Guided Imagery as a Source of Pediatric Pain Management

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Table of Contents

Section One: The Problem ........................................................................................................3
Section Two: The Literature Review....................................................................................5
Section Three: The Procedure..............................................................................................22
Section Four: The Evaluation...............................................................................................24
References..........................................................................................................................25
Section One: The Problem

Guided imagery is a safe and effective non-pharmacological pain management technique that may be used by child life specialists to help their pediatric patients successfully cope with both their acute and chronic pain. Nevertheless, for guided imagery to be effective child life specialists must be trained, educated, and well versed in administrating guided imagery therapy. The idea to create a guided imagery handbook for child life specialists to use in the hospital setting was conceived in direct response to a survey of the pain management techniques used by child life specialists. Bandstra et al. (2008) received responses from 607 child life specialists to learn that 65% of the polled specialists provide pain management techniques to at least 50% of their pediatric patients. One of the noted techniques was guided imagery. In fact, on a scale from 1 to 5, the surveyed specialists reported their guided imagery frequency of use at an average of 3.17 and its observed effectiveness at a mean of 3.38. The average amount of previous training hit 3.08. Most importantly, however, a staggering 93.4% expressed interest in receiving future training. This dramatic need for further training makes the guided imagery handbook an essential tool for every child life specialist.

The purpose of the guided imagery handbook is to provide an accessible and supportive response to the majority of specialists who wish to learn more about guided imagery. Upon reading the guided imagery handbook, a child life specialist will be educated on the different forms of guided imagery as well as how and when to use it and what preliminary steps must be taken before commencing a guided imagery session. The handbook also provides samples scripts for a child life specialist to use with a patient or as a source of inspiration when creating their own unique script. A sample audio CD is also
provided to create a relaxing environment for guided imagery to take place. The goal of the handbook is to empower a child life specialist, who may only know the basics of guided imagery, with the appropriate knowledge and tools for providing guiding imagery to a pediatric patient in need. The ultimate goal, however, is help pediatric patients cope with their pain by making guided imagery a more predominant form of non-pharmacological pain management therapy. The more guided imagery is employed, the more opportunities it has to significantly help those in pain.
Section Two: The Literature Review

Abstract

Guided imagery is a complementary and alternative medicine primarily used with pediatric patients to combat a plethora of medical conditions by treating pain, anxiety, and sometimes the very condition itself when psychological triggers are at play. Different forms of guided imagery often find success from age 7 on based on the person’s developmental ability to store, recall, and manipulate images as well as create abstract imagery. Although guided imagery is somewhat frequently administered throughout pain centers and children’s hospitals alike, many healthcare professionals have expressed interest in receiving ongoing training in the field of guided imagery. The data from the reviewed research was obtained from subjects both inside the hospital setting and at home where chronic conditions are dealt with on a daily basis. The overall consensus from the research demonstrates that guided imagery provides some level of success in positively affecting levels of pain, anxiety, and relaxation in pediatric patients. The beneficial results of guided imagery are often temporary; however, they can serve as a risk free complementary treatment to standard pharmacological care. Additionally, the research supports a positive correlation between pain and anxiety. As with all research, there are a handful of validity threats, both internal and external, that may potentially discredit the strength of the researchers’ findings.
Guided Imagery as a Source of Pediatric Pain Management:

A Literature Review

The conversation regarding the implementation of non-pharmacological complementary and alternative medicines is becoming increasingly important in pediatric healthcare as the concern over traditional pharmacological treatments are often constrained by negative side effects and health concerns (Pincus & Sheikh, 2009). Guided imagery provides an alternative to treating pain and anxiety levels in children while increasing relaxation, which in turn may help reduce their originating symptoms when psychological triggers are involved. For instance, a study providing guided imagery to its treatment group was able to actually reduce the occurrence of migraines from almost 5 a month to one or less while another study treating recurrent abdominal pain decreased days with pain by 82% in addition to an 85% decrease in missed activities, such as school (Olness et al., 1999; Weydert et al., 2006). To only provide pharmacological treatment options is to bar the child from their natural developmental drive to be proactive in their own healthcare. By capitalizing on their ever-ready imagination and their innate ability to learn through play, healthcare providers, in particular child life specialists and social workers, can empower their pediatric patients to take control of their medical experiences (Pincus & Sheikh, 2009). The purpose of this literature review is to explore the effectiveness of guided imagery at increasing relaxation and reducing pain and anxiety in pediatric patients while paying particular attention to childhood development, as it relates to guided imagery treatment, as well as the many validity threats that often face experimental research.

The Definition of Guided Imagery

Guided imagery is a form of mind-body therapy that falls under the heading of complementary and alternative medicines, otherwise referred to as CAMs (Landier & Tse,
Minimally stated, guided imagery involves a patient listening to guided or instructional information while they conjure images in their mind as a therapeutic technique to help cope with a difficult situation. Nevertheless, guided imagery is far too varied to define in a simple sentence. Instead, guided imagery is often defined by describing its variety of practiced forms and techniques as well as the benefits they induce.

The Academy of Guided Imagery (2010) acknowledges techniques such as “simple visualization and direct suggestion, and metaphor and storytelling” as ways to elicit elements of the unconscious mind “to appear as images that can communicate with the conscious mind” (para. 2). By establishing a link between the unconscious and conscious mind, the patient can utilize internal resources that they may not have been aware of to help him or her cope with their current challenging situation (Rossman, 2004). The practice and administration of guided imagery is equally as diverse as it can occur with instruction or guidance from a psychologist or another trained professional, a prerecorded video or audio tape, or completely on one’s own with no outside influence. The psycho-physiological benefits of guided imagery help people cope with their current stressors while decreasing pain and promoting relaxation and the arousal of the body’s internal healing mechanisms (Rossman, 2004).

One of the most commonly used forms of guided imagery is Interactive Guided Imagery. A term coined by the Academy of Guided Imagery, Interactive Guided Imagery is developed from the notion that images should find their source in the mind of the patient, not the professional or audio recording instructing them. Personal imagery will help the patient look deep into him or herself to find what they need to get through whatever obstacle they are facing. The guide’s job is simply to help the patient get wherever they are going by encouraging the patient’s inner self to be revealed (Rossman, 2004).
The two most relevant forms of Interactive Guided Imagery, both within this review and beyond, are imagery relaxation and healing imagery\(^1\). Imagery relaxation uses relaxation techniques prior to commencing guided imagery so the body is as relaxed as it can possibly be before journeying to a safe place of the patient’s choice. Once the patient has cognitively entered that desired place, he or she is guided to acknowledge all the senses triggered by that place (e.g., smell of the ocean) as well as what is happening in that environment. Healing imagery, on the other hand, consists of the patient imagining their personal experience of healing that encompasses all five senses. An image of healing may have a certain sound or taste attached to it based on the patient’s interpretation (Rossman, 2004). By engaging the different senses during imagery, physiological healing can actually take place because the presence of the other four senses coupled with imagery allow the mind to believe the created scene is real, thus stimulating the “subcortical responses that mediate healing and immune responsiveness” (Rossman, 2004, p. 102).

**Guided Imagery in Children and Adults**

The relationship between child development and guided imagery is an important one to review. Through the lens of Piaget’s cognitive-stage theory, David Pincus and Anees A. Sheikh (2009) explore this relationship in great detail in an attempt to illustrate when and what imagery techniques are appropriate based on the child’s developmental stage. The sensorimotor period, marking birth to age 2, denotes a period of cognitive development when children are not yet able to store, recall, or manipulate images. Thus, guided imagery techniques are not applicable to children in this stage of cognitive development. Parent facilitated distraction using real life

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\(^1\) A less common form of imagery, in respects to this review, is ideal model imagery, which encourages the subject to imagine doing an activity they love without the experience of their medical condition or pain (Rossman, 2004).
GUIDED IMAGERY

objects is a more preferable pain management approach. Preoperational children (2 to 7 years old) are more capable of storing and recalling images, yet image manipulation ability is still not present. Subsequently, the ability to combine images through visual interactions is also not present; therefore, healing imagery is not yet an option because such images infer a change in their representation.

