Parent's guide to infant massage

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APPROVAL PAGE

This Scholarly Project Paper, submitted by Rana Gish in partial fulfillment of the requirement for the Degree of Master’s of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

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CHAPTER I

INTRODUCTION

There are numerous resources available that describe a variety of infant massage techniques and provide instruction on how to apply infant massage. In addition there are numerous organizations and businesses that will provide infant massage and parental teaching. The problem is that there is not a short, easy to read, yet comprehensive, parent guide developed by an Occupational Therapist, for parental education and instruction, at least not one that has been identified within the literature. Currently, there is one infant massage book written by Occupational Therapists; however this book is targeted toward Occupational Therapists. In addition, this book involves an extensive amount of reading, and can be somewhat difficult to understand for parents who are not familiar with much of the terminology, process, or techniques.

A review of the literature was conducted to explore the current issues for parents regarding; 1) infant massage for premature infants, 2) current occupational therapy educational instruction material available, 3) the correct massage techniques to be followed, and 4) the benefits of infant massage. The project used reliable internet resources, journals and texts to identify the current literature regarding infant massage as well as using faculty resources and knowledge.
The result of this project is a Parent’s Guide to Infant Massage for parents who have an infant born prematurely. It is designed to be used for parent education by an Occupational Therapist. The comprehensive guide provides an explanation of the chosen techniques identified in the guide and the benefits of infant massage in an easy to follow format. The guide is written without the use of medical jargon and includes pictures or diagrams for a visual representation of each technique. An additional benefit is that it can also be used to teach Occupational Therapy students about one suggested approach to infant massage or as a resource for Occupational Therapy students.
CHAPTER II
REVIEW OF LITERATURE

Infant massage is defined as “a useful sensory intervention that provides psychosocial and physiological benefits for a wide range of children with disabilities as well as typically developing children” (Drehobl & Fuhr, 2000, p. 9). Infant massage can also be designed into a healthy infant’s daily routine and used to promote bonding between the infant and parents and other physiological effects such as weight gain, increased circulation, and improved sleep patterns, which will be discussed in more detail later.

When infant massage is used as a form of intervention for infants who are born prematurely and/or have a variety of physical and developmental disabilities, the infant will experience the same benefits as those identified for the healthy infant, with additional benefits. For the parents who have children with disabilities or infants born prematurely, there are the normal concerns and worries of parents in general but there are also additional fears, questions, and challenges.

Origins of Infant Massage

“Infant massage was introduced formally in the United States in 1978 when Vimala Schneider McClure, a yoga practitioner who served in an orphanage in Northern India, developed a training program for instructors at the request of childbirth educators. An early research study by R. Rice in 1976 had showed that premature babies who were
massaged surged ahead in weight gain and neurological development over those who were not massaged” (Sephar, 2001, para 6). Traditional infant massage strokes similar to those used in India, are being taught in the United States. Vimala McClure combines Indian and Swedish massage techniques, along with reflexology strokes, that are easy to do and developed into a routine (Zlotnick, 2000).

Infant massage is a reliable technique used to calm or relax an infant, or it can be used to excite and stimulate. Different techniques have different effects. Circular, quick movements arouse, while straight and slow movements soothe (Australia’s Parents, 1997). There are many types of massage, and various strokes, all of which provide different results. Infant massage, as described in this project, originated from three types of massage techniques which include: Swedish massage, Indian massage, and reflexology (Abbott, n.d.; Ernzen, 1997).

**Swedish Massage**

Swedish massage is designed to relax the body and muscles, increase oxygen flow in the body, and release toxins stored in the muscles. The massage strokes are applied by rubbing in the same direction as blood flow. Strokes associated with Swedish massage include effleurage, petrissage, friction, vibration, and passive and active movements (Abbott, n.d.; Ernzen, 1997).
**Indian Massage**

Indian massage focuses on massage of the head, face, and neck. These massage techniques are used to relieve stress and promote general feeling of wellbeing, calmness and relaxation, release toxins in muscles, improve circulation, and increase alertness and concentration (Abbott, n.d.; Ernzen, 1997).

**Reflexology**

Reflexology is not necessarily a massage, but is often used in conjunction with massage. Reflexology is a technique specifically applied to the hands and feet. Pressure is applied to certain parts of the hands and feet to promote relaxation and relieve stress, and increase circulation (Abbott, n.d.; Barrett, 2004; Springer, 2002).

**Identifying and Addressing Parental Concerns**

Bringing a new baby into this world can be overwhelming and scary, especially to first time parents. There are many aspects for parents to consider, such as how to feel comfortable holding, bathing, and/or handling the infant. There are also fears of listening to crying infants and being unable to calm them (Zarrett, 1990). New parents are unsure how to care for their new infants, often fearful of hurting their child or worrying if the child is uncomfortable. Parents realize their infants rely on them to provide a safe and comfortable environment (Larner, Behrman, Young, & Reich, 2002; Thompson, 2001).

This ties in with learning how to tell what the infant needs and the parents needing to learn how to refrain from overwhelming their infants (McClure, 2000). Parents are fearful that a bond will not develop between themselves and their infant, particularly if the infant has been under medical care and away from them for any length of time (Parenting, 2001/2002; Schneider, 1996). "Some parents, in their anxiety at having missed the so-
called early bonding window, overcompensate by overstimulating and stressing their baby with too much too fast" (McClure, 2000, p. 34). Although it may be hard, parents need to learn how to allow the infant to tell them how much stimulation is acceptable, giving the attention, affection, eye contact, cuddling, carrying and soothing in ways he or she can accept (Chen, 1999; McClure, 2000).

While mothers spend the majority of time with new infants through feeding and other care needs, fathers are showing an increased interest in the care of their infants but may feel left out due to the care needs being traditionally carried out by the mother. Fathers are concerned with developing a bond with their infant early in the child’s life, where in previous decades fathers would wait until their children were older (Alred, 2000; Beitel, & Parke, 1998; Dellinger-Bavolek, 1996; Else-Quest, Hyde, & Clark, 2003; Ernzen, 1997).

