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## Does Maternal-Infant Bonding Therapy Improve Breathing in Asthmatic Children?1

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### [Headnote]

**ABSTRACT:** Six mothers of asthmatic children with histories of non-bonding were treated with a therapy aimed at repairing the bond between them and their children. Four of the children were then briefly treated to repair the bond and two infants were not treated. Eighteen variables were studied before treatment, after the mother's treatment, and after the child's treatment. There was improvement in all 18 variables. Five children experienced complete or nearly total improvement in their breathing. The two infants had total remission of symptoms.

This study is the fourth in a series that examines the relationship between maternal-infant bonding and pediatric asthma (Feinberg, 1988; Schwartz, 1988; Pennington, 1992). While there have been clinical reports that asthmatic children improve when the bonding is repaired (Madrid and McPhee, 1986; Madrid and Pennington, 2000), this study looks at the question in a more formal manner and presents a detailed description of the therapy employed.

Since French and Alexander's 1941 article, linking pediatric asthma to some impairment in the mother-child relationship, clinicians and researchers have been looking into the mother's impact on childhood asthma. In their seminal article, French and Alexander hypothesized that conflict around excessive, unresolved dependence upon the mother was responsible for the child's asthma and that fear of separation from her could trigger an asthma attack. These children were preoccupied with thoughts of maternal rejection, and the asthma attack itself was considered a suppressed cry for the mother. They further observed that maternal rejection is found as a recurrent theme in the life of the asthmatic and that the child feels a need of maternal care and protection. When the child does not achieve this basic nurturance, he reacts with clinging and insecurity.

The theme of maternal rejection found supporters in most of the studies of psychological antecedents of childhood asthma. In reviews of this literature, Schwartz (1988) and Pennington (1992) cite dozens of articles that focused upon the mother's rejection and the child's overdependency as central to the development of asthma. For example, Harris et al. (1949) showed that asthmatic children appeared to have a greater fear of separation from their mother than the members of a control group. Knapp and Nemetz (1957) found that asthmatics showed an intense, clinging dependence. Miller and Baruch (1948) found that 98% of asthmatics studied corroborated evidence of maternal rejection, as compared to 24% of non-asthmatics. Later, Miller and Baruch (1958) found that 97% of mothers in a group of allergic children expressed rejection of their children, as compared to 37% of the non-allergic group.

Pennington cited several articles which identify overprotection in mothers of asthmatics. Pinkerton (1967) discerned three main groups of parental attitudes: over-protective, rejective, and ambivalent. Bentley (1975) found that the parents of non-steroid dependent children were openly resentful of their children. Purcell et al. (1961) found that parents of non-steroid dependent children subscribed to attitudes on child rearing that were hostile and rejecting.

In the same vein, Schwartz (1988) noted that Block et al. (1966) introduced the notion of the "asthmaticogenic mother" whose relationship with the child has a direct effect on the frequency and severity of her child's asthma attacks. Both Schwartz and Pennington discussed the remarkable improvement found at CARIH (Children's Asthma Research Institute and Hospital) in Denver, when asthmatic children were removed from their parents and admitted to this hospital (Mascia, 1985; Peshkin, 1959). Almost immediately, these children's symptoms remitted, even though their pillows and dust from their homes were brought to the hospital. These children would retain their good health when returned home, if their parents were not in the house. When their parents returned, their symptoms would return.

Pennington (1992) summarized that "rejection of the asthmatic child by the mother has been a dominant theme in the findings of a majority of investigators who have studied asthma as a psychosomatic disease." Schwartz (1988) stated

that the "prevailing view in the literature emphasizes disturbances in the mother-child relationship as central to the etiology of childhood asthma." She goes on to say, that "a host of researchers mention this strained mother-child relationship, but few studies have attempted to explain how the relationship became strained, other than as a result of intra-psychic factors in the mothers' personality or interpersonal factors in the family constellation."

Three studies, conducted at the Erickson Institute in Santa Rosa, California, including those of Pennington and Schwartz, focused upon the etiology of the strained relationship. These researchers studied the relationship between childhood asthma and disruptions in maternal-infant bonding. "Maternal-infant bonding," as used by these authors, is a term specifically defined by Marshall Klaus and John Kennell, in their 1976 book, *Maternal-Infant Bonding*.

According to Klaus and Kennell, bonding is a physical, emotional, and biological attachment between a mother and her child, similar in many ways to bonding in animals. It is almost guaranteed to be present, unless something interferes with it. As in animal cases, human impediments to bonding are brought about by physical separation at birth or soon afterward. Physical separation can occur for several reasons, including hospital procedures that keep a mother from being with her child after birth: viz., anesthesia; C-sections; events which place the child in an incubator away from the mother; adoption procedures; twin or triplet births; and any other medical or life event which separates the mother from a child immediately after birth or for a considerable time afterwards.

Klaus and Kennell contend that bonding can be impeded in humans by another type of separation: emotional separation. Emotional separation is likely to occur when the mother is undergoing another emotion which is so strong that it competes with or prevents normal bonding emotions. Bonding, then, is incompatible with this type of maternal preoccupation. Klaus and Kennell identify grief as the primary incompatible emotion. Typical events which may cause this grief include the death of someone close to the mother, a recent miscarriage, or spousal separation. Incompatible emotions may also include extreme fright, the anguish of an unwanted pregnancy, or addiction.

