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This is a separately written document. I hope Becky will try to get it published. She is a tenacious young lady & a joy to work with.

Closet Toxin:

A Story of Mercury in Vaccines Causing Autism

by Becky Peters

with special thanks to my mentor

Dr. Robert Kronick

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Preface

Disclaimer: Certain names in the following pages have been changed for the purpose of confidentiality.

In the summer of 2001, I worked as a counselor at the Autism Society of North Carolina's (ASNC) Western Camp, which is now known as Mountain Adventure. The experience opened my eyes to the difficult but rewarding task of helping people afflicted by the neurological disorder. I faced challenges every day, but each morning I was happy to wake up and go get my camper ready for breakfast. This made me want to make a career out of aiding those with autism, and I was especially interested in determining the origins of this disorder. My interest led me through a great deal of research because scientists believe there are a number of different etiologies for autism. After sifting through books, journals, and web pages, I finally found a theory with some strong evidence for why the rate of autism has risen since about 1980. Before I get to that, I would like to give a brief description of autism for those who do not have background knowledge on the disorder.

Autism is a neurological spectrum disorder. A child can be born with autism or can regress into it by the age of 3. The most obvious effects of the disorder are problems with social interaction and communication and a limited range of interests. All autistic people have some communication deficits, even if the average person does not notice them. Some experience such frustration in being unable to express their wants that they become aggressive and violent. Even high functioning autistic adults explain how

difficult it is for them to carry on a conversation, especially with more than one person. They often wonder whom they are suppose to look at and when it is their turn to speak. They can become confused if there is too much excess noise, such as in a crowded room, and some autistic people are very sensitive to specific auditory stimuli. My youngest camper James, who was 4-years-old, sometimes stuck his index fingers in his ears to block out sounds most people would barely notice. He did this when we were walking through camp one day, and I realized he did not like the sound of church bells ringing quite far away. Like a number of autistic people, he had not yet learned to speak, so he could only communicate non-verbally.

Those with autism are very reliant on visual rather than auditory communication. Even those who speak well can prefer visual stimuli at times when sound gets to be too much for them. I often communicated to my campers with photographs, pic-sims (simulated pictures or line drawings), or even objects that they related to an activity. For example, a plate from the cafeteria or a pic-sim that showed a plate with food on it let a camper know that it was time for a meal. Often such visuals can more effectively convey something to an autistic person than words can, even if the person understands verbal communication.

Like my campers, most autistic people are extremely routine-oriented and need a schedule and a great deal of structure in their lives. At camp, James found transitioning from one activity to the next very frustrating, and he threw many tantrums simply because he did not understand why we were moving to a different event. With their need for repetition, people with autism tend to deeply commit themselves to very few hobbies or activities. Many of them do not like to leave a project unfinished. One camper

refused to get up from the arts and crafts table until he had completely colored his piece of paper. He did not want to leave any white space on the paper because to him that meant it was not finished. Similarly my camper, 11-year-old Taylor, loved to talk about thrill rides and a computer game that allowed him to design roller coasters, and he tended to go back to that subject whenever possible. Many autistic people have very focused interests and can concentrate for extended periods of time on one hobby that they really enjoy.

Their comfort in repetition can encourage self-stimulations, known as "self-stims" in some people with autism. This can range from hand-flapping and string-twirling to rocking. Little James enjoyed playing with the loose skin on my elbows. Sometimes more harmful behaviors, known as injurious or self-injurious behaviors, arise. This can include head banging and biting of the self or others. These often occur when the person is confused about his or her situation or cannot communicate what he or she wants.

There are a number of other behaviors that can surface in autism, but the main piece of information to understand about those afflicted by it is that they often do not comprehend interaction, emotions, and communication as most people do. This is not only hard on the patient with the disorder, but also for his or her relatives, friends, and helpers.

If more were known about the origins of autism, it is possible that cases in the future could be prevented. The onset of this disorder often occurs due to an environmental factor that aggravates those who are genetically predisposed to autism. By determining what environmental factors can cause this onset, researchers and parents could make an effort to keep such stresses away from children.

In my research, I found a great deal of evidence connecting childhood vaccines to the high rate of autism today. Until quite recently, many children's vaccines contained mercury in them, and some of them still include the preservative that is made up of 50% mercury. This book is my attempt to share this extremely important information to parents. I have combined narrative and informative writing styles in the hopes that an interesting book will reach more people. Though the informative sections may seem intrusive, they are necessary for understanding the issue at hand. Although Jack and the other characters in this book are fictional, the problems that he and his parents face are possible, and a number of families have dealt with similar challenges. Parents need to know about this crisis, so it can be avoided in the future.

Chapter 1
Jack's Birth

Karen and Alex Miller had worked hard to get on their feet and save enough money to add a nursery room to their small house in the suburbs of Chicago. Karen spent her days teaching fifth grade at Hawthorn Elementary School in Des Plaines, and Alex commuted to the John Hancock Center, where he wrote code for Cybertech Software Company.

By age 28, the two felt confident that they were mentally and financially prepared to become parents, and before they knew it, little Jack Miller was more than just an idea.

Karen was very careful to stay healthy during her pregnancy in order to give her son every chance to be so himself. She stopped drinking wine, which was enjoyable on special occasions, and ate a balanced diet full of protein and calcium. She took folic acid even before conception to help his neural tube develop without problems, and the last two trimesters she supplemented her diet with iron pills to ensure the precious fetus received all necessary oxygen and nutrients to grow strong.

Unfortunately, no matter how attentive the Millers were during Karen's pregnancy, there was no way to change their genes. They were unaware that they had passed some small mutations of certain chromosomes to Jack. These affected genes predisposed their new baby to a neurological disorder called autism (see Appendix A). The Millers, like many other people, did not know anything about the disorder.

The pregnancy proceeded normally. Karen dealt with morning sickness in the beginning, but it eventually subsided. The couple was on time to every pre-natal visit

with Dr. George Winthrop, whom they had recently chosen as their family practitioner and obstetrician. He found nothing abnormal during ultrasounds and was pleased with Karen's checkups. Alex was excited but not surprised when his wife's water broke in the middle of dinner one winter evening.

He had come home from work a little early that Friday night so he could make a nice meal while Karen rested by the fire. She was taking a leave of absence from Hawthorn after the winter break and would not return until fall, if not later. She thoroughly enjoyed lounging in an easy chair and reading her current novel while a strong aroma of orange baked chicken and steamed broccoli drifted into the den. "Honey," Alex called, "dinner is served." As she entered the kitchen, he was lighting two white candles to illuminate the finely set table filled with very appetizing dishes.

"Oh, I'm so glad I married a good cook," she exclaimed as she threw her arms around his neck, almost knocking him over with her swollen belly. "I think I could eat all of this if you let me."

"I think you would burst if you did, but go right ahead."

He dished out hearty servings as she situated herself in a kitchen chair that seemed to have shrunk in the last few months. For a few minutes, they sat quietly eating this lovely dinner, and Karen could barely get the food in her mouth fast enough to satisfy her appetite. Suddenly, Alex noticed her jaw become still and her eyes grow wide.

"Alex," she said calmly, "it's starting."

He nearly knocked his chair over when he jumped up.

"Come on," he coaxed as he helped her out of her seat, "you go change, and I'll call Dr. Winthrop."