Parents with an infant who was born prematurely are facing further challenges and concerns with the immediate being medical stability and care. They must deal with greater demands on their time, energy, marital relationship, and financial resources. Often times the care required for the wellbeing of premature infants can pose undue financial burdens on a family. Parents have to work to survive; however they also must care for their infant (Larner, et al., 2002). For parents who are already struggling with financial issues, this creates even more stress wondering how they will be able to provide their infant with the necessary care and still meet the needs of their other responsibilities (Hanson & Carta, 1995; Davis, Tesh, Miles, & Burchinal, 1999).
In addition to the care and concern of a premature infant, parents must consider the needs of all family members, including the child with special needs, other children, and close relatives. It is just as scary, if not more, for a child to witness the care of their premature sibling. The other children are often unsure of what is happening. Parents must be prepared to answer questions and offer support to siblings of premature infants. Furthermore, children may become jealous of the care and attention received of the infant. Parents must be aware of this and must find time to spend with other children in the household (Munch, & Levick, 2001). This often creates added stress on parents, however is necessary for the development of the family.

Parents of premature infants also have the added worry of whether or not their infant will grow and develop normally, physically and cognitively (Fewell, & Deutscher, 2002; Thompson, 2001). Children born prematurely are at an increased risk of acquiring developmental delays, inadequate bonding, and learning delays (Fewell, & Deutscher, 2002). Due to the additional risks associated with prematurity, parents often feel guilty and may become angry or depressed and worry about their ability to care for a medically fragile infant (Schneider, 1996). Parents must also struggle with their own emotions, disappointments, and concerns about the future, both immediate and long term (Schneider, 1996).

For parents of premature infants, it can sometimes be difficult to locate resources or support services available to assist in the growth and developmental care of such infants (Hanson & Carta, 1995; Larner, et al., 2002). Parents are searching for resources and direction to answer their questions and concerns and to help calm their fears. A major concern, for any parent, is dealing with the constant illness of a premature infant and their
undeveloped immune system (Baby Talk, 2002/2003). New babies seem to get sick every other week, making it demanding for parents to deal with the excess crying, fussiness, and challenge to soothe the infant.

In today's world of technology one of the first places most people go, is the internet. There are many internet resources that parents have been utilizing to share their concerns and resources about the care of their infants, such as the source Baby Talk. On internet sites such as this, parents have identified that they often have a difficult time coping with the lack of sleep associated with the care of a newborn in the home.

These prior concerns are issues for parents of any new infant, but parents of premature infants often have additional concerns. Parents want to know if the services their infants are receiving are reasonable and effectively treating their infants (Humes, n.d.). They are faced with sorting through the advice of professionals and making decisions that they think are in the best interests of their child. In regard to infant massage, they may question how it could really benefit their child.

Benefits of Massage

*For the Infant/Child*

Many infant massage resources describe the same general benefits of massage for the infant: increased weight gain, promotes bonding, improved sleep patterns, and relief from discomfort and stress (Blackwell, 2000; Drehobl & Fuhr, 2000; Ferber, et al., 2001; Field, 1996; Mainous, 2002; McClure, 2000; Pardew, 1996; Sephar, 2001; Zlotnick, 2000). However, many resources do not comprehensively include the variety of other benefits important to infant development. This is important, because parents need to
realize the immense benefits of massage related to growth and development, which is critical to the health and wellbeing of premature infants.

Massage can have many benefits for babies in a variety of health and lifestyle situations with or without developmental disabilities. Regular use of infant massage offers new parents a chance to develop a mindful practice of relaxation and focused attention that helps babies thrive in their new world. Sephar (2001, para. 2) quoted Tiffany Field who stated that the research suggests that touch is as important to infants and children as eating and sleeping. Touch therapy triggers many physiological changes that help infants and children grow and develop. For example, massage can stimulate nerves in the brain, which facilitate food absorption, resulting in faster weight gain. It also lowers level of stress hormones, resulting in improved immune function.

Other researchers support Sephar's findings indicating that massage positively affects an infant’s sleep patterns, eating, gastrointestinal function, bonding/attachment, weight gain, and overall development (Dellinger-Bavolek, 1996; Ernzen, 1997; Hart, Davidson, Clark, & Gibb, 2003; Mainous, 2002; McClure, 2000; Pardew, 1996; Zlotnick, 2000).

Additional benefits of infant massage could include:

1. Positive interaction with adults (Sephar, 2001)
2. Helps build baby’s self-esteem through creation of a healthy bond and loving atmosphere (Alred, 2000; IMIS, n.d.; Schneider, 1996)
3. Offers exposure to pleasurable experience and provides a more predictable environment (Ferber, et al., 2001)
4. Relaxation; relief from stress (Dellinger-Bavolek, 1996; IMIS, n.d.; Mainous, 2002; Schneider, 1996; Sephar, 2001)

5. Relief of discomfort such as with: teething, sinus and chest congestion, and colic (Dellinger-Bavolek, 1996; IMIS, n.d.; McClure, 2000; Peters, 2000; Schneider, 1996; Sephar, 2001)

6. “Massage helps the baby relax by soothing the nervous system: respiration is enhanced, sleep patterns are affected and quiet sleep is deepened.” (Zlotnick, 2000, p. 37). Some infants sleep for longer periods following massage and appear to have longer periods of deep sleep (Dellinger-Bavolek, 1996; Mainous, 2002; Schneider, 1996).

7. Stimulation of the nervous system, and speeds myelination of the brain and nervous system (Blackwell, 2000; Drehobl & Fuhr, 2000; McClure, 2000; Savage, 2002; Sephar, 2001)

8. Increases oxygen and nutrient flow to the cells (IMIS, n.d.)

9. Strengthens the immune system (Blackwell, 2000; Field, 1998; IMIS, n.d.; McClure, 2000; Sephar, 2001)

10. Improves skin condition (Department of Women and Nursing, 2000; Drehobl & Fuhr, 2000)

11. Improves blood circulation (Drehobl & Fuhr, 2000; Schneider, 1996)

12. Balances respiration (Drehobl & Fuhr, 2000; Schneider, 1996)

13. Stimulates production of oxytocin (Field, 2001; Schneider, 1996)
14. Increases infant's body awareness, improves sensory awareness, helps encourage midline orientation, and assists with coordination and balance (Drehobl & Fuhr, 2000; Schneider, 1996)