The ability to store, recall, and even manipulate images has greatly developed by the time children enter the concrete operations stage (7 to 12 years old). Abstract thought is not yet a strength, but they are able to participate in basic imagery, such as mentally traveling to a safe place. Lastly, the formal operation stage (adolescence into adulthood) introduces the cognitive ability to incorporate and manipulate abstract thought, thus being able to both attribute an image to an intangible concept, such as pain, and manipulate it. Both healing imagery and imagery relaxation find a home during the formal operations stage. As a reminder, every child is different and may or may not be able to achieve such cognitive stepping-stones regardless of their age (Pincus & Sheikh, 2009). In fact, based on the research by Pincus and Sheikh (2009), 10%-30% of children do not respond to imagery as a pain management technique.

Children learn about the world through a variety of ways, including play. Imagery is a form of play and at no stage other than childhood is the imagination so readily accessible. Consequently, children tend to respond better to imagery than adults. This is not to say, however, that adults do not find success in guided imagery (Pincus & Sheikh, 2009).

Kwekkeboom, Hau, Wanta, and Bumpus (2008) conducted a comparative experiment where 26 hospitalized adult cancer patients reporting cancer pain of a level two or greater were randomly placed in two separate treatment groups to compare the perceived effects of progressive muscle relaxation (PMR) and guided imagery. One group received PMR on the first day and guided
imagery on the second day while second group received the same treatment in the opposite order. Guided imagery treatment involved a 15-minute audio imagery exercise guiding the participants to locate and transform their pain using the glove anesthesia method (for more on the glove anesthesia method see Pincus & Sheikh, 2009). The PMR study was a 14-minute audio exercise that instructed the participant to tense and relax 12 major muscle groups to encourage relaxation. Finally, post treatment interviews were conducted to gauge the participants’ response to the treatments.

The results of the study involve both the analysis of the pre- and post-treatment pain scores and the post treatment interview data. Twenty-one participants felt PMR worked, yet only 10 were documented as responders (greater than a 30% improvement on their pain score). Sixteen participants felt guided imagery worked, yet only 11 were documented as responders. In total, guided imagery had 14 documented responders compared to 11 for PMR. The post treatment interview provided great insight into the effectiveness of guided imagery. Participants stated that guided imagery provided distraction (n=4) and encouraged relaxation (n=3). They also provided insight into its ineffectiveness by reporting the pain was too great to focus on the imagery (n=3) and the images were too difficult to create (n=2). Meanwhile, the primary feedback on PMR was its ability to help relax the muscle groups (Kwekkeboom et al., 2008).

As the results show, guided imagery appears to help decrease pain in adults even if they do not always recognize it. What made this study especially noteworthy are the results from the post interview, which provided information on the factors that affect how well guided imagery works. Post interviews on what did and did not work about treatment are not as common in pediatric experiments; therefore, the feedback provides the reader with an opportunity to learn
and possibly apply these results to children whose language is sometimes not developed enough to articulate their needs.

