

*Updated
Edition*

VACCINE-PREVENTABLE DISEASE

The Forgotten Story

By Rachel M. Cunningham, M.P.H.; Julie A. Boom, M.D.; and Carol J. Baker, M.D.

Photography by Paul Vincent Kuntz, Allen S. Kramer and George Sinoris

Vaccine-Preventable Disease: The Forgotten Story

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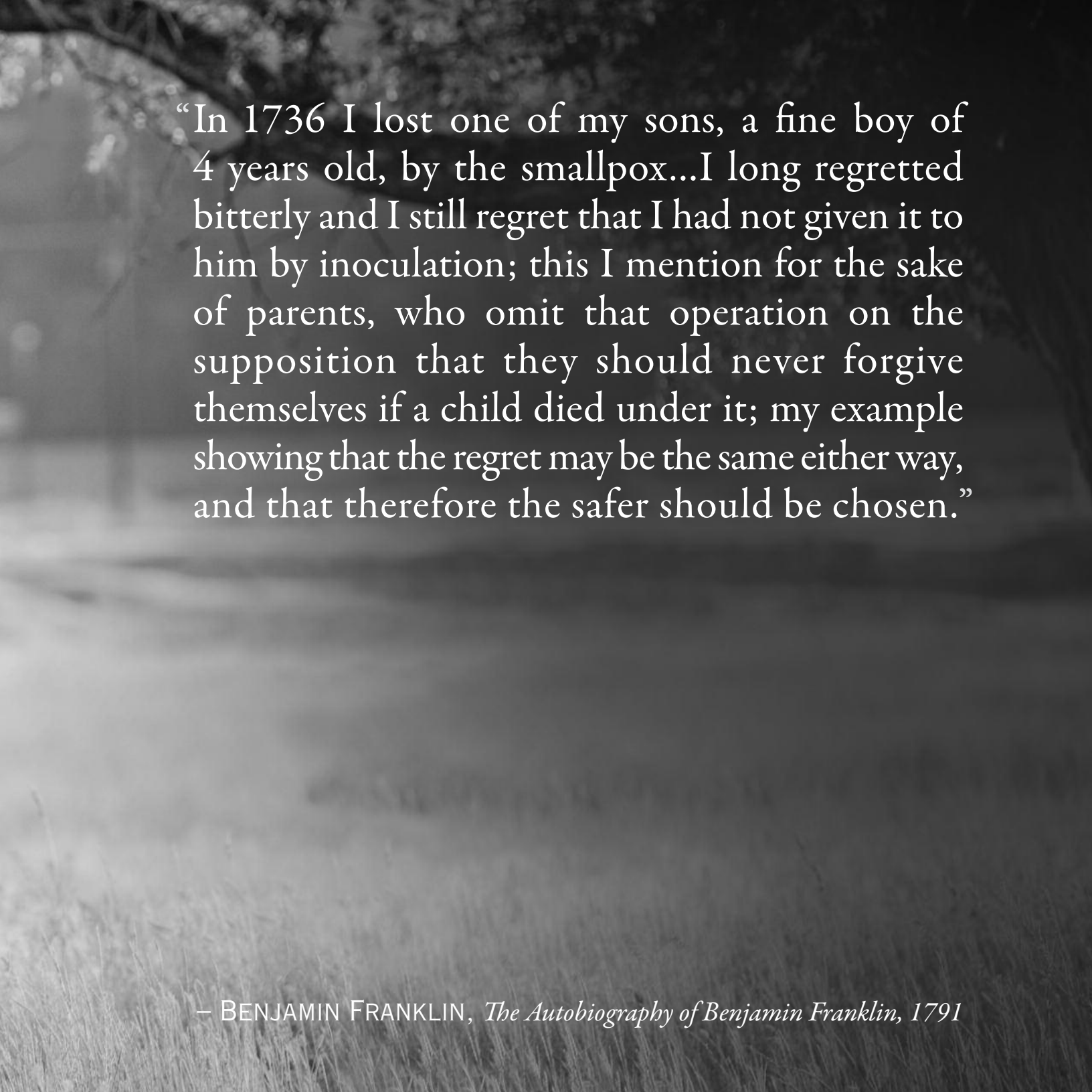
❖ Updated Edition

This book is dedicated to the individuals and families portrayed herein,
whose stories serve as a daily reminder of the purpose of our work
and whose courage inspires us to do what we do.

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“In 1736 I lost one of my sons, a fine boy of 4 years old, by the smallpox...I long regretted bitterly and I still regret that I had not given it to him by inoculation; this I mention for the sake of parents, who omit that operation on the supposition that they should never forgive themselves if a child died under it; my example showing that the regret may be the same either way, and that therefore the safer should be chosen.”

