

CHAPTER 7

EVIDENCE-BASED PRACTICE STATEMENTS

CHILD LIFE COUNCIL EVIDENCE-BASED PRACTICE STATEMENT

SUMMARY

PREPARING CHILDREN AND ADOLESCENTS FOR MEDICAL PROCEDURES

Submitted by:

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Rebecca Mador and Wendy Lee, research assistants at the Hospital for Sick Children, are gratefully acknowledged for their contributions in the preparation of this statement.

The purpose of this statement is to outline the key components of effective pediatric psychological preparation. The primary goal of preparation is to reduce the fear and anxiety experienced by a child who is undergoing a medical procedure and to promote his or her long-term coping and adjustment to future health care challenges.⁷⁻¹⁰ The long-term implications of negative medical experiences, including ineffective preparation, can be profound; post-traumatic stress, increased fears, and decreased cooperative behavior.^{9, 13, 14} Participation in a preparation program has been shown to significantly reduce the negative psychological sequelae experienced by children both immediately before and after the procedure and for up to a month later.^{9, 14-16}

Regardless of the medical procedure for which a child is being prepared, the key elements of effective preparation are: (1) the provision of developmentally appropriate information; (2) the encouragement of emotional expression; and, (3) the formation of a trusting relationship with a health care professional.³⁸ ³⁹ These three components are the essential elements of effective preparation for pediatric patients.

1. PROVISION OF DEVELOPMENTALLY APPROPRIATE INFORMATION

An important feature of sharing developmentally-appropriate information to children consists of providing clear and accurate messages.¹⁴ Information about a medical procedure

should be as specific as possible to include both *what* will happen during the upcoming medical procedure as well as *why* it will happen.⁴¹ In addition, explanations should include sensations that the child can expect to experience such as the sights, sounds, smells and feelings.^{10, 14}

As part of information sharing, coping techniques aimed at ameliorating fears and anxiety should be offered.²¹ Coping techniques introduced to a child should vary depending on the procedure, the child's developmental level and his or her preferred coping style.² Effective coping techniques have been found to include visual and auditory distraction, tactile stimulation, counting and singing, and verbal interaction.²

2. OPPORTUNITIES FOR EMOTIONAL EXPRESSION

During the course of preparation, it is essential that potential stressors are anticipated and misconceptions and fears are addressed.^{3, 42} This requires the health care professionals to pay careful attention to a variety of cues such as facial expressions and other forms of non-verbal communication appropriate to the child's developmental level.

3. ESTABLISHING TRUST WITH THE PEDIATRIC HEALTH CARE TEAM

Preparation programs can provide the context in which children can develop trusting relationships with their health care team.²¹ Through the provision of accurate information, the teaching of coping techniques, and the encouragement of emotional expression, the child life specialist is poised to establish a supportive and trusting relationship with the child.²

SUMMARY

An extensive review of the literature along with child life clinical experience have validated that most children prepared for medical procedures experience significantly lower levels of fear and anxiety compared to children who are not prepared. Preparation also promotes long-term coping and adjustment to future medical challenges.

For the detailed information and studies reviewed to support this statement, review the complete version of the evidence-based practice statement on preparation, available through the Resource Library section of the CLC Web site (www.childlife.org).

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PREAMBLE

The purpose of this statement is to outline the key components of effective psychological preparation and, by using the best empirical evidence currently available, to validate the methods employed by child life specialists.

This statement is based on an exhaustive search of the literature, which was conducted on i) PsycINFO, which records the literature from psychology and related disciplines such as medicine, psychiatry, nursing, sociology, and education; ii) MEDLINE, which focuses on biomedical literature; and, iii) CINAHL, the Cumulative Index to Nursing & Allied Health Literature, which covers literature relating to nursing and allied health professions. A variety of keywords and combinations such as “preparation”; “fear”; “anxiety”, “pain”; “pediatrics” and “medical procedures” were used to conduct the search, which was completed in August 2006 with the assistance of a medical librarian. Searches revealed approximately 350 articles related to pediatric preparation; however, after the results were sorted to exclude repeats and non-empirical based literature, 40 articles remained. These articles were retrieved and evaluated based on the scoring of 2 independent raters using “The Quality of Study Rating Form”¹. Those articles that received a rating of at least 60 out of 100 points were selected for inclusion in this statement. Any article that scored between 55 and 65 points was re-scored by a second rater to confirm inclusion or exclusion. Finally, 30 articles met the selection criteria. Only 3 of these selected studies specifically evaluated preparation performed by child life specialists²⁻⁴.

Since evidence-based practice represents an integration of both clinical experience¹ and the best available research^{5,6}, this statement was also reviewed by certified child life specialists across North America in order to ensure clinical applicability. In addition, evidence-based practice acknowledges patient

preferences and needs when determining the most appropriate clinical applications for the child and family.

WHY PREPARE?

The primary goal of preparation is to reduce the fear and anxiety experienced by a child who is undergoing a medical procedure and to promote his or her long-term coping and adjustment to future health care challenges⁷⁻¹⁰. Heightened feelings of stress and anxiety, eating and sleeping disturbances, as well as separation fears are commonly found in children and adolescents undergoing even minor medical procedures^{8,10-12}. The long-term implications of a negative medical experience can be profound; post-traumatic stress, increased fears, and decreased cooperative behavior have been documented among pediatric patients who have not been effectively prepared for a medical experience^{9,13,14}. Participation in a preparation program has been shown to reduce significantly the negative psychological sequelae experienced by children both immediately before and after the procedure and for up to a month later^{9,14-16}. In this review, 29 of the 30 studies concluded that children who were prepared for surgery experienced fewer negative symptoms than did children in control groups who did not receive preparation²⁰.

HOW STUDIES EVALUATE THE EFFECTIVENESS OF PREPARATION

The majority of research on preparation is quantitative and experimental in design. These studies use anxiety or behavioral manifestation scales to assess the quality and degree of a child’s coping. For example, less anxiety and fewer negative behaviors reflect increased coping. Of the 30 studies included in this statement, the most commonly used outcome measures were: a) The Observation Scale of Behavioral Distress revised (OSBD-r)¹⁷, which records behavior over time from the ‘anticipation-of-procedure’ to the ‘post-procedure’ phase; b) The Manifest Upset Scale and Cooperation Scale¹⁴, which are two five-point scales that rate the child’s degree of negative emo-

tional arousal and behavioral upset; c) The Post-Hospital Behavior Questionnaire¹⁸, which asks parents to rank their child's behavior after discharge from the hospital; and d) the State-Trait Anxiety Inventory for Children (STAI-C)¹⁹, which compares the child's dispositional anxiety with the anxiety he or she is currently experiencing.

