in obtaining data from young children (Deatrick & Faux, 1989; Garbarino & Stott, 1990; Kotzer, 1990; Rae, 1991). Such methods facilitate children to symbolically communicate their thoughts, feelings, and experiences. Except for one child, all the children preferred the play interview. The interviews lasted from 30-40 minutes.

To enrich the information obtained in all interviews conducted, directed cues or probes were utilized. This included: the use of silence, comparisons, asking for examples, and reflection (Lincoln & Guba, 1985). For five of the children, follow-up visits were made post-discharge which involved further verification of what the children and families were thinking and feeling about their experience.

Data Analysis

Data analysis was based on the constant comparative method. This is the fundamental method used in grounded theory research, and involves moving back and forth among data sets to discover patterns and to determine the absence, variation or presence of patterns (Hutchinson, 1986). The end result is the generation of a theory that encompasses as much behavioural variation as is possible.

Given the limited scope of this study, however, the aim here was to develop beginning behavioural categories and properties that led to the development of a preliminary model. The concepts and categories derived related to the process and meanings of the children's pain experiences, and included identifying a central process, strategies used by the children to carry out the process, conditions which influenced the process or strategies, and the consequences involved for the participants (Bowers, 1988).

Data analyzed by this method included field notes from all interviews and observation periods, and data in the reflexive journal. As the data was collected, the researcher simultaneously coded and analyzed the data. Coding is "the process of conceptualizing the underlying patterns in a set of empirical indicators" (Wilson, 1985, p.418). It involved reading through every piece of information, and giving meaning to all units of information. These units were then directly

entered into a computer.

From here, units of information that relate to each other were categorized. As categories surfaced, the researcher then compared categories with other categories and units of information for each subject, as well as comparing subject with subject. Through this, similarities and differences of each child's pain experience were identified, and major categories and their properties emerged. To assist this process, writing up analytic memos of ideas about the data, codes, and categories was ongoing. When no new information surfaced, data collection and analysis was considered completed. All categories were independently reviewed by the researcher's advisor to help confirm the organization and relationships of the derived properties and categories.

Descriptive measures were also applied to summarize and describe the data from the children's records (i.e., demographics and analgesic administration), and involved measures of central tendency and frequency distributions. This helped to determine the homogeneity of the research sample, as well as identify the highs and lows of analgesic administration.

Since the aim of this qualitative study was to discover and describe process and contextual variables (i.e., theory generating) and not to verify or test variables (i.e., theory testing), the criteria for assessing the study's validity and reliability must be different from that which is used in quantitative research. The criteria appropriate for this was based on Lincoln's and Guba's (1985) criteria for establishing the trustworthiness of qualitative research and includes:

(1) Truth value: internal validity versus credibility

This refers to how well one can establish confidence in the "truth" of the findings (Lincoln & Guba, 1985). A study is considered to be credible when it demonstrates faithful descriptions or interpretations of a human experience (Sandelowski, 1986). It deals with how well the researcher observes and portrays a particular phenomenon.

A major threat to the truth value of a qualitative study lies in the closeness of the researcher-subject relationship (Sandelowski, 1986; Miles & Huberman, 1984). Problems that could have ensued in this study related to the potential of the researcher becoming so enmeshed with subjects that the researcher would not have been able to distinguish her own experiences from those of the subjects. To deal with this, the researcher examined and interpreted her behaviour in relation to the subjects' behaviour through a daily reflexive journal.

Closely related to this was the potential for reactive effects which are defined as artificial conditions imposed on respondents by virtue of the researcher's presence (Deatrick & Faux, 1989). To help decrease the researcher's effect on the subjects interactions, prolonged engagement in the field was supported. Also, other techniques employed to increase the study's credibility included: triangulation of research methods, persistent observation, memoing, and continuous validation of data sought from subjects.

(2) Applicability: external validity versus transferability

This refers to the extent to which the findings have applicability in other contexts with other subjects; when others view the findings meaningful to their own experiences (Lincoln & Guba, 1985). It is based on how well the researcher can establish the typicality or atypicality of observed responses and events (Sandelowski, 1986). To help enhance the study's applicability, data that was thick and rich in description was provided. Theoretical sampling also helped to ensure the widest possible range of information.

A potential threat to the study's applicability relates "holistic fallacy" (Miles & Huberman, 1984; Sandelowski, 1986). This refers to making the data more patterned or regular than it really represents. To overcome this, an independent review of the findings by the researcher's advisor was undertaken.

(3) Consistency: reliability versus dependability

This refers to how well another researcher can follow the progression of events in a study and understand the logic (Lincoln & Guba, 1985; Sandelowski, 1986). Although qualitative studies cannot be replicated, by detailing a study from its beginning to end, other researchers could arrive at similar but, not conflicting conclusions. To enhance the study's dependability, a thorough, written description of the entire research process with the findings (i.e., a clear decision trail) was provided. Identification of the researcher's perspective was important here. The consistency in this study was also enhanced by only having one person (the researcher), collect and record the data.

(4) Neutrality: objectivity versus confirmability

Confirmability is the criterion to which neutrality in qualitative research is appraised; it specifically relates to the findings, and not to the subjective or objective stance of the researcher. How well the researcher can establish that the findings are a condition of the subjects and not the researcher's biases, is the concern here (Lincoln & Guba, 1985). However, it is also recognized that the study's findings were as much a reflection of the researcher as of the phenomenon under investigation (Sandelowski, 1986).

Meaningfulness in the findings was achieved by reducing the distance between the researcher and the subjects; researcher-

subject interaction was important. Issues related to involving children in qualitative research was addressed by the researcher to enhance understanding capturing the children's perspectives. In analyzing the data, the researcher also attempted to maintain accuracy in representing the children's world by using the young children's own words in coding and categorizing the data. The researcher also maintained a reflexive journal. The journal helped to identify the researcher's perceptions and assumptions.

Limitations

Three potential limitations specific to this study need to be addressed. First, due to the nature of the study's sample, findings from this study cannot be generalized to a larger population which is sometimes considered to be a weakness of qualitative methodology. As previously discussed however, the goal was not to generalize the findings, but instead elicit meaning in a given situation and to develop reality-based theory (Field & Morse, 1985). More important in qualitative research is arriving at an accurate description of a particular phenomenon. As previously identified, the researcher employed certain measures to ensure the accuracy of the study.

Another limitation deals with adult researchers conducting research that involves young children. Specifically it is believed that due to the difference young children's cognitive,

physical, and linguistic development, the researcher is unable to assume equal status with the children. In other words, the researcher can never be a member of the preschool group or be a complete participant (Deatrick & Faux, 1989; Fine & Glassner, 1979; Fine & Sandstrom, 1988; Hatch, 1988). There will always be a gap between what is understood and what is questioned about the child's world. However, attempts to increase the accuracy of understanding children's perspectives have been addressed by the researcher. Furthermore one believes that this is not unique to research only involving children; that in fact, this gap can exist in research involving adults.

The last limitation relates to the complexity of the pain experience. Because pain is interwoven with emotions such as fear, anger, and anxiety, some emotion beyond pain itself, may have accounted or contributed to the children's responses (Smith, 1976). Validation of the data from multiple sources, however, aided in the researcher's ability to make accurate conclusions about the children's responses. Also, one believes as will be identified in the discussion of the findings, that these emotions contributed to the variability in experiences and therefore, were part of the children's experiences.

Through the course of data collection, I realized that just as the children and families were dealing or managing with a particular problem, so too was I. Specifically, I was learning how to manage my role as a researcher; that is, obtaining an accurate description of the children's experiences but, at the same time not doing this at the expense of any individual involved in the experience. Appropriately, this experience could be described as "The Experience of Walking on Eggshells."

In the literature there are some good review articles addressing specifically how the nurse deals with conducting research in his or her own culture and setting as well as identifying advantages and disadvantages (Fields, 1989; Lipson, 1984). In examining this issue, Lipson (1984) listed several advantages which include "ease of entry, avoidance of disruption of normal group processes, prior knowledge of some relevant research questions and an enhanced capacity to elicit in-depth data" (p.349). Disadvantages, however, include: difficulties of separating the researcher and clinical role; and the problems related to viewing the setting objectively when one is already familiar with the setting (Fields, 1989; Lipson, 1984). Although these articles are helpful in addressing legitimate concerns or difficulties, they do not address adequately what it is like to experience field research

for the first time and more specifically, sharing another individual's life experience.

In managing this experience, there were three phases that I entered through the course of data collection and analysis. The first phase is appropriately referred to as the "Intruder Phase." It was here that I felt most anxious and unsure of myself. Although this phase was experienced at first entering the field, I also experienced this initially with each new family I met. It was during this time I would question if I had a right to be doing what I was doing. I would also question or analyze everything that I was doing (e.g., type of clothing I was wearing). I often wondered if I was not causing more "pain" for those involved in the study. To deal with this I would rationalize to myself that this study was important and necessary. I also would talk to some of my colleagues who also reinforced the need for the study. Although this was an uncomfortable time, I also feel it helped me to keep on top of things; that is, I was constantly watching what was going on due to my nervousness. In fact I was evaluating how credible the instrument (i.e., myself) was in collecting data. It was, however, an extremely exhausting time.

The next phase, entitled "The Comfort Phase" involved me feeling relaxed at what I was doing, as well as enjoying the experience. It was here that I looked forward to coming on the ward. This was where everything seemed to be coming

together with the data collection and analysis. Also I felt that I was most comfortable with staff, children, and parents during this time. Interestingly "feeling good" was not always experienced with some of the participants; that is, there were some individuals who never completely seemed at ease when I was around. It was with these participants that I would sometimes experience feelings of not wanting to be around them. There were also some participants who sometimes responded to children in a manner that while not causing any harm to them, was not necessarily supportive of the child's general well-being. To deal with this, I would take longer breaks than normal during the observation periods. Another problem encountered in this phase, was being too relaxed and not always focusing my attention appropriately. Reviewing my notes at the end of the day as well as reviewing the literature helped me to identify new avenues to address as well as alternative assumptions for individuals' responses.

The next phase involved dealing with closure; that is, closure from each family and child as well as closure from the field. This phase entitled "Letting Go Phase," involved me experiencing a multitude of feelings - from feeling relieved that the experience was coming to an end, to feeling a little lost that it was indeed ending. Although I felt confident that saturation of themes had occurred, at the same time I wondered if I had missed something. The "what if" scenario is a fitting

way to describe it.

As with all the phases, the process of balancing occurred. I would always be "trading off" something for another thing. Besides strategies discussed in this section, methods previously addressed in promoting trustworthiness also helped me to deal with this experience. Of all, the reflexive journal was most helpful in identifying my feelings, biases, and assumptions. Another necessary strategy was taking a break for a week between each new participant. This helped me to reflect on how I needed to change my approach, if necessary. In the end, besides meeting the study's purpose, I feel this experience helped develop my ability to reflect; that is, it made me more aware of the importance of testing assumptions and not allowing for "closure" too early in any given situation.

Lastly I think it is important to point out that clearly separating one's role as a researcher from the nurse's role, while advocated by nurse researchers (Fields, 1989), is not always possible to do. The very fact that participants knew of my nursing background influenced how they responded to me. I believe by cultivating this without taking advantage of participants only resulted in more insightful data. More importantly, I believe that with qualitative research, the need for a more equal partnership should be supported which may mean participants benefitting from the nurse's experience. Again the important point to remember is to take such things into

consideration when analyzing all interactions.

Conclusion

A descriptive design incorporating tenets from ethnography and grounded theory, was an appropriate perspective to adopt, considering that the purpose of this study was to describe how young children respond to acute pain in a hospitalized setting. By examining the children's thoughts, actions, and feelings as they were observed in a hospital setting or expressed in interviews, further knowledge about the cultural behaviours and meanings of young children in pain was acquired. The next two chapters will specifically describe and discuss the findings.

Chapter IV

FINDINGS

Introduction

The findings of the study will be discussed in this chapter. A model describing how children managed the pain experience and factors influencing this process with attention to the study's questions, will be the focus of this discussion. Similarities and differences of the children's experiences will be emphasized.

"Getting Better from My Hurts": The Model

This section will introduce the major themes and categories that emerged through data analysis. Specifically, a model of the young child's pain experience entitled "Getting Better from My Hurts," will be presented. A conceptual diagram has been developed to assist in the discussion (Figure 1: Appendix M).

During the unfolding of the data collection process, it became evident that the experience of pain was the principal determining event for how hospitalization in general, was experienced and lived by the children. Specifically, the psychosocial problem emerged as "my hurts" shown in the diagram as the five yellow arrows cutting through the centre of the diagram. Although the children experienced many different types of "hurts," the hurt basically fell into two categories: (a) hurt that the children were presently

experiencing; and (b) fear of the potential threat of hurting.

The problem of "my hurts" and dealing with the hurts had an effect on the children's behaviour, thoughts, and feelings; in other words, for each child, "my hurts" influenced who the child was. Specifically, when experiencing pain, the children were less likely to act like themselves. On the diagram, this category is represented by the inner purple circle and is labelled as "who I am."

The basic psychosocial process of "getting better" was the eventual response to the "my hurts." It was a process which the children used to deal with any "hurts" they were presently feeling or with individuals and things in the environment that were perceived by the children to be causing the hurt. In using this process, the children's intent was to return to a state where they felt no hurt or more specifically, where the children could feel like themselves or "good" again. The more intense the pain was, then the more the children focused on stopping the hurt by using the "getting better" process. "Getting better" was manifested in the form of strategies or subprocesses that involved the children: (a) hiding away; (b) fighting it; and (c) making it good. On the diagram the process of getting better is depicted by the three mauve arrows pointing out from the "who I am" category.

The decision and the extent to which children used these strategies as well as the success of the "getting better,"

were influenced by three conditions. This included: (a) who the child was as represented by the inner purple circle labelled "who I am" on the diagram; (b) how hospital staff and parents cared for the children in pain as represented by the light blue inner circle labelled "how others take care" in the diagram; and (c) non-social elements around the children that made them feel "good" or "bad" as represented by the orange circle labelled "things out there" on the diagram. Significant to "how others take care" was the ability of parents and staff to perform care defined as "good" by the children, which is another subcategory of "how others take care." It also should be emphasized that in reality the effects of each these conditions on the children's pain experiences were cumulative, interrelated, and escalating.

In getting better from their hurts, there were four possible phases that the children could experience as represented by the four outer circles of the diagram. These phases were based on the degree of pain that the children were experiencing or more specifically, whether or not they felt better. The worst pain was experienced in the "I can't take it any more phase."

Further elaboration of each category or component of the model will follow. Although each category will be addressed separately, considering the findings as a "whole" is significant to understanding the child's pain experience.

The Three Subprocesses of Getting Better:

In describing these processes, questions addressing the types of behaviours and differences within the sample's age range will be addressed. This category is depicted by the three mauve arrows in Figure 1 (Appendix M). A summary of the major behaviours exhibited by the children is also presented in Table 2 (Appendix N).

The first subprocess or strategy, "hiding away," involved actions that resulted in the children hiding away both from those who could possibly hurt them or from the actual hurt itself. In fact, this action was confirmed by one child who, when asked what he did when he was hurting, exclaimed he "hides somewhere and cries" (011). It was a process whereby the children withdrew from their world around them. Because the children were limited in hiding somewhere in a physical sense, their hiding away was more psychological in nature. Except for hiding in their beds or staying in a particular room that was perceived to be safe, hiding away usually involved the children withdrawing or distancing themselves from others and the hurt.

The main behaviour or action utilized by the children to hide away involved the children avoiding verbal and non-verbal interaction with people around them. This included: not responding to questions, exhibiting a lack of interest with things occurring around them, and limiting their eye contact

with others. Frequently, parents described children demonstrating this behaviour as acting like they were in a world of their own or as if they wanted to be left alone. Indeed, an extreme case of this withdrawal resulted in the children sometimes lying in a fetal position.

When the children did interact, it usually involved them telling others such things as "go away," "shut the door" or "leave me alone"; in other words they were asking not to be disturbed. Any attempts on my part to initiate some type of conversation or play activity with them was greeted with silence or a look of disgust or anger. It was during this activity that I felt truly as an intruder or as an unwelcome guest; in fact I was not allowed to be a part of the children's world. This was also the case with other individuals around them. It was not unusual for the children to refuse to play with other children, although normally they enjoyed playing with their peers. Part of this could be attributed to a fear of being hurt by others as some of the children told their parents they were afraid of other children bumping or hurting them.

Relatives and even sometimes siblings were also ignored by children. It was often the case that the children would communicate the presence of pain to their parent, but not always to a staff member. There were even times when children limited their interactions with their parents when they were

hurting a lot. Some of the children did not want their parents to touch them or do anything to them except to be at their side.

The second action used by the children to hide away was to stare, that is, they focused on some object, which was usually the television. Often the children would stare for long periods at television even though programming was not necessarily child-centred, such as the example of one child who stared all morning at a news program (09). This action was especially deemed to be unusual by some of the parents, considering their children never watched television at home.

Hiding away was also associated with the children's quietness, as if the children did not want to attract attention of anyone. The expression on the children's faces was one of disinterest (i.e., neutral expression) or sadness (i.e., pouting), as if to say "go away, I am hurting." Interestingly of all responses, the general quietness was what surprised parents the most. Many of the parents expected their child would be screaming more, but instead found them to be very quiet. It was more common to hear the children quietly moaning instead of screaming.

In contrast to the quietness, subtleness, of "hiding away" subprocess was the loudness, obviousness of the "fighting it" actions. "Fighting it" was a process whereby children would confront or oppose the hurt; it was basically

a form of protesting. Resisting action was the main behaviour or action used to fight the hurt. This resulted in the children either tensing up, pulling away, verbally telling others not to do something or watching and scrutinizing what others were doing. The other fighting behaviour exhibited by the children, involved them attacking the perceived source of pain. This included the children either slapping, hitting, pulling or grabbing at the source (i.e., tubes, dressings, themselves, or individuals around them).

With the "fighting it" subprocess, it was as if the children were on the look out, ready to confront or attack any perceived causes of pain. Instead of ignoring an individual's questions or requests, children frequently responded with the following typical remarks: "don't do that, don't hurt me, I don't want to, I want mum to do it, I can't walk, I can't pee" or just plain "no." Although protesting was observed in the children when they were feeling better, it was still less frequent and more specific. Instead, when the children were hurting, they would say no to almost everything suggested and often would cry louder or scream. There was anger in their voices. "Fighting it" was also associated with the children grimacing. Their expressions were frequently described by their parents as showing fear and anger.

Although "hiding away" behaviour was utilized for longer periods, "fighting it" behaviour was usually employed for

shorter periods of time. Children were more often observed to be more withdrawn and quiet instead of loud and expressive; that is, there were long periods of quiet, subtle behaviour. "Fighting it" actions were often demonstrated in anticipation of, or during treatment or therapy (e.g., dressing change, venipuncture, walking or having to do something like changing their body position). "Hiding away" was more often observed in between periods of treatment and therapy. One parent appropriately identified the "fighting it" behaviour being exhibited for more specific pain and the "hiding away" for the more general pain seen in the first few days (011).

The "making it good" strategy was aimed at lessening the pain. The strategy involved actions that were either self-protecting or comforting to the children. Whereas the first two strategies were actions directed away from the pain, this strategy was directed toward pain. This strategy was more often observed during a painful period or after painful treatment or therapy. It involved the children concentrating on what they were doing, and therefore, depending on their level of concentration, would be utilized for brief or prolonged periods. Often a fixed or serious facial expression was associated with this strategy.