Using the concept of maternal-infant bonding as a mediating variable, these studies examined the relationship between bonding failures and asthma. Feinberg (1988) compared the bonding of 30 pairs of mothers and their asthmatic children with 30 pairs of non-asthmatics. As a measure of bonding, he employed the Maternal-Infant Bonding Survey (MIBS) (Brown et al., 1981), a questionnaire that lists most events which are thought to impede bonding. He found that bonding failures occurred three times as frequently in the asthma group as in the non-asthma group (24% and 84%).

Schwartz (1988) studied another set of mother-child pairs (N = 30) using expert judges to rate their responses to the MIBS to determine if they were bonded. Of the non-asthmatic group, 29% were judged non-bonded as compared with 86% of the asthmatic group. She also found that two or more critical events were endorsed on the MIBS by 24% of non-asthmatic mothers as compared to 70% of asthmatic mothers. Her conclusions were that there existed a "concomitant variation between non-bonding events and pediatric asthma," adding, "if a child has asthma, he most likely is not bonded."

Pennington (1992) found that there was a significant relationship between early separation of the mother and infant and the subsequent development of pediatric asthma. Early separation was also associated with severity of asthma. Emotional difficulties were found more in mothers of asthmatic children, although they had no bearing on the disease severity. Pennington found that four non-bonding events occurred more frequently in the asthmatic group: emotional problems during pregnancy, delay in holding the baby, family death in first year, and emotional problems in the first year.

These studies offered maternal-infant bonding as a reasonable and parsimonious mediating variable between childhood asthma and "maternal rejection/over-protection" noted by other authors. From Klaus and Kennell's evidence, lack of bonding is directly linked with maternal rejection. From the Erickson Institute studies, asthma is linked with lack of bonding. We think failure to bond contributes to maternal rejection which, in some children, leads to asthma.

The question which this pilot study addresses is the next logical one of this series: When there is a history of non-bonding in an asthmatic child, can repairing the bonding help this child breathe better?

## METHOD

### Subjects

Six mothers completed the treatment for this study, from an original pool of 19 who initially volunteered to participate. Two mothers did not wish to participate because they did not think the hypothesis for this study was valid. Six mothers did not attend their first session for no reported reason. Two mothers only participated in an initial treatment session (one mother was in the middle of a divorce and decided not to continue; the other mother was not comfortable with the theoretical assumptions). Two children were excluded because their symptoms were so minimal that a change would not be observable. One child did not want to participate in the study when it came time for her to be treated.

All subjects volunteered in response to announcements at grammar schools and health centers in a rural area of Sonoma County, California. The mothers were sent a research package that included a Maternal-Infant Bonding

Survey (MIBS), a Mother's Report, and a Child's Report. All forms, when completed, were mailed back to the researchers. The subjects for the study were selected by their responses to the MIBS and the Mother's Report, which were evaluated by the senior author. If there was evidence on the MIBS of an event thought to interfere with bonding and there were asthma symptoms in the child, the mother and child were included in the study. They were invited to an initial individual interview, in which the study was described in more detail and their questions could be answered.

#### Instruments

Maternal-Infant Bonding Survey (MIBS). Each mother was administered the MIBS (Brown et al., 1981) to determine if there was an event in her life that is usually associated with failures in bonding. From the response of each participant's MIBS, the child was ruled to be either "Bonded" or "Non-bonded" by the senior investigator. The MIBS is a 17 item survey that lists events which have been identified by Klaus and Kennell as associated with failures in bonding (see Appendix A).

Mother's Report. The Mother's Report is a 9 item questionnaire, adapted from Zlatnick and associates (1982), that asks her about her child's asthmatic condition. The questions include objective data such as days absent from school and types of medication the child uses, as well as subjective opinions such as how she rates her child's health. Subjective questions have five forced choice responses (excellent, good, satisfactory, poor, bad) (see Appendix B).

The test was given three times: before the study began, two weeks after the mother's treatment was completed, and one month after the child's treatment was completed.

Child's Report. The Child's Report is a 9 item questionnaire that asks the child to evaluate his or her own breathing, under specific conditions, such as "how is your breathing when you wake up in the morning." Except for two questions, responses were of the forced five choice variety. (see Appendix C).

The child's test was also administered three times: before the study began, two weeks after the mother's treatment was completed, and one month after the child's treatment was completed. Two children were too young to be questioned.

Clinical Scoring Check List (CSCL). The CSCL, from which the Mother's Report was adapted, is a check list developed by Zlatnick et al. (1982) to measure the severity of asthma. Responses to the Mother's Report were converted to the CSCL for some presentations of the data in order to determine the changes in the severity of a child's asthma. The CSCL uses 8 variables to measure the severity of asthma (see Appendix D).

#### TREATMENT

The treatment was a two-part therapy: the mother was treated first, and then the child was treated if old enough to participate.

##### Mother's Treatment

The mother's treatment had three parts. Each of the parts was explained to the mother before work was initiated.

First, the event or events which prevented the mother from bonding with her child were identified. As mentioned above, the events which usually qualify for an impediment to bonding are physical separation after birth or an emotional separation due to some serious competing emotion before or after birth. It was not uncommon for there to be several MIB inhibitors, and it often required some investigation to find them all.