15. Helps muscle tone and aids growth (Drehobl & Fuhr, 2000; Schneider, 1996)

16. Less likely to become abusive or anti-social later in life (Alred, 2000; Dellinger-Bavolek, 1996; McClure, 2000; Savage, 2002)

There are a considerable number of documented studies regarding massage on infants and children with disabilities or life altering diseases. "The use of massage in pediatrics is further supported by clinical observations associated with the use of touch in therapeutic programming" (Drehobl & Fuhr, 2000, p. xi). Pardew referred to Field regarding results from application of massage, stating that:

Field reported continual positive outcomes when massage therapy was; used a) to improve the classroom behavior of children with autism; b) to reduce anxiety and pain levels for child burn victims; c) to reduce anxiety and short term effects of chemotherapy for children who have cancer and to give parents a positive role in their treatment by having them massage the child at bedtime; d) to reduce stress level in children with dermatitis/psoriasis and reduce parents' aversion level to touching psoriatic skin by having the give the child a massage; and e) to study the effects of massage for children with diabetes, developmental delays, juvenile rheumatoid arthritis, post traumatic stress disorder and psychiatric problems. Her intent was to have the parent feel less helpless and more involved in the child's treatment (1996, p. 59).
Parent and Child Relationship

Parents learn about the general benefits of massage for the infant, but many do not realize the role infant massage can play in their lives as an effective method to help learn about their baby. “The massage strokes are a natural extension of the caressing and rubbing used routinely at home” (Drehobl & Fuhr, 2000, p. 9). Massage, which combines intimacy, communication, play, and caregiving, can greatly enhance a parent’s feeling of competence and build both the parents and baby's self-esteem (McClure, 2000). It offers the parents a means of relaxation, while also encouraging relaxation in the infant. Parents feel more competent because they are able to help their infant relax or calm their infant (Dellinger-Bavolek, 1996). Limited initial contact with a fragile infant may prelude initial confidence in handling; however through successful massage interactions, parent confidence will increase (Drehobl & Fuhr, 2000).

When parents know that they are able to do something to promote health and development of their baby, they will become more confident in their role as a parent. Massage allows parents to become more receptive to their baby’s needs (Dellinger-Bavolek, 1996; IMIS, n.d.). “Interpreting the infant’s body language during massage is certainly a part of this, but on a medical level, parents who massage each day are more likely to notice a change in their child’s physical condition” (IMIS, n.d., para 21). But there are many other parental benefits of infant massage.

Massage provides parents with the opportunity to spend quality time and become better acquainted with their infant (Dellinger-Bavolek, 1996). Parenting magazine (2002, p. 63) states that many experts agree that “it’s not necessarily the amount of time you have together that matters most for bonding, rather, it’s the nature of that time.” But some
parents may not be aware of good, quality interactions to do with their infants. Infant massage is a very beneficial, quality interaction for parents and infant. The bonding that takes place during massage is enhanced because of contact through all senses (Mainous, 2002). There are further benefits of massage to the mother that may not be apparent.

Mothers who are breastfeeding benefit greatly from the skin contact involved with infant massage. The touch prompts the release of oxytocin and prolactin, hormones that help the uterus contract and the body relax, as well as stimulate the production of breast milk (Else-Quest, et al., 2003; Pron, 2002). It is not only a method that is used by mothers, but can be a very important tool for the father to help alleviate any feelings that they are being left out- this is a common complaint particularly when the mother is breastfeeding (Alred, 2000; Dellinger-Bavolek, 1996; Ernzen, 1997; IMIS, n.d.).

In addition to the personal, physical, and emotional benefits for the parents, Hart, et al. observed the effects of an infant massage class for parents (2003). An infant massage class is another method utilized to learn about massage and promote infant and parent bonding. This provides a chance for parents to receive information about massage and to seek support from other parents (Hart, et al., 2003).

So how does all of this relate? Basic and general information regarding infant massage and related techniques has been presented as well as the significant benefits of infant massage for both the infant and the parent. What is the Occupational Therapist's role in this therapeutic relationship and approach?
**Occupational Therapy Role**

Occupational Therapists use infant massage as a form of intervention for children with developmental and other physical disabilities as a method to calm an infant, reduce hypertonicity or create tone, or even to offer sensory input to a child with sensory dysfunction.

There is a wealth of information about massage available to parents on the internet, in magazines, and books, which is both good and bad. With all of the information available, parents can still be overwhelmed and unsure of how to apply the massage techniques to their infant or which techniques would benefit their infant the most, particularly if their infant was born prematurely. It is therefore vital that the Occupational Therapist provide a functional resource guide that is comprehensive, yet easy to use for the parents to feel comfortable and knowledgeable regarding the process of applying infant massage techniques to prematurely born infants.

Massage is an intervention appropriate for a variety of diagnoses and situations, and an easy, affordable, effective method of treatment to be used at home. However, parents are not always trained in this intervention. The Occupational Therapist can teach them techniques to apply to their child during a therapy session, however parents may have questions that they did not have while the Occupational Therapist was demonstrating, or may want reassurance that they are performing the massage correctly. A parent guide would help to clarify any questions or concerns a parent might have, and will provide a visual representation of the massage strokes to be applied.
With rising health care costs and caps on the number of treatment sessions an Occupational Therapist is allowed to see a child, it is becoming more difficult to provide all the necessary treatment in the therapy setting. Parents need and want to take a more active role in their child’s treatment by continuing treatment at home.

*Parent Guide*

A parent guide to infant massage is critical for parents who have prematurely born infants. While there are many guides available to parents, these resources focus on use of massage for typically developing infants.

After reviewing several infant massage books available in bookstores, a number of internet sites, and resources obtained from course materials (infant massage handouts), an infant massage routine was developed. The order of application of the massage strokes on various parts of the infant’s body was determined based on the recommendations of the resources in the review of literature.

*Parent Guide Outline*

A heading with a short description as to the contents that are included in that section is provided throughout the guide. To make this guide easier for parents to read and understand, information was compiled into lists as best able, requiring less reading and easier comprehension of the material, including information regarding benefits of massage and contraindications, or reasons not to apply massage. Pictures were taken of massage being applied to an infant, offering parents a realistic representation of how to perform infant massage. For more detailed information please refer to chapter IV for the complete guide.
Benefit of Guide

Introduction

Outline of Guide information:

- What is massage?
- Who is massage appropriate for?
- What are the benefits of massage to the infant?
- What are the benefits of massage to the parent?
- What are the benefits of massage to the parent-infant relationship?