Five hours later, they were in a stark, white hospital room, and Alex breathed heavily with his hurting wife as she conquered yet another contraction.

"Remember," she said when it was over, "don't let that nurse take him when it's over. I want him in my room, not the nursery."

"I know, honey. Don't worry. We've told them what we want over and over again. Everything's gonna go just fine."

He tried his best to stay calm for her, but under the bed, his foot was shaking uncontrollably.

In a few more hours, Jack was on his way into this strange world. He was born at 4:02 a.m. January 8, 1999. He entered strong and with little trouble, and he made his presence known by immediately exercising his new voice. Nurses down the hall heard Jack's first cry, but Karen and Alex didn't mind. Their 8 pounds, 7 ounces, little man was in their sight, and they were determined to provide him the best life possible. Alex gave Jack William Miller his first bath, and Karen gave him his first breakfast. He fell asleep content in his mother's arms at 4:30 that Saturday morning in January, and his parents were happy to do the same.

Two days later on January 10th, the Miller family braved a cold, windy afternoon to introduce Jack to his new home. Even wearing a tiny, knit hat and layers of blankets didn't keep the Chicago wind off his face, which crinkled up in surprise to the new sensation. Soon though, he was warm and asleep again, but this time his mother rocked

him in front of a comfortable fire in the Miller's den. Alex and Karen watched him contentedly as he napped.

"We are going to be good parents," she stated. "I just know it."

Alex kissed her cheek and smiled with confidence, sure that his son's future was in their hands.

Chapter 2
The Jabs

When Jack was two months old, his parents took him to Dr. Winthrop to get his first round of vaccinations. He received the first of three hepatitis B shots, the diphtheria, tetanus, and acellular pertussis shot, the Polio vaccine, and the Hib, which protects children from the Haemophilus influenza type b bacteria, known to cause bacterial meningitis. The hepatitis B and diphtheria, tetanus, and acellular pertussis shots are often called the Hep B and DTaP for short. Hepatitis B is a virus that can cause liver cancer and other problems, and there is no cure for it. The bacterial infection diphtheria coats the back of the throat with a thick, gray substance, and symptoms can include difficulty breathing, suffocation, paralysis, and heart disease. Tetanus is bacteria in the soil that can cause muscle spasms, seizures, paralysis including that of the jaw known as "lockjaw," and death. Pertussis or whooping cough is the worst of the three, and this bacterial infection can lead to seizures, pneumonia, brain damage, and death. Acellular means only pieces of the bacteria are used in the vaccine, and this causes fewer side effects than a vaccine with the entire bacteria in it does. Polio is a viral disease that can cause paralysis or death. With these shots, Jack was on his way to being immune to these diseases.

After this large round of immunizations, Jack seemed a little under the weather. He was cranky and felt somewhat warm, so the Millers thought they should check his temperature. Alex rocked his son in the bedroom while Karen got the thermometer out of the bathroom closet and brought it into the vanity room.

"Why don't you use the electronic thermometer," Alex asked when he saw the glass one in her hand.

"Because this one's more accurate," she replied, but as she was wiping it with a disinfectant cloth, the thin glass rod slipped between her fingers and shattered on the vanity counter. "Oh, no!"

"Are you all right?"

"Yes, I'm fine," she answered, "but get Jack out of here. There's mercury all over the vanity, and I don't want the fumes getting to him. I'll call poison control to find out how to get rid of it."

She did call poison control, and they thanked her for it. They told her that most people try to clean up these messes by themselves, but that does not allow for the proper clean up or disposal of the toxic heavy metal. They sent someone to the Miller's home to make it mercury-free once again.

What Karen and Alex did not know is that a number of Jack's recently received vaccines contained mercury. Vaccine manufacturers use preservatives in those that are packaged in multi-dose vials. This is to prevent microbial growth in vials that are used more than once. The preservative in Jack's Hep B, DTaP, and Hib shots was thimerosal, which consists of 49.6% mercury and metabolizes in the body to ethyl mercury. This is a known neurotoxin, which is a substance that is poisonous to the brain.

Historically, thimerosal has been used in vaccines since the 1930s when the Food and Drug Administration (FDA) approved them. The government agency licenses products containing thimerosal, not the preservative itself . It used to be in latex paints and an antiseptic called merthiolate, which was a concentrated form of thimerosal, but the

products are no longer used due to serious toxic effects that they caused in infants. Reports of a number of medical procedures in which thimerosal-containing products were used revealed injuries ranging from local necrosis, which is the death of tissue caused by an outside source, to central nervous system injury and death. Some of these cases included children and infants. Children's nasal and ear drops and flu shots still contain the preservative. Regardless of at least 30 years of proof that this chemical is harmful, it is still used in products and vaccines for children today.

Karen and Alex took Jack back to Dr. Winthrop at 3, 4, 6, 8, and 15 months for more of his recommended immunizations. At 3 months, he received his second Hep B shot. At 4 months, he was given another dose of DTaP, Hib, and Polio, and he was jabbed with the DTaP and Hib again at 6 months. Then at 8 months, Jack was not happy to get his third Hep B shot. Finally at 15 months, he received his last infant DTaP, Hib, and Polio shots, but he also got his first MMR for measles, mumps, and rubella and his Varicella vaccine. Poor kid. It was torture for him and his parents every time the nurse stabbed him with one of those needles. He screamed while Karen cried, and Alex choked back his tears.

They would have cried harder if they had known how much mercury went into his little, growing body with numerous injections. Jack was unfortunate enough to receive brands of the Hep B, DTaP, and Hib that included thimerosal. Each time he received a 0.5 ml (milliliter) dose of DTaP or Hib vaccine, 25 micrograms of mercury entered his body. With each of the three 0.5 ml doses of Hep B, he acquired 12.5 micrograms of the heavy metal. With 4 DTaP, 4 Hib, and 3 Hep B shots, by the age of 15 months 237.5

micrograms of mercury had accumulated in his body because the human body does not readily rid itself of such heavy metals. In his first visit alone, he received 62.5 micrograms of the toxic substance. According to the Environmental Protection Agency (EPA), the safe dosage of mercury is 0.1 micrograms/kilogram/day. At two months old, Jack weighed 11 pounds 6 ounces or about 5.2 kilograms, so he received approximately 12.0 micrograms/kilogram of this dangerous metal in one day. Needless to say, baby Jack had too much mercury in his body, but nobody knew that this high amount of neurotoxin was flowing through his blood vessels and accumulating in his muscles.

With no knowledge of this hazard, the Millers watched intently as Jack's body and mind grew. When he was only a couple weeks old, he smiled when Karen went to pick him up and giggled when Alex made silly faces. He played with his toys as soon as he could grasp them. He started crawling before his parents knew it. Then one day when he was about 10 months old, Jack made a breakthrough.

The family was visiting the zoo on their Saturday afternoon outing, and Jack was thoroughly enjoying the animals, especially the orangutans. Their slow swinging from ropes and branches just tickled him. Then one of them climbed onto a tall platform where a brown sack was laying. He took the sack and placed it on his head so that his eyes were hidden. He started playing peek-a-boo with the little baby, and every time the orangutan lifted the sack to reveal his face, Jack giggled with delight. He was so preoccupied by this interaction that he took no notice of what his parents were doing.