The main self-protecting behaviour of the "making it good strategy" consisted of the children moving or positioning their bodies in a guarded or protective manner. This included

everything from how the children moved and positioned themselves in bed, to how they got out of bed, to how they walked. The children were most controlled and watchful with respect to how they moved their body. Quite frequently it involved the children limiting their activity to a certain degree and was greatly dependent on the body area that was in pain. Children frequently shifted or changed their positions in a subtle manner (i.e., wiggling or becoming more restless) as the pain started to increase.

Comforting behaviours of "making it good" consisted of the children: patting or rubbing areas of the body that hurt, holding something, doing something else that helped the children not to think of the pain, and asking others to do something for their hurt.

When patting or rubbing body parts that hurt, the children were usually very gentle and careful in doing so. One child, however, was observed to rub his painful body part more vigorously compared to others (011). Usually the body part was closely associated near the site of the surgical incision (i.e., around the dressing), although painful areas not directly related to incision pain were also comforted by the children (e.g., intravenous site).

One of the most unique aspects of the "making it good" behaviour was the difference noted in how children would hold something when they hurt. Differences included: holding a

blanket or a favourite stuffed animal, holding their own hand, or holding their parents hand or hugging them. One really unique way of holding something, involved a little girl who would hold her "hoppy" (i.e., her stuffed bunny) and suck her thumb at the same time. As the pain became more intense she would also hold her "hoppy" closer and closer to her face, until her "hoppy" covered her face (03).

The children also did other things to take their minds off the pain such as watching as opposed to staring at the television and cartoons, resting or sleeping, walking or pacing, reading a story with a parent, colouring, and playing certain games (e.g., computer games). Past accounts of children's actions especially emphasized children taking a rest. When the children played, the play was quiet and solitary. Sometimes the children would even just watch other children play.

There were also some unique ways used by the children to take their minds off the pain. This included: three of the children concentrating on their breathing (05, 09, 011), one child trying not to dwell on the bad parts of the pain experience (01), and another child wishing the hurt to go away (011).

The children also were not always the first ones to initiate these comforting activities and instead sometimes had to be encouraged. In the end, however, the children were the

ones who decided whether or not to partake in these particular activities and when they did, it appeared that the pain "got better" or as one parent expressed, "it seemed that it was not as bad" (06). However, these activities were not always successful for the really bad pain as one child identified, "they only helped when I hurt a little" (011).

The last comforting behaviour associated with "making it good," involved the children asking others for help or in fact, "make their hurt good." Sometimes they would verbally express the need for help by stating "I am hurting." Other times children would be more specific indicating what they like others to do (e.g., "take my tube out," "I wish you take my hurt away," "make it go away"). Some children would also non-verbally ask for help by pointing to their area of pain and crying. More often, the children would ask their parents for help; they often would not verbally request help from staff. The children also had their own ideas about how others should take care of them and would indicate so, either verbally or non-verbally (see section: Good Care).

For the most part, children who used these three strategies had control of their behaviours. There were, however, instances when children lacked control. This was usually the result of pain that was brief or sudden or a surprise to the children. An example of this type of pain was the discomfort associated with bladder spasms. The children

had no time to prepare for this type of pain. As the days progressed, however, it was observed that after having a spasm, children would initiate some "making it good" strategies such as rubbing their tummy.

Although all these three strategies were used by the children, the degree and quality to which each of the children used these actions were different; that is, there was a uniqueness to how each child responded. This was the situation for behaviour that was controlled as well as uncontrolled. Of particular interest was the difference in how some of the children responded when they were having a bladder spasm. Sometimes it was very subtle and other times, very intense and exaggerated. The children exhibited a variety of behaviours which included them: flinching, shuddering, tensing up, drawing their legs up, and sometimes crying or screaming.

These differences in general, were not so much dependent on the children's age; at each age level all the behaviours were observed to occur. Instead, the differences were more the result of the three conditions influencing the children's responses to pain. Each child had his or her own unique way of crying (i.e., differences in pitch and duration) and facial expression (i.e., although all grimaced, the degrees to which they grimaced varied). As one parent commented "you really would have to know who the child is" in order to be able to recognize pain. Some of the parents were surprised at how

their child responded to the pain, especially for those who were undergoing surgery for the first time. Parents also identified changes in their child's behaviour that were different from past pain experiences, such as an unusual cry.

Although each of these strategies are discussed as separate entities, in reality they did not always occur separately, but occurred simultaneously. An example of this includes one of the children who while lying quietly and ignoring others, would scream and hit staff if they approached him (010). Another child while sitting quietly staring at the television, would, with any suggestion to return to bed, cry "no" and quickly turn all the stations on the remote control (05). Both of these children while hiding away from others, also demonstrated fighting behaviours to prevent further pain.

In summary, this section addressed the first two research questions of the study, that is, describing the types of behaviours and differences in behaviours exhibited by the young children within the sample's age range. During the process of "getting better," the children exhibited three main behaviours or strategies to deal with their hurts: "hiding away," "fighting it," and "making it good." When the children were not experiencing pain or when their pain was controlled, these strategies were not apparent or used as much. There was also a tendency for children to be more subtle and quiet in their expressions of pain in comparison to loud and overt

responses. Children relied on more non-verbal actions than verbal actions. Although each child relied on all the three strategies, there was still a uniqueness in how they presented themselves. The observed differences however, were not dependent on the age of child, but were attributed to circumstances surrounding the pain experiences (e.g., type of pain, time of day). Further discussion addressing how the children's behaviours varied throughout hospitalization will be the focus of the next section.

The Four Phases of Getting Better from "My Hurts"

A discussion of how the four phases related to the children's pain experiences will address research question number three of the study (i.e., how children respond to pain during the various periods of hospitalization). The four phases are depicted in Figure 1 by the four outer circles of the diagram (Appendix M).

These phases are associated with how the children felt; that is, whether they were feeling "better" or "not better." In the "I am not better" phase, this was where the pain or the threat of pain was predominant and the "getting better" strategies were frequently utilized by the children. It was in this phase that many of the children expressed that they or their hurt "was not better" and that in retrospect, it "hurt very much or a lot." It was also in this phase that children

were least likely to continue in their normal activities of daily living and interacted less with the researcher. In this phase they were described by many parents as not being their usual selves; more specifically, a change in the children's mood or personality was the major attribute which distinguished this phase from the "I am better phase." In this phase the children were least happy and more afraid, sad, or mad.

Depending on how successful the children were in stopping the pain and whether or not conditions were conducive to getting better or stopping the pain, the children then either entered the phase of "I am a little better" or the "I can't take it any more" stage. With the former, the children exhibited less of the "getting better" behaviour, participated more in daily activities, and interacted more with the researcher. The beginning of this phase was viewed as a turning point by both parents and staff; that is, the children started to act more like themselves. Children would express that they "hurt a little" or felt "a little better" (010). The children also were less sad, afraid, and mad. As one participant described it, he was feeling "a little happy" (011).

If, however, the children were not successful in getting better, then they would enter the "I can't take it any more" phase or as many parents described, "beside myself" phase. The

difference between this phase and the "I am not better " phase was that in this phase, the "getting better" strategies were no longer helping the children to any degree. As one participant stated "I can't deal with it, I can't take it" (011). It was as if the whole experience was just becoming too much to deal with any longer. Children in this phase were often described by their parents as being really irritable, cranky or frustrated. During this phase parents and staff felt most helpless. The hurt was not going away and nothing seemed to help. There was also a sense of desperation exhibited in the children's behaviour. Such behaviours as biting on a blanket, lying in a fetal position, and clinging to their mothers, were observed during this phase. Although one could not deny that the other phases of hurting resulted in the children and families suffering, it was with this phase that the researcher sensed that the children's suffering was severe.

The behaviour of two children especially illustrated this phase. One was a little girl with a bladder spasm (05). She began by screaming and grabbing on to her mother's thumb while sitting on her mother's lap. This followed by her resting in a fetal position with her mother sitting beside her rubbing her back. The screaming continued until her mother had to lay beside her hugging her with the child eventually being totally covered by her mother's body. At that point, the child became

very quiet, occasionally whimpering.

The other incident involved a child having to void for the first time after removal of all his urinary tract catheters. This child was "beside himself" for a period of five hours. No matter what he did, nothing seemed to resolve his pain. Back and forth he would quietly lie down on the floor near the toilet, then get up and ask for a warm cloth on his penis, then cling to his mother and then repeat the whole cycle over again. His facial expression was one of sadness interspersed with extreme grimacing. Eventually he cried out to his mum that he "wished he could go to sleep" to end the hurt. He then retreated to his bed (011). Like the previous participant, this child had a look of anguish on his face that defies description. For both of these children, the pain was so predominant or constant that it permeated their existence. The pain was the only focus of their perceptions or awareness.

Totally the reverse of the previous scenario was the "I am better" phase. In this phase children were no longer experiencing pain. The children resumed most, if not all of their daily activities, were most happy, and interacted more with others. Many children expressed that "they felt good" in this phase. "Getting better" strategies were not used except for potential threats of pain. It was here that parents described their children as getting back to normal. Although one could conclude that the children had returned to their

"old selves," it is important to point out that due to their experience with pain, they had indeed changed to some degree. Three of the participants who had undergone follow-up tests or treatment some months after their hospitalization, expressed to their parents fears of being hurt prior to the tests. This in turn according to their parents, influenced their behaviour (01, 05, 07). Although the pain had left them physically, the memories were still with them.

Although it may be assumed that these phases of pain are viewed as occurring in a progression, from "I am not better," to "I am better," with the worst pain occurring in the initial post-operative period, in fact this was not always the case. Five of the participants did follow a relatively stable progression through these phases toward improvement. This included experiencing more episodes of intense pain during the first two days post-operatively and usually experiencing minor or no pain on the discharge day (01, 04, 08, 09, 010). However, the six other children followed a different course experiencing frequent episodes of intense pain not only within the initial period, but after the second post-operative day.

Especially after ureteral reimplantation surgery it was not uncommon for all phases of pain to persist throughout the hospitalization. Although experiencing periods of feeling better, children who had this type of surgery continued to experience periods of severe pain. Even when at home, they had

pain for as long as one month. As one parent described it, "it was better, but worse" (02). These children did not have a pain-free day. One parent summed up her feelings by wondering "if it was ever going to end" (05). One child eloquently described his hospitalization period as "being the worst days of his life" (011).

Another difference in how children experienced the various phases was the time of day when the worst pain was experienced. For some, the evening and morning was the time when they more often had bad pain (08, 011). For others, nighttime was worse (06, 07), and for some it was the daytime (04, 09). This was attributed to environmental factors and care interventions.

The length spent in each phase by the children also varied. Some children spent a relatively short time in the "I am not better" phase (01, 06, 08) and others spent longer and more frequent periods in this phase. This phase was generally longer for the children who had undergone ureteral surgery. Two of the participants never experienced the "I can't take it any more" phase and demonstrated less of the "getting better" behaviours (01, 08). However, their parents stated that they exhibited these behaviours in the past, in the process of recovering from past surgeries. One child also experienced long-term pain from a burn injury. This child's mother expressed that her son normally dealt with the continual pain

at home by "just not thinking about it and going out to play until it got to be too unbearable."

In summary, this section addressed the third research question by describing how pain behaviours differed during the various periods of hospitalization. Specifically, changes in the children's behaviours were associated with the four phases of "getting better," that is, as the children's pain increased, they utilized more of the "getting better" behaviours, and when their pain decreased, exhibited less of the "getting better" behaviours. Not only was there an uniqueness in how children exhibited behaviours, but as well, the four phases of "getting better" were experienced differently by the children. For the children who had undergone ureteral reimplantation, although exhibiting a similar course of hurting, differences among them were evident in how and when they entered the different phases and the factors that triggered the differences in hurting. Perhaps most significant was the finding that their worst pain lasted longer than the initial post-operative period. The following section will address how factors specific to the children, influenced the children's responses to the pain.

Who I Am

Who the child was (i.e., who I am), not only was affected by the pain itself, but in turn, influenced how the children responded to pain. Specifically, this section will include an analysis of the child factors significant to the pain experience as specified in the fourth of the study. The children's perceptions of what was happening to them, their thoughts, expectations, and feelings specific to the situations influenced their sense of who they were. Age did not emerge as an outstanding influence on the children's responses. This category is depicted by the "who I am" circle in Figure 1 (Appendix M).

Knowing what was going to happen greatly influenced how the children responded. This meant knowing the place, the people, and what treatments were going to be performed. As supported by some parents, just knowing the "routine" helped their child deal with the pain better.

The children's level of knowing was partially influenced by what they were taught about their hospitalization and more to the point, what they understood. All children had been familiarized with the hospital experience by their parents who read children's books about hospitals and discussed the subject with them. Although all parents believed such "talks" helped to prepare their child, they also reported that children could not "know" what it was like until the children

themselves had actually experienced it.

Although discussion included telling the children they would be in pain, discussion with respect to dealing with the pain in general was minimal. Parents expressed that they were unsure of what to say out of fear of upsetting their child and children were described as shying away from such discussions. Telling children what was going to take place did not always necessarily guarantee that they would be able to deal with the situation better; it greatly depended on the context of the situation and the interplay of the other conditions.

Another important form of knowing, was the influence past experiences with pain and hospitalizations had on the children's perceptions. Children who never had experienced surgery before could not really fathom what to expect. Hence, the surprise or scared look on their faces during periods of uncertainty. Although those who had a history of repeated surgery tended to be more calm or less scared, this alone did not describe adequately all the intricacies of the effects that experiential knowledge had on the children. It was greatly dependent on the quality of the past experiences; that is, whether they were positive or negative. An example of this was how a child responded to having his sutures removed being dependent on who the physician was who removed the sutures (01). This child had memories of past suture removal with two different physicians, one who made the child feel less secure

and the other who left the child feeling more at ease. From the latter, the procedure was tolerated much better.

Knowing how others could help them also influenced how the children responded. Some of the children who had never been in the hospital for surgery did not know initially that they should tell the nurse that they were hurting and ask for some medicine or help. Even after being told what to do, it was not until after numerous times of receiving medication for pain, that some of the children realized what they should do.

Children's knowledge was based on what others told them or from what they read in books about hospitalization. Some of the children brought these books to the hospital. A review of these books by the researcher revealed that there was no mention in the books how nurses could comfort people in pain. Another observation noted, was that some of the parents made comments in front of their child that nurses cause pain. One parent described nurses as "meanies," which in turn may have had some affect on children's perceptions of what nurses do.

Children also learned from their interactions with nurses and this influenced how much the children would let the nurse be involved. Nurses who could stop the pain or did not cause any pain were welcomed by the children. In general, except for the time spent carrying out procedures, nurses infrequently interacted with the children and communication was limited.

How the children felt also influenced who they were and

how they in turn, responded to the pain. Feelings of sadness, anger, and madness were feelings often associated with states of hurting or "not feeling better"; whereas feeling happy was associated with feeling better. Sadness was predominant during the initial periods of the pain, while anger was a significant emotion during later stages when children were told what to do to make the hurt better. Whether or not these emotions are actually beneficial in helping children deal with their pain is not known.

Another emotion common to all was being afraid. Although most of the children were eager to come to the hospital, all expressed some fear related to being hurt. Children who had negative experiences with pain were especially hesitant or afraid. Three of the children who had just undergone painful, frightening tests prior to hospitalization had shown changes in their behaviour (02, 07, 011). These included the occurrence of restless sleep, nail biting, and clinging to parents. Also important was the fact that the fear of pain increased in the children each time someone or something caused them to hurt more. For example, one child who was initially eager to walk on the first post-operative day realized subsequently that walking caused pain, and therefore, became afraid just thinking about having to walk (09).

Fear of pain resulted in some of the children not always wanting to be prepared prior to a treatment, especially if

they were not feeling too well during the attempted preparatory sessions. It was not until children started to feel better that they would show some interest in learning. Interestingly, parents also expressed that in preparing their child for hospitalization, there were times when the child would be silent, as if to say, "I am listening, but I am not too sure."

Feeling tired was another state that affected the children and how they responded to pain. It was not uncommon for fatigue to be associated with pain, especially pain which the child was not handling well. Most of the parents also reported that when their child was tired, the pain seemed to be worse.

In summary, the children's knowledge of and perceptions and feelings about hospitalization and pain were significant child factors that influenced how they responded to pain. Although being told what was going to happen was useful to the children, their experiential knowledge was more significant. The pain experience for the children was very much affective in nature; many emotions, including fear, sadness, and anger, were associated with their responses. Additional findings specific to the children's perceptions of their pain experiences will be reported in the section "My Hurts." The next three sections will discuss the influence social environmental factors had on the children's responses to pain.

How Parents Take Care

How parents take care was one of the major social environmental factors that influenced children's responses to "getting better." It referred to how the parents approached children in pain and what they did to help relieve the children's pain. This is a subcategory of "how others take care" and is depicted by a dark blue inner circle labelled "parents" in Figure 1 (Appendix M). The ability of parents to care for children was greatly influenced by factors both external and internal to them (Figure 2: Appendix O). This section will examine parents' actions and thoughts, and factors affecting their actions.

A specific look at the parents' actions revealed that the parents played a pivotal role in the children's care. Besides actually performing most of the children's basic care such as bathing or feeding, two other principal categories of care were identified: monitoring and comforting. Although both monitoring and comforting were observed throughout hospitalization, these care practices were especially necessary when the children were in pain.

Monitoring referred to supervising the children's pain experience and hospitalization in general. This included observing for signs of pain as well as ensuring that something was done to relieve the pain. Parents were always on the lookout for signs of pain and would respond immediately to any

movement or noted change in their child. They often were the ones to initiate the process of getting an analgesic for their child. As one parent (09) commented, "I just watched right and when the time came...", illustrated how most parents responded. Except for the first 24 hours post-operatively, it was common for parents to be the first ones to question if it was time for their child to receive pain medication.

Monitoring other aspects of the children's care included such things as making sure the children were bathed or that they were not sitting up for too long. "Just knowing what was going on," as described by one parent (03), was important to them. For one parent, however, it was perceived to be essential as she believed that her child would not be cared for at all, if she was not there to supervise his care (01). This belief stemmed from memories of her child's past hospitalizations which were seen as basically negative experiences.

Comforting activities referred to those associated with providing both physical and psychological support to the children. This included assisting children with their activities, holding or rubbing a body part, talking to children in a comforting and reassuring tone, and doing something like reading to help children not think about the pain. Of all activities, just being with the child was perceived by the parents to be the most important activity

that they performed. Parents reported that this activity helped their child know that he or she was loved and cared for.

Parents' abilities to perform these actions were greatly influenced by their knowledge, judgements, expectations, and feelings towards the pain experience and hospitalization. Much depended on their ability to know or identify whether or not their child was in pain. This in turn, was greatly influenced by their past experiences in caring for their child in pain. Except for three families (01, 06, 08), surgical intervention was a new experience and parents had more difficulties in assessing and responding to the children's pain. It was a "whole different ball game" as one of the parents appropriately described it (010). Knowing what was going to occur was important. Most parents had limited knowledge with respect to analgesia (i.e., what type and how often it should be given). Many of the parents were surprised to learn that their child would receive a narcotic.