– BENJAMIN FRANKLIN, *The Autobiography of Benjamin Franklin*, 1791

AUTHORS' NOTE

One of the most common and frustrating experiences shared by medical professionals is seeing a child or young person suffer needlessly when the resources to prevent such suffering are readily available. It can take the form of a starving child in a wealthy country or a young person diagnosed with cancer but lacking access to necessary resources. Or it can be a child who dies from influenza when a vaccine could have saved her life.

In the last several years, we have encountered more and more parents who are hesitant to vaccinate their children. Parents with the very best of intentions who wanted to make informed choices about their child's health were persuaded by media reports and conflicting information. Having never experienced the widespread fear of a vaccine-preventable disease such as polio, this generation of parents is left to question the value of immunization, which is the very thing that brought us out of our fear.

Collectively, we felt that parents were missing a critical piece of the story. That is, they were only hearing the rumored frightening effects from vaccines, but no one was sharing the very real – and also frightening – effects of a vaccine-preventable disease. We felt compelled to provide an outlet where families who have suffered from a vaccine-preventable disease could share their stories with parents who might not grasp the impact their choice not to vaccinate could have on their child.

While individual experiences vary greatly among the three of us who wrote this book, a single truth unites us – vaccines save lives. We have met mothers, fathers and entire families tremendously affected by a vaccine-preventable disease. This book gives a brief glimpse into some of those lives, but countless more stories remain untold.

The families portrayed in this book have shared some of their most intimate memories, and meeting them has irrevocably changed our lives. We became their ambassadors, committed to spreading their message. Their unwavering courage to share their stories and give meaning to the loss they've suffered is the inspiration for our work. We hope that their stories offer guidance and serve as a reminder of the importance of vaccines.

INTRODUCTION

Since the beginning of time, disease has shaped the world and altered history. Infectious diseases such as polio and smallpox have blazed through populations, leaving a wake of devastation and changing forever the legacies of entire cultures.

Vaccines to prevent infectious diseases are among medicine's most significant advances. Because of them, many dangerous illnesses have been eliminated or drastically reduced, saving lives and sparing families.

But with progress has come complacency. Our collective memories have lost the painful reality of smallpox, measles, meningitis and other diseases. Many people feel a false sense of security, a misconception that these diseases are merely harmless relics of the past. Besides, they reason, it would never happen to me or my family. This is dangerously untrue.

Although it may seem unfathomable, vaccination rates are declining in many parts of the world. Recent resurgences of pertussis (or whooping cough), measles and mumps – diseases no longer considered a societal threat – are evidence of the harmful consequences. And in today's mobile society, as people easily travel from place to place and across borders, the potential to spread these resurgent diseases travels with them. We can afford complacency no longer.

Behind each person who contracted a vaccine-preventable disease is a story of a life interrupted, of a family damaged and saddened. Each profile in this book puts a face on the statistics and shows the true cost in human suffering of not vaccinating. Each person thought it would never happen in his or her family. All would, in a heartbeat, grab the chance to rewrite history by immunizing themselves or their loved ones against disease.

These stories carry caution – but they are also full of hope for a better future. We can prevent disease with safe and easy vaccination and move forward toward a healthier world for ourselves and more importantly, our children.



JULIEANNA METCALF

Haemophilus influenzae type B or Hib meningitis

When vaccination rates in a community decline, outbreaks of vaccine-preventable disease can occur. This can be especially dangerous for children who are too young to be immunized or children who have underlying medical conditions that make them more vulnerable. Julieanna Metcalf's story is an important reminder of what can happen when an unprotected child meets an unprotected community.

Julieanna was only 15 months old when she became ill with vomiting and fever. Her mother, Brendalee, gave her medicine for fever and watched her closely. When her fever reached 104°F and her behavior became erratic, Brendalee rushed her to the emergency room in their small Minnesota town. She was admitted for severe dehydration, and, as she became increasingly unresponsive, physicians ran a number of tests to figure out what was wrong.

A spinal tap suggested meningitis and Julieanna was rushed to another hospital for treatment in an intensive care unit. She soon began to have seizures. Doctors then confirmed that Julieanna had Hib meningitis. This severe infection in Julieanna's brain required her to undergo emergency brain surgery, and her family gathered to say their goodbyes. Amazingly, she survived through the night and began her long recovery. She was released after one month in the hospital but

needed intensive therapy to re-learn basic skills like walking, talking and eating.

Julieanna's experience was a shock not just because Hib meningitis is rare now, but because she had received all the recommended vaccines, including Hib vaccines. It turns out that Julieanna suffers from a rare immune deficiency disorder which prevents her from receiving protection through vaccines and makes her dependent on the protection of those around her. Unfortunately for Julieanna, Minnesota is one of several states experiencing an increase in Hib cases due to decreased vaccination rates.