"I'm pretty thirsty," Alex said to Karen, "and I want to get Jack some more juice. I'm gonna go to the snack hut around the corner. Do you want anything?"

"Yeah, can you get me a bottled water? It's warmer than I expected it to be today. I can hardly believe it's fall."

"No kidding. I'll be back in a few, sweetie."

And with those words, Alex began walking away from the apes, monkeys, and his own little monkey sitting in his stroller. Although Jack was having fun, confusion crept into his mind as he discovered his daddy walking away in this interesting but strange place. He held his hands out and grasped the air hoping this would turn his parent around. This didn't work, so he whined a little and looked up at Mommy, but she was reading the plaque on orangutans and failed to notice his dilemma. Things were getting desperate as Daddy walked farther and farther away, soon to be out of sight around the corner. Jack did not want to cry. He was not much of a fusser as long as his needs were met, and they usually were met. Finally, he knew what he had to do, and his little lips separated slowly.

"Du...du...DADA," came out of his mouth!

Mommy immediately stopped reading, and Daddy turned around on a dime. It was working, so he tried one more time, "Dada."

"Oh, my boy, my precious little boy," Alex exclaimed as he ran to Jack.

He scooped him out of his stroller and swung him around with joy. Then he and Karen hugged him tightly between them, and they smiled and laughed until they cried. This had worked much better than Jack had hoped, and he was determined to add more words to this wonderful vocabulary as soon as possible.

Chapter 3
Mercury's Attack

When baby Jack celebrated his first birthday, he was not as healthy as his parents would have liked him to be. On that cold, winter day, Alex came home with a small, round birthday cake just for his son. Jack's friend Susie from Mommy and Me class brought her parents Linda and Jared to the get together, and they all watched intently as Alex placed the cake in front of the new 1-year-old. Jack's eyes grew very large, and he wasted no time in grabbing a fistful of yellow cake and chocolate icing and shoving it into his mouth. Karen was video taping the whole event, but she almost dropped the camera in a fit of laughter when her son turned his icing-covered face toward her, smiled from ear to ear, and said, "Mmmmmm, Mama," the best he could through a mouthful of cake.

The Millers gave the other guests some sweets of their own, and everyone thoroughly enjoyed Susie's unintentional reenactment of Jack's first bite. After they ate and cleaned up the babies, the party moved to the den where Jack sat on the floor to tear open loosely wrapped birthday presents. He was having quite a good time doing this until a sudden gloom fell across his face. Karen and Alex had seen this face a number of times in the past few weeks, so they were not surprised when a loud noise came from the vicinity of his diaper.

"Oh, my poor Jackie," Karen said sadly as she picked him up. "He's got diarrhea again. I don't know what's wrong."

"Maybe it's just the cake and ice cream," Linda replied. "Sweets don't always agree with Susie."

"But Jack's had this for nearly three weeks. The doctor just tells us he's a baby, and babies get diarrhea sometimes. That sounds like a poor excuse to me," she said agitatedly. "If he's healthy then why doesn't it go away?"

"Mama," Jack's little voice reminded Karen.

She turned her head to see his sweet, begging eyes looking into hers.

"I'm sorry, baby. I'll be right back, you guys. We need to go get changed."

Karen cleaned up her baby boy and put a new diaper on him.

She was unaware, however, that the mercury in his body was continuing its attack on his gastrointestinal system. While many infants get diarrhea from time to time, Jack's abnormally persistent intestinal problems were caused by the mercury in his system. Chronic diarrhea, constipation, and abdominal pain are some symptoms that occur in cases of mercury poisoning. Many autistic people suffer from the same problems. It is thought that their enzymes, specifically endopeptidase, are not able to properly breakdown gluten and casein, which are in almost all processed foods and especially in dairy and wheat products. Mercury has been known to interfere with such enzyme systems. Jack's mercury already damaged his intestines, and it wasted no time in affecting his immune system. The ear infections came next.

On a rather chilly, March morning, Karen took her baby to the doctor's office. A gust of wind brought a scream from his stroller as he clapped his hands over his ears. Even his little knit hat couldn't save his ears from the pain. It hurt Karen to see her baby

hurting, so she hurried to the office door to get Jack inside. After waiting for an hour, Dr. Winthrop came into Karen and Jack's exam room.

"Hello, Karen," he said as he nodded to her, "Jack. How are those ears doing today?"

"Not good, I'm afraid," she replied. "I'm sure he has an ear infection again. Last night he started holding his ears and fussing. When I put him to bed, he pointed at his right ear and said, 'Booboo.'"

"You have a booboo, huh, big guy. Let's take a look inside then, shall we?"

The last thing Jack wanted at this point was a man sticking some cone-shaped object in his throbbing ear. He shied away as the man approached him, and he was shocked to find that his own mommy held him still as the cone entered his ear. He could not hold back the screech that followed because this pain was too much to bear.

"Maaaaammmaaaaa!!!!"

He cried loudly when the doctor pulled away. He looked up at her with tears streaming down his face.

"Oh, I can't stand it when he's hurting. Why does he keep getting these infections, Dr. Winthrop? This is his third one. It doesn't seem normal."

"Well, children often get ear infections these days. Some are just more prone to them than others. You take good care of your son. Don't worry too much. He'll grow out of them soon. I'll write you another prescription for some antibiotics. We'll try a different one this time; maybe we can knock it out for good this time."

Immediately after this pep talk, he walked out of the exam room. A little while later a nurse came in with the prescription and told them that they could check out. When

they left the office, Karen held Jack close to her with one arm and dragged the stroller behind her, hoping she could keep the wind off of him. She drove to the pharmacy and waited for the newest bottle of pink liquid.

A major drawback of this antibiotic, as of all antibiotics, was that it not only killed the harmful bacteria causing Jack's ear infection, but it also destroyed a number of good bacteria that help Jack's body. This weakened his immune system and made him more susceptible to yeast infections, which can cause even more problems with his gastrointestinal system. His struggle with numerous ear infections is already a sign of a weak immune system. His body was beginning to demonstrate that it could not tolerate an attack by the large amount of mercury he had received from his vaccinations. By ridding his body of helpful bacteria and undermining his defenses, these rounds of antibiotic treatments just made it easier for the heavy metal to continue its conquest of Jack's systems.

Of course, Jack had no idea that this battle was occurring within him, and he was happy to end his third experience with extreme pain in his ear, even if it meant drinking bubblegum-flavored medicine. If Mama and Dada said it would fix his ear, he was willing to take it with only a small amount of pulling away and clamping his mouth shut.

"Come on, sweetie," Karen coaxed. "Open your mouth so the airplane can fly in."

Then she flew the spoonful of pink liquid in front of him while blowing air through her lips for the propeller sound, but when she tried to fly it into his mouth, the hatch was still closed.

"Let me try," Alex said as he took the spoon from his wife. "Okay, Jack. There is a train with an important present on it, and your mouth is the train station. You want the present to get to the station, right?"

Jack shook his head from side to side.

"Well here it comes. Chugga chugga, chugga chugga, chooo-chooo!"

Jack found it rather amusing to watch his father walk around the kitchen like a train with his arm moving around like a wheel, but he was not yet convinced that he should open his mouth for a plane or a train.