Indicators of pain identified most often by parents included: facial expression indicating pain, change in personality or mood, rubbing or pointing to a painful body area, and crying or verbal expression of hurt. Although all parents were able to point out signs of pain, they also expressed some difficulty either with this hospitalization or in the past of not being always able to ascertain its

presence. Some of the parents reported that their child showed no signs of pain or as they described, it "was hard to figure out" (05, 06, 09). Reports of past pain experiences by parents indicated that it was not until the "pain got really bad or that they got really sick" that they knew something was wrong. Even parents who felt relatively secure in identifying pain expressed their difficulty describing or putting into words their perceptions of the children's pain (01, 03, 011). "It wasn't always clear-cut," as one of them pointed out (01).

When parents were asked to talk about the children's past pain experiences, they would begin discussion by describing how their child responded to illness in general (e.g., symptoms such as a high fever would be identified). They could not always separate pain from the illness experience or clearly describe the difference between pain and feelings such as anxiety. Knowing the circumstances surrounding the child's behaviour was beneficial and was often included in the parents' descriptions of the children's pain experiences. Use of a checklist to determine what was wrong in the child also helped some of the parents (01, 02, 03, 011). Some of the parents also intuitively "just knew" their child was in pain (01, 03, 011). In general, however, all parents expressed that it was easier to identify pain in children who could adequately verbalize how they were feeling.

Value judgements guided the parents' reasoning and

actions. Although some of the parents identified quietness as a sign of something being wrong with their child and expressed anger at staff for not picking this up as a cue, they frequently equated pain with the more overt, expressive behaviour. Likewise, the more that was done to the child or the more graphic the tissue damage presented itself, the more likely parents would perceive their child to be in pain. The duration of time the child was in pain as opposed to intensity, was also perceived to be more significant by the some. Parents would express that "their child was in bad pain, but at least it didn't last too long."

Parents would also sometimes describe their child to be experiencing "discomfort" as opposed to pain. Although not clearly differentiated, discomfort was seen by some parents as an "inconvenience type of pain" or not "real pain"; it was identified as any pain not directly related to the pain caused by the surgical incision (e.g., a sore stomach or discomfort from having a tube inserted). In turn, parents sometimes would not necessarily request that their child be given an analgesic if they perceived their child's pain as discomfort.

Safety and the importance of the child returning to a normal state was also highly valued by the parents. Although all the parents believed analgesia was necessary for their child, at the same time they only wanted enough medication to relieve the pain without making their child too drowsy. As one

parent put it, "only if it warrants it" (03). The parents assumed or expected a certain degree of recovery daily. To some parents this meant that their child would require less medication. Fear relating to addiction also affected some of the parents' judgements. Although their child's pain caused stress for the parents, a greater source of stress was simply helping the child through the surgery.

Changes in parents' expectations of how staff could relieve the children's pain was also notable. Initially most parents expressed that they did not know what to expect. They did not know what type of pain-relief measures nurses could initiate and really did not think nurses could do much for the pain. The typical response was to expect that nurses would give pain medications and make their child comfortable. One parent who had past experience with hospitals even suggested that if it was up to the nurses, "they would sooner not give any pain medication at all" (01). Some of the parents, while acknowledging that nurses relieve pain, expected them to inflict more pain than they would relieve because administration of painful procedures was assumed to be part of their role. Most of the parents also felt that staff could not really provide the closeness and comfort that parents could.

Parent's expectations, however, changed near the end of hospitalization. Their expectations were more detailed and specific with a greater emphasis towards controlling the

children's pain. This included: giving analgesics more frequently (especially prior to bedtime), providing more information about analgesics and non-pharmacological pain relief measures, allowing for more rest periods, and providing more psychological and physical support to children and parents during painful periods. Parents reported that they wished the nurses had inquired more frequently about their child's level of pain. Some also stated that nurses should take pain in children more seriously and not make hurtful comments such as referring to children as "typical" or "role playing."

Even though parents stated that they wished their child was given different or more analgesia, most of them never communicated this or demanded it from staff. An example of this involved one mother whose child had been admitted more than five times to the same unit never shared with the nursing staff that the analgesic routinely prescribed, rarely worked in her child. Sometimes too, parents incorrectly assumed an analgesic had been administered and therefore, would not demand pain medication, even though it was apparent that their child needed something. Most of the parents also seemed to have great trust in the staff as supported by following comments expressed by parents: "I know they (i.e., staff) will try to do everything they can" or "they know what is best." Many parents believed that hospital staff were the experts in

recognizing and caring for pain.

There was also the tendency for parents to make excuses for staff when they were not available (e.g., "it is a busy day"). Parents generally felt their child received "good" care even though many children experienced periods of uncontrolled pain. All parents at times expected their child to experience some degree of uncontrolled pain. At least half of the parents expressed that dealing with the pain was partly the child's responsibility. More to the point, many described their hospitalized child as being very stoic in comparison to their other children, and expected that he or she could put up with a lot more or deal with the pain better.

Feelings also affected how parents responded to their child. Some parents expressed feelings of comfort with the care setting. As well, who the nurse was who cared for their child was important to them. It was important for the staff to be friendly. Parents who expressed the concern that they were a "nuisance" would also avoid bothering staff, especially with respect to their child receiving the pain medication on time. It was as if they did not want to rock the boat. Although at home some parents would give their child tylenol around the clock for pain, at the hospital they did not demand this, even though they later expressed they felt it could have helped. Feeling comfortable and having some control of the situation, therefore, influenced how parents interacted with

staff.

Feelings of helplessness were experienced by most of the parents. Although parents accepted the role of primary caregiver during hospitalization, many still expressed or exhibited frustration in not knowing how to do things without hurting their child (e.g., like lifting or moving them). There were instances when parents had indeed caused pain in their child due to a lack of knowledge.

When children experienced periods of uncontrolled pain, this especially provoked feelings of extreme helplessness in the parents. Some of the parents near the end of hospitalization expressed that they wished staff had been around more and that any suggestion from staff with respect to relieving their child's pain would have been appreciated. Even the more independent parents expressed that they needed more help or support especially when the parents experienced fatigue. Parents also expressed a need that they be told more about how to handle their child's pain at home. Parents who had more knowledge of pain control acquired this basically from learning by trial and error through experience. Input from health professionals rarely occurred.

Feelings of guilt and sadness were also expressed by the parents. Although most parents rationalized their child's pain by stressing that the surgery was necessary, the parents nevertheless at times questioned if they had done the right

thing. In general, most parents stated that the pain their child suffered was more than what most people experience in a lifetime and hoped their child would never have to go through this again.

Parents whose children experienced a lot more pain than was expected found it difficult to see their child in pain. Parents would try not to show these feelings to their child. Many times I observed parents to be fighting back the tears. One parent expressed the belief that she should "not get upset, but be strong" (05). One parent who found it was especially difficult to see her child in pain, dealt with it by having her husband stay with the child instead of her. Parents would also question if they were not being too "soft" or paranoid about their child's pain; they sometimes doubted their judgements or perceptions. Although parents did a lot, they sometimes wondered if they had been truly helpful. A typical response was "I guess all I did was be here."

In summary, the children's parents were identified as one of the major social factors influencing children's responses to pain. Parents were important to the children "getting better." They were involved in many aspects of the children's care. However, once the children were feeling better the parents were not needed as much. The quality of interaction between parents and staff was important. The parents were the bridge between the nurses and the children, especially during

periods of bad pain. However, even though most parents wanted this involvement they were not able to relieve all of the children's pain. They also expressed feelings of helplessness at times and the need to know more.

How Hospital Staff Take Care

Another significant social environmental factor influencing the children's pain experiences was the hospital staff's ability to take care of the children in pain. This is another subcategory of the category "how others take care," and is depicted by a dark blue inner circle labelled "hospital staff" in Figure 1 (Appendix M). Specifically, hospital staff's actions and thoughts, and the factors influencing their actions are reported here. This category included the ways in which staff approached and responded to the children in pain. This was influenced by the staff's understanding of the children's pain experiences and their knowledge about pain management. Value judgements, expectations, feelings, and how they communicated and interacted with others also influenced the children's ability to "get better" (Appendix O). As previously addressed in the methodology section, staff referred to nursing staff unless otherwise mentioned.

The nursing care of the children emphasized performance of technical aspects of care (e.g., changing dressings, monitoring intravenous machines or emptying collection bags).

Even though staff watched for pain in the children, their attention would be at times focused not so much on the "whole" child, but things peripheral to the child, such as the colour of the child's urine in the urinary drainage bags, or the condition of the dressing.

Comforting children was not a major activity for the staff. Some of the nurses assumed it was the parents' duty to calm or soothe children and when parents were unable to do so, the parents were negatively evaluated. This was reflected in the nurses' comments such as "she did not seem to help or she could not get him to settle down." Non-pharmacological independent nursing measures such as teaching the child relaxation techniques were rarely utilized by the nurses.

Of all activities to relieve the children's pain, providing analgesia medication was the most frequent practice carried out by the nurses. This, however, was not done as frequently or as thoroughly as it could have been. Although nurses tended to give more narcotics than non-narcotics (Table 3: Appendix P), and often at intervals every three to four hours during the first 48 hours post-operatively, this was still not adequate for the children. Often children experienced pain within two hours after receiving their last medication. An associated observation was the finding that after administering analgesia, staff often did not reassess the patient's pain to determine if the medication was

effective. When nurses did reassess, they often did not revise their plans if analgesia was found to be ineffective. Drug dosage was also not always adequate. Of special note, was that the analgesic, codeine, was consistently prescribed and administered below therapeutic levels (Table 4: Appendix Q). Most staff were unaware that the correct dosage for this drug had changed within the last year.

The nurses' knowledge base with respect to administering analgesia in general varied, and they were often not informed. Awareness of how often a drug could be given, the types of routes, and new management regimes like patient- controlled analgesia, were not always known by staff. Staff also demonstrated limited abilities to manage pain that was not being controlled. "I think..., I don't know but, I guess..., what do you think," were comments generated by staff when asked what they could do for the pain.

There was also a routine to administering analgesia with the expectation that medications would be reduced daily, even if the children's pain had really not subsided that much. The majority of medications were given by the second or third post-operative day (Table 5: Appendix Q). The nurses were more intent on managing the moderate to severe pain post-operatively within the first 48 hours, but appeared not as concerned about managing the subsequent mild to moderate pain. The majority of medications were given during evenings and

days, with fewer medication given at night, even when the children experienced a restless sleep (Table 6: Appendix Q). Children who had abdominal or chest surgery also were more frequently administered analgesia during the first two days post-operatively than children who had surgery to the face, mouth or limbs (Table 3: Appendix P).

Another trend observed in relation to the nurses' care was that they rarely practiced anticipatory management. Except during the initial post-operative period when medication was given more frequently, staff usually waited until children were in pain before giving them medication. Also, management of other pains such as sore throats, gas pain, and treatment pain, were rarely treated with medication. The focus was on the incision pain. One exception was managing pain related to bladder spasms; nurses did attempt to treat this pain with a co-analgesic (i.e., an anti-spasmodic). Yet even in these instances, nurses sometimes waited until children overtly expressed their discomfort before acting on the pain. Pain that was not directly related to the surgery was referred to by one staff member as "unusual pain."

A search of factors that influenced the staff's care, revealed that "knowing the child" was a theme consistently identified by staff as being significant. When questioned about a child's level of pain, staff would frequently respond with the following comments "I don't know, I don't know him or

her, I haven't taken care of him or her, or I haven't seen --- -- that much." Such responses were usually the result of staff either not having the opportunity to care for the child, or if they had, not spending enough time from their perspective to really get to know the child.

When staff were asked how they could tell the child was in pain they had great difficulty articulating this assessment. Their responses were usually brief - usually no more than three cues given by each staff. There were often periods of silence when questioned. Some nurses also thought that children of this age were especially difficult to assess in comparison to infants because young children could be so "whiny." Indications of pain varied between the staff members, but crying or other forms of verbal behaviours were the most frequent responses noted by staff. This was followed by overt forms of non-verbal behaviours such as fighting, restlessness, fussing, or guarding. The only physiological cue identified by staff was a change in vital signs. Also they, like parents, did often not recognize quietness as a sign of pain. One nurse even commented that when children are quiet, she found it more difficult to assess pain. Unlike parents, however, staff rarely relied on children's facial expressions or on changes in their mood. Circumstances surrounding the children's pain expression were also rarely expanded upon.

The staff frequently referred to how children in general

respond to pain, and seldom referred to the child that they were caring for, when asked to indicate cues of pain. The uniqueness of each of the children's behaviour was not emphasized by staff. Although knowing the child was important to staff, it appeared that few were, with one exception, known by staff. This child had previously been hospitalized numerous times on the same unit. Whenever questioned about the child's behaviours, staff would respond by commenting "oh that is ----, that is just him, that is how he usually acts, you have to know him." Nevertheless, even with this child, it became apparent in conversations with the child's mother that staff did not know everything about him.

The quality and quantity of time staff spent with the children seemed to have had an effect on the staff knowing the child. Most of their time was spent carrying out treatments; little time was spent getting to know the children. It was not uncommon for staff to walk in for a few minutes when the children appeared comfortable and then as staff left, the children showed signs of pain. Staff would frequently miss some of the most painful periods experienced by the children (e.g., when some of the children had their first void after removal of urinary tract catheters).

The consequence of not knowing the child resulted in some staff being unaware of the child's pain or particulars about a child's care. Such things as what position children favoured

or whether or not they wanted to be held, were not always identified by the nurse. Individualistic care was not always provided.

Time was also significant in relation to dealing with pain medications. There was a waiting period from the time children started to hurt, to the time the medication for the hurt was actually given. This included the time it took for nurses to acknowledge the children's pain and prepare and give the medication, as well as the time it took for the medication to take effect. Things that complicated this process, especially when giving a narcotic included: waiting for a qualified nurse to give the medication, waiting for the child's nurse to be available, getting the child's physician to revise subtherapeutic medication orders, and finding the nurse who had the narcotic keys. Sometimes these delays resulted in children waiting from 30 minutes to two hours before receiving the medication. The result was a period of uncontrolled pain.

Time alone however, was not the only factor to consider. One nurse who had only had the morning to get to know one of her patients, appeared immediately to be aware of the child's pain. She had commented as soon as she saw the child that she knew right away that the child was in pain and even though this nurse was busy, gave the child an analgesic. This nurse even expressed her anger to me about staff not giving this

child medication and emphasized that she demanded the child get appropriate analgesia. Her pain assessment was based on the following: the child's verbal and non-verbal behaviour, the child's mood, time since the child received the last analgesic, and the procedure experienced by the child. In observing this nurse care for the child, it appeared that the nurse's eyes were focused directly on the "whole" child and not only on objects external to the child. She had appeared to "watch carefully." According to another nurse the careful watching was necessary in determining whether or not a child is in pain.

This was in stark contrast to another nurse who was so concentrated on an intravenous machine, was unable to recognize that her patient's denial of pain was attributed to the patient seeing a needle in the nurse's hand. Although this patient had just previously indicated she was hurting, she was now too afraid to admit to her nurse that she was in pain. The end result was that the nurse did not give the needle which had an analgesic in it intended for intravenous administration. The child also waited for another two hours before receiving an oral analgesic.

Another factor affecting the staff's ability to care for the children was the level of communication between parents and staff with respect to the children's pain experience. There was a tendency for minimal dialogue; the discussion

focused on whether or not the children were hurting and when they last received an analgesia. Such things as the quality and intensity of the pain, pain behaviours, and types of medications were rarely discussed.

Discourse amongst staff with respect to the children's pain experiences was also minimal. Such things as how much pain medication children received within the last 12 hours was not always known by staff coming on duty. Adjectives such as "fine" or "good" were often used by staff to indicate that generally, children were stable or not in any distress. The children's level of pain was not always part of the nurses' verbal report. Charting was especially limited and except for the medication record, there were no plans recorded with respect to managing pain. Staff more frequently relied on parents to tell them if the children were in pain, but did not always probe and directly ask the children or confer with other nurses. Many nurses stated that they believed the parents would say something or tell the nurse if their child was pain.

Value judgements greatly influenced how nurses responded to and cared for the children. Pain management was based heavily on the child's diagnosis and the "routine," and not so much on "who the child was" even though most nurses expressed knowing the child was important. It was not uncommon for staff to express "oh he or she is your typical -----, that is how

they all act." Staff would express "this is what we do or give for -----" and when a medication was suggested for children that was not the routine, staff would comment "we don't do that."

The nurses also deemed certain behaviours as desirable and others as undesirable. Children who were quiet were perceived to be "good" by staff. The more overt the children's behaviour were, then the more likely staff would perceive these children as hysterical, whining or miserable. Although some staff did associate this behaviour with pain, there were still others who related it to the child's personality. Some nurses even reported that "whiny" children were sometimes acting or role playing and would blame parents for this. Interestingly enough, it was the "noisy" children or the children who had parents who intervened a lot, who received more pain medication in comparison to the quiet children or children with passive parents.

There was a perceived hierarchy of suffering based on the diagnosis of the child or what was being done to them. Children who were more ill or who had more visible injuries, were expected to experience more pain than children whose injuries were not as visible or extensive; that is, pain was perceived by staff as more legitimate in the former group. Children who had undergone ureteral reimplantion or heart surgery received more narcotics than children who had surgery

to their face or on a limb (Table 3: Appendix P). There was also a hierarchy with respect to different symptomatic states the children experienced. Treating a fever was given priority over managing pain or emesis. Nurses would not hesitate to give tylenol around the clock for a fever, yet not for pain. Staff would sometimes become so concerned or engrossed with one symptomatic state, that they would ignore or not acknowledge other conditions.

Rarely was pain resulting from treatments managed. As was true of parents, staff also identified the length of pain rather than the pain intensity as the priority. It was common for staff to express "yes it (i.e., the treatment) hurts, but it was over fast."

The staff became so involved in performing certain treatments to the exclusion of anything else, even the children's pain. An example of this involved one nurse who had to remove a child's ureteral catheters. Although this nurse showed concern about the child's ability to deal with the situation and the resulting pain, the difficulty in removing the catheters nevertheless became the nurse's priority. The nurse's eyes were focused on the instruments and in pulling out the catheters. Afterwards the nurse commented that she never realized that this was so difficult to do and felt that the child should have "been put under for this" (i.e., given an anaesthetic). However, the normal routine was to remove the

catheters on the ward without any prior medication, and the status quo was maintained.

Although pain control was important, work routines and getting the child back to normal while preventing complications, seemed to be the priority. There was a concern to ensure a safe, uneventful post-operative recovery. An analgesic was considered effectual if it helped to reduce the child's pain, but did not make the child too drowsy. Other occurring side effects such as nausea or constipation, resulted in some nurses limiting the amount of analgesics administered. Fear of addiction or "becoming too strung out" was a concern of some nurses. Although acknowledging the importance of controlling pain with analgesics, one nurse also admitted that "it just takes one bad incident with a medication," to cause an individual to hesitate in administering certain analgesics.

Nurses' expectations towards the pain relief measures also affected how they responded to the children. If in the past the nurse did not have much success with a particular pain relief measure, then they would often not attempt using it with other children. "I've tried it, it doesn't work" was a common response to certain suggestions I would offer for pain that was not being controlled. It was as if nurses expected a certain level of uncontrolled pain or that nurses did not expect that they could relieve all the children's

pain. This was especially evident with bladder spasms. Although this surgery was perceived as "miserable" by nursing staff and they expressed frustration in managing the spasms, they did not attempt to try other things to deal with it. The attitude prevailed that not much could be done. Although the staff acknowledged the spasms, they carried on with their other duties. One nurse reported that the only thing that could be done was to be honest with the parents and tell them about the spasms in advance.