Secondly, the event or events were "worked through" with the help of hypnosis, so that the mother no longer felt that they were an issue. The pain or unsettling feeling was repaired or healed with age regression to the time of her pregnancy so that she could know what it was like to give birth to her child without this upsetting experience. For example, if a mother had lost a child before she became pregnant with her asthmatic child, she resolved the grief, then experienced the pregnancy and birth of her child, this time without a troubled heart. Even if she no longer felt the sorrow at the time of treatment, she still was asked to return to the time of the pregnancy and resolve the grief then. During hypnosis we used the phrase, "You are today no longer suffering from this sorrow; so bring that feeling back to the time of the pregnancy with your son."

Often a mother had not resolved the competing emotion at all. With the help of hypnosis, she was instructed to resolve it, using simple general suggestions such as, "Your unconscious mind knows how to heal you from this hospital procedure (or separation, or loss of your husband, or guilt)."

When it was clear that the physical and/or emotional separation was resolved, the third step was introduced. Under hypnosis a new pregnancy and birth was created and the mother was asked to experience this new beginning with her child. The mother was taken through her pregnancy in this new way, indicating at each trimester that everything was fine, up to the birth. She was brought through an easy birth, and her child was kept with her, without any interruptions

in her closeness with her child. She was then taken forward to the present, focusing on any time in the child's history that was previously sensitive. She was asked to experience all of this with her healthy child.

In cases where there was emotional separation after birth, the emotional event causing this maternal preoccupation was repaired and the mother was taken through the birth and through this event without distraction. She was asked to experience her connection with her child from the beginning, through this difficult time, up to the present.

At each stage of the repaired history, the mother was asked if everything was all right. If she could not experience a particular time as good, it typically meant that there was more work to do on the original impediment to bonding. Time was then spent on this problem, and she was returned again to experience the new history. The mother's therapy was completed when, under hypnosis, she was able to respond that she was connected to her child from conception to the present moment. These questions were answered using ideomotor signals, in the method explained by Cheek and LeCron (1968).

#### Child's Treatment

The second part of the treatment was with the child, in the presence of the mother. It had three parts. Each of the parts was explained to the child before the work was initiated.

First, the child was hypnotized and the impediments to bonding (as identified by the mother) were removed. For example, if the mother was grieving her father's death during pregnancy, he was told that his mother's sadness would be removed from her and from him as well. If he was removed from his mother for 36 hours, he was told that this separation and the memory and feeling of it would be removed from him. If the mother was struck by some great grief during the first year, the child was told that the mother's pain was removed and now his sadness would be erased. Various hypnotic metaphors were used to accomplish this, such as:

We are going to clean out the sadness and the memory of the sadness that occurred when you were six months old, when your mother was upset and you got asthma. Go to that time, and take all that sadness and dump it in the garbage. When it's all dumped in there, your index finger will start floating.

secondly, a new birth story was created along with a new history up to the present time. This was done with the mother present, experiencing it again while in hypnosis. At each stage, the child was asked to confirm that "everything is OK" using ideomotor signals. The new history went through each part of the old history, this time cleaned up and smoothed out so that none of the bonding impediments was present. A typical intervention sounded like this:

Now we are going to go through your birth in a new way. And your mother is here going through it with you. Mrs. Jones, would you like to go into hypnosis right now? So your mother and father want to have a baby, and you are conceived. Your mother is very happy (originally, she was grieving the loss of her father), and she is thinking about you all the time. And you know her. You get big inside her, and you know she's happy. You can hear her heart beat, and you can feel her voice when she talks. Everything is perfect. You get to be three months along, and when you know this, your index finger will float.

This scenario was developed, trimester by trimester, until the child's birth:

Now you are getting ready to be born, and it's a quick and easy birth. When you are born and take your first breath, your index finger will float. (It floats.) Now you are placed on your mother and you hear her heart beat again, and you know her voice, and you see her. And when you know this, your index finger will float. You stay there with your mother. And you know how happy she is. After a while you nurse. After a while you fall asleep and stay with your mother.

Mention was made of the child's lungs being perfect: "You are a healthy baby. You can breathe perfectly. Your lungs are good lungs and know how to breathe. When you know this, your index finger will float." This story was developed, through each historically important time in the child's life, up to the present time. The child's good health and connection to the mother were emphasized.

Third, the child's memory of being sick was removed. He was told that he would remember what he needed to remember to be medically safe but that he did not need to remember all of the sick times. He was asked through ideomotor signals if this was safe to do. Then he was instructed to "dump" all the unwanted memories, using some metaphor that was suitable, such as:

You can take all those yucky memories of being sick and throw them in the river and watch them float out to the ocean, and they go away for ever. You can always know what to do to be physically safe, but you don't need those memories and feelings and fear anymore. There they go, and when they are gone, your index finger will float.

At the end of this therapy, the child was asked if there was anything else that needed work. If there was, that work was attended to. The child and mother were brought out of hypnosis. This completed the child's therapy.