"Okay. Jack," his mother said firmly but with care as she pulled a chair next to his high chair and sat down. She held his little hands in hers and asked, "You want the booboo in your ears to stop, right?" With this she held his hands up to his ears and patted them.

Jack nodded and exclaimed, "No booboo!"

"Right. So, to make you have no booboo, you need to take the pink medicine. It will make the booboo go away. Will you take the medicine now?"

Jack was hesitant, but his mama's speech did seem to make sense. Pain is worse than a bad taste, so finally he nodded his head and opened his mouth. The plane went in with the propeller noise and all, and with a few more days of this routine, Jack had no more booboo in his ear.

Chapter 4
Losing the Battle

In his 15th month of life, Jack was walking quite well. He quickly tired of crawling on all fours while all the big people only used their legs to move around. He was very pleased the day he took his first few steps by himself, and the response he got from Mama and Dada made it even better. One April afternoon at the park, they seemed to be discussing his walking even though they hadn't brought it up in a while.

"Karen, Jack is walking on his toes," Alex said incredulously.

"I know," she responded. "I saw him doing that yesterday, and I forgot to tell you. It is a little strange, isn't it?"

"Yeah, especially since he seems pretty good at it. Look, he doesn't even lose his balance. Have you heard of other babies that do that? What about Susie?"

"No," and she paused. "At least, Linda hasn't mentioned anything like that, and she usually tells me about every step that girl takes, doesn't she Jack?"

At the sound of his name Jack turned around from his duck-watching spot, and went to his mother, walking for the most part on the balls of his feet. He put out his arms and stated, "UP!"

"Well, you're just a special boy, aren't you," she asked him as she lifted him into her lap. "I bet you could show up all the babies in the neighborhood."

"I still think it's strange," Alex reiterated. "I've never heard of a baby walking on his toes."

Alex was unaware of just how right his suspicions were. The mercury that had been accumulating in his son's body for over a year was wreaking havoc in his developing brain. All this time, Jack's brain had been attempting to form proper neuron pathways so that he could function in the same ways that most other people do, but the mercury interfered with this process. To make the situation worse, some of his important proteins that could help control the mercury level inside him were disabled.

A recent study revealed that most autistic people have dysfunctional metallothionein proteins (MTs). These proteins are some of the few that are able to an extent to regulate the level of heavy metals in the body. They also aid in the development of neurons and cells in the intestines (see Appendix B). It is unknown whether this defect is genetic or caused by a biochemical abnormality, but with this problem, Jack's body was even less able to avoid the effects of mercury poisoning than most children are.

A week or so later, Karen made a much more startling discovery than that of Jack's toe-walking. She had finally gotten around to baking her special honey wheat bread to have with dinner, and her baby boy was keeping himself occupied on kitchen floor. After she finished kneading the dough for the second time, she noticed that he was not playing with his toy dump truck. It was sitting next to him, but Jack, who had his back to Karen, was playing with something she couldn't see.

"Jack, what are you playing with?"

Normally, this question would cause him to turn his head toward her and happily display whatever toy was in his little hand, but this time, he didn't respond. He didn't

even act guilty and hide something he shouldn't have picked up, which was a less frequent reaction to the question.

"Jack, look at Mama," she coaxed. There was still no reply. "Sweetie, you won't get in trouble, I just want to see your toy. I won't take it."

When he still made no reply, Karen walked over to him. She found that he didn't have a toy at all. He had found a piece of string on the floor and was swinging it slowly in one hand while watching it with an unusual intensity.

"Sweetheart," she said softly as she squatted and held his hands, "look at me.... Jack," she said more firmly, "look at Mama's eyes. You weren't bad. Just look at me."

She was getting desperate because Jack just kept looking at the string in his hand. She took the string out of his hand and sat on the floor. Then she tried to lean sideways to catch his eyes with hers, but the moment she would have made eye contact he turned his head away.

"Jack, what's wrong? Why won't you look at Mommy, Jack," she almost cried as she picked him up. Even then he wouldn't look at her.

"Are you tired? Maybe you need a nap, huh?"

She appeared hopeful, thinking he might at least get upset about this suggestion and turn around, but he didn't. She couldn't bear this struggle anymore, so she took him upstairs to his crib and laid him down. He didn't cry or yell "No!" He didn't even sit up. He just stared at the ceiling.

Karen mechanically went back downstairs and put the dough in the oven. Then she walked into the den, sat down on the couch, and cried.

As the days passed, Jack continued to act as he had that afternoon. He avoided eye contact with his parents and didn't respond to their calls. Rather than playing with his toys, he lined them up as if they had no other purpose. Sometimes when he couldn't find a piece of string to swing around, he just watched his hand as he flapped it up and down. Along with these changes in his personality and interests, he stopped talking altogether. The toddler who once had an extensive vocabulary of words, such as "Dada, Mama, no, good, ball, yummy, and booboo," was now silent, except for the tantrums that began to come on a regular basis.

On Saturday morning of the same week, Jack was busy picking out all the toys from a large basket one at a time and placing them in a straight line on the den floor. When he was about halfway through this task, Alex finished making grilled cheese sandwiches for lunch.

"Jack, I made your favorite lunch," Alex called from the kitchen. "Why don't you come in here and help me eat these yummy sandwiches?"

The boy made no response and dug his hand into the basket for the next toy for the row. Alex didn't have the strength to attempt calling him again because he was too afraid of his son ignoring him. Instead, he walked into the den, lifted him into his arms, and started to head for the kitchen. Before he took one step in that direction, though, Jack began screaming at the top of his lungs and flailing his arms and legs violently against his father. In a moment, Karen came running down the stairs and into the den.

"What happened," she asked breathlessly as she entered the room.

"I just picked him up to go eat lunch, and he threw a tantrum."

Jack continued yelling and stretching his arms toward his toys, so the perplexed father placed him again by his toys to see what would happen. He grew quiet almost immediately and began lining up his toys where he left off. Alex and Karen looked at each other in confusion and proceeded to seat themselves on the couch where they waited for about ten minutes for Jack to empty his toy basket. Then Alex went over to his son and slowly picked him up.

"We're going to eat lunch, Jack," he said as he pointed to the kitchen.

This time the toddler let his dad carry him to his highchair. Then Alex gave him a slightly cool triangle of a grilled cheese sandwich, but Jack didn't put it in his mouth.

"Jack," Karen said as she sat down at the table, "aren't you hungry? I know you like grilled cheese."

She picked up his sandwich and moved it toward his mouth, but he just pulled away.

"Alex, he's never turned down grilled cheese," she said with sorrow in her voice. "Why would he do this? What will he eat?"

"We've got his baby food plums. He loves those. Let's try them."

So he got the jar of plums out of the pantry and brought it and a little spoon to Jack's chair.

The baby's eyes actually lit up at the sight of his smooth fruit snack. He let his dad put spoonful after spoonful in his mouth until the plums were gone.

"Well, at least we know he hasn't lost his appetite," Alex said.

"Yes, but he's completely changed, and we don't know why," Karen exclaimed. "He won't look at us or respond when we call him. He hasn't said a word for a week.