**The Prevalence of Guided Imagery in the Medical Setting**

Although there are numerous non-pharmacological options for children’s pain management, families may have difficulty finding institutions that actually employ them. Lin, Lee, Kemper, and Berde (2005) conducted a telephone survey to discover how many major pediatric anesthesiology centers offer complementary and alternative medicine options, such as biofeedback, massage, acupuncture, and guided imagery. Forty-three centers across the United States were asked to divulge which alternative medicine options were administered onsite by their staff. Out of the 43 centers that participated, 38 (86%) provided pain services that included one or more of the 15 surveyed complementary and alternative medicines. Sixty-five percent of the 38 centers provided biofeedback while 49% employed guided imagery. Other top contenders included hypnosis, massage, and relaxation therapy, respectively. Four of the five top therapies fall under the mind-body therapy heading, thus providing evidence for its popularity. It should be noted, however, that this survey did not include any referrals for alternative medicine to offsite centers.

Pediatric pain centers are not the only places that are suitable for and capable of providing alternative means of pain management. Children’s hospitals house the ideal pediatric candidates in need of pain management techniques to either replace or compliment pharmaceuticals. Depending on the hospital, a variety of staff, including social workers and child life specialists, may supply their patients with pain management techniques. Elizabeth Fung (2009) surveyed 109 haemophilia social workers in the United States to determine, among other concerns, what types of fear or anxiety management techniques are used on children who
GUIDED IMAGERY

undergo needle based medical procedures, such as blood work or venipuncture. Of the twenty-nine social works who responded to the 14 nominal and Likert scale questions, guided imagery was the third most used anxiety management technique, preceded by deep breathing and watching TV, respectively. Interestingly, 31% believed there was a need for more training in the area of guided imagery.

A similar survey conducted by Bandstra et al. (2008) polled 711 child life specialists throughout the United States and Canada to determine what types of non-pharmacological pain management techniques child life specialists employ, the technique’s observed effectiveness, the specialist’s level of training, and their interest in future training in each technique. Thirty techniques were included in an online survey, which allowed the participants to answer the first three aforementioned questions on a Likert scale and the last question with a nominal yes or no.

A total of 607 child life specialists responded to the survey. On a scale of 1 to 5, guided imagery earned a mean score of 3.17 for frequency of use and 3.38 for observed effectiveness while previously received training in guided imagery hit a mean of 3.08. Out of the cognitive strategies, guided imagery placed second in future training with 93.4% of specialists expressing interest. Interestingly, the researchers compared the child life specialists’ results with those of 9 pediatric pain experts who were simply asked to rate each technique based off the research they were familiar with (Bandstra et al., 2008). On a scale of 0 to 2, imagery was rated a 1 or as having “some/mixed support” (Bandstra et al., 2008, p. 323). Looking beyond the results of guided imagery, this survey highlights the level of involvement child life specialists have with their patients. A notable 65% of the participants provide “pain management services to at least 50% of their patients” by predominantly using techniques approved by pediatric pain experts (Bandstra et al., 2008, p. 325).
In an effort to address the need and desire for continued education on guided imagery, as previously expressed by both social workers and child life specialists, the following sections of this literature review focus on guided imagery treatments and their subsequent results. By studying previous trials and attempts at administering guided imagery, those working in the pediatric pain management field may encounter further accomplishments by learning from other’s mistakes while capitalizing on their successes.

**Guided Imagery Within in the Hospital Setting**

Within the confines of a children’s hospital, the Pediatric Intensive Care Unit (PICU) encounters numerous children facing serious illnesses while experiencing a level of pain that is completely foreign to them. Implementing guided imagery based pain management in the PICU could prove to be quite helpful for many children in need of relief. Between 1999 and 2001 an experimental study was conducted by Kline et al. (2010) to determine an effective technique for decreasing pain in children who were being cared for in the PICU. Both guided imagery and detailed inquiry were tested. As part of an earlier phase, detailed inquiry was tested only to perform unimpressively at decreasing pain when compared to simple distraction.