"Julieanna is living proof of the dangers of vaccine-preventable diseases," says her father, Jeff.

Today, 3 ½-year-old Julieanna is a joyful little girl who continues to fight her way back to health. She receives

weekly shots to boost her immune system, and she continues to undergo therapy and receive special assistance in school.

The Metcalfs hope their story will serve as a reminder of how our decisions can impact each other. "We immunize to protect ourselves as well as to protect others – especially those like Julieanna who can't protect themselves through vaccination," says Brendalee.



Hib meningitis is considered a rare disease. However, recent outbreaks have occurred in communities with low vaccination rates.



BRIAN SCOTT JR.

Pneumococcal meningitis

Like most people their age, Brian and Michelle Scott grew up in a world protected from many of the world's most serious diseases thanks to vaccines. By the time they became parents, they had heard more about the possible risks of vaccines than they had about their tremendous benefits or the dangerous diseases they prevent. Committed to raising their two young children, Brianna and Brian Jr., in a holistic lifestyle, Brian and Michelle chose to delay all immunizations until 2 years of age.

In July 2009, when Brian Jr. was just 9 months old, he developed a high fever. Michelle administered fever-reducing medicine, but it didn't help. Because her son wasn't immunized, she knew she had to be especially vigilant about his health. She took him to the pediatrician who advised Michelle to go to Texas Children's Hospital Emergency Center so that Brian Jr. could be tested for serious infection. Tests were performed, an antibiotic was given and he was sent home. The next day, a physician called Michelle and asked her to return to the hospital as quickly as possible. One of the tests indicated serious infection and when Brian returned, further testing indicated that he had pneumococcal meningitis – a potentially life-threatening bacterial infection.

Brian Jr. remained in the hospital for the next five days. His temperature hovered between 102°F and 103°F, and he needed antibiotics every couple of hours so that his body could fight the infection. “As I sat in the hospital, images from meningitis awareness commercials kept replaying over and over again in my head, and I felt incredibly guilty for not having him vaccinated,” recalls Michelle. Fortunately, Michelle listened to her instincts and reacted quickly. “They were able to treat him with antibiotics early, which probably saved his life,” says Michelle.



Today, Brian Jr., as well as big sister Brianna, are healthy, happy and completely up-to-date on all of their immunizations. While Brian and Michelle continue to practice a holistic lifestyle, they realize that vaccines are necessary to protect their children. “We underestimated the value of vaccines,” says Michelle. “But watching Brian Jr. experience what he did – knowing he could die and that we could have prevented it – gave us a completely different perspective. I hope other parents don't have to go through the same wake-up call.”

Approximately 1,500 cases of pneumococcal meningitis still occur each year in the United States.



JENNY AND ANDREW WISE

Hepatitis B

Jenny and Andrew Wise were as close as two siblings can be. Born in Seoul, Korea, they survived an abusive home and were placed in a Korean orphanage for six months. In 1985, when Jenny and Andrew were 6 and 7 years old, they were adopted by the Wise family in New Jersey.

Their adoptive parents were aware of the increased risk of hepatitis B among the Asian population, so they had both children tested for it. The tests came back negative, and Andrew and Jenny were given a clean bill of health. It wasn't until 17 years later that the Wise family discovered that the doctors had misinterpreted the test results; Andrew did in fact have hepatitis B. However, by the time he learned of it, it was too late.

Andrew was a healthy and athletic 24-year-old when he awoke one morning with severe abdominal pain. Hospitalization revealed that Andrew had a tumor in his liver due to stage IV liver cancer that had metastasized to his lungs. The cancer had been caused by a hepatitis B infection that he had contracted from his mother at birth. Shortly after Andrew's diagnosis, Jenny learned that she too was a hepatitis B carrier.



Andrew died three months after he was diagnosed. If his condition had been properly identified as a child, he would have received hepatitis B treatment. Even if he had developed liver cancer, earlier detection could have led to a liver transplant.

Following her brother's death, Jenny suffered from depression and suicidal thoughts. Today, she channels her grief into motivation to live her life to the fullest.

"I still think about Andrew every day," she says. "His death had a huge impact on me."

While she is in good health, Jenny is considered at high risk because of Andrew's death. As a wife and new mother, she often thinks about how hepatitis B might affect her future.