Instead he just screams when he wants something. He throws tantrums because he wants to finish a monotonous task with toys that he no longer plays with! What is wrong with our little boy? Do you know what Dr. Winthrop told me when he finally called back today? He said, 'Well some children are slow learners. It's nothing to worry about, Karen. He's just starting the terrible twos a little early. You'll have him behaving in no time.' Can you believe that? We both know he's not a slow learner. He was talking. A slow learner doesn't start talking and then stop. And the terrible twos?? Give me a break! That's when kids say 'No' and 'Mine' about everything, and they throw tantrums when they can't get a new toy. Jack doesn't even want toys as long as he has something to organize or swing around. Yesterday I found him staring at a little spot on the wall. Alex," she said as she started to cry, "What is happening to our precious baby?"

"It's okay, honey," Alex said as he held her hand in his. "We'll take him to another doctor. You're right about Dr. Winthrop. I've been having doubts about him for a little while too. I wanted to trust him since my friend recommended him, but he hasn't been reasonable lately. I'll call around on Monday. We'll find someone who can tell us about Jack. We're gonna figure this out, alright?"

"Alright," she said softly. "I don't know what I would do without your support, Alex. We will pull him through this, won't we?"

"Yes, Karen. We'll find a way. We'll turn the world upside down if we have to."

Chapter 5
The Dreaded Diagnosis

After calling quite a few doctor's offices, Alex found one that seemed like a good place to try. A number of nurses had treated Alex the same way Dr. Winthrop had. They told him that it sounded like Jack was just a slow learner with some behavior problems. But he finally talked to a nurse who sounded concerned.

"Mr. Miller, you should bring your son in as soon as possible," she said over the phone. "Dr. Abernathy sees many children like Jack, and he's very good with them. We have a cancellation Wednesday morning at 10:30. Can you or Mrs. Miller bring him in then?"

"Yes, that would be great. We'll be there at 10:30 Wednesday. Thank you so much."

"You're welcome Mr. Miller. We'll see you then. Good bye."

"Bye," Alex said to the nurse before he hung up the phone.

Then he picked it up again and called Karen to tell her the good news.

On Wednesday, the Millers were half an hour early for Jack's appointment. Alex used a sick day to miss work so he could go with them. When the nurse came to show them to a room, she took them to the doctor's private office rather than an exam room. Dr. Abernathy, who had been working on some paperwork at his desk, stood up and shook their hands, including little Jack's. He told them he would do a physical examination of their son after he asked them some questions, and he then proceeded to

interview them about Jack and all the recent, disturbing occurrences. He asked them about his early development and milestones including when he started walking and talking. Next the friendly doctor asked them to recount their son's health problems. Karen told him about her baby's constant diarrhea and ear infections. Then he wanted to know about the first signs that made the Millers believe Jack was acting differently. The parents described his toe-walking, lack of eye-contact, unresponsiveness, loss of speech, and his extreme temper tantrums.

During this interview, Dr. Abernathy also paid close attention to the toddler in Alex's lap. The content-looking boy sat quietly while he swung a four-inch, braided, purple rope of yarn around, occasionally hitting his father's arm with it. The rope had obviously been made just for him, and he seemed to need no other entertainment while the adults conversed.

After the Millers answered all of the doctor's questions, he placed his pen on Jack's new file and clasped his hands in front of him on the desk.

"Alex, Karen," he started slowly, "I have a diagnosis for your son's problems."

The two parents straightened up in their chairs, feeling relieved and anxious at the same time.

"Jack has autism. Have you ever heard about that?"

"A little bit," Karen replied quietly, "only from a couple movies."

"You won't get an accurate representation of autism from movies," Abernathy said with a tinge of annoyance in his voice. "It's a neurological disorder that comes in many forms, and your son has some of the classic symptoms. While some children are born with the disorder, many like Jack develop normally for a time and then fall into

regression due to an environmental trigger. You see, there is a genetic component to the disorder, but research shows that an outside factor causes its onset."

During this explanation Karen had burst into tears, and Alex was now consoling her the best he could with Jack still on his lap.

Alex became frustrated and asked, "but what could have done that? What did we do that was different from other parents?"

"You both must understand that this is not your fault. There is still much needed research on this disorder, and scientists have not determined all of its possible origins. I do know of one factor that may have triggered the onset of autism in your son though."

"Well, what is it," Alex asked impatiently.

"Alex," Karen sniffled through some tears, "don't take your anger out on him. At least he has some answers instead of telling us Jack's a slow learner."

"It's okay," Dr. Abernathy said, "this is difficult to take in. Some anger and frustration is understandable. I'm sorry I had to be the bearer of bad news. Let me explain my theory, and then we can discuss treatment options."

"Alright," Alex replied, a little ashamed, "sorry."

"Don't worry about it," and then he paused. "Recently, it has come to my attention that some children's vaccines contain high doses of mercury from a preservative called thimerosal. This preservative is used to prevent microbial growth in multi-dose vials, but it is made up of 49.6% mercury, a known neurotoxin. Depending on which brands of vaccines a child is given, he could receive unsafe levels of mercury. It is my belief, along with that of other researchers, that children who are genetically predisposed to autism, can't handle the attack from this overdose, so it causes the onset of the

disorder. I have checked Jack's immunization records that you had sent over with his file, and I'm sorry to inform you that all of his Hepatitis B, Hib, and DPT shots were the brands that contain thimerosal. I believe that he is a victim of mercury poisoning."

For a moment, the stunned parents sat in silence while they attempted to take in everything the doctor had just told them. Then the color drained from Karen's face as she turned to her son, who was still swinging his purple rope in circles. A moment later, her cheeks grew pink and hot as anger took over her thoughts.

"Why would the makers of vaccines put mercury in them if they knew it was harmful," she started slowly," and why would the government and the FDA allow them to do such a thing," she was getting louder, "and why would doctors give those vaccines to infants and children," she almost yelled.

Alex stared at his wife, and Dr. Abernathy looked quite taken aback by her outburst.

"I'm sorry to have upset you Karen, and I'm afraid I can't completely answer your questions. I can tell you, though, that thimerosal came onto the market in the 1930s, and it was only about a year ago when researchers started to worry about it. Last July, the FDA's Center for Biologics Evaluation and Research or CBER sent vaccine manufacturers a letter requesting that they begin eliminating or reducing the amount of thimerosal in their products. Of course, at this time, the thimerosal vaccines are still on the market, and manufacturers are not being forced to make only thimerosal-free products."

The doctor saw that both parent were growing angry again and tried to head them off.

"I do know of a treatment that can eliminate the mercury from your son's body," he stated quickly. "It will not necessarily give you back the same boy you knew a few months ago, but it has a high rate of at least partial success. It could cause his difficult behaviors to decrease, so that you can teach him how to speak and play more normally."

"What is it," Alex asked without irritation this time.

"It's called chelation therapy. It has been used to treat patients with lead poisoning for quite a while. It has its drawbacks, and you have to watch his health carefully while he's being treated, but I would recommend it for Jack. I am one of the few doctors in Chicago willing to use this treatment for autistic patients, but you are welcome to look around. I suggest that you start taking Jack to a psychologist and speech and occupational therapists as soon as possible. They will be especially helpful once we get some of the mercury out of him. I know I've given you a lot to think about. You can certainly think about it and call me if you have any questions."

"That sounds like a good idea," Alex replied. "My head is swimming with new information, and I don't want to make a hasty decision." As he turned to Karen, he asked, "What do you think, honey?"