RESULTS

Statistical Analysis of Complete Treatment

The responses of four mothers and their children (two children were too young to answer the child's questionnaire) were totaled across each of the eighteen variables. Those data are presented in Table 1 along with probabilities obtained from a distribution-free test for the slope coefficient (Theil, 1950).<sup>2</sup>

Episodes or rating (smaller is better)	Pre MOS	Post MOS	Child Yr	P
<b>Mothers' Responses</b>				
emergency medical visits	14	2	0	0.0071
day-long episodes of wheezing	15	4	0	0.0071
days of mild wheezing	3	1	0	0.0071
evening wheezing	3	2	0	0.0071
nights tending child	43	1	0	0.0071
days hospitalized	172	0	0	0.1469
medications	10	7	5	0.0071
rating of child's health	10	7	5	0.0071
level of child's activity	11	7	7	0.1469
<b>Children's Responses</b>				
rating of breathing in general	11	8	6	0.0071
rating of breathing when exercising	13	10	4	0.0071
rating of breathing at bedtime	8	7	4	0.0071
rating of breathing during night	7	8	6	0.1469
rating of breathing upon awakening	9	4	5	0.1469
rating of breathing during day	10	8	7	0.0071
rating of energy	8	8	5	0.1469
improvement lately	8	6	4	0.0071
fear about breathing	7	7	6	0.1469

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Table 1  
Responses Summed Across Four Subjects and Probabilities from Theil's Test for Slope Coefficient

Statistic	All variables	Mothers	Children
Chi-square	86.17	48.86	38.33
df	36	18	18
P	<0.0001	0.0001	0.0005

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Table 2  
Fisher's Technique for Combining Probabilities

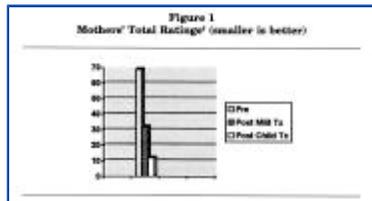
It can be noted that there were large perceived improvements following MIB treatment and somewhat lesser ones after the children's therapy. The individual probabilities range from .0571 to .1469, all missing significance at the five percent level.

These probabilities may be low enough to be suggestive, but no one of them may be sufficiently low to establish statistical significance. The eighteen probabilities can be combined, however, employing the method of Fisher (1954). The statistic is distributed as Chi-square with degrees of freedom computed as twice the number of separate tests. When applied to the data in this study, high significance is obtained across all variables and also when the mother's responses are examined separately from those of the children. The results are summarized in Table 2.

A visual graphic can help see these improvements. A total of all the mothers ratings are displayed in Figure 1.

The mothers felt much better about their children's breathing, and the children had fewer episodes of trouble after the work with the mother, even before the children were seen in treatment. Following the children's therapy, the mothers continued to see improvement. The total of the children's ratings are displayed in Figure 2.

Children felt that there was improvement in their breathing after their mother's bonding therapy and also after their own therapy. Since the children were not rating the same variables as their mothers, their charts cannot be compared.



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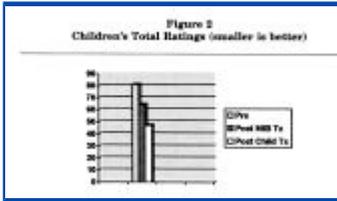
Figure 1  
Mothers' Total Ratings3 (smaller is better)

What Happened When Just the Mother Was Treated?

Some of the effects of MIB therapy done with the mother alone, without any therapy for the child, are presented in

Tables 3 through 7.

In Table 3 the median pretest CSCL score was 43.5, indicating moderate asthmatic symptoms, and the median posttest CSCL score was 1.75, indicating quite minimal asthmatic symptoms. This finding suggests an immediate improvement in the children's asthmatic symptoms after MIB therapy with the mother.



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Figure 2  
Children's Total Ratings (smaller is better)

	Pretest	Posttest
Total scores	386.5	60.50
Median scores	43.5	1.75
Individual scores		
Subject A	24.0	0.0
Subject B	35.0	3.0
Subject C	25.0	3.0
Subject D	18.5	0.0
Subject E	38.0	0.0
Subject F	46.0	0.0

Note: The CSCL was used to obtain the asthma severity scores. Scores of <20 indicate mild asthma, 20 to 40 indicate moderate asthma, >40 indicate severe asthma.

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Table 3  
Asthma Severity Scores (as rated by Mothers) of the Children

Table 4 shows that less medication was used by all but two of the children. Child B did not improve until after therapy was done with him; child C only used Proventil before sports events, which she continued to do.

In table 5 the median posttest Mother's Rating of Child's Health and Level of Activity Since Treatment score was 0 (improved). An examination of the individual scores shows that one of the six subjects (Subject C) rated her child's health and level of activity as worse since the treatment, while five out of the six subjects rated their child's health and level of activity as having improved since the treatment. Mother C, however, reported that six months after her daughter's treatment was completed she was off all medications and was symptom free, even when playing sports.

	Pretest	Posttest
Total scores	127.50	36.50
Median scores	208.00	66.75
Individual scores		
Subject A	017.0	03.0
Subject B	035.0	35.0
Subject C	110.0	10.0
Subject D	25.0	00.5
Subject E	25.0	00.0
Subject F	25.0	00.0

Note: The CSCL was used to obtain the medication usage scores.

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Table 4  
Children's Medication Use

	Posttest
Median score	0.0 (improved)
Individual scores	
Subject A	0.0 (improved)
Subject B	0.0 (improved)
Subject C	5.0 (worse)
Subject D	0.0 (improved)
Subject E	0.0 (improved)
Subject F	0.0 (improved)

Note: The CSCL was used to score the mother's rating of her child's health and level of activity since treatment.