Preparing for massage

- Contraindications
- Reading the infant's cues
- Gathering materials
- Massage strokes with pictures of the step-by-step process

Summary

As stated prior, it is vital that the Occupational Therapist provide a functional resource guide for the parents to use in order to feel comfortable and knowledgeable regarding the process of applying infant massage techniques to their prematurely born infant. There is significant literature that supports the increased success of intervention when therapy is combined by a strong home program. Designing and utilizing a guide such as this will increase positive outcomes for all involved in the therapeutic process.
CHAPTER III

METHODOLOGY

The result of this project is an infant massage guide for parents who have an infant born prematurely. It is designed to be used for parent education by an Occupational Therapist. This comprehensive guide provides an explanation of the benefits of infant massage, the contraindications or reasons not to apply infant massage, and the techniques used are in an easy to follow format. The guide is written without the use of medical jargon and includes pictures or diagrams for a visual representation of each technique. If medical terminology was used, a definition was provided along with resources for the parent to access additional descriptive information. An additional benefit of the guide is that it can also be used to teach Occupational Therapy students about infant massage or utilized as a resource for Occupational Therapy students.

A review of literature was initially conducted. Information regarding benefits of massage, parental concerns about rearing a child, and infant massage techniques were the primary focus of the literature review. A variety of internet journals and articles, along with books about infant massage, were utilized to complete the literature review. After identifying pertinent information about the benefits of massage, the important aspects of preparing to apply massage, and the specific massage techniques, the information was compiled.
The information was combined in an easy to read format, organizing information into lists as appropriate. Further information regarding contraindications, or reasons not to proceed with massage, were later identified and added to the information previously compiled. The massage strokes were compiled utilizing three resources.

The massage techniques included in this guide were identified through a guide prepared by an infant massage instructor, a guide prepared by Occupational Therapists for Occupational Therapists, and an Occupational Therapist’s web site. Those trained in infant massage and certified to instruct in the use of infant massage utilize a general set of strokes. These strokes were assembled into a guide for parents of prematurely born infants. These strokes follow the layout similar to those identified in the resources, with some strokes eliminated and others added. The result is a step-by-step guide to the application of massage.

Pictures were taken of the various massage techniques being applied to an infant. These color pictures were inserted into the document along with step-by-step instructions to assist parents in understanding of how to perform the various massage strokes. Following the completion of the explanation of massage strokes, the guide was read through to identify any words that might need further defining for parents unfamiliar with medical terminology. These terms were defined at the end of guide. All resources used for completion of the guide were identified throughout.
CHAPTER IV

PRODUCT

Introduction

As infant massage and its associated benefits become more evident to parents, more resources will be necessary, particularly for parents of premature infants. The purpose of this guide is to provide parents with the information and skills to apply the message techniques to their prematurely born infants. This is for parents to use when they are no longer receiving OT services or to accompany the services they are currently engaged in. The guide is to be individualized by the OT for the parents and should be used as an educational tool that is an extension to therapy.

Chapter IV is the scholarly project in its entirety. The Parent Guide is organized in the following manner:

Information in the Parent Guide:

What is massage
Who is massage appropriate for
What are the benefits of massage to the infant
What are the benefits of massage to the parent
Want are the benefits of massage to the parent-child relationship
Contraindications
Preparing for massage
Reading the infant’s cues

Talking to your infant

Beginning massage

Massage strokes
Parent's Guide to Infant Massage

By: Rana Gish, MOTS

Advisor: Dr. LaVonne Fox
Parent's Guide to Infant Massage

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Purpose of the Guide

The purpose of this Guide is to provide you with the information and skills to apply your infant with the message techniques demonstrated to you by your Occupational Therapist. It is for your use when you feel unsure of what you are doing, or do not recall how to apply the various massage techniques. Much of this information is listed, to allow for easy reading and understanding.

Instructions

1. Be sure to consult your physician and/or Occupational Therapist if you have any immediate concerns.
2. If you are unsure on a technique or step, do not do it until you have a chance to meet and talk with your therapist. If needed, you can contact the Occupational Therapist at the following; ____________________________
3. Be sure to do only what you have been taught by your Occupational Therapist.

Introduction

Imagine a day at work when the boss yelled at everyone, worked seemed to pile up and never get finished, the computer broke down, and all you wanted was to go home. After sitting all day your neck hurts, you knew that there was nothing for dinner, so you had to stop by the grocery store, and the checkout person was rude. Imagine how nice a massage would feel right about now; you don’t have to worry about anything except to relax. This is a great way to calm down and destress after a long, hard day at work.
Now imagine being an infant, where every day you are learning more, and each thing you learn creates new stress. Premature infants and those with disabilities experience the added environmental stressors of lights, loud noises, and medical equipment. Imagine how a massage would affect a tired, cranky, stressed infant. Massage has many benefits for babies, similar to that of adults, and it helps to calm a baby in much the same way it calms an adult after a stressful day.

**The Parent Guide is organized in the following manner:**

1. What is infant massage?

2. The benefits of massage to the infant, the parent, and to the parent-infant relationship are described first. This is to inform you why massage is important.

3. Contraindications or reasons not to proceed with massage are then listed and described. This is to ensure that no undue harm is placed on the infant that might result from the movement of fluids in the infant’s body.

4. The process of beginning massage is then explained, starting with preparation of the room and materials to allow both parent and infant to reap the full benefits of the massage process.

5. Next, it is explained that the parent must read infant cues and allow the infant to enter into a specific state of alertness prior to implementing massage.

6. It is then explained that the parent must describe the process of massage to the infant during the entire session.

7. The steps to follow for beginning massage are then described.
8. Following, is a detailed explanation of specific massage strokes accompanied with color pictures to ensure correct application of each stroke.

**What is Infant Massage?**

Infant massage is defined as “a useful sensory intervention that provides psychosocial and physiological benefits for a wide range of children with disabilities as well as typically developing children” (Drehobl, Fuhr & Erhardt, 2000, p. 9). When used as a form of treatment for infants, it can help to promote bonding and other physiological effects such as: weight gain, increased circulation, and improved sleeping.