"I think you're right. I'd like to go home and think about everything. You've been very helpful, Dr. Abernathy. We are grateful, even if we didn't seem to be sometimes."

"It's fine. I understand that this is very hard for you. Why don't we step into an exam room, so I can do a physical on Jack, and then you guys can get out of here."

The next evening Karen did some research on the Internet about autism and vaccines. After spending a great deal of time sifting through web pages, she came across some rather disturbing information.

"Alex," she called to her husband who was rummaging around in the kitchen, "you have to hear to this."

He entered their home office with Jack in one arm and a bag of chips in the other. He placed his son on the floor next to a bucket of blocks that he proceeded to organize while Alex seated himself in a chair.

"This page says that the rise in the last 20 years in the rate of autism coincides with the rise in the number of vaccines given to children. In the U.S. in 1980 only 8 vaccines were required for children under age 2. Now there are 22 required vaccines for them. Another page says that the rate of autism in Britain increased tenfold between 1984 and 1994, and they have also increased the number of children's vaccines."

"And I suppose a number of those vaccines have thimerosal in them, don't they," Alex asked.

"Yep. Most of the Hepatitis B, Hib, and DTP shots have it in them. Flu shots and DT shots have it too. DT is diphtheria and tetanus without the pertussis vaccine." (see Appendix C)

Alex sat quietly while he contemplated how much mercury was in his son's body from all of these vaccines. Realizing he was no longer hungry, he even set his chips aside to think.

Karen noticed that her husband seemed distant.

"Alex," she said kindly, "we couldn't have known."

"I know," and he paused. "That just makes it worse."

Chapter 6
A Deep Clean

Jack was nearly 17 months old when Alex carried him kicking and screaming into Dr. Abernathy's office. He obviously remembered that very recently he'd had blood taken there, and he was not happy about going back. The painful finger prick was necessary for the doctor to do a CBC or complete blood count to make sure there were no abnormalities in Jack's red or white blood cells or his platelets. Luckily, there were to be no pokes or shots on this day.

Jack was starting his first round of chelation therapy that Friday afternoon, and it was to be given orally. By the time Dr. Abernathy entered the Miller's exam room, Jack had calmed down because Karen played his favorite children's song tape, which usually soothed him. The doctor greeted the warmly and asked how they were doing before they started the therapy.

"As you know," he said, "I wanted you guys to come in for Jack's first treatment, but I'm going to give you the rest of his three-day treatment, which you can administer at home. Because of his weight, he will only take 100 milligrams at a time of the chelating agent DMSA (see Appendix D). My nurse put his dose in orange juice this time because you said he likes that. She put the 15 mg of alpha-Lipoic acid in there too. Let's see if he'll work with us here."

Dr. Abernathy gave Jack his lidded-cup of orange juice with his ground up DMSA mixed in it. The Millers were happy to see that their son drank it all with no problems. Orange juice, as long as it was pulp-free, was one nutritional thing that Jack would swallow without a fight.

"Wonderful," exclaimed the doctor. "It looks like you won't have much trouble administering the other doses. Now, I have given you enough 100 mg pills for the weekend. Remember he gets a dose every 8 hours, and you must grind the pill up finely so that he'll drink it all. I've included a list of the other supplements and their doses that you need to give him throughout the weekend. You already know the possible side effects, but if anything concerns you, feel free to call my pager. I will get back to you. Do you have any questions?"

"I think you've covered everything," Jack said, still pleased that the visit had gone so well.

"Just don't expect any improvement immediately," the doctor warned. "It may take a while, and some children don't even improve with this treatment. I know we've talked about this before, but I don't want you to get too excited just yet."

"We know, doctor," Karen replied. "We're just going to take it one day at a time."

"Alright, then, I'll see you at your next appointment."

Karen and Alex spent the weekend diligently giving their son his DMSA and vitamins and minerals to keep him healthy during the rigorous treatment. They ground up Zinc, Selenium, Vitamin C, Vitamin E, and other supplements daily (see Appendix D). Jack was usually good about drinking his nutrient-filled orange juice, but he did feel some side effects of the DMSA. He was quite lethargic over the weekend, and occasionally he got fussy and vomited (see Appendix D). His parents hated seeing him

feel bad, but they knew they were trying to make him feel better for the long run. Now they could only wait to see what would happen.

After this three-day treatment, Jack got a break for eleven days to let his body recuperate. During each break between his therapies, he had to visit Dr. Winthrop for blood and urine tests to make sure he was staying healthy and to check how much mercury was being flushed out of his body. Needless to say, Jack was not thrilled about these visits.

Each treatment period was a little easier on him than the last one. He threw up less and seemed to have more energy. Still, the process was slow, and Karen and Alex began to worry about its effectiveness. They had spent time and money and put both Jack and them through a great deal of stress to stick to the therapy.

Three months after Jack's first chelation treatment, his parents began to see some improvements. Alex was ecstatic one evening when he called to Jack saying dinner was ready, and his son turned around and looked right at him.

"Karen," he yelled up the stairs. "Jack listened to me! He turned his head around a looked at me when I called him!"

His wife ran down the stairs to see this amazing change herself. She picked up he toddler and looked him in the face, and he didn't turn away. He even gazed in her eyes for a few moments. His parents couldn't have been happier.

"This is the first step, Jack," Karen said. "And I just know there are more to come."

She was right, too. With each treatment that passed Jack made little improvements. He was even throwing fewer tantrums and working better with his speech and occupational therapists.

One day Karen sat in the waiting room of Jack's therapists' office, and she was especially worn out from shopping and working with Jack on recognizing objects. When his half-hour with the speech therapist was up, she sauntered down the hall hoping they weren't quite finished, so she could sit down for a few more minutes. She knocked on the office door and heard, "Come in."

She stepped inside, and the therapist pointed to Karen and asked, "Jack, who's that?"

"Mama," he stated with a little smile on his face.

Karen fell to her knees and burst into tears as she embraced her precious child.

"I love you so much, Jack. You are such a good boy. Wait till we tell Daddy about this. I bet he'll take us out for ice cream."

"Mmmmm," she heard from Jack.

Jack slowly made more and more progress until Dr. Abernathy said he could stop his chelation therapy. The little boy stayed in speech and occupational therapy, but by the time he was five, he was ready for kindergarten. Karen and Alex were the proudest parents Jack's kindergarten teacher had ever seen, and Jack was pretty happy with himself too.

Conclusion

Jack represents only one possible case out of the hundreds of thousands of autism cases in the United States alone. Autism is an epidemic that has been ignored for far too long, and the numbers have gotten worse over the past two decades. Before 1970, the prevalence of autism in this country was estimated to be 1 in every 2000 children. Between 1970 and 1990, the estimate increased to 1 in every 1000 children, and in the year 2000, the Center for Disease Control (CDC) found that 1 in 150 children in one community were afflicted by autism. This most recent estimate is consistent with other U.S. reports. While this rise in the rate of autism may be partially due to the improvement in diagnosing the disorder, it also coincides with the increase in the number of vaccines required for children, which have risen from 8 in 1980 to 22 in 2000.