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Table 5  
Mother's Rating of Child's Health and Level of Activity Since Treatment

In table 6 the median scores show a pre-treatment child's self-report rating of breathing and energy in the satisfactory to good range, and a post-treatment child's self-report rating in the good to excellent range.

	Pretest	Posttest
Median scores	satisfactory-good	good-excellent
Individual scores		
Subject A	good	excellent
Subject B	good	good
Subject C	satisfactory	satisfactory
Subject D	satisfactory	excellent
Subject E	"	"
Subject F	"	"

"Data unavailable; child was an infant.

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Table 6  
Child's Self-Report Rating of Breathing and Energy

	Age	CSCL <sup>a</sup>	MIB usage <sup>b</sup>	Mother's rating <sup>c</sup>
Subject A	06.0 yrs.	Improved	Improved	Improved
Subject B	11.5 yrs.	Improved	No change	Improved
Subject C	12.00 yrs.	No change	No change	Worse
Subject D	11.0 yrs.	Improved	Improved	Improved
Subject E	6.0 yrs.	Improved	Improved	Improved
Subject F	01.2 yrs.	Improved	Improved	Improved

<sup>a</sup>Asthma Severity Scores of the Children  
<sup>b</sup>Medication Usage of the Children  
<sup>c</sup>Mother's Rating of Child's Health and Level of Activity Since Treatment.

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Table 7  
Children's Ages and Perceived Posttest Improvements

From table 7 it appears that the younger the child, the greater the likelihood of improvement.

#### Types of MIB Inhibitors and Total CSCL Scores

A summary of the factors involved in impeding the bonding for each mother and the overall change in the Clinical Scoring Check List is presented in Table 8.

Each mother had at least two MIB inhibitors involved in non-bonding. The severity of asthma scores showed improvement for all patients by the end of treatment. All but one improved after treating just the mother, with four of those improving dramatically. Both infants improved completely after the mother's treatment.

#### Case Reports

Five of the six participants gave us permission to write about their treatment.

Case A. This six year old boy had his first asthma attack when he was one year old. He was allergic to cats, dogs, springtime pollens, and dust. He was on Beconase AQ, nasal spray, and Flovent, which he had not needed to use in a while. In the last six months, he had two episodes of wheezing which lasted several days.

The mother's life fell apart in her fourth month of pregnancy with this, her first child. The father of the boy left, her job was terminated, she had no place to live, and she was plummeted into poverty. She reported that this was the lowest time in her life, and she had counseling from this time until after her son was born. She went on welfare and rented a room from someone she did not know.

**Table 8**  
**Types of MIB Inhibitors and CSCL Scores for Each Patient**

Type of MIB Inhibitor	A	B	C	D	E	F
not during pregnancy	very early					
time during pregnancy	very early					
delay in holding baby	very early					
youngest son	very early					
from 2 years	very early					
other	very early					
CSCL (A)	24	85	28	186.5	24	46
with mother	2	20	22	41.5	0	0
with baby	2.5	21	5	2.5	N/A	N/A

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Table 8  
Types of MIB Inhibitors and CSCL Scores for Each Patient

When her baby was born, she reported feeling "fantastic, touched, moved to tears of joy, elated." It seemed from this response that she was bonded with her child, and this was confirmed in hypnosis. However the bond was disrupted at one year, when she moved in with a man who "rescued" her from poverty. It was an old boyfriend, and she agreed to his offers against her better judgment. She was coerced into a sexual relationship with him and during the first weekend of this relationship, her son went to the emergency room with his first asthma attack. It seemed evident that in her powerful, conflicted feelings she lost her connection with her son.

In the first session, using hypnosis, the mother was able to release the emotional pain associated with the pregnancy related to the fathers desertion, her loss of security, and the residual fear. She reported in the second session that she felt easier about her son's weekend visit with his father. She then worked on letting go of some of the feelings associated with the painful relationship with the man who took her into his home when the child had his first asthma attack.

At the third session she reported that her son stayed home from school for two days with a bad cold and asthma. She also stated that she went to look at the house where she lived with her "rescuer" but did not feel her previous anguish.

At the fourth session she spoke more about her pregnancy and life with her "rescuer," making some sense out of it and understanding her feelings more clearly. In hypnosis she worked through the remaining portions of this period.

In the fifth session she reported that she talked to her own mother about the "rescuer" issues without feeling guilty or painful. Her son went on a week's vacation with his father without needing to use his medications, which was unusual. In hypnosis, a final effort was made to process the residual pain, and then a new story was created starting from her pregnancy to the present time, emphasizing those parts of her and her son's story that needed revision.

After two weeks, the mother's answers to the questionnaire indicated that her son used his inhaler only when he had a cold, had not needed his nasal spray, and was not experiencing shortness of breath upon exercising. She rated his health as going from "good" before the treatment to "excellent" afterwards; and his level of activity rose from "satisfactory" to "good."

The child's ratings improved on all measures except two, "breathing at night" and "breathing when you wake up." These categories stayed at "good." All other measures moved to "excellent" and one to "good." The child's session, using hypnosis, included removing all disturbing memories from his history and all frightening memories about the trouble he has had breathing. He was then brought through a new history, with his mother hypnotized at the same time.