**Benefits of Massage to the Parent**

1. Massage can be used as a technique to help new parents learn about their baby. Massage allows parents to become more receptive and more in-tuned to their baby’s needs (Infant Massage Information Service (IMIS), n.d.).

2. Massage combines intimacy, communication, play, and caregiving, and therefore can greatly enhance a parent’s feeling of competence (McClure, 2000).

3. Parent confidence in the handling of fragile infants will increase through successful massage interactions (Drehobl & Fuhr, 2000).

4. Massage provides working or busy parents with the opportunity to spend quality time with their infant (IMIS, n.d.).
5. Release of oxytocin and prolactin is promoted through massage, hormones which help the uterus contract and the body relax, as well as stimulate the production of breast milk in mothers who are breastfeeding (Pron, 2002).

6. New fathers use massage to help alleviate any feelings that they are being left out (IMIS, n.d.)

7. Increased mood, affect, and decreased anxiety in depressed mothers (Dellinger-Bavolek, 1996; Pardew, 1996; Mainous, 2002).

**Benefits of Massage to the Parent-Child Relationship**

Bonding is essential to any infant parent relationship and can be enhanced through massage. The important elements that help form the bond between parent and infant include: eye contact, skin contact, vocalization, the baby’s response to the parent, the activation of maternal and paternal hormones by contact with the baby, temperature regulation, and the immunizing bacteria and antibodies transferred to the baby by close contact with the parents (McClure, 2000).

Other benefits of massage to the infant-parent relationship include:

1. Providing a fun and enjoyable social interaction/opportunity for both the parent and infant,

2. Providing an infant with the extra attention to begin to trust and form the attachments he or she needs for healthy development,

3. Learning a way to communicate with the infant through recognizing and responding to the infant’s expressed needs,

4. Building both the parents’ and baby’s self-esteem, competence, and confidence,
5. Offering the parents a means of relaxation, while also encouraging relaxation in the infant. Parents learn methods that work best to promote relaxation of their infant.

**Benefits for the Infant**

There are many sources that report the benefits of massage for your infant. These sources are included at the end of this section in case you wish to read additional information. The sources indicate that the benefits of infant massage include:

1. Weight gain
2. Interaction with adults
3. Infant parent attachment or "bonding"
4. Provides a more predictable environment
5. Relaxation; relief from stress
6. Relief of discomfort such as with: teething, sinus and chest congestion, and colic
7. Baby sleeps longer, deeper, quieter
8. Speeds myelination of the brain and nervous system
9. Increases oxygen and nutrient flow to the cells
10. Strengthens the immune system
11. Improves skin condition
12. Helps digestion
13. Balances breathing
14. Helps waste elimination
15. Stimulates production of oxytocin
16. Enhances neurological development
17. Reduces edema
18. Decreases pain
19. Increases infant’s body awareness
20. Improves sensory awareness
21. Helps encourage midline orientation
22. Assists with coordination and balance
23. Helps muscle tone and aids growth
24. Prevents adhesions in muscles
25. Decreases risk of muscular atrophy and/or contractures
Resources:


### Contraindications

The following are reasons not to apply massage to your infant. Once the infant has recovered from the following ailments, it is acceptable to proceed with massage; however, consult with your child’s physician to be sure.

- Open wounds
- Hematomas
- Fractures
- Bleeding
- Unhealed navel
- Burns
- Do not massage if hiccups or just fed
- Nausea, vomiting, or diarrhea
- High blood pressure
- Recent surgeries

The following conditions are reasons not to proceed with massage, some depending on the stages. Massage applied to an infant suffering from these conditions may cause the condition to worsen, spread, and/or cause further symptoms. There are other conditions not listed that could result in the termination of massage, therefore always consult a physician before applying massage to your infant.

- Encephalitis
- Hepatitis and AIDS
- Jaundice
- Pneumonia
- Osteoporosis
- Edema
- Tuberculosis
- Seizures
- Spinal Cord Injury
- Cancer
- Diabetes
- Peritonitis
- Skin infections
- Undiagnosed lumps
Resources


LET'S GET STARTED

Step 1: Preparation

Before beginning massage, some preparation needs to occur to ensure a pleasurable experience for both you and your infant such as:

- Make sure the lights are dimmed, but it is not too dark.
- The room must be warm to allow your infant to be comfortable without clothing.
- Make sure it is quiet with very little background noise—i.e. radio, television.
- A soft blanket should be used to place the infant on.
- Massage oils should be used to reduce the amount of friction to the infant’s skin and to allow for smooth movements during the massage.

When choosing an oil refer to the following guidelines:

- Light oils that absorb easily into the skin, and are non-odorous, are best. These include: apricot kernel, almond, coconut, canola, safflower, avocado, sesame, or olive oils.
- Do not use mineral oils, because if the infant happens to digest the oil, it may actually harm them.
- Always test the oils on a small patch of skin prior to beginning massage to assess for skin reactions.
- Lotions can be used, but absorb into the skin much quicker and result in repeated applications of lotion.
Step 2: Reading the Infant's Cues

Before starting massage, make certain the infant is in a quiet, alert state. The infant will show that he or she is in a quiet, alert state through the following cues:

- his or her eyes are wide open,
- he or she has a bright affect and seems excited to begin
- he or she is focused on you,
- his or her breathing pattern is regular, and
- he or she will move a lot in excitement, or very little because they are waiting to begin.

If your infant is not demonstrating these cues, do not proceed with the massage. Try again later and allow your infant to tell you when they are ready to receive the massage. Signs your infant is not ready to proceed with massage include:

- he or she is pulling away
- he or she is crying or fussy
- he or she has hiccups
- he or she is frowning
- he or she turns their head away

(Dellinger-Bavolek, 1996)
**Step 3: Talk to Your Infant**

- Tell your baby what you are going to do before you begin, as you prepare, and as you perform massage, such as: removing the infant’s clothing, applying oil to your hands
- Use a calm voice
- Talk and/or sing throughout the entire massage, tell your infant what you are doing or sing nursery rhymes or other kid songs.