Until very recently, many of these vaccines were made with the preservative thimerosal, which is nearly 50% mercury. In 2000, three CDC scientists did a study to determine whether or not the mercury in thimerosal causes any harmful neurological effects in children. The finished study was kept confidential until the SAFEMINDS advocacy group obtained it, and even today the only copy available to the public is extremely difficult to read due to the poor print quality. The scientists conclude the "secret" study in highly indecisive terms:

> In conclusion, we can state that this analysis does not rule out that receipt of thimerosal-containing vaccine in children under three months of age may be related to an increased risk of neurological developmental disorders. Specific conditions that may warrant detailed study include autism.

However unsure their words sound, they cannot hide the graph in their data that shows that infants who receive more than 62.5 micrograms of mercury are at almost 2.5 times

the risk of developing autism (see Appendix E). There is no reason for children to have to deal with this risk since vaccine manufacturers can produce vaccines without thimerosal.

The Food and Drug Administration (FDA), the American Academy of Pediatrics, and the U.S. Public Health Service have urged manufactures to eliminate or reduce the amounts of thimerosal in their vaccines. These organizations sent letters to such companies in July of 1999, but the FDA did not require them to stop producing thimerosal-containing vaccines altogether. There are still some inoculations that include this harmful preservative (see Appendix C).

It is extremely disturbing that vaccine manufacturers and government organizations have overlooked this preservative made up of a known toxin for so many years. Moreover, they have not recalled it or the vaccines made with it from the market. This grave oversight may be the cause of today's staggering rates of autism and other neurological disorders. The true test to this theory is to examine the prevalence of autism after thimerosal has been removed from all children's products. If the prevalence decreases, then researchers can focus on other possible origins of autism because mercury exposure will no longer be an issue. There is no good reason to put more children at a higher risk of developing this disorder.

Appendix A: Additional Autism Origin Information

Autism is a spectrum disorder that varies greatly in symptoms, some of which were described in the introduction. Babies can be born with infantile autism, but many genetically prone children regress into the disorder in the first three years of life. There are a number of genes researchers believe may play a role in predisposing a child to the disorder, but there are not yet any definitive answers for what genes are responsible. While genetics play an important role in the onset of autism, a number of possible environmental factors can trigger the disorder.

Autism is 4 times more likely in males than females. Also siblings of autistic children are at a higher risk of having autism or another neurological disorder than siblings of normally developing children are.

Appendix B: MT (Metallothionein Proteins) Study

This study was done at the Pfeiffer Treatment Center in Chicago, Illinois. Ninety-nine percent of the 503 subjects in this study were found to have defective MTs. There are four types of these proteins: MT-I and MT-II, which are in cells throughout the body; MT-III, which is mostly in brain cells; and MT-IV, which is mostly in epithelial cells in the intestine.

With further research on these important proteins, doctors may be able to determine what areas of an autistic patients body are most susceptible to mercury attack and what treatments would be most beneficial. It may even lead to early detection of autism-prone children, so parents can help their children avoid environmental triggers of the disorder and get early treatment if necessary.

Appendix C: Chart of Vaccines That Currently Contain Thimersosal

Vaccine	Brand Name	Manufacturer	Thimerosal Concentration	Mercury (micrograms/dose)
DTwP	All Brands		.01%	25
DT	All Brands		.01%	25
Td	All Brands		.01%	25
TT	All Brands		.01%	25
Hib	HibTITER (multi-dose)*	Wyeth-Ayerst	.01%	25
Hebatitis B	Recombivax HB	Merck	.005%	12.5
Influenza	All U.S. Brands		.01%	25
Pneumo-coccal	Pnu-mune 23	Wyeth-Ayerst	.01%	25

* There is a single dose HibTITER vaccine, which does not contain thimerosal.

Appendix D: Additional Chelation Therapy Information

DMSA

The chelating agent 2,3-dimercapto-succinic acid (DMSA) can help the body eliminate heavy metals. It is approved by the FDA for treating patients with lead poisoning, and it has been used for this purpose for over 50 years. There is another chelating agent 2,3-dimercapto-propane-sulfonate (DMPS), but it is significantly more toxic and is used much less than DMSA.

Detoxification Regimen Chart from Defeat Autism Now Mercury Detoxification Consensus Group Paper

Child's Weight (in pounds)	**DMSA (every 8 hours)**	***alpha*-Lipoic Acid (every 8 hours) with DMSA**	**Zinc (once a day)**	**Selenium (once a day)**
10	50 mg	10 mg	5 mg	15 mcg
20	100 mg	15 mg	10 mg	25 mcg
40	200 mg	25 mg	20 mg	50 mcg
60	300 mg	50 mg	30 mg	75 mcg
80	400 mg	75 mg	40 mg	100 mcg
100	500 mg	100 mg	50 mg	150 mcg
120	500 mg	125 mg	50 mg	200 mcg
140+	500 mg	150 mg	50 mg	250 mcg

Detoxification Regimen Chart from Defeat Autism Now Mercury Detoxification

Consensus Group Paper - Continued

Child's Weight (in pounds)	Vitamin C (daily) starting dose	Vitamin E (daily) starting dose	Vitamin B6 (daily)	Melatonin (at bedtime)	Taurine (daily)
10	50 mg	25 IU	75 mg	0.25 mg	50 mg
20	100 mg	50 IU	150 mg	0.5 mg	100 mg
40	200 mg	100 IU	300 mg	1 mg	200 mg
60	300 mg	150 IU	450 mg	1.5 mg	300 mg
80	400 mg	200 IU	600 mg	2 mg	400 mg
100	500 mg	250 IU	750 mg	2.5 mg	500 mg
120	600 mg	300 IU	900 mg	3 mg	600 mg
140+	700 mg	350 IU	1000 mg	3 mg	750 mg

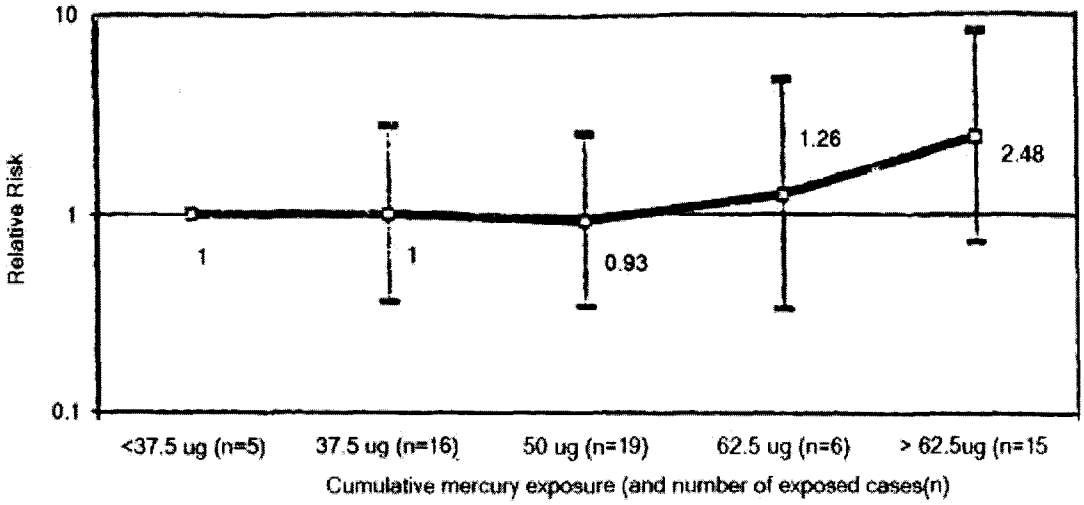
Warnings About Chelation Therapy

DMSA has been known to cause bone marrow suppression. Bone marrow produces red and white blood cells and platelets. If it is suppressed, it may produce fewer blood cells. A CBC test should be done periodically during treatment to make sure that the patient's blood cell or platelet count is not decreasing. The break periods between treatments usually give the body time to adjust these counts.