APPROACHES TO PEDIATRIC PREPARATION

Although preparation programs are standard practice in many pediatric hospitals¹⁴, the variability in the approaches and outcomes of these programs is substantial. The literature reveals that preparation programs have included role rehearsals with dolls^{4, 20, 23-25}, puppet shows^{15, 23, 26}, the teaching of coping and relaxation skills^{27, 28}, orientation tours of the operating room^{20, 24}, as well as educational videos^{9, 29}, books^{16, 30}, and pamphlets^{25, 31}. Some programs focus exclusively on preparing the child^{2, 9, 10, 22, 32-34} while other programs attempt to educate and support the parents^{30, 35-37} and siblings as well¹². Despite variation in approaches, the literature reveals three common elements that underlie effective preparation and result in improved psychosocial outcomes for children and adolescent patients.

KEY ELEMENTS OF EFFECTIVE PREPARATION FOR MEDICAL PROCEDURES

A child's ability to cope with a medical procedure and the quality and intensity of his or her reaction are influenced by many variables^{10, 22}. Such variables include the child's age and developmental level, personality, ability to cope with new situations, prior health care experiences and previous encounters with medical professionals, as well as his or her diagnosis and the complexity/invasiveness of the upcoming procedure^{3, 10, 22, 38}. Similarly, family variables such as the family's composition and level of parental anxiety can also influence a child's response^{3, 38}.

Regardless of the medical procedure for which a child is being prepared, the key elements of effective preparation are: (1) the provision of developmentally appropriate information; (2) the encouragement of emotional expression; and, (3) the formation of a trusting relationship with a health care professional^{39, 40}. These three elements were proposed previously by Vernon et al. in 1965 following a review of the literature at the time⁴⁰. Three decades later, in a review of 400 studies and a meta-analysis of a final sample of 22, O'Connor-Von³⁹ substantiated these three components as the essential elements of effective preparation for pediatric patients. These three elements were also evident in the articles reviewed here.

1. PROVISION OF INFORMATION

Of the 30 articles reviewed in this statement, all described information dissemination as an integral part of the preparation program. Providing accurate medical information to children lessens negative behavior and promotes faster recovery post-operatively^{9, 16, 21, 34} while also attenuating fear and anxiety^{7-9, 26}. Although there are a variety of ways in which child life specialists can provide developmentally appropriate information to children; the emphasis should be on providing clear and accurate messages¹⁴. In addition, information about a medical procedure should be as specific as possible as this can lead to a greater reduction in anxiety than when children receive only standard or more generalized forms of information^{7, 14, 28}.

While it is evident that information is a necessary and important component of preparation, the methods should vary with the child's age and developmental level¹⁰. Information should include both what will happen during the upcoming medical procedure as well as why it will happen⁴¹. For example, Campbell et al.⁴¹ found that providing children with the reasons for the medical procedure as well as the sequence of events significantly reduced their anxiety when compared with control groups who did not receive this information. In addition, explanations should include sensations that the child can expect to experience such as the sights, sounds, smells and feelings^{10, 14}. Of the published studies that specifically reported providing procedural and sensory information to children in the experimental group, all reported that these children demonstrated less emotional distress than children in control groups^{10, 14, 16}.

As part of information sharing, coping techniques aimed at ameliorating fears and anxiety should be offered²¹. For example, Campbell et al.⁴¹ found that when a preparation program included information regarding coping techniques, behavioral outcomes were more positive for children undergoing surgery. In another study, Peterson and Shigetomi³⁵ compared the effectiveness of providing children ages 2 to 10 years old with information only, coping techniques, filmed modeling or coping plus filmed modeling. Children who were provided with coping plus modeling techniques were more calm and cooperative than children in the other groups. In addition, coping techniques introduced to a child should vary depending on the procedure, the child's developmental level and his or her preferred coping style². Effective coping techniques have been found to include visual and auditory distraction, tactile stimulation, counting and singing, and verbal interaction². Six of the 30 studies were found to include information regarding coping

as part of their preparation programs and all reported significant positive outcomes^{2, 27, 28, 35, 37, 41}.

2. OPPORTUNITIES FOR EMOTIONAL EXPRESSION

During the course of preparation, it is essential that potential stressors are anticipated and misconceptions and fears are addressed^{3, 42}. This requires the child life specialist to pay careful attention to a variety of cues such as facial expressions and other forms of non-verbal communication. Fegley³³ compared two groups of children, one that received standard information about a radiological procedure and another in which children were encouraged to ask questions and express feelings about the procedure. Findings indicated that children who asked questions and expressed concerns were less distressed and spent significantly less time seeking information during the procedure.

3. ESTABLISHING TRUST WITH MEMBERS OF THE PEDIATRIC HEALTH CARE TEAM

Preparation programs can provide the context in which children can develop trusting relationships with their health care team²¹. Through the provision of accurate information, the teaching of coping techniques, and the encouragement of emotional expression, the child life specialist is poised to establish a supportive and trusting relationship with the child². In an evaluation of child life intervention in the emergency department, Stevenson et al.² noted that the child life specialist played an integral role in establishment of trust with the child. Key strategies for building rapport included asking the child questions about topics such as age, grade in school, pets, or the number of siblings. In another study, Wolfer and Visintainer¹⁴ randomly assigned children to one of five experimental groups or a control group. The experimental groups consisted of combinations of home preparation with different types of in-hospital preparation which included supportive care. Supportive care was defined as the nurse making a special effort to establish a trusting and supportive relationship with the child and parent. Children and families who received any form of preparation and supportive care expressed significantly greater satisfaction with their hospital experience when compared with children and families in other groups.

RESEARCH GAPS AND CONFOUNDING ISSUES

Over the past 30 years, our knowledge of the substantive issues associated with effective preparation has improved. However, this review reveals several existing gaps and confounding issues. For example, critical questions remain regarding how

best to prepare children of different developmental levels^{39, 40}. Much of the literature focuses on the psychological preparation of preschool and early school age children. This is most likely because this group is more at risk for misunderstanding medical explanations. As such, less is known about the effectiveness of preparation with toddlers and adolescents.

A related developmental issue concerns the notion of timing. In only one study, the timing of the preparation program relative to the day of surgery was identified as a significant variable in that preparation was not uniformly effective for all children²⁰. For example, only children who were 6 years or older and who received the preparation at least five days prior to surgery benefited from the intervention²⁰. Preparation had a negative effect on young children with a history of previous hospitalization, suggesting that these children require specialized methods for preparation and alternate timing^{21, 22}.

Given that many pediatric facilities offer group preparation with two or more children at the same time, it is essential that this approach be properly evaluated. Only one study in this review addressed group preparation⁴³. McGrath prepared children 3-12 years old for surgery in small groups and found that children who were prepared in groups experienced significantly less anxiety and more satisfaction with their surgical experience than children who were prepared individually. Currently, limited research on group preparation inhibits the development of evidence-based practice in this area.

Some studies offer poor descriptions of the programs under evaluation and do not adequately control for key variables such as age, gender, prior hospital experience, and personality variables such as anxiety proneness³⁹. As clinical experiences have shown, standard preparation programs are not beneficial for all children²¹ particularly in the case of children who exhibit heightened levels of anxiety during and after preparation for medical procedures. Unfortunately, minimal research has investigated the impact of personality traits and associated coping styles on the effectiveness of preparation. Future research should begin to ascertain which children and adolescents are least likely to benefit from standard forms of preparation. These types of research initiatives can begin to address alternate forms of psychosocial support for this population leading to enhanced levels of evidence-based practice.