One month from that session, both answered the final questionnaire. The mother reported that there were no episodes of wheezing, no shortness of breath upon exercising, no use of any medications, and his health and activity level were "excellent." The boy reported that he was still doing "excellently" in most categories and "good" in three categories. His energy level and his breathing during the day were "excellent."

Six months later, the mother reported that her son's health had been wonderful, that he was energetic, that he had only used his inhaler once in six months, and he was off all other medications.

Case C. This 12 year old girl did not have severe symptoms. She had occasional mild wheezing and only had serious trouble wheezing when she played sports. She was on Proventil, which she took before athletic events. Her mother described her health as good and her level of activity as good (not excellent). The girl described her breathing as "satisfactory" in general and "poor" when running. She had a younger brother. Her mother and father were separated. She got her first asthma attack when the mother and father first separated, when she was nine. Her mother was very sick during the pregnancy with her daughter but she reported that she was ecstatic when she first saw her baby. From our work with the mother and child, it was clear that the mother was accurate; there were no bonding problems during the pregnancy.

The mother felt that part of the problem was the anger that existed between her and her daughter. The girl blamed the mother for the separation and for many things in their relationship, and anger seemed constant since the separation. The mother often was hurt by the blaming; and due to her own childhood issues would respond with anger. Both spoke about feeling injured in these interchanges. Work was done with the mother about her childhood issues and with the daughter about self protection.

The mother also worked on several issues including the guilt about leaving her husband; being triggered by her daughter's anger; and her own childhood issues about being blamed and hurt. Bonding therapy was conducted with the mother, focusing on the hypothesis that the bond was broken during the separation. There seemed to be occasional feelings of being close with her daughter, though it was difficult for her to return to those bonded feelings when her daughter blamed her or was angry with her. Her child's asthma symptoms remitted somewhat during the mother's treatment, but allergy symptoms got worse when spring arrived.

When work began with the daughter, there were three areas of therapy. First we worked on reducing allergy symptoms with hypnosis using straightforward hypnotic suggestion. second, we worked on her forgiving her mother, thereby reducing the anger. This part was done without the mother's presence. Third, with the mother present, we reviewed the pregnancy and birth: her mother was healthy; her mother was ecstatic seeing her and holding her; she continued to feel that through her infancy. That closeness was envisioned through the years to the present time, even through all the difficult experiences centered around the parents' separation. The daughter was reminded never to lose the experience of closeness with her mother.

Two weeks after therapy, the mother's report indicated that there was no shortness of breath on physical exertion. The girl rated her breathing in general from "satisfactory" to "good" and breathing when exercising as rising from "poor" to "good." The mother said that she felt closer to her daughter since the final therapy session. Six months after the completion of therapy the mother phoned to say that her daughter was playing basketball and did not need Proventil before the game or practice. She was completely symptom free.

Case D. An 11 year old girl had asthma since the age of two. She was on two types of inhalers and regularly used steroids. She was often in the emergency room with asthma attacks. She was reported by the mother and friends as being a "sickly little girl" who walked around "like a shadow."

The history of the pregnancy and early life was filled with maternal/infant bonding inhibitors. The mother thought about an abortion at the beginning of the pregnancy because she felt there was something wrong with her baby. She and her husband had serious problems during the pregnancy. The labor was very difficult and lasted for 23 hours. She was discharged from the hospital much sooner than she thought was right. She went home to three other children and a non-supportive husband and family. She said "I got cheated out of my last baby experience." The parents separated on several occasions when the baby was an infant and finally separated for good when she was 18 months old.

The second session was devoted to releasing old feelings using hypnosis. In the third session she reported that her daughter was back on steroids for the sixth time that year. More hypnosis was used on releasing feelings, and she was amazed that there was so much residual rage. After most of the feelings were released, a story of a different birth and life was created and experienced.

Two weeks later she reported that her daughter did not use her inhaler for 4 1/2 days, which was a first. She was more physical and "cuddled a lot." Hypnosis was again used, releasing feelings and connecting again with her daughter in this new history.

When the girl came in for treatment, she and her mother reported great improvement in overall health and breathing. Hypnosis was used to send away memories and feelings of being sick. She was taken through a new history of being connected with her mother from the beginning, without any turmoil.

A month later, the girl reported that she had only used her inhaler once, she felt healthy, and she did not get wheezy. She looked healthy and vibrant to all who knew her. Her mother reported that this therapy changed her and her daughter's lives. Six months later, the mother reported that her daughter was still very healthy.

Case E. An eight month old girl was on Nasonex (once daily), Albuterol (every 2-4 hours), and Triamcrolone and saline (twice daily in a nebulizer). Her 15 year old mother reported that she got pregnant the first time that she had

sex and that the father abandoned her during the third month of pregnancy. She got toxemia immediately after; and she felt very sick for the remainder of the pregnancy. Labor had to be induced at eight months; and when she first saw her daughter, she felt confused and scared. She alternately stayed with her mother and father and then her grandparents.

She reported that her daughter was healthy when first born, but after a few months she noticed that she was "breathing funny." The doctor started medicating the baby, and the mother said, "She wasn't like she should be. She was sick all the time and it scared me."

In the first session the emotional pains associated with the father's abandonment and the difficult pregnancy were released through hypnosis. A new birth story was created and brought to the present. By the second session the little girl had gotten worse, with a cold. The mother said that she didn't feel different, after the first session; and in fact one day she awoke with terrible feelings. In hypnosis, the guilt around having sex so young and getting pregnant was identified and released.