In rare cases DMSA has caused neutropenia and thrombocytopenia. Neutropenia is a blood disorder in which the patient has decreased neutrophils. These cells help the body fight infection. Thrombocytopenia is a blood disorder in which the patient has decreased platelets, so the body is less capable of clotting blood. Obviously, treatment should be stopped if either of these disorders occurs.

Appendix E: Graph from CDC Thimerosal VSD Study

Relative risk – 95 % *CI* of Autism after different exposure levels of thimerosal at 3 months of age, NCK & GHC



Principal Sources

Chapter 1: Jack's Birth

Page 1—Gilbert, Sue. "Do you need prenatal vitamins?" 17 Mar. 2002. http://www.parentsplace.com/features/morning/qas/0,10338,239009_112154,00.html

Page 1—Gillberg, Christopher and Mary Coleman. *The Biology of the Autistic Syndromes*. 3rd ed. London: Mac Keith Press, 2000.

Chapter 2: The Jabs

Page 5—"The Hib vaccine." 21 Mar. 2002 http://www.babycenter.com/refcap/baby/babywellness/1562.html

Page 5—"The DTaP vaccine." 21 Mar. 2002 http://www.babycenter.com/refcap/baby/babywellness/1563.html

Page 5—"The hepatitis B vaccine." 21 Mar. 2002 http://www.babycenter.com/refcap/baby/babywellness/1561.html

Page 5—*Polio Vaccine: What You Need to Know*. Vaccine Information Statement. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention National Immunization Program, 2000.

Page 6—Schafer, Lenny, ed. "Healing Autism: No Finer Cause on the Planet." *FEAT Daily Newsletter*. 20 Sept. 2000. 19 Feb. 2002 http://www.whale.to/v/mercury2.html.

Page 6—"CBER - Thimerosal in Vaccines." 13 Nov. 2001. 31 Jan. 2002 http://www.fda.gov/cber/vaccine/thimerosal.htm

Page 6—Halsey, M.D., Neal. "Limiting Infant Exposure to Thimerosal in Vaccines and Other Sources of Mercury." 10 Nov. 1999. 19 Feb. 2002 http://www.whale.to/vaccines/mercury5.html

Page 7—"Necrosis." *The New Encyclopedia Britannica*. vol. 8. Chicago: Encyclopedia Britannica, Inc., 2002.

Page 7—"CBER - Thimerosal in Vaccines." 13 Nov. 2001. 31 Jan. 2002 http://www.fda.gov/cber/vaccine/thimerosal.htm

Page 7—Atkins, Kimberly. "Fears raised over preservative in vaccines." *Boston Globe*. 17 July 2001. 19 Feb. 2002 http://www.whale.to/m/thim.html

Page 7—"JAMA Figure 1: Recommended Childhood Immunization Schedule – United States 1998." 18 Feb. 1998. 19 Mar. 2002 http://jama.ama-assn.org/issues/v279n7/fig_tab/jwr0218-1_fl.html

Page 8—Halsey, M.D., Neal. "Limiting Infant Exposure to Thimerosal in Vaccines and Other Sources of Mercury." 10 Nov. 1999. 19 Feb. 2002 http://www.whale.to/vaccines/mercury5.html

Page 8—"Printable Growth Chart: Weight for Age, Boys birth to 36 months." 2000. 27 Mar. 2002 http://babyparetning.about.com/library/nchartwghtboy.htm

Page 8—"Reducing Mercury Use in Health Care." 4 Oct. 1999. 4 Mar. 2002 http://www.epa.gov/grtlakes/bnsdocs/merchealth

Chapter 3: Mercury's Attack

Page 11, 13—McCandless, M.D., Jaquelyn. "Autism Vaccine connection?" 12 June 2001. 19 Feb. 2002 http://www.whale.to/m/candless.html

Page 11—Bernard, Sallie, et. al. "Autism: A Unique Type of Mercury Poisoning." 21 Apr. 2000. 1 Mar. 2002 http://www.autism.com/ari/mercurylong.html

Chapter 4: Losing the Battle

Page 16—Walsh, Ph.D., William and Anjum Usman, M. D. "Metal Metabolism and Autism." 10 May 2001. 24 Feb. 2002 http://www.hriptc.org/MetalMetabolism_and_Autism.htm

Page 16—"APA: New Research Suggests Cause of Autism." 10 May 2001. 24 Feb. 2002. http://www.altcorp.com/mtautism.htm

Chapter 5: The Dreaded Diagnosis

Page 22—Allen, Ph.D., William. Personal interview. 29 Oct. 2001.

Page 23—Schafer, Lenny, ed. "Healing Autism: No Finer Cause on the Planet." *FEAT Daily Newsletter.* 20 Sept. 2000. 19 Feb. 2002 http://www.whale.to/v/mercury2.html.

Page 24—McCandless, M.D., Jaquelyn. "Autism Vaccine connection?" 12 June 2001. 19 Feb. 2002 http://www.whale.to/m/candless.html

Page 24—Egan, Ph.D., William. "Request for information on reducing thimerosal." 31 May 2001. Letter to Biologic Product Manufacturers.

Page 25—Laidler, M.D., James R., et. al. "Mercury Detoxification Consensus Group Position Paper." San Diego: Autism Research Institute, 2001.

Page 26—Waterhouse, Rosie. "Autism 'linked to mercury vaccine.'" *The Sunday Times* 27 May 2001, sec. 1:8.

Page 26—"Institute for Vaccine Safety: Thimerosal Content in Some US Licensed Vaccines." 21 Feb. 2002. 21 Mar. 2002 http://www.vaccinesafety.edu/thi-table.htm

Chapter 6: A Deep Clean

Page 28-30—Laidler, M.D., James R., et. al. "Mercury Detoxification Consensus Group Position Paper." San Diego: Autism Research Institute, 2001.

Page 30—"Bone Marrow Suppression." 30 Apr. 2002. 5 May 2002 http://www.bcdg.org/symptom_management/bmsuppression.html

Page 30—"What is Neutropenia?" 5 May 2002 http://www.neutropenia.ca/about/index.html

Page 30—"MEDLINEplus Medical Encyclopedia: Thrombocytopenia." 19 Apr 2002. 5 May 2002 http://www.nlm.nih.gov/medlineplus/ency/articla/000586.htm

Conclusion

Page 32—"Secret CDC study: Thimerosal an autism risk." *Autism Daily Newsletter*. 3 Jan. 2002. 19 Feb. 2002 http://www.whale.to/v/cdc3.html

Page 32—Verstraeten, Thomas, Robert Davis, and Frank DeStefano. "Thimerosal VSD Study: Phase 1." CDC, 29 Feb. 2000.

Page 33—Egan, Ph.D., William. "Request for information on reducing thimerosal." 31 May 2001. Letter to Biologic Product Manufacturers.