A myriad of approaches to preparation exist and are used by a variety of health care professionals across pediatric settings. In some settings, children are prepared by child life specialists, while in others, nurses may be involved. For this reason, meth-

ods of preparation can vary tremendously depending on the experience, philosophy and educational training of the professional. Since there are only a few studies that directly address preparation by child life specialists, it is imperative that research evolves to include impartial evaluations of various approaches across disciplines.

Finally, current research methods in this area are predominantly quantitative and few studies include participants from various cultural backgrounds. The processes involved in preparation are complex; consisting of several known and possibly unknown variables. Additional research from within a qualitative paradigm can more adequately explore complex processes associated with pediatric preparation. Accessing the views and perspectives of children, adolescents, and their parents could assist in supporting a family-centered care model which can better acknowledge cultural differences.

SUMMARY

An extensive review of the literature revealed that most children prepared for medical procedures experience significantly lower levels of fear and anxiety as compared to children who are not prepared. Preparation also promotes long term coping and adjustment to future medical challenges. Key elements of effective preparation include the provision of clear and accurate information about the medical procedure and potential coping strategies, the encouragement of emotional expression and the establishment of trust with a health care professional. Despite a greater understanding of how to prepare children for medical procedures, research gaps and confounding issues exist. In particular, studies must begin to address which methods of preparation are most effective for specific developmental levels, personality traits and cultural backgrounds. Studies should also explore how best to encourage emotional expression from children during the course of preparation. Since a variety of approaches are being used by different disciplines, research on pediatric preparation must evaluate which forms constitute the best outcomes for children and families. These studies should include both quantitative and qualitative methodologies in order to provide a comprehensive examination of current practices which can inform child life clinical practice and policy development across pediatric health care settings.

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TABLE 1. FINAL SELECTION OF STUDIES INCLUDED IN THIS REVIEW

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CHILD LIFE COUNCIL EVIDENCE-BASED PRACTICE STATEMENT

SUMMARY

THERAPEUTIC PLAY IN PEDIATRIC HEALTH CARE: THE ESSENCE OF CHILD LIFE PRACTICE

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Through a review of the best available research, the purpose of this statement is to present empirical findings regarding the value of play for children in the hospital and to assert that play constitutes an integral component of evidence-based practice in child life. After systematically evaluating 62 articles retrieved from searches conducted on PsycINFO, MEDLINE and CINAHL, 10 studies (nine quantitative and one qualitative) were included in this statement.

BACKGROUND

Children from all cultures play. Even in cultures where young children are expected to assume adult work responsibilities, anthropologists cite examples of how children manage to integrate play into their daily tasks¹⁴. This suggests that play is not only universal but essential to human development. Indeed, research has repeatedly shown that the benefits associated with play are profound and wide-ranging. Play can be broadly defined as any activity in which children spontaneously engage and find pleasurable¹⁶.

THERAPEUTIC PLAY

For children in the hospital, specific forms of play can provide an effective venue for personal development and overall well-being. In particular, *therapeutic play* refers to specialized activities that are *developmentally supportive* and facilitate the emotional well-being of a pediatric patient. Therapeutic play typically consists of at least one of the following types of activities: 1) the encouragement of emotional expression (e.g. re-enact-

ment of experiences through doll play), 2) instructional play to educate children about medical experiences, and 3) physiologically enhancing play (e.g. blowing bubbles to improve breathing)¹⁶.

Therapeutic play is important for hospitalized children because it offers greater and distinct benefits than those obtained through traditional forms of childhood play. For example, therapeutic play was found to alleviate a child's emotional distress^{5,11} and to help them cope with difficult medical experiences^{5,7}. Psychological and behavioral outcomes of therapeutic play include diminishing children's anxiety and fear^{1,4,5,7,9}, and increasing their cooperation^{4,7} and willingness to revisit the hospital^{3,7}. Therapeutic play has also been found to reduce a child's negative physiological responses such as palm sweating, excessive body movement, escalating pulse rate and high blood pressure^{1,7,8}.

CONCLUSION

Empirical evidence provides support for the effectiveness of therapeutic play in reducing psychological and physiological stress in hospitalized children. Additional research is necessary regarding the effectiveness of specific forms of therapeutic play, as well as how children in hospital perceive the value of these play experiences. By obtaining children's perspectives on therapeutic play, evidence-based practice in child life can be enhanced.

For the detailed information and studies reviewed to support this statement, review the complete version of the evidence-based practice statement on therapeutic play in, available through the Resource Library section of the CLC Web site (www.childlife.org).

CHILD LIFE COUNCIL EVIDENCE-BASED PRACTICE STATEMENT

THERAPEUTIC PLAY IN PEDIATRIC HEALTH CARE: THE ESSENCE OF CHILD LIFE PRACTICE

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Rebecca Mador, research assistant at the Hospital for Sick Children, is gratefully acknowledged for her contributions in the preparation of this statement.

PREAMBLE

The purpose of this statement is to present empirical findings regarding the value of play for children in the hospital and to assert that play constitutes an integral component of evidence-based practice in child life. This statement is based on a review of the best available research from the year 1960 to December 2006. The following search engines were used: i) PsycINFO, which records literature from psychology and related disciplines such as medicine, psychiatry, nursing, sociology, and education; ii) MEDLINE, which focuses on biomedical literature; and, iii) CINAHL, the Cumulative Index to Nursing & Allied Health Literature, which covers literature relating to nursing and allied health professions. A variety of keywords and combinations such as “therapeutic play,” “hospitalized children,” “recreation,” and “pretend play” were used to conduct the search with the assistance of a medical librarian. (See Table 1 for a complete list of keywords used).

Searches revealed 62 articles pertaining to therapeutic play in pediatric settings. After the results were sorted to exclude repeats and non-empirical based literature, 41 articles remained, of which 26 were eliminated because their topics were beyond the scope of this review (e.g. pet therapy, music therapy, and video games). The remaining 15 articles were scored by one of two independent raters. For the quantitative studies, “The Quality of Study Rating Form”^{1, 2} was used. Articles that received a rating of at least 60 out of 100 points were selected for inclusion. Any article that scored between 55 and 65 points was re-scored by a second rater to confirm inclusion or exclusion. For the qualitative studies, the Qualitative Study Quality Form² was used.

A total of 10 studies (nine quantitative and one qualitative) is included in this statement. Children involved in these studies ranged from 3 to 12 years of age and were hospitalized for a variety of reasons, including dental surgery, cardiac catheterization and tonsillectomies. Eight quantitative studies³⁻¹⁰ used a randomized experimental design to examine the effects of therapeutic play, while one¹¹ provided a descriptive content analysis of interviews involving play. The single qualitative study examined the process of play when children engaged in expressive arts¹² (see Table 2 for a list of studies included in this review).