Even when the nurses were open to suggestions, they sometimes expressed a sense of powerlessness or hopelessness; as if it would be impossible to change things, hence there was no point in trying. Accounts from nurses of trying to get analgesic orders changed reinforced the difficulties nurses would sometimes encounter. Typical responses expressed by nurses included: "it will not do any good to ask, I hope you are there to see their response" or "no, this is how Dr.--- likes it, this is what he prefers" or "there is nothing that can be done." One nurse reflected on an incident that involved a young child with a ruptured appendix who required intravenous morphine, but due to the insistence of the physician, it took three days before the required order was written. The nurse recalled this incident with anger, expressing the lack of control staff had over the whole situation. Staff, just like parents, however, would often make

excuses for others. Even nurses who believed that certain nurses did not give enough analgesia, would at the same time also tolerate it and not insist on a change.

Another example of nurses lack of control dealt with performing treatments that they did not especially like or had difficulty in doing, such as removal of catheters. This not only affected nursing staff, but also internes and residents who had to follow orders from the children's physicians. For instance, two residents were ordered to remove the lip sutures of a child with a cleft lip revision. This whole event was traumatizing to the child and was difficult for the two residents. After the event was over, I questioned one of the residents to see if he thought that the suture removal should have been done in the operating room. He responded by stating, "if it was him, he would put in dissolvable sutures so that removal of sutures would not be necessary." When I asked him why the child's physician did not do this, he responded by stating "because he doesn't have to be here to remove the sutures." There was anger and frustration in his voice and also a sense of powerlessness.

Although staff experienced many feelings just as parents did, for the most part, it was still a more emotional experience for the parents. In conversing with the parents and staff, there was always a more affective tone in parent's expression in comparison to the staff's. It was not uncommon

for parents to express sadness and despair such as was the case when one parent commented "oh poor-----, how much more can she take." Staff, however, would usually just say "----- is hurting" just as a matter of fact. This was especially the case for nurses who did not spend much time with the children during periods when they were in pain; it was as if the farther the staff were removed from the incident, the easier it was to endure.

In summary, how the nurses cared for children was another important social environmental factor influencing children's responses to pain. Knowing the children and how to manage the children's pain affected how nurses cared for the children. There was a tendency to practice care based on "routine" procedures and not in response to the needs of the children. Performing "good" care for the nurse meant providing safe care and performing technical aspects of care. Staff expected parents to be able to comfort their child. Although staff wanted to change certain practices, they also experienced feelings of frustration and helplessness. The next section will discuss the types of care practices performed by hospital staff and parents that children identified as being helpful to them while experiencing pain.

Good Care

The children had definite likes and dislikes with respect to the care they received. Care that was preferred or liked by the children was identified as "good care" and influenced how the children responded. The significance of "good care" was best summed up by one child who identified "taking good care or just to make it good" as the most important thing hospital staff or parents could do for children (011). Good care is a subcategory of the category "how others take care" and is depicted by a dark blue inner circle labelled "good care" in Figure 1 (Appendix M). Four categories of good care were identified as being significant: (a) being with me; (b) doing things that help me; (c) doing things not to hurt me; and (d) letting me do it (Table 7: Appendix R). The type of care, or "good care," is another social environmental factor affecting children's responses to pain.

The first subcategory of care, "being with me," referred to having a parent or a significant caregiver around the children, and was seen by the children as the most important aspect of their care, especially when they were hurting. Often children would cry when their parents would leave, but those effects of separation anxiety were not as intense when the children were "getting better." Although many of the parents reported that their presence helped the children feel less afraid, it also helped the children to better deal with their

pain. One child commented that when his mother was not around for his dressing change, "he felt very in pain and cried a lot" and that he "could not do it without his mum or dad being here" (011).

Although all the children expressed a desire for their parents to be with them, there were differences in the level of involvement expressed by the children. With each subsequent level, there was an increasing degree of physical closeness. The levels involved the parents: (a) sitting beside the child; (b) touching the child (e.g., holding the child's hand, rubbing the forehead, kissing, blowing on a sore body part); and (c) embracing the child (i.e., hugging or cuddling the child).

Sometimes when experiencing pain, the children only wanted parents to sit beside them and hold their hands. Other times the children wanted to be held to the point where parents were covering the whole body as if the children and parents were one unit. Gently rubbing a sore body part was favoured by most children, although one child became very angry when his father started to rub his sore neck (04). One child also wanted her mother to blow on her sore back for a scratch (03). Sometimes the children expressed a desire not to be touched at all by their parents. It was especially common for the children in extreme pain to pull back or withdraw when touched by their parents. Of importance, however, was that

their parents were in the room with them.

On occasion when the parents were not around, the children would then settled for having someone else near them whom they trusted (e.g., myself or their nurse). For the most part, however, it was the parents who stayed with the children during periods when they were hurting. As one child summed it up best by stating "just put my family right here and leave me" (Ø11), having parents around were viewed by the children as the most important care practice of helping take away the hurt.

The next area of care, "doing things that help me," referred to general care practices that were viewed by the children as helping them or their hurt to "get better." Examples of these practices included getting medicine, applying heat or cold to a body part, and putting a band-aid on. Parents or staff performing such actions were viewed as being "good" by the children. Usually these practices were first initiated by someone other than the children, but once the children became familiar with the practice, they would then themselves request such care practices.

Children, however, rarely requested medicine for their hurt, although in retrospect it was identified by the children as one of the most frequent responses to stop the pain. Some of the children however, did not perceive taking medicine as "good" care practice. This was because the children did not

like the taste of the medicine. Also, it was recognized by the children that the medicine was not always completely successful in stopping the pain. This was summed up by one child who stated, "it still let some of the pain get in" (03).

The next category, "doing things not to hurt me," centred on practices that helped prevent further pain. Not adhering to such practices often was associated with making children angry, mad, or afraid. The emphasis here was to avoid pain and to be very careful in providing care to children. Examples of these included such activities as being careful in putting tape on or removing it, not poking children, and not removing surgical stitches. Some of the practices identified were very general (e.g., "don't touch me"). Some actions identified in the previous category were also identified in this category. An example of this was having urinary tract catheters removed. Although some of the children initially identified the catheters as a source of pain and wanted them taken out in order to help them get better, once removed, the children then identified that having the tubes out only hurt them more. This was because having to void caused them even more or just as much pain. Some aspects of care perceived by staff as important for the children's recovery, were seen as being hurtful to the children (e.g., changing one's position or moving).

The last category, "letting me help," although closely

related to the previous categories, was so important to the children, that it emerged as a separate category. This involved the children deciding in general how things should be done and how much help they wanted or did not want. Sometimes this meant asking for assistance and other times, it meant refusing any help. Usually when the children were in considerable pain, they avoided or refused help. When they started to feel better however, they were more accepting of help if it was needed. Sometimes the children were very specific about how they wanted to help (e.g., one boy wished he could wash his boo - 011).

Identifying who the children wanted to assist or help them was also important. In most instances the children expressed that they wanted a parent to care for them. "I want mum or dad to . . .," was a common response. This even included one boy wanting his mother to take out his sutures (01). There were instances however, when the children asked for help from their nurse instead of from their parents. This usually resulted after their mother or father did something that caused pain in the children and therefore, decreased the children's trust in their parents' ability to care for them. The children preferred someone who they trusted, yet at the same time, made them feel "good."

When asked specifically how nurses could help take away the hurt, the majority of children responded simply by stating

"giving medicine." Although it was observed that children had definite preferences for how care should be performed, in retrospect, minimal recognition to nurses was given. More importantly, psychosocial aspects of caring (e.g., social support) were not frequently identified by the children as nurses' responsibilities, even though it was observed that children asked nurses on occasion to do such things as hold their hands or sit with them. Only some of the children identified psychosocial care practices as care performed by nurses that helped them feel better (e.g., "lots of hugs and kisses from nurses helps" 09). Nurses and staff in general, were identified by the children as primarily being responsible for the physical aspects of their care. Also, in the play interview, the children more often referred to the physician than the nurse.

In summary, children had definite likes and dislikes for how care was given which in turn, affected their recovery and ability to deal with the pain. Control of the situation figured significantly in their choice of care. Although nurses were responsible for many of the actions identified as good care, the parents were seen as more central to the children in achieving good care. The next section will discuss the influence non-social factors had on the children's responses to pain.

Things Out There That Make Me Feel Good or Bad

This category as depicted by the orange circle in Figure 1, Appendix M, pertained to unpleasant or pleasant "symbols" in the children's non-social environment. These symbols directly or indirectly influenced the children's pain experiences (Table 8: Appendix S). Good or pleasant symbols helped the children to feel more like themselves, whereas unpleasant symbols had an opposite effect on the children. Whether the symbols were perceived to be pleasant or unpleasant depended on the child and what they deemed significant from their sense perceptions (i.e., sight, hearing, touch, taste, and smell). The introduction of such symbols into the children's environment was partially controlled by those who cared for the children.

Symbols perceived as unpleasant or "bad" had a negative influence on the children's experience and were associated with making the children feel sad, angry or afraid. Usually, negative symbols were not part of the children's world. These symbols were things that the children did not want in their world. In fact, quite often unpleasant symbols were perceived as the pain itself or a cause of the pain. Examples of such symbols included: the sight of scary objects such as needles or gloves, the sound of a surgical drain being removed, the feel of stitches in the surgical incision, and the taste of medicine. Sometimes too, unpleasant symbols were things

children encounter in their everyday lives such as loud noises. Due to the presence of pain however, such everyday symbols were no longer as tolerable to the children.

Pleasant signals or "good" things had an opposite effect; that is, they had a positive influence on the children's experiences. These symbols were also associated with the children feeling more content or happy and secure. Examples of these included: the sight of children's favourite teddies or dolls, the feel of a comforting blanket, taste of preferred foods or drinks, and the smell of a familiar object like an old stuffed animal.

It was especially important for the children to have their favourite possessions around them even though the children may not have played with them or used them much. For example, one child who although was still hurting too much to ride in her favourite purple toy car, was insistent that this car be left in her room (02). Even more important were objects that the children brought with them from their homes (e.g., stuffed animals). Familiarity of non-social things which made them feel good, was the key factor in these instances. Although this may not have directly affected the children's level of pain, it helped them deal with the pain. For the most part however, positive symbols did not seem to have the same impact on the children as did the negative symbols during periods of severe pain; that is, the children seemed to

concentrate more on the negative symbols.

It should also be recognized that these symbols alone, were not always enough to decrease or increase the children's level of pain or ability to deal with the pain. Instead it was the combination of the various processes and dimensions working together that determined the influence that the symbols had on the children. Context, therefore, was significant. For example, one child was afraid of hospital personnel dressed in green operating room gowns and masks, but sometimes if the child trusted the person, wearing such apparel did not upset him (01). Another important consideration was the place or location where the children were being treated. Although it was hospital policy that treatments be mainly performed in the treatment room, some children stated that they wanted to have treatments performed in their own room. Certain characteristics of the treatment room such as the treatment table only resulted in some children being more afraid and less able to deal with their pain. Memories of especially difficult painful events in the treatment room overpowered any suggestions offered to deal with their fears.

Although the various stimuli or cues influenced how the children responded to pain, hospital staff were not always aware or sensitive to what bothered or helped the children. Examples of this included staff not being careful about how

they approached children for a dressing change or not being aware that loud noises bothered certain children. Nurses who were more thorough in assessing children's pain were also more thorough and sensitive in how they approached and cared for the children.

In summary, this section examined the influence non-social environmental factors had on the children's pain experiences. There were many non-social environmental symbols that influenced how the children felt. Some symbols helped the children through their pain experience and others only intensified the pain. Again context and gaining control of the situation was significant.

"My Hurts"

All children experienced more than one type of hurt or many hurts during their hospitalization. More importantly, the pain or hurt was very personal to them or had become a part of them. The many hurts were in fact defined by one child as "my hurts" (02) as depicted by the five yellow arrows in Figure 1 (Appendix M). The meanings or perceptions children attributed to their hurts had a major influence on the pain experiences of the children. This section will address the last research question, that is, the types of meanings associated with the children's pain experiences.

The different types of hurts included: hurt caused by the

surgery or from "my cut," hurt caused by doing something, hurt related to things in the child, hurt from being sick, hurts from before (i.e., prior to coming to the hospital), and leaving me hurt (i.e., hurt caused by not having their mum or dad around) (Table 9: Appendix T). These hurts were associated with hurts that the children were actually experiencing as well as the fear of being hurt.

A major difference noted with the children who had ureteral reimplantation was that they experienced an unique type of pain; that is, pain due to the bladder spasms. Although the experience of incision pain and pains related to the surgery were new for most of the children, the spasms seemed to be a totally different event for them as was evident from the surprised looks on their faces.

During the really bad episodes of pain or while they were "hiding away," most children refused to rate their pain on the Faces Scale or had difficulty doing so. Initially, words used to express their feelings were limited or brief. "Owie" or "hurt" were most frequently used. Denying that they hurt (e.g., "no, I don't hurt") or saying nothing was a common response.

It was not until the hurt became a little less or had in fact passed, that children were better able to reflect on their experiences. Most of them rated all their hurts greater than face four, and usually the face expressing the most hurt

(i.e., face number six) was selected for hurt in general and the happiest face (i.e., face number one) for feeling happy. Only one child consistently rated her pain no greater than face four (08). She also reinforced this by commenting that "it didn't hurt as much" compared to past surgeries. When the children were asked to select what hurt the most for them, the majority of the children perceived all their pains as bad. The pain relating to bladder spasms was noted to be especially intense as indicated by the children's tone of voice when talking about the spasms. Another interesting finding was that one child rated his finger poke at face number six, and at the same time did not mind having finger pokes and would let the doctor do this (011).

Other words used by the children included: cut, cold, squeezing, pushing, stinging, burning, and sore (Table 10: Appendix U). Words used to indicate that they no longer hurt included: I feel good or I am good, I am better, or boo boo is gone. Although past accounts by parents indicated that some of the children verbally were able to differentiate minor versus major pain, during this hospitalization the children did not always do so. Adjectives such as really, a lot, or very, were not always used during apparent episodes of bad pain. Also, some words that are generally not associated with hurt were used by some children to indicate hurt (e.g., itch). Context was, therefore, important to understanding how the children

felt. The children's past history of language development as reported by the parents, and not age, was more significant to the children's ability to report their feelings.

Of special interest was how the children with ureteral reimplantation described their pain due to bladder spasms. The words were especially descriptive and intense. Quite often, these words were also never used before by the children. Examples of these included: poking in, stabbing, like pressing down hard on the bone, a falling sensation, jumping in, and hurted very much. Stinging and burning was also used frequently by these children when they voided post-operatively.

Although hurt was used by the children to describe something in them was hurting, there were also other meanings associated with the children's experiences (Table 11: Appendix V). For most of the children, being in pain also meant generally not feeling good; that is, to the children it represented a general global feeling or state. One child even commented that the pain experienced on voiding was reason why she "puked" or got sick (07). The children also related it to not being able to carry out their usual activities like playing, riding a car or running. Getting better from the hurt meant that they would be able to continue with things they liked doing and not have to do those that were not normally part of their lives (e.g., take medicine). For one of the

children who experienced pain on a continual basis, carrying on with his normal routine was what was important to him. His mother reinforced that he tried hard to lead a normal life (01).

Being treated or fixed was seen as both a cause of pain as well as a way to get better. At the same time, hospital staff and parents were seen to be both the cause of pain as well as relievers of it; those who made the hurt better were perceived to be "good" by the children. The hospital was viewed as a place of pain and home as a safe place away from the pain. Fears of mutilation or threats to body integrity (e.g., "cutting" or "breaking" the skin) were also frequently associated with the pain and hospitalization. Once the children got better however, they were able to associate some good things about hospital. Only a few of the children perceived the cause of their pain as a form of punishment.

Feelings of anger, sadness, and fear were also expressed and closely associated with the children's perceptions of their pain. It was not uncommon for the children to express these emotions during the play interview while pretending to do some treatment to the doll. Aggression or anger was especially verbalized with the children as they pretended to care for the dolls. Responses such as "don't cry" expressed in a mocking tone and actions such as vigorously cleaning "pretend" incisions on the dolls were exhibited.

In summary, this section discussed the meanings children attributed to their pain experiences. The children experienced many types of hurts which for the most part, were perceived as all bad by the children. The children also equated hurting with their general well being. It was as if the hurt defined the children's world. When the hurt was really bad, everything and everybody represented pain to them. When they felt better, the world around them was viewed as a happier place. Although at times the children were able to adequately describe how they felt, there were many instances when the children simply expressed that they hurt or said nothing. Their descriptions did not always sufficiently equate with how they were feeling as evidenced by non-verbal cues.

Conclusion

Pain was the determining factor for how the children responded to others and hospitalization in general. The process of getting better was how they dealt with the pain and included utilizing the strategies of hiding away, fighting it, and making it good. Most prominent was the tendency for children to be more quiet than loud in their response to pain. There were four phases of "getting better" which the children had the potential to enter. The conditions that helped to determine this included: who the child was (i.e., who I am), how others take care, and things in the environment that

helped children feel better.

Although children were similar in their responses to pain, there were also differences noted. This included: uniqueness in the children's actions and expressions, differences in the time spent in the various phases of getting better, and differences with respect to what they perceived as helping them to get better. Common to all the children was the need to gain control of the situation and their care. Their experiences were context-bound.

Lastly, to further help illustrate what the children experienced, a poem incorporating the major themes of the study as well as children's verbal accounts and responses to their pain was written by the researcher (Appendix X).

CHAPTER V

DISCUSSION

Introduction

The findings will be discussed in this chapter, focusing specifically on concepts and themes described by the model of the young child's experience of hurting. Results reported in prior literature will be discussed in relation to the findings from this study. The relationship of the model to the study's conceptual framework will also be addressed, and recommendations for nursing practice, education, and research will be provided.

The Model: Getting Better from "My Hurts": The Young Child's Pain Experience

To date, most studies examining the effects of hospitalization on young children have focused primarily on the influence of separation anxiety (Ack, 1983; Goslin, 1978; Thompson, 1985; Vernon et al., 1965). Past research has also identified painful and intrusive events as fears of children (Broome & Hellier, 1987; Eiser & Patterson, 1984; Ellerton et al., 1985; Erickson, 1958). The results from this study, however, further revealed that the pain experience was a central factor that determined how the whole hospital experience was perceived by young children.

Findings showed that children's pain experiences affected how they responded to everything and everyone around them. The ways in which children's responses varied throughout hospitalization and the conditions affecting the children's responses were also elements of the model of the young's child pain experience. Except for Kueffner's (1975) study of severely burned children, there has been insufficient research that describes this process. The qualitative methodology used allowed the development of a model that attempted to capture the pain experience from the children's perspectives.

Subprocesses Of Getting Better

Findings from this study support findings from past research on behaviours children use in response to post-operative pain. Both Mills (1989a, 1989b) and Taylor (1983) identified similar behaviours such as restlessness, immobility, self-comforting actions. This study, however, identified children's responses based on the children's meanings as indicated by their statements and feelings, and symbolic images demonstrated during the play interviews. Verbal and non-verbal behaviours were then categorized. More research is necessary to clarify and build on these existing categories.