Patients admitted to the emergency room during the aforementioned time, ranging in ages from 6 to 18 (M=13.5), participated in the study. The participants were comprised of 20 females and 24 males who sustained moderate to severe injuries from a motor vehicle accident. Using the strata of odd and even numbered days, participants were randomly placed into their group based on the date of their hospital admittance, thus resulting in 20 participants in the detailed inquiry group and 24 in the guided imagery group. An age appropriate pain scale rating was taken prior to and after both guided imagery and detailed inquiry sessions. During the guided imagery sessions, the research staff would encourage the child to relax, pick their favorite color,
and apply it to a source of light that would shine on both their internal and external pain. Next, the child was guided to conjure images of their favorite object and their favorite experience as a source of pain relief. Detailed inquiry consisted of a script free question and answer session regarding the child’s emotions and thoughts as they pertained to their experience of the accident, their pain, and their time in the hospital (Kline et al., 2010).

The results yielded a decrease in pain in both boys and girls who participated in guided imagery. The boys especially fared well with guided imagery exhibiting a mean pain score decrease from 5.46 to 3.26. Detailed inquiry proved more successful than guided imagery with the girls while mean pain scores increased for the boys in this group. Notably, there were more cases of increased pain in boys and girls in the detailed inquiry group, 44% and 36% respectively, while guided imagery only boosted a pain increase of 13% for boys and 22% for girls. With this in mind, the researchers determined guided imagery is a better form of pain management for both boys and girls when compared to detailed inquiry (Kline et al., 2010).

Guided imagery interventions do not always experience such success in their pediatric subjects. A study conducted by Carol Pederson (1995) examined guided imagery effects on reducing pain and anxiety in children undergoing a cardiac catheterization. Twenty-four children between the ages of 9 to 17 (M=13.0) who were scheduled for a cardiac catheterization participated in this experimental research study. Each child was randomly placed in either the imagery, presence, or control group. The children in the control group were given the standard procedure treatment with no therapeutic intervention while the subjects in the presence group were emotionally assisted during the procedure by one member of the research team (e.g. hand-holding, verbal encouragement, and support). Before providing the intervention to the guided imagery group, the researchers attempted to customize the child’s experience by collecting
information from each child regarding what places and activities he or she enjoys. The research member who joined the child in procedure room began the treatment by encouraging relaxation prior to guiding the child through their tailored intervention, persuading the subject to experience the senses stimulated by the imagery.

Four different instruments were used to measure pain and anxiety within the three separate groups, including The State-Trait Anxiety Inventory for Children (STAIC), the Observational Scale of Behavioral Distress (OBSD) to measure observed pain and anxiety, the Visual Analogue Scale (VAS) to measure pain, and a salivary cortisol test. In the end, the research could derive no statistically significant difference in the pain and anxiety experienced by the children in imagery treatment when compared to the other two groups. In fact, it was the presence group who reported the least pain according to the children’s VAS scores. Imagery was, however, the most successful in helping children manage their anxiety, which was demonstrated by achieving the lowest OSBD mean score even though the group entered the procedure with the highest state anxiety. Perhaps one of the most interesting findings is the positive correlation between pain and anxiety. This discovery supports the philosophy of pediatric pain management professionals, such as child life specialists, who focus on reducing the child’s anxiety as a way to decrease their experience of pain (Pederson, 1995).

The previous two studies administered guided imagery within the hospital setting through personal interaction between the children and the researcher. This approach has been met with somewhat mixed results. Another common form of treatment administration is through the use of video and audio sources. In an experiment study conducted by Myra Huth, Melissa Henson, Nancy Dariseh, and Sharon McLeod (2009), the researchers set out to test how well a guided imagery audio CD affected children’s post-operative pain and relaxation levels in addition to
how well the CD actually stimulated the child’s imagination. Seventeen children (7 to 12 years old) obtained by a sample of convenience were given a guided imagery audio CD to listen to about traveling to a magical island after taking a pretest measuring pain and relaxation levels. When the researchers compared the posttest results, they found that the CD helped reduce pain while offering an insignificant increase in relaxation. Together, these results show that relaxation is not a requirement to achieve pain reduction. Additionally, this study showed that the CD was successful at producing imagery in children as 82% of the participants imagined being on the magic island.