Since evidence-based practice represents an integration of both clinical experience² and the best available research¹³, this statement was also reviewed by Certified Child Life Specialists across North America in order to ensure clinical applicability. In addition, evidence-based practice acknowledges patient preferences and needs when determining the most appropriate clinical applications for a child and family.

THE VALUE OF PLAY

Children from all cultures play. Even in cultures where young children are expected to assume adult work responsibilities, anthropologists cite examples of how children manage to integrate play into their daily tasks¹⁴. This suggests that play is not only universal but essential to human development. Indeed, research has repeatedly shown that the benefits associated with play are profound and wide-ranging. Following a meta-analysis of 800 studies, Fisher concluded there was cogent evidence for the positive impact of play on children’s developmental outcomes¹⁵. *Play was found to significantly promote cognitive and social aspects of development and these effects were magnified when adults participated in play with children.* Accordingly, childhood play is understood to be critical to children’s development for multiple reasons, including the opportunity to communicate feelings, misunderstandings and concerns in

their own language using both verbal and behavioral expression⁹. Since play teaches children how to handle the world and the social roles in it, play is the predominant context in which children interface with their environment.

WHAT IS THERAPEUTIC PLAY?

Play can be broadly defined as any activity in which children spontaneously engage and find pleasurable¹⁶. For children in the hospital, specific forms of play can provide an effective venue for personal development and increased well-being. In particular, therapeutic play refers to specialized activities that are developmentally supportive and facilitate the emotional well-being of a pediatric patient.

The discourse on play acknowledges important distinctions between therapeutic play and play therapy. Although these terms are often used interchangeably, the focus of therapeutic play is on the promotion of continuing ‘normal development’ while enabling children to respond more effectively to difficult situations such as medical experiences¹⁷. In contrast, play therapy addresses basic and persistent psychological issues associated with how a child may interact with his or her world. Therefore, therapeutic play, in a less structured way, focuses on the process of play as a mechanism for mastering developmental milestones and critical events such as hospitalization.

Since therapeutic play comprises activities that are dependent on the developmental needs of the child as well as the environment, it can take many forms⁹. For example, therapeutic play can be delivered through interactive puppet shows¹⁰, creative or expressive arts¹², puppet and doll play⁷, and other medically oriented play^{3-6, 8, 9, 11}. It can be directive or non-directive in approach and may include re-enactments of medical situations to facilitate children’s adaptation to hospitalization^{3, 4, 16, 17}.

Regardless of the form that therapeutic play takes, the child life specialist (CLS) ensures that the play is developmentally appropriate while using language that is understandable to the child^{4, 5, 7}. During therapeutic play children are encouraged to ask questions to clarify misconceptions and express feelings related to their fears and concerns³⁻⁹. In this way, therapeutic play acts as a vehicle for eliciting information from children while also sharing information about what to expect from medical procedures and what sensations may be experienced⁴.

Therapeutic play typically consists of at least one of the following types of activities: 1) the encouragement of emotional expression (e.g. re-enactment of experiences through doll play), 2) instructional play to educate children about medical

experiences, and 3) physiologically enhancing play (e.g. blowing bubbles to improve breathing)¹⁶. The studies reviewed here predominantly address medically oriented play, including emotional expression and instructional play forms.

RESEARCH ESPOUSING THE BENEFITS OF THERAPEUTIC PLAY

Psychological and Behavioral Outcomes

Several studies have shown that therapeutic play is effective in decreasing anxiety and fears for children from the time of admission to immediately after surgery and to the time of discharge^{4, 5, 8-10}. In one qualitative study, Wikstrom investigated how children in the hospital experienced expressive arts through the use of clay, paint and textile. The primary finding from this study was that the children spontaneously described themselves through their art by expressing emotions such as fear and powerlessness¹². Thus, a defining feature of therapeutic play is its ability to elicit emotional expression leading to greater psychological well-being for a child in the hospital^{4, 5}. Accordingly, in studies where children were offered therapeutic play, they exhibited greater cooperation during stressful procedures^{4, 5} and were more willing to return to the hospital for further treatment⁷.

In one study, Schwartz, Albino and Tedesco found that medically related therapeutic play was more effective than medically unrelated therapeutic play⁴. The authors examined the effects of preoperative preparation on stress reduction in 45 children aged 3 and 4 years. The children were randomly assigned into one of three groups: a control group, a medically unrelated play therapy group, and a medically related play therapy group. The medically related play included providing information to the child and parent and a role play that resembled actual medical procedures with hospital toys. Results from the study concluded that children in this group were more cooperative and less upset than children in the other two groups, which suggests that medically related play can be more effective in alleviating stress than unrelated play.

Studies have shown that therapeutic play produces benefits not evidenced with alternative types of play or methods of preparation. Rae and colleagues compared the effects of play on the psychosocial adjustment of 46 children, aged 5 to 10 years, who were hospitalized for an acute illness. They randomly assigned the children to one of four groups: therapeutic play, diversionary play, verbal support, and no treatment. The therapeutic play consisted of playing with medical and non-medical materials as well as puppets, dolls and toy animals. During

this non-directive play, the facilitator encouraged re-enactments of experiences while allowing the child to reflect and interpret feelings. Results showed that children who engaged in therapeutic, non-directive play showed a significant reduction in self-reported hospital fears in comparison with children from other groups⁸.

Only one study did not show a statistically significant decrease in anxiety for children following therapeutic play. Fosson, Martin and Haley⁶ investigated the effectiveness of guided medical play in reducing anxiety in latency-age children. Fifty children, aged 5 to 9 years, were randomly assigned to either the control group, where the child watched TV with a recreational therapist for 20 minutes, or the experimental group, where a recreational therapist facilitated medically-oriented play with the child. This study found that although the mean levels of anxiety of children in the experimental group decreased more than children in the control group, the difference was not sufficient to reach statistical significance. In order to explain these findings, the authors noted that the intervention consisted of only one 30-minute play session and the control group had access to other forms of play during hospitalization.

Physiological Outcomes

In addition to relieving psychological stress, therapeutic play is also effective in reducing apprehensive physiological responses, such as palm sweating, excessive body movement, escalating pulse rate and high blood pressure⁵. In two studies, children who were provided opportunities for therapeutic play showed less physiological distress, as indicated by lower blood pressure and pulse rate and shorter time between surgery and first voiding³. They also exhibited less palm sweating than children who did not have opportunities for therapeutic play¹⁰.

GAPS IN CURRENT LITERATURE

Although there is considerable literature concerning play in hospitals, much of this material is anecdotal and non-empirical. From an evidence-based practice perspective, this is problematic. For instance, little is known about the process and development of therapeutic play. How does play evolve over the course of a child's hospitalization, and should more complex forms of play (i.e. medically related) be offered only after a trusting relationship has been established with the child? Also, to what extent does therapeutic play rely on non-directive approaches? In terms of timing the introduction of therapeutic play, Young and Fu found that regardless of whether needle play took place before or after the blood test, children who

received therapeutic play showed significantly lower pulse rate five minutes after the blood test when compared to those who did not³. Although the timing of medical play did not alter its effectiveness in reducing pulse rate, additional studies should be conducted in order to verify these findings across different forms of therapeutic play.