An important finding was that younger children tended to be more covert and quiet in expressing their pain. Their

withdrawal and distancing from the world around them, perhaps served as a means of protection from the overwhelming assault on their beings. A subtleness in their responses was noted which has not been revealed in prior pain research. These findings suggest that children in acute pain may develop adaptive behaviours much more quickly than has previously been assumed.

This finding together with the observation that the children's responses were in many ways unique, raises questions about the usefulness of behavioural scales which tend to equate higher intensities of pain and distress with more overt behaviour and do not account for the subtleness in children's behaviours. When using such scales in clinical settings health professionals should be aware of, and be alert to potential differences in children's responses. Refining behavioural scales through research may yield clinically meaningful information.

Another important finding was that depending on the circumstances, children employed different strategies to manage their pain. Some researchers studying childhood pain have tended to label certain behaviours as negative or inappropriate (Broome, 1986; Brown et al., 1986; McGrath & Craig, 1989; Shaw & Routh, 1982), without considering the context in which the behaviours occur. Nurses in this study tended to perceive overt behaviours as negative which is

consistent with previous research reports (Ellerton et al., 1989). This finding points to the need for further research that describes children's responses to pain from a context-based methodology. Accordingly, a few studies examining what school aged children perceive as helpful in dealing with pain identify aggression such as screaming or hitting, as helpful to the children (Abu-Saad, 1984A, 1984B; Hester & Barcus, 1986a).

The variety and complexity of the children's responses also reveal that young children can and do try to deal with unpleasant events. In comparing this to research examining coping strategies used by children to deal with pain, findings have indicated for the most part that children, especially younger ones, have limited coping strategies (Alex & Ritchie, 1992; McGrath & Craig, 1989; Reissland, 1983; Ross & Ross, 1984). Most studies, however, were based on prospective or retrospective accounts which may account for the difference. More importantly, in examining the analysis of past findings, there is a trend for researchers to evaluate children's coping based on what is known about adults' coping responses. It is obvious that more research is needed to examine spontaneous coping strategies in children. According Branson and Craig (1988), children may utilize different strategies from adults. Identifying how effective children's responses are in such events and what specific effect these responses have on the

gating mechanism of the spinal cord requires further examination.

One response especially worth noting was that children in this study also utilized strategies that focused their attention away from their pain, such as watching television or reading a book. To date, most research suggests that young children primarily rely on their parents or physical measures to deal with their pain and not cognitive measures (Reissland, 1983). As well, staring was frequently utilized by the children, especially during periods of extreme pain. This may be similar to hypnosis which has been described as an altered or special state of consciousness or "trance state" (McGrath, 1990). The staring may have helped to reduce the level of pain the children were feeling. However, another interpretation might be that the effects of the analgesia could have contributed to this state. However, the staring occurred past the initial post-operative period and in instances when the children had not been medicated, suggesting that it was a self-initiated strategy.

Lastly, another interesting finding was that children responded differently to pain resulting from bladder spasms. Children appeared to have less control with respect to bladder spasms and hospital staff were not sure about how to describe the type of behaviour resulting from spasms. Interventions for this type of pain were solely inadequate. It is evident that

more research is needed in this area. To date, there has been no research describing children's response to bladder spasms.

Phases Of Getting Better from "My Hurts"

Findings revealed that during the process of getting better, the children experienced numerous phases associated with different degrees of hurting. More importantly, the phase characterized by moderate to extreme hurting was not always experienced exclusively in the initial post-operative period. To date, however, most research studies examining childhood pain tend to focus on the immediate period post-injury or treatment where it is assumed that the pain follows a course similar to the individual's general recovery. In this study, however, it was found that even when the children's general status improved on a daily basis, pain recovery did not always follow the same progression. In gathering the most accurate information about childhood pain and management, researchers need to be aware of the "whole" picture.

Another important finding was the relationship of suffering to the experience of pain. It was apparent that during the most extreme periods of hurting, children were perceived to be suffering by both the parents and the researcher. One wonders however, if the suffering was also experienced during the other phases of hurting or if, in fact, pain and suffering were perceived to be one and the same by

the children. If one is to accept the definition of suffering as the individual's experience of threat to self (Kahn & Steeves, 1986), then suffering was experienced by the children during all the phases of hurting. The emotions expressed by them would support this conclusion. It is also possible that observers' perceptions of the children's suffering were more a consequence of the personalized suffering felt by myself and parents. According to Steeves, Kahn, and Benoliel (1990), personalized suffering may result from feelings of helplessness and not being able to do anything for the pain.

To date, research examining the experience of suffering in children has not really been investigated. Pain and suffering in fact, are often viewed to be one and the same in the literature on childhood pain. Although further examination of this is warranted, one has to question if this is possible considering the sensitive and perplexing nature of the experience.

Another significant finding was that the four phases were based on: (a) the children's perceptions of the various levels of hurting; and (b) whether or not they were "getting better." This theme is similar to the "making it better" theme identified by Ely (1992) in her qualitative study examining school aged children's past experiences with pain. Also important was the fact that one of the children (011) revised the Faces Scale by drawing only four faces instead of six

faces.

Although there is increasing evidence regarding reliability and validity of self-report scales with six different levels of pain (McGrath et al., 1986; Ross & Ross, 1988), there is the concern about whether or not young children have the ability to communicate subtle differences in pain intensity. This was demonstrated in a study by Belter et al. (1987) which revealed that younger children tended to rate pain using the high and low ends of the Faces Scale. Siegel's (1972) work on children's performance on seriation tasks further emphasizes that children's performances depend on the position they are required to identify as well as the length of the series. This suggests that perhaps a more appropriate scale should be based on the four phases of hurting with the different levels of pain and affect as it may be a closer representation of young children's pain experiences. Further study is warranted.

Who I Am

In the unfolding of data collection, it became apparent that the children's thoughts, feelings, and expectations affected the children's pain experiences and hospitalization in general. This supports Chapman's (1985) and Ross' and Ross' (1988) supposition that the experience of pain is more flexible and situation-specific. It also supports one of main

principles of gate control theory that psychological factors such as meaning and emotional state will affect how individuals respond (Melzack, 1986; Melzack & Wall, 1970). From a systems theory perspective this could be attributed to the type of boundaries existing in and between children and what information is allowed into the children's world affecting their responses.

There were no differences in children's responses attributed to the children's gender or age which could be explained by the study's small sample size and age range. This suggests that although children two to six years of age demonstrate an uniqueness in their responses, some similarities are also shared. These results support previous findings that children's responses follow age-related trends (Craig et al., 1988; Jay et al., 1983; Katz et al., 1980; LeBaron & Zeltzer, 1984). McGrath (1990) however, cautions that while there may be age-related trends, these are probably more related to developmental-experiential differences than simply age differences.

Of importance was the discovery that experiential knowledge is meaningful with respect to how children manages the pain situation. Although experiential knowing has been described as significant to how nurses learn (Benner, 1984), little is known about how experiential knowledge relates to children's experience with pain and illness. If one however,

accepts the assumption that the preschooler is experientially rather than cognitively oriented (Robinson, 1987), past experiences with pain should figure significantly into children's responses. Indeed, the fact that children exposed to repeated painful procedures do not become accustomed to pain (Eland, 1985a, 1985b; Katz et al., 1980; Wong & Baker, 1988), supports this interpretation. Although it is recognized that young children's experiences with pain and subsequent coping strategies may be limited, the influence of other unpleasant events may have an affect on how children respond and deal with pain. Further investigation concerning how painful and unpleasant experiences shape future responses and how time alters children's perceptions need consideration.

Another interesting finding with respect to knowledge was that children did not seem to be aware of the nurse's role. The fact that children rarely asked nurses for help could be an indication of their lack of understanding of the role of the nurse. Fear could have also triggered this response. Of interest was the finding obtained during the play interviews that giving medication was the only thing that children perceived nurses could do to take away their pain. Part of this could be explained by the fact that perhaps all the children's concentration was fixed on the hospital equipment used in the play interview and not on the questions. Also, administering medications was what nurses were observed to do

the most in relieving the children's pain. This points to the need for encouraging and valuing that nurses be allowed to spend more time with their patients in carrying out non-pharmacological measures. It also points to the need for more teaching of children with respect to what nurses may offer.

Another important finding congruent with other research, is that the children's pain experiences had a strong affective component (Alex and Ritchie, 1992). This includes not only fear and anxiety but, also emotions of sadness, anger, and unhappiness. In fact, there was a tendency for children to experience long periods of sadness. Although depression has been demonstrated in children with severe illness experiencing pain (Gauvin-Piquard, Rodary, Rezvani, & Lemerle, 1987), to date, this has not been considered significant with children experiencing acute illnesses. However, the findings here suggest that even acute pain has rapid consequences on the emotional well-being of children. Autonomic responses (i.e., fatigue, nausea) were also associated with the children's responses.

Another finding not previously reported in the literature, was that the strong affective responses were especially more pronounced for those children experiencing prolonged and extreme levels of pain. This leads one to question whether it is always possible in clinical settings to identify the differences between facial expression exhibiting

such states as sadness or pain. Although there is evidence suggesting that such differences do exist, the influence of numerous factors (e.g., length of pain period), may result in a blending of emotions (LaResche & Dworkin, 1984). Identifying differences in facial expressions may in fact, be unwarranted if one accepts Melzack's and Wall's supposition that there is a motivational-affective component to the pain experience (Melzack, 1986; Melzack & Wall, 1970).

What is not known is whether or not the differing emotional responses help or hinder children during the pain experience. Although it appeared that fear seemed to have had a negative impact on the children's pain experiences and that the literature suggests feelings such as fear and anxiety, potentiates the pain experience (Alex & Ritchie, 1992; Jay, Elliot, Varni, 1986; Meinhart & McCaffery, 1983), this has yet to be adequately investigated. Interestingly, in Hester's (1898) study of self-initiated comfort strategies of school aged children, feeling mad, sad, or scared was identified by the children as a coping strategy. More research is needed in this area.

It should also be emphasized that even when children had acquired accurate information about hospitalization, feelings of anxiety and fear still existed and influenced how they responded to the pain. This could be explained by the fact that the system within the children responsible for emotion

was so overpowering that it prevented an equal balance of other systems within them. The children also may not have been processing information accurately due to their emotions. The fact that younger children have been described as having difficulty in understanding cause and effect relationships (McGrath, 1990), may have further contributed to this difficulty in understanding. Also, although parents and hospital staff recognized the importance of providing preparatory information about hospitalization to the children, minimal attention was directed at teaching the children about strategies to deal with the pain. This finding has implications for what is taught to children entering hospitals. Although there are numerous review articles discussing approaches to helping children and parents deal with pain (Lutz, 1986; Patterson & Ware, 1988; Standford, 1991), it is apparent that these strategies need further testing.

Lastly, it was shown in this study that when the children experienced their worst pain they were described as being least likely to be themselves; they did not do the things they normally liked to do. This could be explained by the fact that the children not only distanced themselves from others, but also from themselves. This may be similar to the experience of disrupted immediacy, which according to Gadov (1980) can result when illness or incapacity occurs and the individual is

unable to act as desired. In effect, the individual's body and self are opposed; instead of acting upon the world and being acted upon by the world, the body-self act upon one another. The individual cannot relate to her or his world as they normally would due to changes within the body. Attempts to restore the unity between body and self can occur by the self learning to relate to the world through the new body. For one of the children (01) who had experienced pain on a more constant basis, perhaps this was what he was doing when he was described as trying to carry on normally. Further investigation is necessary to verify and understand how individuals change through the experience of pain.

How Parents And Hospital Staff Take Care

One of the major conditions affecting the children's pain experiences, was how parents and hospital staff cared for the children. Although qualitative studies about pain in hospitalized adults have revealed that the quality of interaction between staff, patients, and families is significant in managing pain (Fagerhaugh & Strauss, 1977; Fagerhaugh et. al, 1987; Strauss et. al, 1979), this has not been the focus for pediatric pain research. Only survey studies identifying the parents' and staff's attitudes about pain control have been conducted.

Observations of care given indicated that there was a

definite contrast between the duties performed by nurses and parents. Parents did most of comfort work and staff concentrating on technical work. More importantly, parents not only did most of the comfort work and basic care, but were also concerned with monitoring their child's pain and general status. Some parents believed this was the only way their child would receive "good" care. Although research utilizing the interview technique has revealed that comforting hospitalized children is one of the parent's role (Algren, 1985; Caty et al., 1989), monitoring children's pain has not been previously identified. One suspects that because parents stayed with their child most of the time, it was assumed by those involved that this was the parents' role and that parents would notify the nurses if there was a problem. It was also found that parents experienced degrees of helplessness and needed more input from the nurses. This is consistent with findings in other studies (Watt-Watson et al., 1990; Ogilvie, 1990). Although parents were involved with much of their child's care, most felt that they did little for them, suggesting that staff might reinforce to parents the value of their presence and role. More research is required to examine ways parents monitor and manage their child's care.

The comfort work performed by nurses primarily involved administration of analgesics. The use of non-pharmacological interventions was limited, which is consistent with findings

by other investigators (Bradshaw & Zeanah, 1986; Burokas, 1985; Gadish et al., 1988). Although there are many descriptions of such strategies in the literature (Campos, 1988; Eland, 1985b; Harrison & Cotanch, 1987; Hunsberger, Love, & Byrne, 1984; McCaffery, 1990; Peric-Knowlton, 1984; Radwin, 1987), it seems that nurses have limited confidence in and knowledge about such treatments. Denyes, Neuman, and Villarruel (1991) found that although expert nurses supported pediatric pain-relief strategies such as imagery and relaxation techniques, other nurses did not. The latter supports the view that skill and confidence are significant in performing such strategies.

In contrast to prior reports (Gadish et al., 1988), it was shown that nurses in this study were more likely to give a narcotic rather than a non-narcotic. However, all the children still experienced pain indicating that analgesic treatment is insufficient and post-operative pain is inadequately controlled. This is consistent with other reported research (Beyer et al., 1983; Mather & Mackie, 1983). A major factor contributing to the inadequate pain management may have been the fact that nurses rarely reassessed the effectiveness of their actions; it was as if they assumed giving an analgesic would guarantee pain relief. Following the routine also contributed to this finding and one can question if nurses' plans are based on knowledgeable decisions.

Moreover even when nurses attempted to control pain, they often did not achieve this due to a lack of knowledge on their part. Many nurses thought that giving intravenous narcotics every three to four hours was the proper, maximum dosing schedule. It is, however, now accepted that a more constant effect can be achieved by at least giving intravenous narcotics every two hours and even better, by continuous infusion (Berde, 1989).

Another area of practice not previously addressed in research was the poor management of mild to moderate pain or pain not directly relating to the incision. Often with this type of pain nurses would wait till the pain occurred or did not give anything at all. Although a strong narcotic was not always necessary, giving a weaker narcotic or non-narcotic around the clock has been shown to be helpful in keeping the children's pain controlled (Eland, 1988). This points to the need to examine more closely patterns of analgesic administration for all types of pain. The fact that many of the children experienced restless periods in the afternoon and at nights could have been related to nurses not administering analgesics as frequently on days and nights in comparison to the evening shift. Treatment-related pain was also poorly managed. Given the fact that this was a significant part of the children's pain experience, this finding is most disturbing.

Pain control was also not a priority compared to other aspects of care. This has also been previously reported (Beyer & Levin, 1987; Burokas, 1985; Fagerhaugh & Strauss, 1977; Strauss et al., 1979). The nurses' priority was to return the child to his or her preoperative physical state and prevent complications. Ensuring that the children's recovery followed a normal progression may have helped the nurses to maintain control and stability within their world. The children in this study were basically healthy with non-threatening illnesses and the nurses may have perceived the pain of children with life-threatening illnesses as more legitimate or of greater concern.

Fagerhaugh et al. (1987) attribute this lack of priority for pain control to the fact that expanding, complex therapeutic tasks compete with nurses' comfort work and result in nurses delegating comfort tasks to other personnel. Brown (1992) further believes nurses have become so absorbed with the technical side of nursing that more nurturing aspects are neglected. Nevertheless, if one hopes to promote holistic nursing, then pain control needs to be an integral of nursing care. Moreover, nurses should be rewarded for their attempts to control pain just as they are for other more technical activities (Eland, 1985a, 1985b). Further research examining the work of pediatric nurses caring for different pediatric populations is required to assess how comfort work is

integrated into the daily care.

In looking at factors affecting how others cared, situational factors (i.e., attitudes, communication patterns) more than predisposing factors (e.g., education level, years of employment), appeared to have a greater influence. This could have been attributed to the data collection methods used and the small sample. Such factors as level of education, work experience, personal pain history, and cultural background (Davitz & Davitz, 1985; Gadish et al., 1988; Halfens, Everes, & Abu-Saad, 1990; Holm, Cohen, Dudas, Medema, & Allen, 1989) have been shown to have an affect on how nurses' deal with pain. Other studies, however, have revealed that variables such as age, personal pain experience, and educational level do not have a significant influence (Atchison, Guercio, & Monaco, 1986; Bradshaw & Zeanah, 1986; Burokas, 1985; Hamilton & Edgar, 1992; Mason, 1981; Shapiro, 1990). More research is clearly needed to further identify what factors influence nurses' actions.

One factor previously not identified in research but important to both staff and parents, was knowing or being aware of the children's pain experiences. Appropriately this related to staff and parents learning about the unfamiliar, although each had a different concern. Staff expressed concern about knowing the children; whereas parents were concerned about knowing how pain would be managed and what was going to

happen. Parents also expressed concern about not knowing how to help their child. This is consistent with previous research and supports the need for more preparation and interaction with families (Ogilvie, 1990; Watt-Watson et al., 1990).

This lack of knowing probably contributed to the parents experiencing feelings of helplessness. More importantly, the unfamiliarity with the setting and pain experience resulted in the parents having difficulty maintaining control. Likewise, staff also experienced helplessness, but this was prompted more by not knowing the children and lack of knowing how to take care of certain pains. It would be interesting to examine the question about whether nurses can better manage pain in children who are better known to them (i.e., long-term admissions).

Even though parents and staff both lacked certain information, they did not always communicate this deficit to one another. Communication about pain management was in general, limited and supports other research (Camp, 1987; Davis, 1990). It was perhaps for this reason pain management was not always effective. According to Peric-Knowlton (1984), patient-staff interaction is vital in patient's pain management.

Knowing the children also influenced how parents and staff assessed pain. Parents relied more on personal cues such as facial expression and mood, and staff relied on non-

personal, objective cues such as the children's body movements and verbal expressions. This has also been previously reported (Atchison et al., 1986; Bradshaw & Zeanah, 1986). That staff missed some of the more subtle cues could be the result of the staff not knowing the children. This suggests that staff do not rely on nursing histories and care plans. Regardless of this, both staff and parents had exhibited some frustration in assessing and describing pain. Even the more astute parents and staff sometimes had difficulties adding support to the view that pain is a very perplexing and complex experience. Those individuals who relied on numerous cues or indicators of pain were more confident and accurate in their assessment, supporting the notion that a multidimensional approach to pain assessment is useful (McCaffery & Beebe, 1988; McGrath, 1989).