Polkki, Pietila, Vehvilainen-Julkunen, Laukkala, and Kiviluoma (2008) conducted another experimental research study using an audio CD as a way to deliver guided imagery in order judge its ability to lower pain levels post-operation. Sixty children (8 to 12 years old) were evenly and randomly divided into either an experimental group receiving the guided imagery intervention or the control group receiving the standard care. Unlike the previous study, this experiment used a CD that allowed children to pick their own imagery destination and it used the VAS test to monitor the effects of imagery one hour after the intervention, in addition to before and immediately after the imagery treatment. The treatment decreased pain levels immediately after the intervention was provided (from M=3.03 to M=2.26), although the levels began to approach baseline one hour after (M=2.76). The nurses observing the child also took the VAS test to learn the accuracy of their interpretation of the child’s pain. The nurses rated the child’s pain lower than it actually was throughout every phase of testing. As a whole, the results provide the researcher with insight into the duration of guided imagery effects while reminding the reader to always listen to the children’s interpretation of their own pain.
Developing from the distribution of guided imagery via an audio recording, the next two studies implement the multi-media guided imagery program, “To Tame the Hurting Thing”, which incorporates the use of videotapes, audiotapes, and booklets in an effort to enhance the benefits of the guided imagery experience. In both experimental studies conducted by Huth, Broome, and Good (2004) and Huth, Van Kuiken, and Broome (2006), 38 children from a group of 75 receiving a tonsillectomy or an adenoidectomy were randomly assigned to a treatment group implementing the guided imagery experience. Huth et al. (2004) focused on imagery’s effect on pain and anxiety levels while Huth et al. (2006) focused on the quality of the imagery and the frequency of use. Both studies conducted home visits to teach the children and parents how to use their treatment diary and the guided imagery tapes, which also incorporated breathing and muscle relaxation exercises.

The contributions of these two studies are valuable to the guided imagery conversation. Both studies had the exact same results regarding frequency of use before surgery (M=3.8) while the post-operation use at home was very similar with a mean of 1 in the 2004 study and a 1.6 in the 2006 study. In both studies, the treatment groups were encouraged to use treatment at least three times before the study whereas home use was as needed (Huth et al., 2006; Huth et al., 2004). Huth et al. (2004) found that the intervention helped to reduce pain and anxiety after the surgery, but not at home. Additionally, the positive correlation between pain and anxiety is once again reinforced by this study. Huth et al. (2006) found that pain is the main reason children use imagery after surgery. Although the guided imagery experience took place in a park, 75% of the children were able to change the location of their imagery experience each time to destinations such as familiar places, sports games, and amusement parks. Lastly, the researcher-developed
questionnaire to determine the quality of the imagery found that three to four senses were often employed by each child, thus enhancing the imagery experience (Huth et al., 2006).

**Guided Imagery and Pediatric Conditions**

Sadly, many children have to learn how to cope with and navigate through their diagnosis of a reoccurring or chronic condition. Guided imagery and its effect on helping children with such pediatric conditions have been researched quite thoroughly over the years. Although there are multiple medical pediatric conditions, this paper will review studies on guided imagery as it relates to abdominal pain, migraines, and asthma in an effort to provide a more complete understanding of the effects of guided imagery outside of surgeries or medical tests.

Recurrent abdominal pain (RAP) is a fairly common condition, occurring in 9 to 15% of children and adolescents (Erwin, 2011). In 2003, Ball, Shapiro, Monheim, and Weydert published a study that served as a pilot for a later study done by Weydert et al. (2006). Both experimental studies involved children with RAP between the ages of 5 to 18 years old. The earlier study collected data from the treatment group (10 children) to monitor the effects of guided imagery with PMR on the number of days with abdominal pain and the intensity of the pain. The latter study randomly assigned 14 children to guided imagery with PMR and 8 children to a breathing exercise group in an effort to monitor the same effects as the first study, in addition to the number of days with missed activities due to RAP.