The majority of research in this area addresses the use of medically related play, while areas such as creative arts, body image activities and tension-release forms of play are understudied. Not only is the comparison of various forms of therapeutic play lacking, but also the suitability of specific types of play for particular age groups, gender types, or anxiety levels. As well, it is unclear whether group or individual therapeutic play is generally more effective for children in hospital.

Perhaps most importantly, there is a limited understanding of how children perceive therapeutic play through *their own descriptions and experiences*. The paucity of research **with children** (participatory) rather than 1 (non-participatory) is recognized as problematic by those working in the field¹⁸⁻²¹. Inherent complexities also are associated with how play is studied and evaluated. For instance, the way in which a child life specialist facilitates play can determine the degree of therapeutic value and the establishment of trust with the child. Qualitative studies which are more suitable for exploring health care issues with children should address the following questions: how do children experience therapeutic play with their CLS and what types of activities are most meaningful to them?

SUMMARY

A central goal in pediatric health care is to facilitate the emotional and physical well-being of children in the hospital¹⁶. Research provides evidence for the effectiveness of therapeutic play in reducing psychological and physiological stress for children facing medical challenges. Therapeutic play offers long-term benefits by fostering more positive behavioral responses to future medical experiences. Since childhood play transcends cultural barriers, play opportunities should be provided for children of all ages and backgrounds.

Despite a large amount of literature purporting the value of play, research gaps exist regarding the evaluation of therapeutic play in health care settings. Future research must address the play preferences and perspectives of children if evidence-based practice is to reflect the needs of pediatric patients. Since therapeutic play embodies the essence of the child life profession, it should remain the focus of ongoing critical analysis and empirical investigation.

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TABLE 1. LIST OF KEYWORDS USED TO CONDUCT LITERATURE SEARCH

PsycINFO	
Category	Search Words
Therapeutic play	Play therapy, childhood play behavior, games, recreation, toys, pretend play, anatomically detailed dolls, childhood play development, children's recreation games, doll play, role playing
Hospitalized Children	Hospitalized patients (limit to childhood and adolescence)
MEDLINE	
Category	Search Words
Therapeutic play	Art therapy, dance therapy, music therapy, play therapy, role playing, play and playthings, illustrated books, recreation, anatomic models
Hospitalized Children	Inpatient (limited to all child), hospitalized child, hospitalized adolescent
CINAHL	
Category	Search Words
Therapeutic play	Art therapy, dance therapy, music therapy, pet therapy, play therapy, play and playthings, games, anatomic models, recreational therapy, role playing
Hospitalized Children	Hospitalized infant, hospitalized children, hospitalized adolescent, inpatients (limit age from 0 to 18)

TABLE 2. FINAL SELECTION OF STUDIES INCLUDED IN THIS REVIEW

Cassell, S. (1965). Effect of brief puppet therapy upon the emotional responses of children undergoing cardiac catheterization. <i>Journal of Consulting Psychology</i> , 29(1): 1-8.
Clatworthy, S. (1981). Therapeutic play: Effects on hospitalized children. <i>Journal of Association for Care of Children's Health</i> , 9(4):108-113.
Ellerton, M. L., Caty, S., & Ritchie, J. A. (1985). Helping young children master intrusive procedures through play. <i>Children's Health Care</i> , 13(4):167-173.
Fosson, A., Martin, J., & Haley, J. (1990). Anxiety among hospitalized latency-age children. <i>Developmental and Behavioral Pediatrics</i> , 11(6):324-327.
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CHILD LIFE COUNCIL EVIDENCE-BASED PRACTICE STATEMENT

SUMMARY

CHILD LIFE ASSESSMENT: VARIABLES ASSOCIATED WITH A CHILD'S ABILITY TO COPE WITH HOSPITALIZATION

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Rebecca Mador, Wendy Lee, and Michelle Gibson, research assistants at the Hospital for Sick Children, are gratefully acknowledged for their contributions in the preparation of this statement.

The purpose of this statement is to identify key variables associated with children's ability to cope with hospitalization and to inform child life practice by serving as a guide for initial assessments of hospitalized children. After systematically evaluating 39 articles retrieved from searches conducted on PsycINFO, MEDLINE and CINAHL, 26 studies were included in this statement. Although four categories of variables emerged (child, family, illness and medical experience), only the most significant variables are reviewed here. For a more comprehensive analysis of variables, please refer to the complete statement on assessment.

KEY VARIABLES ASSOCIATED WITH CHILDREN'S ABILITY TO COPE WITH HOSPITALIZATION

Of the child variables, the *child's temperament* and related *coping style* were seen as significant factors. Temperament can be defined as an individual's consistent and stable pattern of behavior or reaction, one that persists across time, activity, and context. Studies investigated the relationship between a child's temperament and his or her response to hospitalization. Children who responded best to hospitalization tended to be more positive in mood, more predictable, easier to distract, more approachable and adaptable while being less reactive to stimuli⁹. In addition, McCloyry found that temperament accounts for as much as 50% of the variance in children's behavioral responses prior to and up to one month after hospitalization⁹.

Closely associated with temperament is the child's coping style. Coping is the process used to alter, manage, or tolerate a stressful situation¹⁵. An individual's preferred style of coping is

a combination of his or her temperament as well as an appraisal of the stressful situation. Researchers have typically divided the coping strategies children use into two categories: avoidant and vigilant^{16,17}. Avoidant coping occurs when children restrict their thoughts about an upcoming event, deny their worries, and detach from a stressful stimulus. Vigilant coping strategies consist of seeking out detailed information and alertness to a stressful stimulus. LaMontagne et al. found that vigilant coping was associated with a timely return to normal activities over the course of recovery¹⁶. Similarly, Knight et al. found that children who sought information about their upcoming procedure exhibited less physiological and affective distress than children who denied the experience or avoided information¹⁸.

In terms of family variables, parental anxiety is most strongly correlated with children's adverse responses during hospitalization^{10, 15, 16, 20, 21, 24, 26, 29}. Maternal anxiety not only predicts children's emotional distress^{10, 15, 16, 20, 24, 29}, but also correlates positively with children's distress during invasive procedures^{21, 26}. In one study, high levels of maternal state anxiety at first contact (6-16 hours following the child's admission to the intensive care unit) was found to significantly increase a child's likelihood to engage in negative behavioral responses such as hyperactivity and aggression²⁰. Maternal anxiety also mediates the positive effect of an intervention on hospitalized children's post-hospital behavior, suggesting that it may be beneficial to provide support to highly-anxious mothers in order to enhance the psychosocial outcomes of hospitalized children³⁰.