"I worry about my daughter and dying from cancer," she says. "And, I didn't want to transmit this disease to her or worry

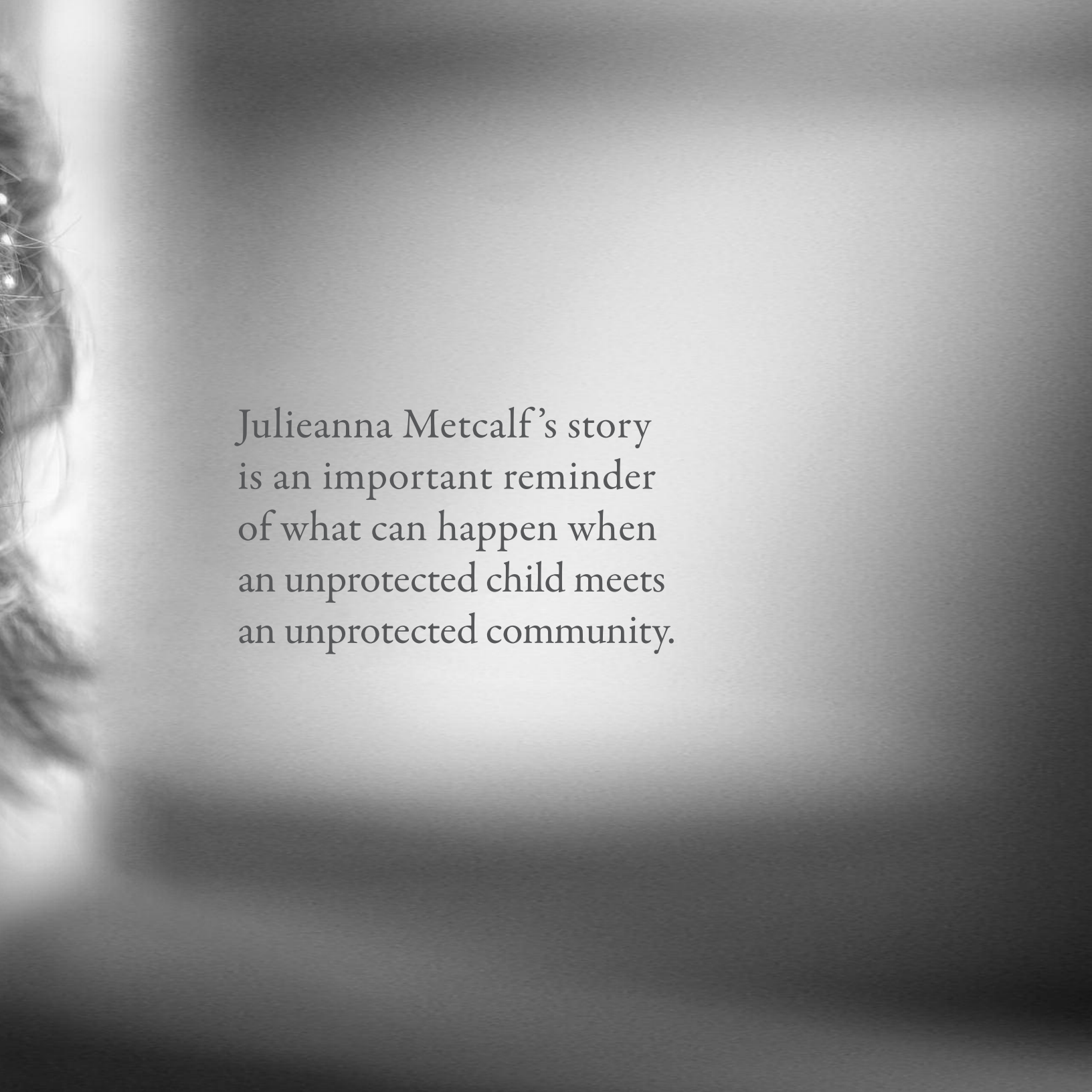
about her ever getting it."

Jenny urges parents to avoid the worry and protect their children from this entirely preventable disease.

"You don't want to harbor the guilt of not immunizing," she says. "To be sure your child has a chance at a healthy, long life, you need to vaccinate."

Approximately one-third of the estimated one million Americans living with chronic hepatitis B acquired the infection from their mothers at birth or as young children. Hepatitis B vaccine prevents this infection.





Julieanna Metcalf's story
is an important reminder
of what can happen when
an unprotected child meets
an unprotected community.



Haleigh
Autumn
Throgmorton
June 8, 2003
July 22, 2003

HALEIGH THROGMORTON

Pertussis or whooping cough

Rodney Throgmorton loves to share the story of his daughter Haleigh's birth and how he delivered her at home because she arrived too quickly for the family to make it to the nearest hospital, 45 minutes away.

But a few weeks after Haleigh was born in 2003, Rodney became sick with what he thought was a cold and cough he caught from his parents. Then Haleigh also began to cough. The doctors tested the family for pertussis – commonly known as whooping cough – but the highly inaccurate test yielded a false negative result.