Two weeks later, the mother reported that her daughter was no longer wheezing, at all, even though she had a little cold. She and her baby were sleeping better, and she was dreaming a lot. The baby was "all better" for the first time since she originally got sick, and she was no longer frightened. She said she didn't feel a need to carry around the nebulizer "all the time." Her daughter was off all medications, and she said that she was "OK now, a healthy baby." At six months, her daughter was still healthy and breathing well, without any asthma symptoms.

Case F. This girl was diagnosed when she was four months old and was 14 months old when her mother entered the study. She used a nebulizer with Albuterol, three times daily. She was also on Prednisone several times in the previous two months. The baby had three emergency visits in the previous six months, and the mother was up every night during that time frame. The mother described her daughter as being active before asthma, and now she was lethargic all the time.

The mother's condition during her pregnancy was rated as poor, suffering from anemia. Her emotional condition was also described as poor ("I was a wreck"), since the father of the girl left her two weeks after she discovered she was pregnant. The girl was born six weeks early, and after labor pains started and stopped, pitocin was used; and the baby was born 15 hours later. She reports that although she felt thrilled to death when she saw her daughter, she was overwhelmed and very tired. She held the baby for only 30 seconds and the baby was placed in an intensive care nursery. The mother waited for six hours to be with her baby again, and then she was exhausted. The baby was kept in the hospital for two days after the mother returned home. She reported although the baby's lungs were fully developed, the hospital wanted her to stay for two more days.

Therapy with the mother included repairing her "broken heart" and experiencing a pregnancy and birth without complications. At the next meeting, she reported that her daughter was pretty healthy since the session. In this second session, a repeat of the MIB therapy was conducted, with the mother experiencing a healthy child up to the present time. When asked if there was anything else to do, she signaled that there was; and she was asked to do whatever she needed to do "to make it better."

In the third session, she reported that her daughter had gotten sick and her breathing was worse. In hypnosis, it was determined that everything around the bonding was intact. In the fourth session, she reported that her daughter was getting better, but was coughing in the evenings when the mother was on the porch, talking to her friends on the phone, and smoking. Hypnosis was conducted, teaching her to stay connected with her daughter at all times, even when her mind and body were elsewhere. In the last session, she reported that her daughter was sleeping well, not waking up, coughing just a little ("hardly at all"). Before treatment she was up nightly with her daughter; now she had not been up at all for one month. She also reported that she was not giving her any medication or treatments; that asthma was no longer an issue and that she was "perfectly healthy." Two months later, the mother reported that her daughter was still "perfect."

## DISCUSSION

The indications from this pilot study are that Maternal-Infant Bonding therapy helps asthmatic children breathe better. From the evaluations of their mothers and from the children's own impressions, improvement occurred for all children in every category measured. Mothers of five children felt that their children had improved completely or almost totally.

The findings suggest that for some children a dramatic reduction occurs in the severity of the children's asthmatic symptoms by improving bonding with the mothers. In the treatment of the two infants it is clear that work with the mother alone led to a complete remission in symptoms for their babies.

For some children, however, treatment with the mother alone was not totally effective. Some children who did not improve completely after their mother's bonding treatment, showed further improvement after their own treatment was initiated. These children appeared to be the older children, and it is the impression of the investigators that age may be a factor. It is hypothesized that impaired bonding may be easier to remedy at a younger age. Since one of the

developmental tasks of adolescence is to individuate from one's parents, strengthening the mother's connection with her child may have little effect on an older child. Further, by the time a non-bonded child is older, he or she may have distinct issues which need to be addressed and remedied in individual treatment.

From this study and in our clinical experience, a child's breathing difficulties can return, for a variety of reasons. Improved breathing can be restored, however, with additional treatment, by identifying the cause for the trouble and remediating it. In a case apart from this study, a mother several months after treatment reported that her nine year old son was again asthmatic. Through questioning and hypnosis, we discovered that his asthma returned when she, in anger, said that he would miss her when she died. She returned home and apologized to her son and reassured him. By the end of the day, he was no longer wheezing.

The number of subjects used, the time frames from which the measures were taken, and subjective impressions used for several of the measures all limit the power of this pilot study. Nevertheless, it is clear that the children improved with treatment. A larger sample and stronger objective measures are needed for future study. It is important, however, to value the mother's subjective statements about her child's health, because her opinion can describe something which numbers cannot capture. In our study, when various mothers commented about their children: "She's OK now. She's finally a healthy girl," that portrayed much more than statistical significance.

Pediatric asthma accounts for more medical interventions with children than any other chronic disease and involves large amounts of time and money. Asthma is among the top three illnesses that prevent children from going to school. There is a great amount of suffering associated with pediatric asthma, both for patients and their families. Any treatment method that can be shown to quickly and effectively relieve the symptoms of pediatric asthma at a low cost and with no detrimental side effects has immeasurable value.

#### [Footnote]

2 Theil's method tests the hypothesis that the slope of a regression line is zero. The assumption in this case is that there is no trend across time. The approach is distribution-free in that it ignores magnitudes and depends only on consistent increase or decrease trends. Statistical power is sacrificed in favor of freedom of assumptions about distribution and sample size.

3 "Days housebound" was omitted from of these totals because the pre-test score was so high (172) that it was difficult to graph.