The types and number of medical experiences is associated with psychological trauma in pediatric populations. In particular, studies reveal that the *number of invasive procedures* experienced by a child is positively associated with the level of stress, anxiety and fear experienced during and following hospitalization^{22, 25, 28, 29}. In particular, some studies found that the number of invasive procedures was a strong predictor of chil-

dren's psychological distress, manifested in symptoms of depression, anxiety, fear and post-traumatic stress^{25, 28}.

SUMMARY

In summary, the key issues for child life assessment are the child's temperament and coping style, the parental level of anxiety and the number of invasive medical procedures. Although child life specialists have a primary role in psychosocial care, evidence-based practice models support inter-profes-

sional collaboration (i.e. child life and social work) as a means of addressing complex issues associated with child and family adaptation to hospitalization.

For the detailed information and studies reviewed to support this statement, review the complete version of the evidence-based practice statement on assessment, available through the Resource Library section of the CLC Web site (www.childlife.org).

CHILD LIFE COUNCIL EVIDENCE-BASED PRACTICE STATEMENT

CHILD LIFE ASSESSMENT: VARIABLES ASSOCIATED WITH A CHILD'S ABILITY TO COPE WITH HOSPITALIZATION

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PREAMBLE

The purpose of this statement is to identify key variables associated with children's ability to cope with hospitalization. Based on the best empirical evidence, this statement can inform child life practice by serving as a guide for initial assessments of hospitalized children. The goal of an initial assessment is to determine a child's risk for negative psychological outcomes due to hospitalization and to plan appropriate interventions.

This statement is based on an exhaustive search of the literature, which was conducted on i) PsycINFO, which records the literature from psychology and related disciplines such as medicine, psychiatry, nursing, sociology, and education; ii) MEDLINE, which focuses on biomedical literature; and iii) CINAHL, the Cumulative Index to Nursing & Allied Health Literature, which covers literature relating to nursing and allied health professions. A variety of keywords and combinations such as "hospitalized children," "coping," "psychological adaptation" and "stress" were used to conduct the search (See Appendix A for a list of search terms). The search was completed in March 2007 with the assistance of a medical librarian. Searches revealed approximately 150 articles regarding coping and adjustment. After the results were sorted to exclude repeats and non-empirical based literature, 39 articles remained. These articles were retrieved and evaluated based on the scoring of 2 independent raters using "The Quality of Study Rating Form"¹. Articles that received a rating of at least 60 out of 100 points were selected for inclusion in this statement. Any

article that scored between 55 and 65 points was scored again by a second rater to confirm inclusion or exclusion. Finally, twenty five articles met the selection criteria (See Appendix B for a complete list of citations).

Since evidence-based practice represents an integration of the best available research along with clinical experience¹, this statement was reviewed by certified child life specialists across North America in order to ensure clinical applicability. In addition, evidence-based practice acknowledges patient preferences and needs when determining the most appropriate clinical interventions for the child and family.

CHILD LIFE ASSESSMENT: WHY IS IT IMPORTANT?

Children's negative responses to hospitalization and medical procedures are well documented in the literature^{2,6}. In an effort to reduce the negative impact of hospitalization on pediatric patients, child life specialists must determine whether a child is at risk for experiencing negative psychological sequelae. Given that the quality and intensity of a child's reaction to hospitalization can be influenced by many variables, child life specialists must consider the most significant variables^{7,8} when conducting assessments. Without an understanding of these variables, accurate assessments of hospitalized children are not possible and the ability to engage in evidence-based practice is thwarted.

HOW STUDIES IDENTIFY FACTORS ASSOCIATED WITH COPING

Research in this area is complex, predominantly because several variables can be associated with children's ability to cope with hospitalization. For the most part, this research is quanti-

tative and correlational in design. These studies typically attempt to link results obtained through self-report scales completed by children and their parents with behavioral outcomes. It must be noted, however, that correlational designs do not allow conclusions to be drawn with respect to causality. Despite the shortcomings of correlational designs, the findings reviewed here identify key issues associated with how children cope with hospitalization. From the studies reviewed in this statement, four categories of variables emerged:

- 1) Child variables
- 2) Family variables
- 3) Illness variables
- 4) Medical experiences

CHILD VARIABLES

Temperament

Temperament can be defined as an individual's consistent and stable pattern of behavior or reaction, one that persists across time, activity, and context. Generally, an individual's temperament consists of nine dimensions including activity level, adaptability, threshold of responsiveness, mood, intensity of reaction, distractibility, attention span and persistence, and predictability⁹. Two studies investigated the relationship between a child's temperament and his or her response to hospitalization. Children who responded best to hospitalization tended to be more positive in mood, more predictable, easier to distract, more approachable and adaptable while being less reactive to stimuli^{9,10}. In addition, McClowry found that temperament accounts for as much as 50% of the variance in children's behavioral responses prior to and up to one month after hospitalization⁹.

The level of anxiety exhibited by a child in hospital can reflect his or her underlying temperament and associated responses to stressful situations. In addition, distinctions need to be made between the different types of anxiety. For instance, trait anxiety, which refers to the stable and relatively constant tendency to be anxious, has a significant influence on the quality of a child's reaction to hospitalization¹¹⁻¹³. Children with higher trait anxiety are significantly more likely to perceive their coping as ineffective and appraise hospitalization as a stressful experience than are children with lower trait anxiety^{11,12}. Trait anxiety has also been found to positively correlate with a child's self-reported fear, indicating that highly anxious children require additional support in order to cope effectively with stressful events¹³. In addition to trait anxiety, state anxiety refers to anxiety created as a result of a specific experience.

Tiedeman and Clatworthy found that this form of anxiety dissipates from the time of admission to discharge for hospitalized children between the ages of 5 and 11¹⁴.

In the event that a child life specialist is presented with an anxious child, discussions with the child and family can help determine whether the child is exhibiting a form of trait or state anxiety. For example, if the child is normally anxious in other areas of his or her life, this may be indicative of a more pervasive form of anxiety. In this case, child life interventions supplemented by a referral to psychiatry may be necessary in order to rule out an underlying anxiety disorder.

Coping Style

Coping is the process used to alter, manage, or tolerate a stressful situation¹⁵. An individual's preferred style of coping is a combination of his or her temperament as well as an appraisal of the stressful situation. Researchers have typically divided the coping strategies children use into two categories: avoidant and vigilant^{16,17}. Avoidant coping occurs when children restrict their thoughts about an upcoming event, deny their worries, and detach from a stressful stimulus. Vigilant coping strategies consist of seeking out detailed information and alertness to a stressful stimulus. LaMontagne et al., found that vigilant coping was associated with a timely return to normal activities over the course of recovery¹⁶. In a related study, LaMontagne et al., classified children based on how they focused on aspects of impending surgery. Children who focused their attention on concrete aspects of the experience (i.e., details about recovery) tended to use vigilant coping and were able to return to their usual activities sooner. Children who had less information about the procedure (provided few descriptions of the experience, tended to avoid information) had the least favorable outcome on the "activities" subscale of the Youth Self-Report and Profile which assesses the child's usual activities (i.e., sports, chores, etc.)¹⁷. Similarly, Knight et al., found that children who sought information about their upcoming procedure exhibited less physiological and affective distress than children who denied the experience or avoided information¹⁸.