Soon, Haleigh's coughing episodes became severe. Rodney and his wife Jerri-Lynn remember Haleigh coughing so hard she turned blue. It was so bad that Haleigh was hospitalized and given oxygen. When she didn't improve after four days, Haleigh was moved to the ICU and placed on a ventilator. After further testing and a second opinion, doctors concluded that Haleigh did have pertussis, a vaccine-preventable disease.

After Haleigh had been in the ICU for four days and showed no signs of recovery, Rodney asked for permission for the family to visit her to say goodbye. After the visit, Haleigh's condition worsened and,

around midnight, she died. A few days after Haleigh's death, Rodney, his mother and his father also were diagnosed with pertussis.

"Haleigh was too young to receive the vaccine," Rodney says. "It would have saved her life."

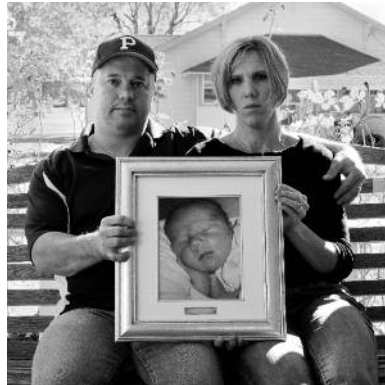
The pertussis vaccine, given in conjunction with vaccines against diphtheria and tetanus, is known as DTaP.

It is recommended by the Centers for Disease Control and Prevention for children 6 weeks and older. Families who want to protect their infants from these diseases should receive Tdap, a booster vaccine for ages 11 to 64 years old that helps maximize immunity against tetanus, diphtheria and pertussis.

Rodney and Jerri-Lynn understand that it's difficult to watch a child receive shots, but they know that the alternative is much worse. They advise all

parents to be sure their children are vaccinated, as well as themselves in the case of pertussis.

"It's tough as a parent to see your child in pain because of getting a shot, but it passes," Rodney says. "To see him or her on a respirator, that's really tough. But to have to plan a funeral for your child, that's the worst thing in the world."



Infected adolescents and adults develop a mild cough and can infect unimmunized or incompletely immunized infants and children. Pertussis booster vaccine for adolescents and adults can prevent this from occurring.



BLAINE HASHMI

Rotavirus

Kirsten and Fawaz Hashmi had never heard of rotavirus until one frightening weekend in 2006 when their 3-year-old son, Blaine, began vomiting severely.

The Hashmis knew something was wrong. Although it was Saturday, they immediately contacted their pediatrician, who suggested Blaine might have rotavirus. Rotavirus causes vomiting and diarrhea leading to dehydration. It is the most common cause of severe gastroenteritis in infants and children in the United States. Experts estimate that it affects 95 percent of children age 5 years and younger at one time or another.

The Hashmis rushed Blaine to the emergency room, where he was admitted and given fluids. When they took Blaine home the next morning, the Hashmis thought the frightening saga was over. However, on Sunday, Blaine continued to vomit, developed a fever and started to breathe shallowly.

The next day, the Hashmis took Blaine to Texas Children's Hospital, where he was diagnosed with severe rotavirus gastroenteritis. He was severely dehydrated and had to be given rehydration therapy by vein. After four nights in the hospital and significant weight loss, Blaine was finally discharged.

The Hashmi family's experience demonstrates the heavy burden of rotavirus. Both parents missed a week of work, and the medical bills came to almost \$10,000. More importantly, the Hashmis emphasize, is how stressful the experience was for their family. Fawaz recalls driving to the hospital and watching Blaine in the rearview mirror, constantly checking to make sure he was still breathing because he seemed to be going in and out of consciousness.

Fawaz and Kirsten say they don't want parents to underestimate the severity of rotavirus, and they strongly recommend getting the vaccine. Two oral rotavirus vaccines, RotaTeq™ and Rotarix™, are available for infants age 6 to 32 weeks.

Although the rotavirus vaccine was not available when Blaine got sick, it was by the time his younger brother, Bailey, arrived.

“When our younger son was born, we wanted to make sure he was protected from rotavirus,” say Fawaz and Kirsten. “We made sure to have him vaccinated as soon as it was possible. We did not want to go through that same experience ever again.”



Symptoms include severe or watery diarrhea, fever and vomiting which can result in life-threatening dehydration.

BREANNE PALMER

Seasonal influenza

When Gary and Denise Palmer took their 15-month-old daughter, Breanne, to the pediatrician to get vaccinated against the flu, the doctor would not immunize her because of an ear infection. Then, while the family was traveling to Maryland for Christmas vacation, Breanne caught the flu.