**Step 4: Beginning the Massage**

- A good time to apply massage is after bath or before bed
  - Apply massage multiple times a day for shorter periods if you like
  - It is good to apply massage daily for the first few months- you can decrease the number of days as your child gets older
- Remove your infant’s clothing
- Apply massage oil to your hands, and rub your hands together,
- Place your hands in front of the infant to show them you are beginning.
- Always begin with the legs because this is the least vulnerable part of your infant’s body
  - You do not have to massage the entire body; it is alright to only massage specific body parts
- Always keep 1 hand touching your infant at any given time, even during transition between strokes, to ensure your infant does not become disorganized
- Adjust the amount of pressure applied during massage by watching your infant’s cues and reactions. Some pressure is needed to be effective.
  - Always watch for changes in your infant’s cues and adjust your massage pressure, part of the body being massaged, length of time spent on a stroke, and speed accordingly
- Begin gently touching the infant’s leg. If the infant laughs, smiles, or gestures in a pleasureful response, then continue massage strokes. If the infant responds with crying, turning their head away, kicking, or fussing, then stop massage immediately and attempt at a later time.
- Keep constant eye contact with your infant–this will become easier as you become more familiar with the massage process
- **Crying:** If the infant is crying, this may be an indication that they may be overloaded with environmental stimulation. It must be determined why they are crying before proceeding, ask yourself:
  - Has she or he been fed and changed,
  - Does she or he look or act sick,
  - Is the environment too stimulating, i.e. too much other noise, too cold, too warm,
  - Is it colic? If colic is the reason for crying, proceed with massage as this may calm them;
  - Attempt to massage at a later time if you are unsure of the reason
Different massages have different benefits for the infant. Indian and Swedish milking strokes applied to the arms and legs aid in circulation of blood, oxygen, and nutrients. The squeeze and twist and rolling strokes help tone and/or relax muscles. Strokes applied to the abdomen help to maintain elimination of waste. Massage of the chest helps improve respiration and promotes louder and longer vocalizations. Massage of the face, particularly around the infant’s mouth helps promote lip closure.

The benefits of massage are apparent with daily massage of only 15 minutes. With continued practice of the massage strokes, the process will become much quicker. It is not necessary to apply all strokes during each session. If you like, apply massage 2-3 times a day, performing a different set of strokes during each session. Be sure to begin with the legs as described previously, because the legs are the least vulnerable.
Beginning With the Infant’s Legs

Technique 1: Indian Milking

1. Support the right leg by holding the inside of the ankle with your right hand.

2. Using the palm of your left hand, stroke the infant’s leg, from the outer buttock to the outer side to the ankle.

3. Switch hands and repeat the same movement on the same leg, but this time you are stroking the infant on the inner thigh to ankle.

4. Repeat this in a rhythmic pattern for 30 seconds.

Be aware not to lift the infant’s pelvis off the floor while massaging. For premature infants, use the web space between your thumb and index finger to complete the stroke.
Technique 2: Wringing/Squeeze and Twist

1. Hold the infant’s right leg with both hands at the thigh, fingers pointing in opposite directions.

2. Gently twist your hands in opposite directions back and forth, squeezing lightly, while slowly moving your hands toward the ankle.

3. Keep hands together at all times.

4. Move hands back to the shoulder, moving one hand at a time to ensure constant contact with your infant.

5. Repeat this pattern for 30 seconds.

Be aware not to twist the knee joint.
Technique 3: Thumb Press

1. Use your thumb to apply firm pressure on the bottom of the right foot for 3-5 seconds. You will know enough pressure is applied when the area you are pressing turns light pink. But watch cues from your infant as well and adjust as necessary.

2. Move your thumb slowly and apply pressure in a new area of the foot close to where pressure was previously applied.

3. Continue this for 30 seconds.

If an infant cannot tolerate this, use the entire palm of your hand to apply pressure.
Technique 4: Toe Squeeze

1. Hold the infant’s right ankle with one hand.

2. Using the other hand, grasp the large toe of your infant at the base with your thumb and index finger, placing one finger on top and the other on bottom.

3. While gently rolling and squeezing the toe between your fingers, slowly move your fingers to the tip of the toe.

4. Repeat this motion for each toe on the right foot.
1. Support the infant’s right ankle by cupping it in one of your hands.

2. Gently stroke the top of the infant’s right foot using your thumbs one after the other, beginning near the ankle and stroking towards the toes.

3. Repeat this for 30 seconds.

Technique 6: Ankle Circles

1. Support the infant’s right ankle with your fingers.

2. Using your thumbs, simultaneously apply pressure, making circles around the ankles.

3. Continue this for 30 seconds.
1. Support the right leg by holding the infant’s inner right ankle with your right hand.

2. Using your other hand, stroke the outer leg from the ankle to the buttock using firm pressure.

3. Stroke back toward the ankle using a lighter pressure.

4. Switch hands supporting the outer ankle and repeat the same stroke on the inner leg.

5. Repeat the strokes, alternating for 30 seconds.
**Technique 8: Rolling**

1. Place the palms of your hands on the infant’s right thigh, one on the inner thigh, the other the outer thigh.

2. Move your hands back and forth in opposite directions to produce a rolling motion. Simultaneously move your hands from the thigh to ankle.

3. Pause for 2 seconds to allow the child to process.

4. Move one hand at a time back to the thigh and repeat the stroke for 30 seconds.

**Technique 9: Gentle Stretching**

1. While supporting the right ankle with one hand and the right knee with the other, gently pull the leg just above the knee, stretching the leg.

2. Hold the stretch for 10 seconds and relax for 5 seconds.

3. Repeat one more time.

Perform all of the strokes again on the left leg.

Simply substitute Right for Left and follow the same instructions.
Sweep Down

After both legs have been massaged, place your right hand on the outer left buttock and your left hand on the outer right buttock. Gently sweep hands down to the feet. This lets the infants know you are moving to another part of the body.
Moving to the Infant’s Stomach

You may want to loosen or open your infant’s diaper in order for the massage strokes to be most effective.