However, other studies suggest that the relationship between coping style and outcomes is more complex^{16,19}. Lowery Thompson found that children who used either information-seeking (vigilant) or information-limiting (avoidant) coping behaviors were less anxious than children using a combined approach¹⁹. Furthermore, different strategies can be associated with favorable outcomes at different time periods; while avoidant strategies were found to be more effective in reducing

stress initially after surgery, children using a vigilant approach reported better long-term recovery¹⁶.

In one study, children's baseline behavior was assessed as a predictor for how a child might behave during and after hospitalization. For instance, if a child is more likely to exhibit internalizing behaviors (i.e. anxiety, depression) prior to hospitalization, this coping style can consistently predict later internalizing behaviors following hospitalization. The same was found true for externalizing behaviors such as aggression and hyperactivity²⁰.

Although the findings reveal complexities, children's coping styles appear to predict psychological outcomes related to hospitalization. For the most part, avoidant characteristics appear to be less effective at ameliorating stressors associated with hospitalization. Therefore, a child's coping style as shown by his or her willingness to seek and accept information can predict the degree of psychological risk.

Age

Several studies included in this review examined the relationship between a child's chronological age and his or her likelihood of experiencing negative behavior and/or psychological sequelae in response to hospitalization^{3, 14, 21-24}. It should be noted that these studies did not make distinctions between chronological age and developmental levels. Despite the fact that older children (latency age) are assumed to cope better with hospitalization than younger children, the literature indicates that the relationship is more complex. For example, some studies found no link between a child's age and his or her response to hospitalization, post-behavioral upset, anxiety or fear^{19, 25}. Conversely, some researchers found that younger children were more likely to be anxious and fearful compared to older children^{14-16, 20-24, 26}. Younger children were also less likely to feel in control of their health as measured by the Children's Health Locus of Control Scale²².

The impact of age on children's coping strategies is also unclear. Assessed by the Preoperative Mode of Coping Interview, two studies cited contradictory findings: Lowery Thompson found that age is not related to children's coping behavior while LaMontagne et al., discovered that older children are more likely to use effective coping strategies^{16, 19}. Given these discrepant findings, it cannot be assumed that the age of the child will accurately predict the degree of upset experienced by a hospitalized child. Hence, it is critically important to examine other variables in addition to age when making assessments regarding coping.

Gender

Many studies in this review examined the effects of gender on a child's response to hospitalization^{11-14, 19, 20, 22, 23, 25-28}. However, the findings from these studies are inconclusive. Tiedeman and Clatworthy found that boys tended to be more anxious than girls at admission, discharge and post-discharge, while other studies found that girls were more anxious than boys^{20, 22, 25, 27} and finally some concluded that gender was unrelated to anxiety or the expression of fear^{11-13, 19}. A number of studies also revealed that gender differences are not evident in behavioral upset²³, focus of attention¹⁷, coping strategies and perception of its effectiveness¹¹ and the type of events children appraised as stressful during hospitalization¹².

FAMILY VARIABLES

Parental Anxiety and Distress

Of all the family variables, parental anxiety is most strongly correlated with children's adverse responses during hospitalization^{10, 15, 16, 20, 21, 24, 26, 29}. Maternal anxiety not only predicts children's emotional distress^{10, 15, 16, 20, 24, 29}, but also correlates positively with children's distress during invasive procedures^{21, 26}. In one study, high levels of maternal state anxiety at first contact (6-16 hours following the child's admission to the intensive care unit) was found to significantly increase a child's likelihood to engage in negative behavioral responses such as hyperactivity and aggression²⁰. Maternal anxiety also mediates the positive effect of an intervention on hospitalized children's post-hospital behavior, suggesting that it may be beneficial to provide support to highly-anxious mothers in order to enhance the psychosocial outcomes of hospitalized children³⁰.

Only one study found that at the time of admission to the hospital, parental anxiety did not significantly affect child's anxiety¹⁴. However, there was a significant relationship between parental anxiety and children's anxiety following hospitalization. These inconsistent findings were partially explained by the fact that different questionnaires were used at various times during hospitalization.

Family Characteristics

Three studies provided an in-depth examination of family characteristics associated with post-hospitalization outcomes^{10, 20, 23}. The main variables included the marital status of a child's parents²⁰, family size, and family composition^{10, 23}. One study by Small & Melnyk (2006) found that marital status significantly predicted a child's likelihood of displaying internalizing (focused inward, i.e. anxiety, depression) or externalizing

(focused outward, i.e. aggression, hyperactivity) behaviors post-hospitalization²⁰. For example, mothers who had been married more than once had children who demonstrated more internalizing behaviors three months post-hospitalization than children whose mothers had not been married or were married for the first time. Additionally, mothers' anxiety and level of involvement to the emotional needs of the child were primary predictors of internalizing and externalizing behaviors, as well as post-hospitalization anxiety. However, family size and composition were found to be unrelated to a child's post-hospital adjustment^{10, 20, 23}.

Socioeconomic Status

Studies have investigated the relationship between a family's socioeconomic status (SES) and a child's response to hospitalization^{10, 13, 20, 22, 23}. While two studies found no association between SES and children's responses to hospitalization^{10, 23, 20}, Hart & Bossert found that children with higher trait anxiety from families with a lower yearly income reported a higher amount of fear¹³. In terms of maternal education, Rennick et al., reported that children with mothers who had higher education were more likely to feel in control of their health²².

Parental Presence and Involvement

Studies have also sought to determine the extent to which a parent's presence is associated with how a child responds to hospitalization. In a pediatric emergency care study, 96 children were administered a venipuncture³¹. The children were randomly assigned to two groups; one in which a parent was present, and another in which a parent was absent. Both parents and children exhibited less distress when a parent was present during the procedure. In contrast, another study randomly assigned 20 children to either a condition with mother present during an injection and another condition where the mother was absent³². Children's behavior during and after the injection was rated as significantly more negative for the children in the mother-present condition. The authors concluded that children may feel more comfortable protesting during a procedure when a parent is present.

The level of parental involvement in the care of hospitalized children can exert significant influence on a child's ability to cope with medical experiences^{10, 20, 24, 30}. In one controlled study by Mazurek Melnyk and Feinstein, researchers found that when parents received information regarding common child behaviors during hospitalization, their participation in the care of their child increased³⁰. In turn, these children experienced less negative behaviors following hospitalization. To

measure the level of maternal involvement in care, the Index of Parent Participation was used (IPP; Melynk, Alpert-Gillis, Hensel, Cable-Beiling & Rubenstein, 1997)³³. The scale consists of a 36-item checklist of self-reported parenting behaviors during childhood hospitalization. Examples of these behaviors included playing, bathing, feeding and explaining medical procedures to the child. The authors yielded scores which reflected low, moderate and high levels of involvement. The study found that moderate parental involvement resulted in positive outcomes for hospitalized children while excessive or limited parental involvement was shown to result in negative outcomes. For instance, children with highly involved parents exhibited worse post-hospital adjustment, more internalized coping such as anxiety and depression²⁴, and more behavioral disturbance than children with less involved parents^{10, 20, 24}.