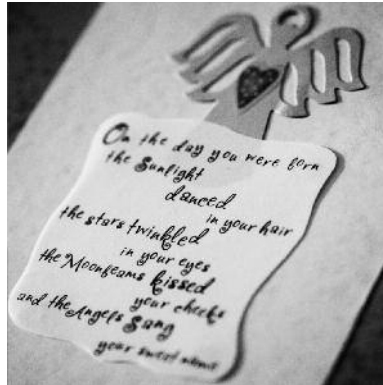
Denise and Gary became concerned when Breanne's fever rose to 101°F. They took her to a pediatrician, who gave her antibiotics. Gradually, Breanne's temperature dropped. But late that evening, Breanne began vomiting, and her temperature quickly rose to 105.5°F. Something was terribly wrong – Denise and Gary called 911.

At the hospital, Breanne's temperature rose to 107°F. Her stomach could not even hold down her medicine, so it was given intravenously. As her condition continued to deteriorate, Breanne was transferred to another hospital to be placed on a special life-support machine. The doctors said the virus was attacking Breanne's heart and brainstem, resulting in brain damage.

After transporting Breanne to yet another hospital, the doctors informed Denise and Gary that it was too

late and the damage was too extensive. Two days before Christmas in 2003, Breanne died.

Following Breanne's death, Denise and Gary discovered that ear infections are not contraindications to receiving influenza vaccinations. If Breanne had received a flu shot, Denise and Gary strongly believe that she might still be alive today.



The influenza vaccine is recommended for all children age 6 months through 18 years and is given annually in the winter months.

The Palmers felt like they needed to do something, so they became members of Families Fighting Flu, an organization made up of parents who have been personally affected by influenza and are dedicated to educating people about the importance of getting vaccinated against the flu.

“People don't realize that the flu virus can be deadly. I don't want any parent to have to go through what we went through,” says Denise. “Getting vaccinated is the best way to help protect your child and your family from the flu.”

10 to 40 percent of healthy children will contract influenza each year; tens of thousands will be hospitalized. Death can occur in both chronically ill and previously healthy children.

For weeks Billy suffered from a serious complication stemming from H1N1 influenza. His family was forced to wait helplessly while a team of specialists struggled to keep him alive.





VAUGHN JOHNSON

Measles

When Eric and Delia Johnson took their two young children on a vacation to Cabo San Lucas, Mexico, in 2005 to join family members for the Thanksgiving holiday, they never imagined the trip would result in serious illness.

While in Mexico, Delia noticed that one of the workers had an unusual rash, but she didn't think much of it. However, when they returned to the United States, 19-month-old Vaughn developed a similar rash, as well as high fever and an ear infection, and he became lethargic.

On the advice of their pediatrician, Eric and Delia took Vaughn to the emergency room. He was admitted to the hospital, but even though doctors worked hard to identify Vaughn's illness, the rash became worse and extremely painful. He also developed severe conjunctivitis and ear infections.

A few days later, Delia also developed flu-like symptoms and a rash. Both Delia and Vaughn developed sores in their mouths that prevented them from eating.

After four days in the hospital, Vaughn was sent home from the hospital. Delia turned to the local public health department to test for the measles virus after several doctors failed to test for it. Finally, Delia and Vaughn were tested and diagnosed with measles.

While the disease is eradicated in the United States, and very few doctors in this country have seen it, there were 137 cases in 2008 in unvaccinated children and adults exposed to measles acquired from other countries.

Vaughn's vaccination had been delayed because he had chronic ear infections, and he had not been vaccinated before traveling to Mexico.

"It breaks my heart to know that we didn't get Vaughn vaccinated before our trip," says Delia. "We should have made it a priority, but we had absolutely no idea that this would happen."

The measles vaccine is given in combination with the rubella and mumps vaccine, known as MMR. The MMR vaccine is recommended for infants 12 months or older, with a booster dose at 4 to 6 years of age.

As a mother of five young boys, Delia guarantees her children will be vaccinated on time, every time. She warns other parents not to underestimate the risks.

"Most people have the misconception that these diseases don't exist anymore, but I can promise you, they do," she says. "It's so easy to just get a shot and be protected."



Recent outbreaks of measles have occurred in the U.S. after unimmunized persons contracted the disease while out of the country. Communities with low immunization rates are at risk for such outbreaks.



MICHAEL MOORE

Rubella or German measles

In 1964, Michelle Moore caught a mild case of rubella, also known as German measles. A few weeks later, she discovered she was pregnant, but she didn't think about her experience with rubella until her son Michael was born.

Michael was born prematurely and immediately diagnosed with congenital rubella syndrome. When he was 2 months old he had open-heart surgery, and one month later he developed pneumonia in both lungs and was hospitalized for three weeks.

Michelle and her husband, Bruce, were told that Michael probably would not live past the age of 10. Doctors recommended institutionalizing him. However, Michelle and Bruce knew that if they were only going to have 10 years with him, they would spend every day loving him and taking care of him.