One area which has not been given enough recognition in the literature and research, was the parents' use of intuition in knowing when their child is in pain. Although some parents had difficulty describing this experience, they nonetheless were confident with their feelings and were more aware of their child's pain. Most nurses did not appear to experience this "intuitive knowledge." This may possibly be due to the limited closeness developed between themselves and the children. Before drawing any conclusions however, further investigation is warranted. It would be important to identify

different parent-child interactions in which intuition was involved. Does intuition make one a better clinician? If the answer is yes, then perhaps developing a scale to assess intuitive abilities would serve as an useful guide in selecting individuals for a career in nursing. Assessing what characteristics contribute to intuition would also be valuable.

Another factor influencing the care was parental and health personnel value-laden attitudes and beliefs which according to Campos (1988) can greatly impact on the children's pain experiences. Both staff and parents tended to judge how good the child was, depending on whether or not the children were quiet and cooperative. Quite often when dealing with uncontrollable pain, staff would also stereotype or label the children as being irritable. This is also cited in prior research reports (Wiener, 1979). Children and families who were less demanding were perceived by the nurses to be easier to take care of and elicited more empathetic responses. Therefore, although nurses may accept that patients and families are unique, differences in how individuals respond to illness may also be devalued at times (Kahn and Steeves, 1988).

Not surprising was the fact that both parents and staff tended to rate pain higher depending on what was done to children. This is consistent with previously reported research

(Burokas, 1985; Wallace, 1989). If the children were more expressive, they would be given more attention. Staff were looking for concrete evidence; as if to legitimize the pain. This alone however, did not determine if the children received more medication. Rather, the ways in which staff and parents communicated with each other played a role in determining the amount of pain medication given. If communication was more open, then children would receive more medication. A model based on the child's diagnosis and condition, the level of communication between staff and parents, and how expressive the child is, could probably be used to predict amount of pain medication administered.

As reported by researchers in this field, hospital staff were also guided by their misconceptions such as assuming that quiet children must not be in pain (Eland 1985a; Burokas 1985; Denyes, Neuman, & Villarruel, 1991; Gadish et al., 1988). Parents too supported common misconceptions pointing to the need for education. In addition to these misconceptions were fears related to the dangers of giving children narcotics. Interventions to assist staff and parents to express fears and gain information would be helpful to identify.

Staff and parents both held certain expectations about the children's pain experiences and care. Often this had a negative influence on how staff and parents cared for children in pain. These expectations served as boundaries preventing

certain information and help from entering into the children's world. When expectations were not met, staff and parents had difficulty dealing with the situations. This is consistent with Strauss' and colleagues' (1977, 1979) research on unexpected pain trajectories that revealed both psychological and organizational upset can result when expectations are not met.

One expectation held by both parents and staff assumed it was normal for the children to experience some degree of pain; complete pain relief was not expected. This most likely had an influence on their actions. Those who expected complete pain relief intervened more than those who did not expect complete relief. Experiencing discomfort was also accepted by the parents and staff, and was not perceived to be as serious for the children. The difference between discomfort and pain, however, could not be adequately defined by parents nor staff. Perhaps by playing down the children's pain, staff and parents were better able to deal with the situation; that is, they themselves possibly experienced less disequilibrium and uneasiness in labelling the children's pain as discomfort.

One difference between staff and families was the degree of emotional reaction experienced. The children's pain experience prompted more emotions in parents compared to staff. One could conclude the parents themselves experienced emotional pain. Caty et al. (1989) also described the

emotional pain experienced by parents in reaction to their child's hospitalization. It is reasoned that parents are closer to their children in a physical and psychological sense, resulting in a more emotional experience and possibly allowing the parents to be more sensitive to their children's needs.

Nurses may purposively distance themselves from the patient in order to be able to control their feelings and supposedly give better care. Certainly focusing on other care was one way staff dealt with uncontrolled pain, which is consistent with pain research examining patient-staff interaction (Strauss et al., 1977, 1979). Jacox (1980) suggests that nurses may gradually become less sensitive to an individual's pain, especially if they are having difficulty managing the pain.

Lastly, the relationship between families and staff was significant to the care received and needs to be discussed. According to Morse (1992), a relationship is therapeutic when the nurse views the patient first within the patient role and second as a person. For the nurses in this study, the disease or medical condition defined the patient, hence the nurse-patient relationship could not be classified as therapeutic. Care was basically instrumental, where carrying out treatments was the focus (Ramos, 1992). Perhaps for the children and families in this study, a more involved relationship was not

desirable or possible.

Research identifying factors that limit nurse-patient involvement (Morse, 1992; Ramos, 1992) seems to corroborate the findings from this study. These include: limited nurse-patient interaction, treatment that is not serious or life threatening, patients' needs perceived to be minor to moderate, and the patient receiving adequate social support from other sources, in this case, the child's family. One could argue however, that because pain was not always controlled, children had an "extreme" need requiring a more involved relationship. Morse (1992) describes this type of involvement as a relationship in which the nurse views the patient as a person first and second as a patient (Morse, 1992). The fact that staff spent limited time with the children resulted in staff missing some of the most poignant painful episodes. It was perhaps for this reason that parents had a more accurate description of the children's pain.

Another observation worth noting was that parents and staff rarely complained openly about the children's pain management. Strauss and colleagues (1977, 1979) found an important aspect of pain work was the balancing of priorities and involved making choices between alternative options based on what is deemed more or less important. For the parents and staff, it was as if they did not want to cause an imbalance in the system or "rock the boat." Possibly they settled for

uncontrolled pain at times in order to ensure that the overall care was maintained.

Wuest and Stern (1990) also revealed that the extent to which families learned the rules in a hospital setting determined their ability to negotiate. Parents who were less knowledgeable about the hospital system and who trusted hospital staff completely, were less likely to ask questions about treatment which was consistent with the findings presented here. Morse (1992) further found that limited nurse-patient interaction reduced the chance for negotiation, again supporting this study's findings. Perhaps parents and some staff in this study also felt that pain relief in the children was in the end not determined and controlled by themselves but instead, by others. More research is needed examining what families and nurses perceive are their roles in caring for children in different situations. Do nurses interact differently when children do not have their parents with them? Determining ways to ensure and strengthen family-centred nursing is needed if one hopes to achieve pain control as "success in comforting the child requires a partnership between nurses, child, and family" (Hester, 1989, p. 298).

Good Care

This study findings revealed that young children had definite ideas about how care should be performed. Findings were similar to reported research findings involving school aged children (Hester, 1989; Hester & Barcus, 1986a). Maintaining autonomy and gaining control of the situation was found to be especially important to young children and is consistent with previous research findings (Kavanagh, 1983; Lasoff & McEttrick, 1986; Ritchie et al., 1984). Likewise, both older and younger children identified someone as "good" if they did not cause them pain or if they stopped the pain. These similarities suggest that although there are different levels of cognitive development in children, there are some basic practices or elements of good care that should be implemented for all children. Certain types of information and care are necessary for children to maintain balance within their system and survive the pain experience. It is apparent that findings from this study are only a beginning. More research is required identifying what caring means to young children.

One important difference from this study as compared to other studies examining care practices was that depending on the environmental and contextual variables, choice of care practices differed. Such things as who was with the child, influenced what the children wanted done. Context, therefore, should not be ignored when identifying the type of care

practices children desire.

Another finding revealed the different degrees of parental presence children requested during painful periods. Although research supports having parents stay with their child during hospitalization (Thompson, 1985) and the parents' presence is what helps them most during a pain event (Ross & Ross, 1988), specifics of how parents can help, have not yet been identified. Children prefer parents to do different things depending on how they are feeling. When children are in extreme pain, they want parents at their side but do not always want to be touched as if a partial boundary is in place.

Although research has as yet to clearly identify whether parents actually help reduce pain in children, results from this study indicate that at certain times parents help to make the pain less. Worth examining is how children respond to pain when parents cannot be with them for the majority of their hospital stay, and the effect of substitute caregivers on their experiences.

Interestingly when asking the children what nurses and parents could do differently, no suggestions were offered. It could be that they did not understand the question or that they were still too upset from the experience to respond. In interviewing school aged children about their pain experiences, however, Alex and Ritchie (1992) revealed that

children had expressed that they wanted nurses to be more sensitive to distress cues, provide more information about pain, and stay with them more often. Although younger children may have slightly different needs, these responses are similar to what parents in this study expressed about what they wanted nurses to do differently.

Lastly, it is recognized that more research to assess how these various care practices influence the children's intensity of pain, needs further examination. Although the children expressed their likes and dislikes, it was not always certain if fulfilling their requests always reduced the children's pain.

Things Out There That Make Me Feel Good or Bad

Although previous research has identified that things in the children's environment will affect how they feel and respond to pain (Beales, 1983; Fowler-Kerry, 1990; Hester & Barcus, 1986a), in this study what is perceived as negative or positive is situation-specific and individualized. Certain things such as loud noise, the sight of surgical mask, or the cry of other children, were not always perceived as negative by certain children. Indeed, the work of Rosch and her colleagues reinforce that children organize knowledge in practical and useful ways by identifying certain objects, things or persons based on a particular feature of them (cited

in Hauck, 1991). Hence, how children relate to their environment, is greatly influenced by the meanings they assign to objects, persons or things that children recognize by various cues. This response also supports the concept of "symbolic literalism," which refers to children, especially young children, using and interpreting symbols most literally (Beuf, 1979).

Negative symbols would often have such a pronounced effect on the children that they cancelled out any influence of the positive signals; that is, positive symbols were completely ignored. From a system's theory perspective this could be explained by the children's inability to achieve a balance between the forces operating within and upon them; that is, the children's concentration or preoccupation rested solely on the pain and things in the environment perceived as causing the pain. Past experience influenced how the children perceived certain things. This reinforces the importance of knowing the child. The children's own possessions also seemed more important to them than the general decor of their rooms or gifts. The comfort of familiar objects may have helped the children feel more like themselves. Although literature documents that children's environments should be supportive and child-centred (Garfunkel & Hugh, 1986; Wallace & Cama, 1983), to date there has been limited research examining this.

Not all nurses were sensitive to the fact that children's

surroundings were part of the children's pain experiences. Schunior (1989) believes that nurses can only be attentive to their patients' needs by sharing what is experienced and by understanding what is communicated. Further research to identify how the nurse can best modify children's environments to help prevent or control pain is needed.

My Hurts

Young children experienced many different types of hurts. To date, however, most research has concentrated primarily on identifying the different types of hurts experienced by school aged children during a painful event (Ely, 1992; Spence et al., 1992). The hurts experienced by the young children in this study were similar to hurts experienced by older children.

Children who underwent ureteral reimplantation experienced a similar process of painful episodes. This would suggest that besides being affected by comparable noxious stimuli, these children may have also experienced their pain within a similar context. Although there can be marked differences in responses even when the noxious stimuli is the same (Ross & Ross, 1988), the presenting illness also needs to be taken into account.

The different types of hurts experienced by the children were not always apparent to others. This could be due to the

fact that the children had difficulty describing the differences between the various hurts. Also, if one is to accept the assumption that children at this age are very egocentric (Bibace & Walsh, 1981; Piaget & Inhelder, 1969), then the children in this study may have assumed that parents and staff were aware of the different types of hurts. Another possible explanation could be related to the fact that the staff's primary focus was the surgical pain which served as a boundary for them limiting their abilities to comfort other types of hurts.

Although prior research has indicated that children experienced variability in pain ratings of different types of hurts (Eland & Anderson, 1974; Lollar et al., 1982; Spence et al., 1992; Wong & Baker, 1988), children in this study did not. Things that were considered painful were usually rated at a face four or greater. Perhaps they had difficulty in understanding the Faces Scale, or were actually rating their overall experience; that is, the whole experience was generally painful to them.

Words used by the children were similar to those of school aged children (Alex & Ritchie, 1992; Jerret & Evans, 1986; Tesler, Savedra, Ward, Holzemer, Wilkie, 1989), although not in variety of expressions nor frequency. This suggests that there are common pain words shared by children. Younger children like school aged children also described pain in

sensory-discriminative (i.e., "like pressing down hard on a bone"), motivational-affective (i.e., "I feel sad, it made me puke, I feel tired, I want to go home"), and cognitive-evaluative terms (i.e., "very, a lot, bad"). This is contrary to research which reported that younger children were only able to describe pain in sensory or evaluative terms (Gaffney & Dunne, 1986, 1988).

Words used to describe pain from bladder spasms were especially graphic or detailed and could have been an indication that this type of pain was more intense than other pains. This also supports the proposition that experience has a greater influence on children's pain experiences than age.

During times of extreme pain, children tended to use words like "hurt" or "owie" to describe their pain. This reinforces the point that context has an influence on what children verbally express about their pain. It is important to recognize that children may not always truthfully or accurately describe how they feel (Eland, 1985a; Meinhart & McCaffery, 1983). If the context does have a significant effect on pain language, then one questions the merits of developing a self-report pain scale based on verbal pain descriptors as recommended by Jerret and Evans (1986).

Meanings attributed to the pain were similar to prior pain research reports. While associating pain with mutilation and something bad (Alex & Ritchie, 1992; Gaffney & Dunne,

1986, 1987; Hurley & Whelan, 1988), some new understandings did emerge. For instance, children related hurt to their general well-being; when they were hurting they were "not better" and when they were not hurting they were "better." This could be explained by the children not separating their feeling of pain from their general well-being.

One researcher however, found that preschoolers did perceive illness or being sick as different from being hurt (Robinson, 1987). Robinson also found that sickness was judged to be worse than pain and that pain did not alter the children's normal activities. Robinson's study involved non-hospitalized children. Perhaps children's beliefs change as a consequence of a significant experience such as hospitalization. Robinson also relied solely on focused interviewing with questions directed at the children's perceptions of health and illness, and not pain. More research is needed that clearly addresses how children perceive the difference between health, illness, and pain.

Another important factor associated with pain was the degree of normal activity that the children could carry out. Although Beales et al. (1983) revealed that increasing joint pain was associated with a restriction in activity and a subsequent greater severity in pain for older children, this was not found to be the case for younger children. Nevertheless, as was evident with the young children in this

study, pain was associated with not being able to play. This coupled with the observation that children refused to play when they were in pain, leaves one to question the accuracy of clinical accounts reporting that young children return to play quicker in comparison to older children (McGrath & Craig, 1989). Studies to identify other limitations perceived by young children because of pain would be helpful. Also, how do young children who live with chronic pain perceive pain? Do they perceive pain differently from young children in acute pain, and do they identify different limitations or restrictions?

Children were also able to identify why they were hurting. For example, the pain was described in relation to having something done to them. Unlike prior reports in the literature regarding young children's pain perceptions (Gross & Gardner, 1980; Hutton, 1986), only a few children associated pain with punishment. This again suggests that in addition to cognitive development, other factors influence children's pain responses and lead to a re-examination of previously held theoretical assumptions and reported results.

Recommendations For Nursing Practice And Education

Findings from this study support the recommendation that both nurses and physicians need to develop a better understanding of how to care for young children in pain (Beyer

& Levin, 1987; Burokas, 1985; Hamilton & Edgar, 1992; Sofaer, 1985). Increased curriculum content related to pediatric pain in both nursing and medical education is needed. All health care professionals working in pediatric settings must be oriented to the primary principles of childhood pain with emphasis on the uniqueness of an individual's experience. Regular patient rounds should be held to allow health personnel to discuss complex pain cases. Staff would then have an opportunity to acknowledge some of their thoughts and feelings about the pain experiences and confirm some of their biases, value judgements, and misconceptions.

Parents and children too, need to be provided with more information on managing pain. In addition to staff providing information on an ongoing basis, a pamphlet or manual on childhood pain should be developed for families. This would include addressing the types of pain, misconceptions, medications, and measures parents could utilize to help relieve their child's pain. Information appropriate to the child's level of understanding should be available prior to hospitalization. This includes working with children to develop ways for them to cope with their pain. It became apparent in this study that in general, staff need to provide more options for parents to care for their child. Staff must be cognizant of the fact that parents may not always want to or be capable of providing care to their child. Staff also

should be available to assist or assume care as deemed necessary knowing that more support is essential especially during periods of unmanageable pain.

Hospital staff and parents should be made aware that children may not always ask for help, even though they require it at certain times. The staff needs to observe for self-initiated coping strategies and support or encourage children to use such strategies. Children should be considered active participants in their care.

Measures that would allow for hospital staff to not feel as powerless should also be supported. Actions such as developing and updating guidelines for pediatric pain management and establishing a pediatric pain team to guide management of pediatric pain would be valuable.

Keeping current with the latest literature should also be advocated. For example, the literature recommends continuous infusion of intravenous analgesia instead of administering intravenous boluses (Berde, 1989). Nursing staff need to be encouraged to use non-pharmacological measures to relieve pain. Workshops to learn about such measures must be available for nurses. Hospital staff also need to be aware that all types of pain are significant to children and interventions to alleviate these pains must be used.

Recommendations For Nursing Research

A number of research recommendations arise from this study. Further study to delineate more explicitly the components and processes specific to children's experience with pain is recommended. This might include the studying of different populations in alternative settings with diverse pain problems; the intent would be to develop a substantive theory specific to childhood pain. Investigation about how children manage unpleasant events in general, should also be undertaken in order to move toward formal theory development. Although findings from this study are limited, the process of getting better is perhaps similar to how children manage other unpleasant events.

Another important area of study would be an investigation into children's perceptions of pain and illness in general. The children's pain experiences in this study may have been compounded by the influence of other unpleasant states such as nausea and fatigue. Therefore, a study of the experience of discomfort, experienced by hospitalized children would be a worthwhile contribution to this field. The relationship of suffering to childhood pain and illness also requires further exploration. This work is needed for adults to develop a better understanding about how to care for hospitalized children. This work would also augment the knowledge available regarding teaching children about pain.

Studies identifying parents' attitudes and behaviours in dealing with their child's pain are also required. In particular, research that describes the process of how parents care for their child in pain outside of a hospital setting is needed.

Further examination of how nurses manage children's pain is needed. This means moving beyond survey investigations and instead, undertaking more indepth studies grounded in qualitative methods. Examining the process of how pediatric nurses make decisions about caring for the child and the factors which influence this, should be a priority. Field studies examining how nurses interact with children and families in difficult situations are imperative. Identifying factors or circumstances that prevent nurses spending time with their patients would be helpful. Studies to better understand different perceptions of pain and discomfort by parents and nurses is also necessary.

Lastly, it is evident that intervention studies with respect to managing pain in younger children are needed. To date, most studies involve school aged children or adolescents and include the use of patient-controlled analgesia, music distraction, hypnosis, and relaxation training (Engel & Rapoff, 1990; Hilgard & LeBaron, 1982; Litman & Shapiro, 1992; Ryan, 1989; Webb, Stergios, Rodgers, 1989). Studies to evaluate pain-relief measures such as the use of music therapy

(Fowler-Kerry & Ramsay-Lander, 1990) or a topical cooling agent for reducing pain related to immunization in preschool children (Eland, 1981) need to be encouraged. Identification of ways to encourage self-initiated strategies within children would be useful as these actions may prove to be more beneficial than conventional approaches or augment other strategies.