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#### [Appendix]

##### Appendix A

##### Maternal-Infant Bonding Survey

(Brown et al., 1981)

NAME \_\_\_\_\_

- 1) How old were you when this child was born: \_\_\_\_\_
- 2) What were the ages of your older children at that time? \_\_\_\_\_
- 3) Did you have any miscarriages during the two years before this child's birth?  
If yes, how far along were you? \_\_\_\_\_
- 4) What was your physical condition during the pregnancy? (Please check one)
  - \_\_\_\_\_ very seriously ill
  - \_\_\_\_\_ poor
  - \_\_\_\_\_ average
  - \_\_\_\_\_ good
  - \_\_\_\_\_ excellent

Please describe any conditions you experienced:

- 5) What was your emotional condition during the pregnancy? (Please check one)
  - \_\_\_\_\_ very seriously ill
  - \_\_\_\_\_ poor
  - \_\_\_\_\_ average
  - \_\_\_\_\_ good
  - \_\_\_\_\_ excellent

Please describe any conditions you experienced:

- 6) Please describe any complications at birth:
- 7) Please describe any anesthesia used during birth:
- 8) Was your child delivered by cesarean section? \_\_\_\_\_
- 9) Was your child a twin, triplet, etc? \_\_\_\_\_
- 10) How long was it after your child's birth before you first saw him/ her?
  - \_\_\_\_\_ 0-30 minutes
  - \_\_\_\_\_ 30-60 minutes
  - \_\_\_\_\_ 1-2 hours
  - \_\_\_\_\_ longer than 2 hours. How long? \_\_\_\_\_
- 11) How long was it after your child's birth before you first held him/ her?
  - \_\_\_\_\_ 0-30 minutes
  - \_\_\_\_\_ 30-60 minutes
  - \_\_\_\_\_ 1-2 hours
  - \_\_\_\_\_ longer than 2 hours. How long? \_\_\_\_\_

NAME \_\_\_\_\_

- 12) How long were you together?
  - \_\_\_\_\_ 0-30 minutes

30-60 minutes

1-2 hours

longer than 2 hours. How long? \_\_\_\_\_

13) After delivery, where was your child placed?

the hospital nursery

an intensive care nursery

an incubator

with you

other:

14) Was there any significant separation from your child in the first year? \_\_\_\_\_

If so, for how long?

less than one week

1-2 weeks

2-4 weeks

over 4 weeks. Please describe

15) Were there any deaths in the family during the child's first year?

Please describe:

16) Did you experience serious emotional difficulties during the first two years?

Please describe:

17) How did you feel when you first held your baby?

#### Appendix B

##### Mother's Report

1) Did your child require any emergency medical visits for asthma during last semester (hospital, doctor visit, school nurse)?

Yes \_\_\_ How many \_\_\_ No \_\_\_

2) Did your child experience episodes of wheezing during last semester which lasted more than one day?

Yes \_\_\_ How many \_\_\_ No \_\_\_

3) Did your child experience frequent, mild wheezing during last semester?

Yes \_\_\_ No \_\_\_

4) Did your child experience shortness of breath on physical exertion during last semester?

Yes \_\_\_ No \_\_\_

5) Did you have to get up for your child during the night last semester?

Yes \_\_\_ How many nights \_\_\_ No \_\_\_

6) Medications your child used during last semester:

7) Was your child housebound because of asthma during last semester (no school or no play)?

Yes \_\_\_ How many days \_\_\_ No \_\_\_

8) Please rate your child's health during last semester

Excellent \_\_\_ Good \_\_\_ Satisfactory \_\_\_ Poor \_\_\_ Bad \_\_\_

9) What has been the level of your child's activity during last semester?

Excellent \_\_\_ Good \_\_\_ Satisfactory \_\_\_ Poor \_\_\_ Bad \_\_\_

10) Please describe any other medical conditions your child has:

#### Appendix C

##### Child's Report

Please circle one answer for each question:

1) How has your breathing been?

excellent good satisfactory poor bad

2) When you exercise how is your breathing?

excellent good satisfactory poor bad

3) When you go to bed how is your breathing?

excellent good satisfactory poor bad

4) How is your breathing when you wake up?

excellent good satisfactory poor bad

5) How is your breathing during the day

excellent good satisfactory poor bad

6) How is your breathing during the night?

excellent good satisfactory poor bad

7) How is your energy?

excellent good satisfactory poor bad

8) Has there been any improvement in the last 3 months in your breathing?

gotten better about the same has been worse  
 9) Have you been frightened by your breathing?  
 not at all sometimes a lot

Comments in general:

Appendix D

Clinical Scoring Checklist Protocol  
 (Zlatnick et al. 1982)

Criteria

Hospitalization for asthma (each) 10

Acute care (ER) visit (each) 3

Episode of wheezing (more than a day) (each) 1

Mild frequent wheezing (during year) 10

Shortness of breath on physical exertion (during year) 5

Continuous steroids (during year) 15

Short-course steroid (each) 1

Continuous bronchodilators (during year) 10

Bronchodilator (each episode) 0.5

Chromolyn continuous (during year) 11

School missed 1-7 days (during year) 2

School days missed 1-4 weeks (during year) 5

School missed more than 4 weeks (during year) 10

Mother's rating of child's progress

Improved 0

Same 2.5

Worse 5

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