But Michael has lived far beyond those early expectations. Today he is 43 years old, weighs 85 pounds and is about five feet tall. Because he cannot walk, he must use a wheelchair, and he is unable to talk. Overall, he's in good health, though he is prone to bronchitis because his lungs never recovered fully from the pneumonia he had as an infant.

Michelle's message to parents about immunizing children is clear and simple – prevent what's preventable. "Too many people don't realize what can happen if their children are not vaccinated," she says. "But they need to be sure to consider all the possible consequences and do what they can to prevent them."

Michael was part of a rubella epidemic in the United States in which 20,000 infants were born with congenital rubella syndrome in 1964 and 1965. A vaccine was not available until 1969, and since then the incidence of rubella and congenital rubella syndrome has decreased drastically. Rubella vaccine is included in the measles and mumps vaccine, and the combination is known as MMR. The MMR vaccine is recommended for infants 12 months or older, and a booster dose is advised at 4 to 6 years of age.

Michelle cautions people that the danger of rubella extends beyond children. The disease can have a devastating effect on pregnant women, especially during early pregnancy, and their unborn babies.

"You're taking the risk that you're exposing an adult and possibly an unborn child," Michelle says. "It's so much easier and smarter to get the shot."



Congenital rubella syndrome can result in deafness, cataracts, heart defects and mental retardation, and can lead to death, spontaneous abortion or premature labor.



EMILY LASTINGER

Seasonal influenza

By the time the Lastinger family learned a heartbreaking lesson about the danger of influenza, it was too late to save their daughter, Emily.

When Emily was 3½ years old, she came home from preschool one Thursday not feeling well. Her mother took her to the pediatrician, who said she had the flu.

Throughout the weekend, Emily's parents, Jen and Joe, gave her plenty of fluids, tried to control her high fever and administered the anti-viral medication the doctor had prescribed. Despite all this, Emily continued to get worse. This was not unexpected as the family had been advised that the flu would most likely get worse before it got better.

On Monday morning, Jen checked on Emily and discovered she wasn't breathing. Immediately, she and Joe began CPR and called 911. Although Emily's heart eventually restarted, doctors at the hospital were unable to revive her. Later that evening, Emily died. The Lastingers later learned Emily had developed complications from the flu, including pneumonia and empyema, a buildup of pus in the lungs.

The impact of Emily's death on the Lastinger family was tremendous. Only 13 days later, Jen gave birth to their youngest daughter, Anna, but the excitement

of a new baby was overshadowed by the heavy loss the family had suffered. For months, Jen and Joe could barely function, and Emily's two older brothers couldn't grasp the reality of what had happened to their sister.

Since Emily's death, the Lastingers, as well as Jen's father, John, have made influenza vaccine education and promotion their life work. They are members of Families

Fighting Flu, an organization of families and pediatricians who wish to educate others about the very serious dangers of influenza and the importance of influenza vaccination.

Because the recommendations at the time did not include children in her age group, Emily was not vaccinated against the flu. Today, however, the vaccine is recommended for everyone 6 months or older.

"The great thing about the flu shot is that it goes where your


children go; it is always protecting them," says Joe. "Vaccines are simple and inexpensive tools to protect kids. It's the right thing to do, like putting them in car seats."

"Parents always think things like this can never happen to them," Jen says. "But they can. We are just like every other family. The only difference is that we've had to bury one of our children."



Before the 2009-2010 influenza pandemic, influenza killed almost 100 children each year and hospitalized thousands more.





“I had no idea H1N1 could make me so sick. But it was really scary, and I wouldn’t want other families to experience what mine did.”



MONICA BANES

Human papillomavirus or HPV

Monica Banes was 20 years old and a single, busy nursing student when she felt unusual discomfort in her pelvic area. She visited her physician, who discovered genital warts on Monica's cervix and performed a biopsy of the area. The results took two weeks to arrive.

"Those were the scariest two weeks of my life," Monica vividly remembers.

When the results came back, Monica was diagnosed with human papillomavirus, or HPV, which affects 80 percent of women at least once in their lifetime. As she researched the disease, she learned HPV may lead to genital warts and even cervical cancer. Furthermore, she found out that if she ever had children, she risked transmitting the disease to them.

"I thought my life was over," Monica says. "I was afraid I would never have children."

In 2003, five years after she learned she had HPV, Monica met her husband, Derrick. They married in 2006. When they decided to have children, the couple educated themselves on how to handle the disease and went on to have two healthy baby boys. However, both pregnancies and births required caution. Monica's cervix was checked for abnormal cells every month and just before delivery.

During her first pregnancy, abnormal cells were found and biopsied. Fortunately, the cells were non-cancerous, and Monica went on to have a safe delivery. If abnormal cells had been present when she gave birth, Monica would have had a cesarean in order to prevent her child from coming in contact with the virus. She readily acknowledges that HPV added extra stress to both her pregnancies.