The treatment procedure was the same for both groups in each study. A two-week baseline pain journal was taken prior to commencing the month long schedule of one treatment session per week. During the first month, the guided imagery group learned healing imagery and practiced it at home twice daily using a recording made during the first session. The breathing exercise group in the latter study underwent the exact same procedure with the substitution of
GUIDED IMAGERY

guided imagery for three breathing exercises. The first study demonstrated a 36% decrease in the number of days with pain at the end of the treatment month while an additional 49% decrease occurred at the two-month mark. Likewise, the latter study found a 67% decrease and an 82% decrease at the one and two month marks, respectively. Compared to the breathing exercise group, which only boasted a 21% and a 45% decrease, the guided imagery with PMR group fared significantly better. Neither study found any significant success at decreasing the mean intensity of pain when it did occur (Ball et al., 2003; Weydert et al., 2006).

Childhood migraines are another condition affecting about as many children as RA, coming in at about 15% (Science Daily [SD], 2011). In 1999 a study was published by Olness, Hall, Rozniecki, Schmidt, and Theoharides, which explored the affects of guided imagery and relaxation on actually reducing the number of migraines by lowering stress. The researchers evenly and randomly divided 28 children who suffered from migraines into a control group (M=9.2 years old) and an intervention group (M=10 years old). All participants kept migraine journals and urine samples took place at designated times up to 12 weeks in the control group and 24 weeks in the intervention group. Urine samples were taken to measure the level of tryptase, which is an enzyme released by the mast cell after it is activated\(^2\). The intervention group was taught relaxation and imagery methods and was told to practice once a day while the control group was given no further instruction.

The results of the study demonstrated success in the intervention group. Ten of the 14 children in the intervention group experienced a decrease in the number of migraines a month, falling from 4.93 to one or less. Out of the other four children in the intervention group, three admitted to not practicing imagery-relaxation techniques at home. Therefore, only one of the

\(^2\) The activation of the mast cell is considered to cause migraines. Additionally, mast cell activation may be promoted by stressors (Olness et al., 1999).
children who actually participated in the treatment did not find a decrease in episodes. Also, the tryptase levels decreased in eight children who experienced reduced migraine episodes, thus if stress caused these children’s migraines the intervention worked to relax them enough to decrease the mast cell activation. The control group experienced no significant difference in migraine episodes and the same, if not higher, tryptase levels (Olness et al., 1999).

Easily the most common condition among the three discussed in this section, asthma affects nearly 7.1 million children in the United States (American Lung Association [ALA], 2010). Dobson, Bray, Kehle, Thodore, and Peck (2005) conducted an experimental study on four 9-year old children with asthma. Each child was assigned a predetermined number of weeks for the intervention treatment (ranged from 3 to 6 weeks). Each child would receive three 20-minute relaxation with guided imagery sessions per week for however many weeks he or she was assigned. Each imagery session, which was preceded and concluded with a spirometry reading (lung functioning), included muscle relaxation exercises and a mixture of imagery relaxation, healing imagery, and ideal model imagery.

The treatment proved effective for three of the four participants, in respect to small and large airway functioning, by presenting an improvement between 26% and 14% in overall lung function. The one child who experienced no airway improvement was also the only child who did not have psychological triggers (e.g. anxiety); therefore, relaxation with guided imagery may help asthmatic children curb their psychological triggers. The STAIC instrument found that half reported less state anxiety while all four documented less trait anxiety. Lastly, the daily asthma diaries indicated that half of the children documented less asthmatic symptoms while none reported any asthma attacks during the study (Dobson et al., 2005).
Conclusion