Technique 1: Gentle Pressure

At the infant’s navel, place one hand on the abdomen. Hold this for 30 seconds, while also watching for signs of engagement. Signs include smiling, reaching out, and lifting their head.
Technique 2: Paddle Wheel 1

1. Place one hand on the abdomen, just below the rib cage.

2. Use the palm of your hand, or 3 fingers, and slowly slide your hands toward the groin.

3. Repeat the motion with the other hand.

4. Continue the pattern, creating a paddling motion.

5. Make sure one hand is always in contact with the infant’s abdomen.

6. Repeat for 30 seconds.

Technique 3: Paddle Wheel 2

1. Grasp the infant’s ankles with one hand and hold the legs straight up. Their legs will appear as if they are sitting in a chair.

2. Use the other hand and stroke the abdomen as described in Paddle Wheel 1.
1. Gently hold the sides of your infant with your fingers.

2. Place your thumbs flat on the infant’s navel and gently press downward while also sliding your thumbs to the infant’s sides.

3. Repeat this for 30 seconds.

**Technique 5: Clock Hands/Sun Moon**

1. Your left hand is the sun and your right hand is the moon.

2. Using your left hand, move in a continuous clockwise circle.

3. Picturing a clock on the infant’s stomach, when your left hand reaches 6, your right hand will move in a semi-circle from 9 to 3.

4. Bring your right hand back to 9 and repeat the pattern.

5. Continue this for 30 seconds.
Technique 6: I Love You

While doing this series of massage strokes, say "I love you" as the word corresponds with the stroke.

1. Use your right hand and make an "I" stroke on the baby’s left side of the abdomen, pressing fingers downward.

2. Next place your right hand on the infant’s right side of the abdomen and glide your hand toward the left side then down, creating a rotated "L."

3. Place your right hand on the infant's right hip.

4. Move up, across, and down to the left hip, creating an upside-down "U."


Technique 7: Walking

Place your right hand on the left side of the infant’s abdomen. Using the flat part of your fingers, apply gentle pressure and slowly walk across the infant’s abdomen at the navel.

Technique 8: Gentle Pressure

This is the same as the first massage in the “Abdomen” section.
Moving to the Infant’s Chest

Technique 1: Heart

1. Place both hands on the midline of the infant’s chest.

2. Following the rib cage, slide your hands downward and away from each other.

3. Move hands back together and back to the starting point.

4. Repeat for 30 seconds.
Technique 2: Butterfly

1. Place your hands on the infant’s hips.

2. Move your right hand from the infant’s left hip diagonally to the infant’s right shoulder.

3. Slide your hand back to the hip.

4. Do the same with your left hand from the infant’s right hip to left shoulder and back.

5. Repeat this for 30 seconds.
Integration/Shoulder to Toes

Place your hands on the infant’s shoulders. Sweep both hands down to feet. Move one hand at a time back to the shoulders and repeat the stroke for 30 seconds.
Moving to the Infant’s Arms

**Technique 1: Symmetrical**

1. Place your hands on the infant’s shoulders.

2. Simultaneously move your hands from their shoulders to their hands.

3. Move one hand back to the shoulders, and then the other.

4. Repeat this stroke for 30 seconds.

**Technique 2: Arm Pit**

1. Lift the infant’s right arm.

2. Place your fingers on the arm pit and gently massage.

3. Repeat this for 30 seconds.
Technique 3: Indian Milking

1. Support the right arm by holding the wrist with your right hand.

2. Use your other hand to stroke the infant’s arm, using the palm of your hand, from the outer part of the shoulder to the outer part of the wrist.

3. Switch hands and repeat the same movement on the inner shoulder to wrist.

4. Repeat this in a rhythmic pattern for 30 seconds.

Be aware not to lift the infant’s body off the floor while massaging.
Technique 4: Wringing/Squeeze and Twist

1. Hold the infant's right arm with both hands near the shoulder, fingers pointing in opposite directions.

2. Gently twist your hands in opposite directions back and forth, squeezing lightly, while slowly moving your hands toward the wrist. Keep hands together at all times.

3. Move hands back to the shoulder, moving one hand at a time to ensure constant contact with your infant.

4. Repeat this pattern for 30 seconds.

Be aware not to twist the elbow joint.
**Technique 5: Thumb Press**

Use your thumbs to press on the infant’s right palm, under their thumb and pinky finger. Hold for 3-5 seconds, then release. Repeat for 30 seconds.

![Thumb Press Image]

**Technique 6: Finger Roll**

1. Hold the infant’s right wrist with one hand.

2. Using the other hand, grasp the thumb of your infant at the base with your thumb and index finger, placing one finger on top and the other on bottom.

3. While gently rolling and squeezing their thumb between your fingers, slowly move your fingers to the tip of the thumb.

4. Repeat this motion for each finger on the right hand.

![Finger Roll Image]
Technique 7: Top of Hand

1. Support the infant’s right wrist by allowing the infant’s wrist and hand to rest on one of your hands.

2. Gently stroke the top of the infant’s right hand using your other hand beginning at the wrist and stroking towards the fingers.

3. Repeat this for 30 seconds.

Technique 8: Wrist Circles

1. Hold the infant’s right arm up, while stabilizing the infant’s wrist with your fingers.

2. Place your thumbs on both side of the infant’s wrist at the wrist bones and begin moving your thumbs in a circular motion.

3. Continue this for 30 seconds.
Technique 9: Swedish Milking

1. Support the right arm by holding the infant's inner wrist with your right hand.

2. Using your other hand, stroke the outer arm from the wrist to the shoulder using firm pressure.

3. Stroke back toward the wrist using a lighter pressure.

4. Switch hands supporting the outer wrist and repeat the same stroke on the inner arm.

5. Repeat the strokes, alternating for 30 seconds.
Technique 10: Rolling

1. Place the palms of your hands on the infant’s right upper arm near the shoulder, one on the inner arm, the other the outer arm.

2. Move your hands back and forth in opposite directions to produce a rolling motion.

3. Simultaneously move your hands from the shoulder area to the wrist.

4. Pause for 2 seconds to allow the child to process.

5. Move one hand at a time back to the shoulder area and repeat the stroke for 30 seconds.

Technique 11: Gentle Stretch

While supporting the infant’s right arm with one of your hands at the wrist and the other at the elbow, gently pull on the infant’s arm to produce a stretch. Hold the stretch for 10 seconds, relax for 5 seconds, and repeat one more time.
Perform all of the strokes again on the left leg.