Research to identify ways to deal with pain resulting from bladder spasms is urgently needed. Evaluation of the effectiveness of transcutaneous electrical nerve stimulation (TENS) would be worth exploring. This technique has been reported in the literature to be helpful in controlling cancer-associated pain in children (Eland, 1989) and pain associated with acute post-operative pain (McGrath, 1990). Tens works by impeding pain impulses travelling to the brain and stimulating the body's own opioid system (Eland, 1988; Harrison & Cotanch, 1987). Collaborative studies with other disciplines including pharmacists and physicians would be valuable. Continuous segmental epidural blocks have been reported as one of the most satisfactory methods of providing post-operative analgesia and may prove to be helpful in controlling bladder spasms (Benedetti, Bonica, & Bellucci, 1984). Although there have been no clinical studies to date, Ray and Wilson (1992) have reported anecdotal evidence suggesting that improvement in care has been achieved since

epidural analgesia has been used in children with ureteral reimplantation. Research is needed to systematically evaluate this method.

Conclusion

Findings from this study have resulted in the development of a model that describes the experience of acute pain in hospitalized young children experiencing surgery. The sensitizing framework based on concepts from systems theory and the gate control theory provided an orienting framework that guided the researcher through the analytic process. A qualitative methodology based on tenets from ethnography and grounded theory was used to produce findings that were rich and detailed, allowing for the identification of patterns and themes significant to early theory development. Although many of the findings validated results obtained in prior research, some new discoveries and conceptualizations emerged. Whereas findings from this study cannot be generalized to a larger population due to the limited sample size, some useful findings were obtained that may sensitize health professionals and parents to provide more appropriate care for children in pain. Significant implications for nursing practice, education, and research were offered.

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APPENDICES

APPENDIX A

Letter Requesting Access as a Nurse Researcher to
Study Setting

May 24, 1991

Dear Dr. -----:

Re: Request for Nurse Research Access

Enclosed are twelve copies of my ethics review form as requested. The review form instead of a proposal is now standard protocol in the Masters of Nursing Program at the University of Manitoba as stipulated by the Ethical Review Committee of the School of Nursing. The review form has received approval from respective thesis committee members and has been submitted to the Ethical Review Committee of the School of Nursing for the June 3, 1991 review. Also enclosed, is a copy of the first three chapters of my thesis.

The title of the thesis is "The Experience of Acute Pain in the Hospitalized Young Child." I am requesting access to conduct the study on the two surgical units of ----- Hospital.

The aim of the study is to describe how young children respond to acute pain in a hospital setting. This includes: noting the types of behaviours (verbal and non-verbal) exhibited by the children; identifying factors that influence their responses; and exploring and describing the meanings associated with their responses.

The population of interest to the study is young children (ages 2 years to 6 years) who have experienced tissue trauma known to produce acute pain. A purposive sample of ten children is anticipated. The children's parents and hospital staff caring for the children, will also be included in the study's sample.

The primary mode of data collection will involve direct observation of the children's behaviours. The children, parents, and hospital staff will also be informally interviewed during the observation periods. The observation periods will take place daily, from the time parents consent to their child's participation in the study, up to the time

of the child's discharge. A formal interview involving the child will be scheduled prior to the child's discharge day. Two formal interviews involving the parents will also be administered. The first will take place at the beginning of the observation period, and the second will take place on the child's discharge day.

As a present employee, I am familiar with the institution, and believe that collection of data on ---and --- will provide valuable findings for this particular study. I also believe that my past experience in caring for pediatric patients is an advantage, and has provided me with the insight and sensitivity to conduct such a project. Above all, I will ensure that at no time will data collection interfere with the child's recovery, or with nursing or medical care.

If you would like to speak with me concerning my application, I can be contacted at (-----). Professor Linda Kristjanson (Ph.D., Committee Chair), can be reached at the University of Manitoba School of Nursing at (-----).

Thank you for your consideration of this research project. I look forward to your reply.

Sincerely,

Roberta Woodgate R.N., B.N.

APPENDIX B

VERBAL REQUEST FOR PERMISSION TO RELEASE NAMES

Roberta Woodgate is a registered nurse and graduate student in the Masters program of Nursing at the University of Manitoba. She is doing research here about young children in a hospital setting.

Whether or not you decide to participate will in no way influence the care your child receives. All information is strictly confidential.

Roberta would like to invite you and your child to participate in her study. Would you be willing to have her talk to you to explain her study so that you can decide whether or not you would like to participate?

(If agreeable, the parent's name is given to the nurse researcher and the nurse thanks them.)

(If the parent declines the nurse thanks them for their time.)

APPENDIX C

PARENTS' INVITATION TO PARTICIPATE AND DESCRIPTION OF
THE STUDY

You and your child are invited to participate in a study entitled, " The Experience of Acute Pain in the Hospitalized Young Child. "

Children (ages 2 years to 6 years) who have experienced tissue trauma known to cause acute pain, and their families, are being invited to take part in the study. This includes children who are diagnosed with burns or fractures, or who have undergone surgery.

This aim of this study is to explore how young children respond to acute pain in a hospital setting. The study is the focus of my thesis and is part of my graduate work in the Masters of Nursing program at the University of Manitoba. I am a registered nurse, and the study is under the direction of Dr. Linda Kristjanson, Assistant Professor, School of Nursing.

This study has been approved by the Ethical Review Committee of the School of Nursing at the University of Manitoba and the Ethical Review Committee of Children's Hospital.

Your participation in the study means that I would be observing you and your child during various periods of your child's hospitalization. This would include recording your child's activities. I would also be asking you and your child questions during the observation periods. The observations and questions will relate to your child's experience with pain. The observation periods would not interfere with your child's nursing and medical treatment, and at no time will medications for pain be withheld in this study. Also, if any situation arises where you would prefer not to have me present, your request will be respected and I would withdraw from the situation. Participation also requires you to be involved in two interviews, conducted by the researcher. Your child will also participate in an interview, prior to his/her discharge. Each interview is expected to take approximately 30 - 40 minutes of your time, and will be tape recorded. I will also have access to your child's hospital record.

The decision to participate is entirely your own. If you do not agree to participate, it will in no way influence the care your child receives. Although it is not expected that there will be any immediate benefits to you and your child, the study may produce some valuable information that will improve the future care of young children experiencing acute pain.

All information obtained will be used for the purpose of my thesis. The results may be published in the form of a journal article in the future. In both instances, you and your child's identity would not be discussed or revealed to anyone; confidentiality will be maintained. A summary of the results will be provided to you, if requested.

If you have any questions about the study, you may contact me at (-----), or Dr. L. Kristjanson at (-----).

Thank you very much for your consideration.

Roberta Woodgate R.N., B.N.

APPENDIX D

PARENTS' INFORMED CONSENT TO PARTICIPATE

I, _____, agree to participate and to allow my child to participate in a study entitled " The Experience of Acute Pain in the Hospitalized Young Child." The study examines how young children respond to acute pain in a hospital setting. I am being invited to participate because I have a young child (less than 6 years of age) who may be experiencing pain caused by burns, surgical wounds, or fractures. Approximately ten families will be enroled in the study. It is conducted by Roberta Woodgate, R.N., a graduate student in the Masters of Nursing program at the University of Manitoba, under the direction of Dr. Linda Kristjanson, Assistant Professor, School of Nursing.

I understand that by agreeing to participate, this will allow the researcher, Roberta Woodgate, to observe the behaviours of my child and myself on a daily basis during my child's hospitalization. The observations will focus on my child's response to pain and my responses to my child. I understand that there may be times when the researcher will observe my child without me being present. During the observation periods I understand my child or myself will be asked some questions. I understand that I will also participate in two interviews. The first will take place at the beginning of my child's hospitalization, and will involve obtaining information of my child's past pain experiences. The second, will take place at the time of my child's discharge, and will involve obtaining information related to any pain my child may have experienced during this hospitalization. I understand that my child will also be involved in an interview, conducted by the researcher around the time of my child's discharge. The purpose of this interview is to gather information on my child's thoughts about pain. Each interview will take about 30 - 40 minutes to complete, and will be tape recorded. I understand the researcher will also write notes during the observation periods. I understand the researcher will have access to my child's hospital record.

I understand that only the researcher will have access to my name and my child's name and any identifying information. My name and my child's name will not be used in the transcribed data, or in any future publications that arise from the study. Interview and observation data will be identified by number only. I understand the information obtained will be strictly confidential. I also understand

that the researcher's thesis committee will have access to the transcribed data. I understand I may receive a summary of the results if I so desire.

I understand that this study is not expected to have any direct benefits to my child or myself, but hopefully the results will in the future, help nurses and physicians better understand and care for young children who are in pain.

I understand that participation in the study is completely voluntary, and that I can withdraw from the study at any time. I understand that I or my child has the right to request that the researcher withdraw from observing certain situations. I understand that if I refuse to participate in the study, the health care of my child will not be affected.

If I have any questions or concerns about the study, I am free to contact the nurse researcher or the researcher's thesis advisor at the following numbers:

Nurse Researcher: Roberta Woodgate (-----)

Thesis Advisor : Professor Linda Kristjanson (-----)

Signature of Researcher

Parent's Signature

Date

APPENDIX E

EXPLANATION OF THE STUDY FOR THE CHILDREN

Hi, my name is (name) and I am a nurse. I would like to learn from you what it is like to be sick in the hospital. I will be spending some time with you while you are here. I will be coming everyday and sitting with you and your parents. I may also visit you when your parents are not here. I may ask you some questions about the hospital and how you feel - such as, if you are hurting or if you are feeling sick. If you are, you may tell me or your mum/dad or your nurse, and we will get you some help. Also, if you have any questions for me, you may ask me. If you want, we may also play with these toys (shows hospital kit). When it is time for you to go home, I would like you to tell me what it is like to be in the hospital.

(In this explanation the researcher chose to place more emphasis on the word "sick" instead of "pain" or "hurt," because she believes that this will not be as threatening to the child. The researcher does not want to frighten the child unnecessarily. However, once the child is in pain, the researcher will use the appropriate words. The general goal here is to be honest with the children, yet at the same time not to overwhelm them.)

APPENDIX F

DISCLAIMER FOR HOSPITAL STAFF

You are being asked to voluntarily participate in a study entitled, " The Experience of Acute Pain in the Hospitalized Young Child. "

Hospital staff caring for children who have experienced tissue trauma known to produce acute pain, will be invited to take part in the study.

The aim of the study is to explore and describe how young children respond to acute pain in a hospital setting. The study is the focus of my thesis and is part of my graduate work in the Masters of Nursing program at the University of Manitoba, under the direction of Dr. Linda Kristjanson, Assistant Professor, School of Nursing. The study has been approved by the Ethical Review Committee at the School of Nursing and Ethical Review Committee of Children's Hospital.

Your participation in the study would mean that I would be observing you while you care for children who may be experiencing acute pain. I would also be asking you questions during the observation periods. Observations and questions would relate to the children's pain experience. All observations and responses to questions would be recorded in field notes. The observations would be as unobtrusive as possible, and would not interfere with your work activities. Also, if any situation arises where you would prefer not to have me present, I will respect your request and withdraw from the situation. Collection of data will take place daily, during the months of July to October. By allowing me to observe you and in responding to my questions, means you give consent to participate in the study.

The decision to participate is entirely your own. If you do not wish to participate, it will not affect your employment status with the hospital. Although it is not expected that there will be any benefits to the participants, the study may produce some valuable information that in the future, will help health professionals understand the effects of pain on young children.

All information collected will be for the purpose of my thesis. The results may be published in a journal article in the future. In both instances, your identity would not be revealed to anyone; confidentiality will be maintained. Observation and interview data will be identified by number

only. My thesis committee will have access to the data. The information gathered will be descriptive in nature, with emphasis on the children's pain experiences. The information will not involve an evaluation of your work performance.

If you have any questions about the study, you may contact me at (-----), or Dr. L. Kristjanson at (-----).

Thank you very much for your consideration.
Roberta Woodgate

APPENDIX G

PARENT INTERVIEW GUIDE

1. What types of concerns, if any, does your child have about this hospitalization? (could be unrelated to pain)
2. What types of concerns, if any, do you have about your child's hospitalization?
3. What types of pain has your child had before? Please describe them (e.g., cause, severity, factors influencing the pain experience).
4. How do you normally tell your child is in pain? (e.g., types of verbal and non-verbal behaviour)
5. What words does your child use for pain?
6. How does your child act when he/she is suddenly hurt?
7. How does your child act when he/she has been hurting for a long time?
8. When your child hurts, what does the child do for him/herself that seems to help?
9. When your child hurts, what do you do to relieve your child's pain?
10. How can you tell when pain relief measures are working? (e.g. types of behaviours exhibited)
11. During this hospitalization, what level of pain do you expect your child will experience?
12. What would you like the hospital staff to do for your child when he/she is experiencing pain? Also how do you plan to be involved?
13. How does your child act when he/she is upset or anxious? How is this behaviour different from when your child is in pain?
14. Is there anything else you can tell me about your child's experiences with pain?

(Adapted from McCaffery, M. & Beebe, A. (1989). Pain: Clinical manual for nursing practice. (pp.272-273) St. Louis: The CV Mosby Co.)

APPENDIX H

Observation Record

Patient Code
Date

Time	Child's Behaviour (verbal, non-verbal)	Duration	Nurses'/ Parents' Behaviour	Context/ Environmental Factors	Additional Comments
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APPENDIX I

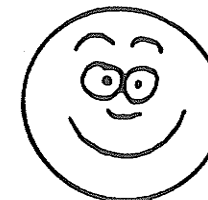
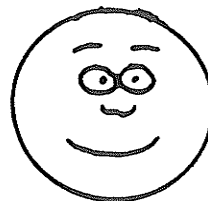
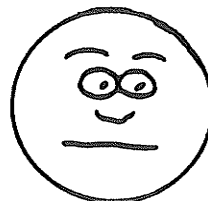
INFORMAL INTERVIEW INVOLVING THE CHILDREN

1. Can you tell me where you hurt?
Or can you tell me where you were hurting / how much hurt are you having?
2. What do you do when you hurt?
Or what did you do to stop the hurt?
3. What would you like others to do when you hurt?
Or what did others do to help stop the hurt?
4. What don't you want others to do when you hurt?
5. Is there anything else you like to tell me about your hurt?

(Adapted from Hester, N.O & Barcus, C.S. (1986b). Assessment and management of pain in children. Pediatrics: Nursing Update, 1(14), 1-8)

Asking these questions was dependent on the particular circumstances, and in whether or not the child felt like talking. This was based on the fact that the most successful interviews with young children take place informally and arise naturally from the situation in which the child and researcher are interacting (Deatrick & Faux, 1989). Moreover, a flexible approach is advocated when conducting research with young children (Kotzer, 1990).

FACES SCALE



(Refer to next page re: explanation of scale)

*Faces are placed in a vertical format instead of the standard horizontal format.

Format for Explaining the Faces Scale to the Children:

1. The child is told that each face is for a child who feels happy because he/she has no pain (hurt) or sad because he/she has some or a lot of pain.
2. The child is then told the following:
Face one is very happy because he/she doesn't hurt at all.
Face two hurts just a little bit.
Face three hurts a little more.
Face four hurts even more.
Face five hurts a whole lot.
Face six hurts the most, although you don't have to be crying to feel this like this.
3. The child is then asked to choose the face that best

(From Whaley, L., & Wong, D. L. (1987). Nursing care of infants and children (3rd ed.) (pp.1070). St. Louis: C.V. Mosby)

APPENDIX K

SUMMARY PARENT INTERVIEW GUIDE

(Semi-structured, open-ended, face to face interview)

Patient code

Date

1. Did your child have any concerns during his/her hospitalization?
2. If your child experienced pain during this hospitalization, how did he/she act or behave?

If your child was anxious, how did he/she act?
3. Did your child's behaviour differ from previous pain experiences?
4. Do you feel my presence influenced your child?
5. What words did your child use for pain?
6. What was your reaction to your child's pain?
7. Did anything contribute to your child's pain response?
8. When your child was in pain, what things did your child do to comfort him/herself?
9. What things did the hospital staff do to relieve your child's pain?
10. What things did you do to relieve your child's pain?
11. Do expect your child to experience pain once he/she is discharged? (If so, how will you comfort your child?)

APPENDIX L

DATA COLLECTION TECHNIQUES - CHILD SUMMARY INTERVIEW

Play Interview:

The method was based on the play interview utilized by Ritchie, Caty, and Ellerton (1984) in their study that explored concerns of hospitalized preschool children. The original method was described by Erickson (1958) who used to study children's responses to intrusive procedures. The technique involved providing the child with hospital equipment, hospital figures, familiar toys, and family figures, and inviting the child to play.

The child's verbal and non-verbal behaviours were then recorded in a detailed running narrative by the researcher. Questions were also asked at the appropriate time, in order to gain information specific about the child's pain (see interview guide below). This according to Deatricks & Faux (1989) and Rae (1991) allows for a more accurate and comprehensive understanding of the child's experience. The interview consisted of open-ended, semi-structured questions specific to the child's experience. Behaviours in response to questions focusing on pain, were considered meaningful and reflective of the child's pain experience. All interviews were tape recorded.

Drawings and interview:

The method employed here was similar to the one utilized by Jerret (1985) in her research that examined the pain perceptions of children receiving medical supervision for an acute health problem. The children were presented with two pieces of paper and a set of coloured markers. They were first asked to draw a picture of "what it is like to be in the hospital," and then "to draw a picture that shows hurt." The first question was not included in Jerret's study.

As in the play interview, an interview guide was utilized to probe the children's perceptions about their experience. The guide was developed from a review of the pediatric pain literature as well as the researcher's own insights about pediatric pain.

Interview guide:

1. What do you remember about the hospital?
2. What was the best thing in the hospital?

3. What was the worst thing in the hospital or what was bad about the hospital?
4. What was it like to be sick?
5. What was it like to hurt?
Did you tell others about your hurt?
6. What things hurt you the most in the hospital?
7. What did you do when you hurt?
8. What did others do to take away the hurt?
9. Is there anything else that you like to tell me about your hurt?