ILLNESS VARIABLES

Chronic vs. Acute Illness

Few studies have investigated whether children with chronic or acute conditions experience hospitalization differently. In one study, the degree of children's fears was not associated with whether they had chronic or acute illnesses¹³. However, in another study, acutely ill children were more likely to perceive their coping as effective than were chronically ill children¹¹. Bossert compared chronically ill and acutely ill children on their perceptions of what is stressful. Chronically ill children identified more intrusive events and acutely ill children identified more physical symptoms as stressful¹². In regards to post-hospital behavior, children from intensive care were compared with those from a general medical ward. Scores on post-hospital behavior scales revealed similar findings for the two samples³⁴.

Length of Hospitalization

In two studies, the length of hospitalization was examined in regards to children's adjustment to hospitalization^{14, 22}. While this variable appeared to have minimal effects on children's responses to hospitalization in one study²², another study found that shorter hospital stays were associated with higher levels of anxiety by children at discharge¹⁴.

MEDICAL EXPERIENCES

Exposure to Invasive Procedures

Studies reveal that the number of invasive procedures experienced by a child is positively associated with the level of stress, anxiety and fear experienced during and following hospitalization^{22, 25, 28, 29}. In particular, two studies found that the

number of invasive procedures was a strong predictor of children's psychological distress, manifested in symptoms of depression, anxiety, fear and post-traumatic stress^{25,28}. Rennick et al., found that children subjected to a higher number of invasive procedures tended to have more intrusive thoughts and avoidance behaviors. These findings were particularly noteworthy for younger, more severely ill children who had endured many invasive procedures²². Rennick et al., replicated these findings and found that children between the ages of 6 to 17 years who were exposed to high numbers of invasive procedures experienced the most psychological sequelae post discharge²⁸. Only one study did not find an association between the number of medical procedures and children's depressive or anxious symptoms. The authors hypothesize that participants in their study had experienced frequent hospitalizations and may have learned effective coping strategies¹⁵.

Previous Hospitalizations

The research on whether previous hospitalization has an affect on a child's ability to cope with hospitalization is inconclusive. Some research found that previous hospitalizations are not related to the level of anxiety or coping experienced by the child^{19,25} while in a study by Tiedeman and Clatworthy, children with no previous hospital experience were more anxious than those who had been in hospital before, alluding to the potential benefits of being familiar with the hospital setting¹⁴. Support for these findings can be found in Wells and Schwebel where children with fewer previous surgeries exhibited greater disturbance and anxiety²⁴.

Gaps in the Literature

Since studies report mixed findings on a variety of variables (i.e. age, previous hospitalizations), additional research using randomized designs with cross-sectional samples could reveal the degree to which particular variables impact on children of various ages. For instance, there is a lack of studies that compare children of different ages with a variety of diagnoses or chronic conditions. Current research has also made no distinctions between chronological age and the developmental levels of the participants. This issue may have bearing on research findings given that children sampled from pediatric settings are more likely to have a range of developmental delays which can affect their ability to cope. In addition, future research should address whether particular diagnoses and associated treatment plans place children at greater risk for negative psy-

chological outcomes. Taken together, this information has implications for determining appropriate staff to patient ratios in specific medical areas where child life may be needed most.

According to Rodriguez and Boggs, the evaluation of emotional distress in pediatric settings is further complicated by the scarcity of measures designed specifically for the *assessment of children who are hospitalized*²³. Given that a parent's anxiety is strongly correlated with a child's anxiety, additional measures which address a range of family variables are also needed. Finally, the literature lacks relevant discourse on issues related to culture (i.e. values, beliefs), diversity and family background.

CONCLUSIONS

A systematic review of the best available research revealed key variables to be considered in a child life assessment. In particular, the child's temperament, and the level of child and parental anxiety (state or trait) are very significant factors. Small and Melnyk underscore the importance of baseline knowledge concerning a child's usual behavior patterns, citing that this information can identify patients most in need of psychosocial interventions during and following hospitalization²⁰. Therefore, an initial assessment of the child's temperament is an important place to start in addition to determining parental stress levels. An assessment of these key variables will help determine whether the child is experiencing state or trait anxiety. Indeed, highly anxious children may require more emotional support in order to deal with stressful events and this may be particularly significant for children who have experienced many invasive medical procedures. Finally, the research tells us that we cannot assume a child will cope poorly solely because he or she is young without considering other important variables.

The research in this area presents a complicated array of issues for child life consideration. For child life specialists who observe parents exhibiting or reporting high stress levels, collaborating with other health care professionals such as social work can make a significant difference in patient and family outcomes. Although child life specialists play an important role in children's adaptation to hospitalization, evidence-based practice models support inter-professional collaboration as a means of strategically addressing complex issues associated with how children and their parents cope with medical challenges³⁵⁻⁴¹.

APPENDIX A

Three databases were used to generate literature searches. A variety of search words were used to conduct literature searches with the assistance of a medical librarian.

MEDLINE	
Category	Search Words
Coping	Psychological adaptation, adjustment, stress, psychological stress, social adjustment
Hospitalized Children	Inpatient (limited to all children), hospitalized child, hospitalized adolescent
PsycINFO	
Category	Search Words
Coping	Coping behavior, adjustment, emotional adjustment, social adjustment
Hospitalized Children	Hospitalized patients (limited to childhood and adolescence)
CINAHL	
Category	Search Words
Coping	Child adaptation to hospitalization, psychological adaptation, social adjustment,
Hospitalized Children	Hospitalized infant, hospitalized children, hospitalized adolescent, inpatients (age limited to 0-18 years)

APPENDIX B

Twenty-five articles were evaluated using “The Quality of Study Rating Form” (Gibbs, 1989). Articles that scored between 60 and 100 points were selected for inclusion in this statement.

- Bossert E. Factors influencing the coping of hospitalized school-age children. *Journal of Pediatric Nursing*. 1994;9(5):299-306.
- Bossert E. Stress appraisals of hospitalized school-age children. *Children's Health Care*. 1994;23(1):33-49.
- Carson DK, Council JR, Gravley JE. Temperament and family characteristics as predictors of children's reactions to hospitalization. *Developmental and behavioral pediatrics*. 1991;12(3):141-147.
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- Saylor CF, Pallmeyer TP, Finch AJ, Eason L, Trieber F, Folger C. Predictors of psychological distress in hospitalized pediatric patients. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1987;26(2):232-236.
- Shaw EG, Routh DK. Effect of mother presence on children's reaction to aversive procedures. *Journal of Pediatric Psychology*. 1982;7(1):33-42.
- Small L, Melnyk BM. Early predictors of post-hospital adjustment problems in critically ill young children. *Research in Nursing & Health*. 2006;29:622-635.
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