Researchers of guided imagery, as it relates to pediatrics in the medical environment, have demonstrated the treatment’s benefits in reducing pain, anxiety, and sometimes the very condition itself when psychological triggers are involved. Although the positive effects may not be long lasting, guided imagery can still work to compliment other pharmacological therapies while providing temporary relief. The positive correlation between anxiety and pain supported by the reviewed research presents child life specialists and others with a more sensual and interactive approach to pain management when methods like distraction or breathing exercises are not enough. Furthermore, guided imagery gives parents and children a proven tool to help cope with the pain or anxiety associated with the condition when they are outside the doctor’s care. By giving children a role to play in their treatment, they tend to exercise their natural drive to gain control over the situation instead of feeling an unnatural sense of helplessness (Pincus & Sheikh, 2009). Guided imagery gives children the opportunity to make pain management their own.
Section Three: The Procedure

The development of the guided imagery handbook grew from a simple idea to a more complex one. Initially, the idea was to simply provide a few sample scripts for child life specialists to refer to when administering guided imagery therapy to their pediatric patients. Upon reflection, however, I realized there was much more that could be provided to child life specialists. After meeting with my professor, Valerie Beltran, we brainstormed the many different informational sections a guided imagery handbook could contain. I choose to involve Valerie Beltran in the creation of this handbook because of her education and her experience assisting other students in their creative projects. From our session, I continued to think of additional headings by reflecting on what I would what to know to feel comfortable and confidant enough to provide guided imagery. The culmination of these ideas resulted in the attached guided imagery handbook.

The handbook could not have been developed without conducting the thorough research of the literature review. The research educated me on the various topics related to guided imagery, such as complementary therapies, various forms of administration, and a child’s cognitive development as it relates to guided imagery. Prior to writing the handbook’s guided imagery scripts, I read numerous sample scripts and even partook in a few guided imagery sessions as a patient to gain some perspective from the patient’s point of view. The book by authors David Pincus and Anees Sheikh (2009) was my primary source for different forms of guided imagery techniques and sample scripts. The accompanying audio CD was created by researching my personal music collection and extracting unique, instrumental songs that I believe would help create a relaxing environment regardless of the patient’s musical preference.
The implementation of the guided imagery handbook begins with simply reading and assimilating the text. Child life specialists should thoroughly read this handbook on their own to gain a better understanding about guided imagery before trying to administer guided imagery to a patient. Child life specialists may also wish to practice reading the sample scripts or writing their own. Simple adaptations can be made to the sample scripts to better fit the patient’s needs. It may also be helpful for a child specialist to start with one of the outlined complimentary therapies to become more familiar with directing children through a pain management technique. Once the child life specialist becomes more familiar with guided imagery techniques, specific scripts may be abandoned all together. When implementing guided imagery with a patient, child life specialists may use the sample interview questions, the sample scripts, the post evaluation form, and provide the parents of the child with a copy of the frequently asked questions included in the handbook. Child life specialists may also choose to use the audio CD during a session when appropriate or if it is to the child’s liking.
Section Four: The Evaluation

Two certified child life specialists reviewed my creative project prior to submission. Both reviewers were asked to evaluate the project for content, grammar, and clarity. The first reviewer was Michelle Parker, who is a professor of child life at the University of La Verne as well as a certified child life specialist. The second reviewer was Hillary Bauer, a certified child life specialist at Children’s Healthcare of Atlanta. Hillary was my supervisor during my second rotation. With her approval, I was able to conduct a few guided imagery sessions with a patient using my sample scripts. This experience offered even greater insight into guided imagery and child life.

Both Michelle and Hillary offered more grammatical corrections rather than correction to content. Neither reviewer felt I needed any additional sections or that a section needed to be removed or rewritten. Hillary made a few minor suggestions to the content throughout the paper that I addressed, such as rewording sentences or adding sentences for further clarification. Hillary also recommended I use a FACES pain scale in my parent questionnaire and evaluation form, which is more consistent with the hospital’s pain scale. Overall, the corrections were minor and simply adjusted.
References