(Adapted from Hester, N.O. & Barcus, C.S. (1986). Assessment and management of pain in children. Pediatrics: Nursing Update, 1(14), 1-8)

Issues and Strategies in Developing an Interview Guide for Children: (Faux, Walsh, & Deatricks, 1988, p.187)

<u>Issues</u>	<u>Strategies</u>
Language comprehension and facility	-Simple words and sentences
Adult-child communication	-Non-judgemental wording
Limited ability to understand abstract concepts	-Questions focused on concrete facts and recent circumstances -Reference group utilized for comparison
Limited attention span	-Flexibility

Issues and strategies in gaining cooperation: (Faux, Walsh, & Deatrck, 1988, p.183)

Issues

Limited access

Establishing rapport

Motivational factors

Confidentiality

Strategies

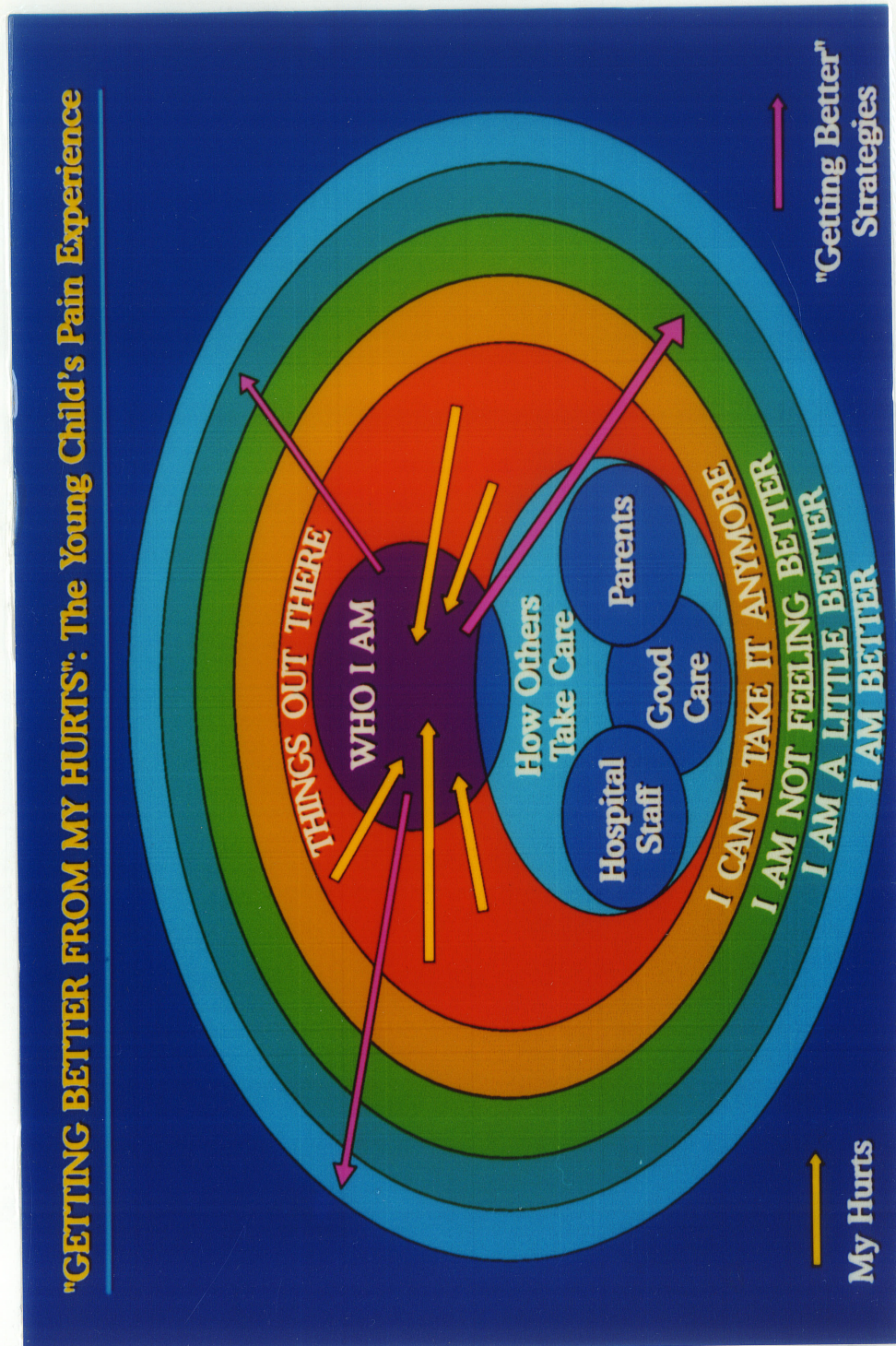
-Expertise and credibility
of the researcher

-Define interviewer's
purpose, role and
expectations

-Identification of
interviewer as a nurse.
-Child control over
interview setting

-Privacy, verbal assurances
from interviewer.

FIGURE 1: THE MODEL OF THE YOUNG CHILD'S PAIN EXPERIENCE:
"GETTING BETTER FROM MY HURTS"



(Refer to the next page re: definition of categories)

DEFINITION OF CATEGORIES ASSOCIATED WITH FIGURE:1

1. My Hurts:

Refers to the main basic psychosocial problem that the hospitalized children encountered. This includes: (a) hurt that the children were presently experiencing; and (b) fear of the potential threat of hurting. "My hurts" had an effect on the children's thoughts, feelings, and behaviours.

2. Getting Better Strategies:

Refers to the basic psychosocial process used by the children to deal with their hurts. "Getting better" process was manifested in the form of subprocesses that involved the children: (a) "hiding away"; (b) "fighting it"; and (c) "making it good."

3. Who I Am:

Refers to the children and includes all their thoughts, feelings, expectations, and behaviours. These child situation-specific factors influenced how the children responded to pain.

4. How Others Take Care:

Refers to how parents and hospital staff responded to and cared for the children in pain. Their ability to perform good care" was one the major social environmental factors that influenced children's responses to "getting better."

5. Things Out There:

Refers to unpleasant or pleasant "symbols." These non-social environmental factors directly or indirectly influenced the children's pain experiences.

6. I Can't Take It Anymore to I Am Better:

Refers to the four phases of hurting that the children had the potential to experience. The phases were based on the degree of pain that the children were feeling or more specifically, whether or not they felt better.

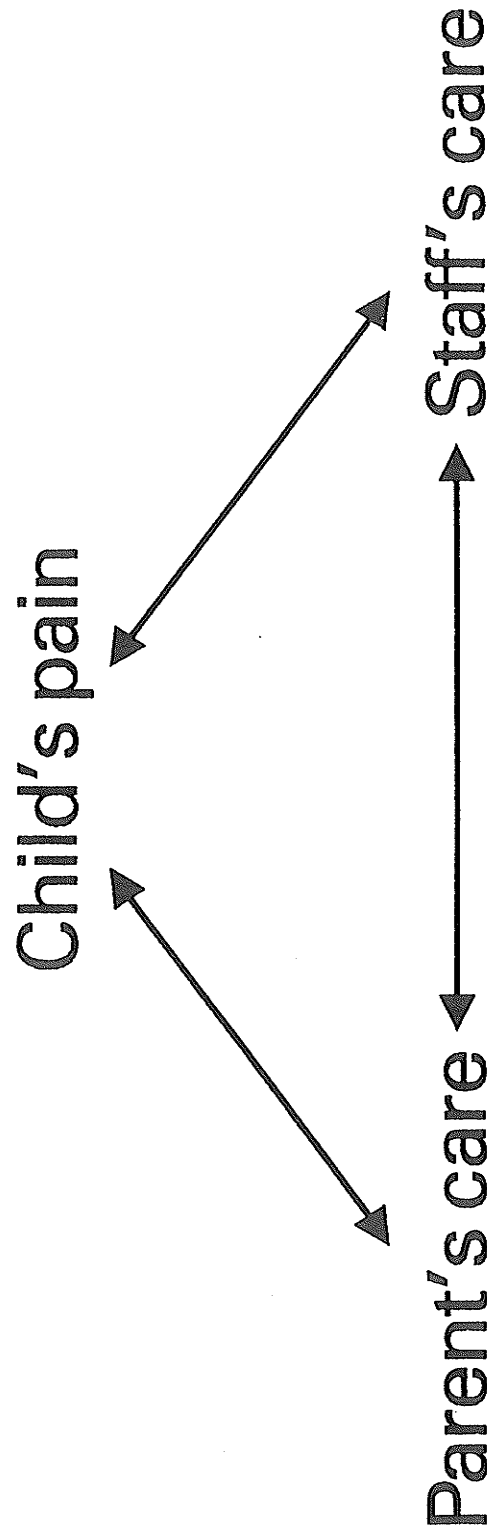
Table 2: Categories of "Getting Better" Strategies & Subprocesses

Hiding Away	Fighting it	Making it Good
<p>Avoiding Interaction:</p> <ul style="list-style-type: none"> • Not responding to questions • Disinterest in things • Avoid eye contact • Fetal position <p>Staring</p>	<p>Resisting Action:</p> <ul style="list-style-type: none"> • Tensing up • Pulling away • Watching <p>Attacking:</p> <ul style="list-style-type: none"> • Slapping • Hitting • Grabbing 	<p>Self-protecting Actions:</p> <ul style="list-style-type: none"> • Guarding • Limited movement • Wiggling, shifting body <p>Comforting:</p> <ul style="list-style-type: none"> • Patting, rubbing • Holding something • Asking others for help, pointing to painful area • Doing something else

Table 2: Getting Better Strategies *continued*

Hiding Away	Fighting it	Making it Good
<p>Verbal Expressions:</p> <p>"Go away, leave me alone"</p> <p>* Quiet</p> <p>Facial Expressions:</p> <ul style="list-style-type: none"> • Disinterest • Pout • Neutral 	<p>Verbal Expressions:</p> <p>"Don't do that, I can't do it"</p> <p>* Scream</p> <p>Facial Expressions:</p> <ul style="list-style-type: none"> • Fear • Anger • Grimace 	<p>Verbal Expressions:</p> <p>"I wish you could . . ., make it go away"</p> <p>Facial Expressions:</p> <ul style="list-style-type: none"> • Serious • Fixed

Figure 2: How Parents and Staff Take Care



* Influenced by knowledge, value judgements, misconceptions, fears, expectations, level of communication and feelings.

Parent's care: monitoring and comforting

Staff's care: carrying out treatments and administering analgesics

APPENDIX P

TABLE 3: ANALGESIC AND CO-ANALGESIC DOSES ADMINISTERED PER CHILD BY AGE, SEX, TYPE OF SURGERY, AND TOTAL DAYS IN HOSPITAL

Age!	Sex	Surgery	O.R. day*	2nd day*	3rd day*	Last day*	TD
49	m	bilateral ureteral reimplant	2n	15n 2nn	20n 6nn	25n 16nn	9
53	f	left ureteral reimplant	2n	15n 6nn	17n 14nn	17n 19nn	6
49	f	right ureteral reimplant	2n	9n 9nn	11n 12nn	11n 13nn	6
34	m	atrial septal defect	**	7n	11n	13n 3nn	9
38	f	bilateral ureteral reimplant	1n	10n 6nn	11n 9nn	12n 10nn	8
45	f	right ureteral reimplant	2n	9n 1nn	11n 4nn	11n 4nn	6
79	f	cleft lip repair	2n	6n 2nn	6n 7nn	6n 7nn	7
30	f	pyeloplasty	2n	8n	8n	10n 1nn	6
44	m	cleft palate repair	2n	8n	8n	8n	5
57	f	syndactyly release	0	6n	6n	6n	4
41	m	old burn scar revision	1n	4n 1nn	4n 1nn	4n 1nn	4

! age in months ** missing data

* total doses excluding doses given in recovery room

n = narcotic; nn= non-narcotic; TD= total days in hospital

APPENDIX Q

TABLE 4: MEAN PERCENT AND PERCENT RANGES OF ACTUAL DOSAGES OF ANALGESICS ADMINISTERED COMPARED TO MAXIMUM THERAPEUTIC DOSES

Analgesic: Maximum Therapeutic Dose	Mean % and % Range of Actual Dose Administered	
Morphine (% of 0.1 mg/kg)	97	50 - 133
Codeine (% of 1.0 mg/kg)	29	12.5 - 91
Tylenol (according to age)	95	75 - 100

Note: Dose/dosage calculated per single dosage of the analgesic - not total dosage within a 24 hour period.

TABLE 5: FREQUENCY AND PERCENT DISTRIBUTION OF TOTAL DOSES OF ANALGESICS/CO-ANALGESICS ADMINISTERED BY HOSPITAL DAY

Hospital Day	n	%
O.R. Day	16	9
2nd Post-Operative Day	124	69
3rd Post-Operative Day	150	83

N=181 (total number of all analgesics administered to the children enrolled in the study)

TABLE 6: FREQUENCY AND PERCENT DISTRIBUTION OF ANALGESIC/CO-ANALGESIC TOTAL DOSAGES GIVEN TO SUBJECTS BY SHIFT

Shift	n	%
Night shift: 2300 - 0700 hours	42	23
Day shift: 0700 - 1500 hours	62	34
Evening shift: 1500 - 2300 hours	78	43

APPENDIX R

TABLE 7: GOOD CARE CATEGORIES AND DATA BIT EXAMPLES

Care Practice	Example
Mum and dad be with me or just put my family right here and leave me	Sitting beside me Touching me; rub kiss, hold by hand or tummy, blow on me, sleep with me, squeeze my hurt Hug or cuddle me
Doing things that help me	Love and care for me or for my parents Being nice to me Taking my tubes out Giving me medicine Putting a band-aid on me Putting warm/cold on me Cleaning my cut Fixing my pillow Doing nothing Fixing the baby's boo boo Opening my tube Giving me a drink Putting a bandage on me Pinning my tubes down
Doing things not to hurt me	Don't move me or touch me Don't pull tape off Don't poke me Don't take my tubes out Don't clean my cut Don't tell me to be still or not to move Don't tell me not to cry Don't give me medicine Don't take my stitches Don't brush my hair
Letting me help or Don't make me do things I don't want to	

APPENDIX S

TABLE 8: THINGS OUT THERE THAT MAKE ME FEEL "GOOD" OR "BAD" :SUBCATEGORIES AND EXAMPLES

<u>Positive Symbols</u>	
Sight:	favourite possessions like dolls
Sound:	music, television, cartoons
Touch:	blanket, stuffed toys, warm or cold on the painful area, cleaning the surgical incision
Taste:	favourite foods, jelly beans, purple popsicles
Smell:	favourite possession, mum's soap or perfume
<u>Negative Symbols</u>	
Sight:	intravenous machines, blood, tubes in the child's body, surgical masks and gloves, operating room gowns, white dressing trays, forceps, scissors, treatment room, white lab coats
Sound:	loud noises, closing doors, crying, sounds related to treatment such as cutting or the removal of a surgical drain, talking around the bedside, beeping related to hospital machines
Touch:	stitches and surgical staples, tape, warm or cold on the painful area, going over bumps in a wheelchair, tubes in the child, cleaning the surgical incision, the "cold" treatment table
Taste:	medicine, food,
Smell:	food,

APPENDIX T

TABLE 9: FREQUENCY AND PERCENT DISTRIBUTION OF PAIN EXPERIENCES OBSERVED AND REPORTED

Type of Pain Experience	n	%
Cut / Getting fixed	11	100
Hurt caused by doing something:	11	100
Moving	11	100
Taking something out (e.g., I.V., catheters, stitches)	10	91
Intravenous access, blood drawing	9	82
Cleaning the incision	7	64
Voiding	6	55
Being restrained	6	55
Eating	3	27
Hair brushed	1	9
Teeth brushed	1	9
Hurt related to things in the child:	10	91
Intravenous	8	73
Urinary tract catheters	6	55
Stitches, packing	3	27
Airway	1	9
Hurt from being sick	8	73
Sore stomach	8	73
Sore throat	5	45
Headache	2	18
Sore neck	1	9
Hurt from before	1	9
Sore lip	1	9
Hurt from parents leaving	11	100

APPENDIX U

TABLE 10: FREQUENCY DISTRIBUTION OF WORDS/PHRASES USED BY CHILDREN TO INDICATE PAIN

Words / Phrases	n
Hurt	11
Owie	8
I don't hurt/ doesn't hurt/ go away/ no/ I want to go home	8
Ouch	5
Hurted very much, really, a lot	5
Boo Boo	4
Burns	4
Crying	4
Stings	4
Bad	4
Cold	3
Sad	3
Sore	2
Itch	2
Pain	2
Itch	2
Ache	1
Brains dig in	1
Pressing down on a hard bone	1
Jumping in and out	1
Squeezing	1
Pulling	1
Falling down	1
Poking	1
Sharp	1
It made me puke	1

N=11

APPENDIX V

TABLE 11: MEANING CATEGORIES ASSOCIATED WITH PAIN
AND DATA BIT EXAMPLES

Meanings	Examples
General global feeling or state - sick versus healthy, happy versus sad	"I am not better or I am better, I am feel sad or happy, I got sick, I am good, when I am happy, worse days of my life "
Interference with normal lifestyle	Once pain was resolved frequent comments included: "I can play, I can dance, I can go home, I don't have to take my medicine no more"
Seen as something bad, no value	Would refer to things or persons as bad if they caused pain and good if they took pain away. Understood nurses/doctors "fixed things" to make it better, but this also caused pain.
Caused by treatment or by the person performing the treatment or by the hurt	"Broke her skin, cut, you hurt me, are you going to make her cry, owie did it"
Mutilation	Fear of getting cut "you're not getting me, cut, break skin"
Punishment	"Hold still..., cause I was bad, that's why you spanked me"

APPENDIX X

The Hurt in Me

Lying here still
Not wanting to move or be touched,
The happy sun shining down on me
Does not make me feel good.

A kind smile and cheery hello
Are ignored for my snuggle buggle; a shield
To hide me from those around,
But not from the stranger in me.

What is this strange thing in me?
So scary, so different, so strong,
Controlling every move I make:
This hurt in me.

My friends Goo Goo, Teddy, Pokie, Myra
Sit and look at me; not knowing how to help,
Do I call for them? May be,
But this time it's different.

Watching, waiting, that's what I'll do
As I hide away into my secret world,
Where few can come in,
Few are wanted.

Mummy, daddy, that's who I need
To calm my fears and take good care,
Sometimes too when I ask,
Their hands to hold.

Beeping, banging, talking, crying,
Suddenly it's too loud; please shut the door
As I try to sleep
And forget about my hurts.

Those who watch me day and night,
Do you really know me? Do you care?
Can you see my hurt hidden beneath my face?
How I wish you could make my hurt go away!

Stabbing, burning, hurting: it's hurting very much,
No more can I take it,
Shall I scream and fight
Or give up, too tired to stop the hurt getting in.

Perhaps a story, a hand to hold,
A kiss and hug, a rub,
Will help me feel better,
But wait I need more.

Medicine that's what I hear will make me better again,
But where is it; how come some hurt still got in me?
I hate this thing that pretends to do so much,
Good and bad, that's what it is.

At last it's Monday and I am beginning to smile again,
Play with my toys and talk to my nurse,
But just as I begin to be more like myself again,
New hurts are waiting for me.

Pulling, coldness, stinging, jumping, poking in and out,
How strange they behave;
Not long do they stay like hurts of the past,
But still hurt me a lot, sometimes really very much.

These new hurts make me cry too,
And just like unwelcome friends,
Leave me feeling sick, mad, and afraid,
But somehow are not always made good by those watching over me

I need to stop this hurting in me,
Don't tell me what to do;
Nothing seems to help me,
Just go away and my boo boo will be all right.

Now I am told I am better again,
Just one more sticker to put on my calender;
No more pokes, no more tubes, no more hurts,
Boy I can't wait to go home;
These have been the worst days of my life!

But wait, you know I will miss some things;
My Garfield balloon, the jelly beans, Cinderella, Donald Duck,
The purple car I got to ride in,
And Ann, that nice nurse.

And I cannot forget the purple popsicles
How they turned my tongue purple,
Funny, funny, funny!
It was all these things that helped me to be happy.

And now I am home again,
My Teddy and toys are safe with me,
Yet I still have some hurt in me,
I am still not myself; will I ever be?

Maybe I'll play
Or maybe I'll lie down for now,
Anything to be myself again,
Anything to stop the hurt in me.

My mother cries as I scream at her;
Please mum I still love you very much,
But it is my hurt in me
That makes me act like this sometimes.

Months have passed
And the strange monsters within me have now left,
I am feeling good again,
Yet somehow I feel different from before.

Something has changed; I will never be the same,
And new thoughts are with me,
I now know there are things out there
That can make me feel really bad, really sad, really afraid.

I fear the day my hurts return,
But if they do, remember this:
Those watching over me please love and care for me,
That's the most important thing

And please don't forget my mummy and daddy;
They need love too 'cause they are a part of me,
And when they are cared for too,
They can do so much more for my hurt in me.