Simply substitute Right for Left and follow the same instructions.

Sweep Down

After both arms have been massaged, place your right hand on the outer left arm and your left hand on the outer right arm. Gently sweep hands down to the feet in one stroke. This lets the infants know you are moving to another part of the body.
Moving to the Infant’s Back

Place the infant on their stomach, and rest them on your lap.

Technique 1: Sweeping

1. Place one of your hands under the infant’s buttocks.

2. Place your other hand at the infant’s neck and glide your hand down to the buttocks.

3. Move your hand back to the neck and repeat.

4. Continue for 30 seconds.
**Technique 2: Back and Forth**

1. Place your hands at the infant’s shoulders, with your fingers pointing towards the infant’s side, away from you.

2. Move your hands in opposite directions back and forth, while also moving down towards the infant’s buttocks.

3. Continue the same motion while moving back up towards the infant’s shoulders.

4. Repeat this pattern for 30 seconds.
**Technique 3: Circles**

1. Using the pads of your fingers on both hands, begin on the right side of your infant’s back near the spine, BUT NOT ON THE SPINE.

2. Move your hands in unison, in a circle, in a clockwise direction. Move up the back to the shoulder area.

3. Move across the spine to the left side of the spine, avoiding pressure to the spine.

4. Continue the circular motion down the back.

5. Cross again to the right side and repeat the stroke for 30 seconds.
Technique 4: Combing

1. Place one hand on the shoulder area.

2. Using your other hand spread your fingers apart and place your fingers on the shoulder area.

3. Move your fingers down the infant’s back to the buttocks while also moving your hand from side to side.

4. Repeat this stroke for 30 seconds, making each stroke lighter than before, ending with a feather light touch.
Moving to the Infant’s Face

Place your infant on their back to complete the following strokes. Do not use oil when massaging your infant’s face— it may get in their eyes, nose, or mouth. Their faces produce sufficient amounts of oil to proceed with massage.

Some infants do not like their faces to be touched. Do not massage if this is true of your infant.

Technique 1: Head Cradle

Using both of your hands, gently place the infant’s head in your hands. Hold their head for 10 seconds. Relax for 5 seconds, and repeat one more time.
Technique 2: Open Book

1. Using the pads of your fingers, place both hands in the middle of the infant's forehead.

2. Move your fingers out around the eyes, down over the cheeks.

3. Repeat for 30 seconds.

Be sure not to cover the infant's nose and eyes with your hands.
Technique 3: Eyebrows

1. Place the pads of your thumbs between the infant’s eyes at the level of the eyebrows.

2. Slowly slide your hands across the eyebrows and continue down to the corners of the infant’s eyes.

3. Repeat for 30 seconds.
Technique 4: Nose to Mouth

1. Place the pads of your thumbs on the sides of the infant’s nose.

2. Move thumbs diagonally across down the nose across the cheeks.

3. Repeat for 30 seconds.
Technique 5: Smile

1. Using your index finger, place the side of your finger below the infant’s nose.

2. Stroke from the bottom of the nose to the top lip.

3. Maintain pressure at the lip for 3-5 seconds.

4. Repeat the stroke, beginning at different spots around the infant’s mouth.

5. Continue for 30 seconds.
Technique 6: Circle Ears, Neck, Chin

1. Place the pads of your fingers on the infant’s temples, just above the ears.

2. Move your fingers around and behind the ears.

3. Continue down the neck to jaw level.

4. Move fingers along the jaw line to the chin.

5. Repeat the stroke for 30 seconds.
**Definition of Terms**

*Adhesions:* Parts inside the body connected by tissues which are normally separate

*Contractures:* Abnormal formation of connective tissue in skin, muscle, or joints preventing normal mobility

*Diabetes:* Diseases characterized by excessive urination

*Edema:* Condition in which the body tissues retain an excessive amount of tissue fluid

*Encephalitis:* Inflammation of the brain

*Hematomas:* A swelling or mass of blood confined to an organ or tissue caused by a break in a blood vessel; also known as a bruise

*Jaundice:* Condition characterized by yellowness of the skin, whites of eyes, mucous membranes, and body fluids due to excess bilirubin in the blood. It may be caused by blockage of bile passages, excess breakdown of red blood cells, or disturbances in functioning of liver cells

*Myelination:* Process of forming a myelin sheath (a thin, fat-like layer covering some of the nerves)

*Midline orientation:* The ability to bring hands/arms to the middle of the body, and cross center.

*Muscular atrophy:* A wasting or decrease in size of a muscle as a result of lack of use

*Neurological:* Pertaining to the nervous system

*Osteoporosis:* A disease process that results in the reduction of bone mass, causing bones to fracture in unlikely or uncommon situations

*Peritonitis:* Inflammation of the covering lining the abdominal cavity
**Pneumonia:** Inflammation of the lungs caused primarily by bacteria, viruses, or chemical irritants

**Spinal Cord Injury:** Traumatic injury to the spinal cord, often resulting in a loss of function, depending on the level of injury

**Tuberculosis:** An infectious disease characterized by inflammation and formation of tubercles commonly affecting the respiratory system, but can also affect the intestines, bones, joints, nervous system, and skin

References


CHAPTER V
SUMMARY

A review of literature was conducted, focusing on the areas of benefits of massage, parental concerns, and current information available. After completion of the literature review, it was concluded that there has not been a comprehensive, easy to read parent guide to infant massage developed by an Occupational Therapist for use of massage on prematurely born infants. Therefore, one such guide was developed.

Using information gathered in the literature review, and other sources, an easy to read, step-by-step guide was compiled, complete with color pictures. It is recommended that this guide be used to teach parents about infant massage, for use on their premature infants. It is designed to be used for parent education by an Occupational Therapist. One clinical implication is that the guide may also be used for student instruction or as a resource for student education.

Limitations of the project include: 1) the focus is only on two massage techniques and one process, reflexology, 2) therapists may choose or be comfortable with massage techniques other than what is presented. 3) the guide can be added to by including spaces for parent questions and comments.
Recommendations for future development include creating a guide compiled for use by parents who have infants with a variety of disabilities. In addition, parents should be questioned regarding their fears, misconceptions, or general inquiries of infant massage. This information could be included into the guide to explain any information parents are unsure about.
References