"It's a huge worry because you don't want to subject your children to something so dangerous," she says.

Monica gets regular pap smears every six months. Three have been abnormal, and each time the doctor has biopsied the questionable area of her cervix. So far, no cancer has been found.

Unfortunately, a vaccine was not available when Monica contracted HPV. If she had been given the chance, she definitely

would have taken this preventative measure. Monica encourages parents to vaccinate their daughters to protect them from HPV and cervical cancer. And she advises all girls and women to have routine pap smears and gynecological examinations.

"Today, women don't have to experience what I did," Monica says. "The HPV vaccine can give them peace of mind."



An estimated 20 million people are infected with HPV in the United States.



LESLIE MEIGS

Meningococcal meningitis

Leslie Meigs is an attractive, ambitious, 20-year-old woman. There's no hint from her outward appearance that she suffers from chronic kidney disease and multiple health problems as a result of contracting a vaccine-preventable disease as a child.

At 8 years old, Leslie had been a healthy girl when she was rushed to the emergency room with vomiting and a 106°F fever. A spinal tap revealed that Leslie had meningococcal meningitis. She was immediately flown to Texas Children's Hospital for treatment, but her doctors feared the worst and gathered Leslie's family in her hospital room to say goodbye. After spending three weeks in a coma and another three weeks requiring a ventilator, Leslie eventually pulled through. But septic shock caused permanent kidney damage and the infection left her with severe scarring and skin damage.

Leslie has since lived with chronic kidney disease, undergoing a kidney transplant in 2009. To prevent her body from rejecting the new kidney, she takes strong medications which cause chronic fatigue, difficulty sleeping, tremors and most significantly, a weaker immune system, making her much more likely to get sick.

"Meningitis is a daily encounter," says Leslie. "It's with me every step of my life." More than ten years later,

she continues to struggle with the impact meningitis has had on her life. She understands that her new kidney most likely will not last her entire life; therefore she faces further surgery, dialysis and a life sustained by heavy medication.

Although a vaccine was not available to help Leslie, most cases of meningococcal meningitis are preventable today. Vaccination is recommended for adolescents between the ages of 11 and 12, and is available for those through 18 years who have not been previously vaccinated.

Leslie is involved with Meningitis Angels, an organization supporting families affected by meningitis. She shares her story with the hope of preventing meningitis from harming others; she has spoken to the Texas Senate and at the Centers for Disease Control and Prevention.

"If parents could understand what meningitis puts you through, not only while you have the disease, but for the rest of your life, there's no way they would let their children be at risk."

Leslie also wants people to understand that vaccination is not simply a personal choice. "Sometimes people say, 'I don't want a vaccine.' But it's not just about you. Avoiding a vaccine puts everyone around you at risk."



*Each year approximately 100 to 125 college students are affected by meningococcal disease.
At least 60 percent of these cases are vaccine-preventable.*



ABBY WOLD

Meningococcal meningitis

At 22 years of age, Abby Wold followed in her father's footsteps and enlisted in the Army. However, just days before basic training, she contracted meningococcal meningitis. The struggle to survive this vaccine-preventable disease changed her life forever.

It all began after a night out with friends when Abby began vomiting and experiencing excruciating pain in all her muscles. It wasn't long before she couldn't walk. When she arrived at the emergency room, Abby told the hospital staff that she believed she had meningitis. She was immediately given antibiotics and pain medicine and was placed in isolation. Further testing confirmed that Abby's hunch was correct – she had meningococcal, or bacterial, meningitis.

Abby's family was told she wouldn't make it through the night. She pulled through but was left in a coma and needed a ventilator to keep her alive as her organs began to fail. When Abby awoke after 12 days, she suffered hallucinations and death of the tissue in several of her fingers and toes. She also had a serious blood clotting disorder that often causes death. Over the next two months, Abby underwent eight surgeries resulting in the removal of two fingertips and both of her legs below the knee. Upon her hospital

release, she was faced with learning how to use her new prosthetic legs.

Today, Abby's enormously positive attitude overshadows her ongoing medical problems. She suffers from frequent illnesses which force her to rely on multiple medications. Moreover, she has undergone further surgery on her legs, has chronic kidney problems, adrenal failure and severe headaches.

Abby is a well-known member of Meningitis Angels, an organization that supports survivors and families affected by the debilitating illness. She draws on her personal experience when educating others about meningitis and the importance of vaccination. "It's hard for me to see others contract meningitis because they were unvaccinated, so I strive to bring attention to this disease," says Abby. At the time of her illness the vaccine

recommendation did not include her age group; however, today it is recommended for all adolescents 11 through 18 years of age who have not been previously immunized.

Abby is often surprised by the lack of awareness surrounding meningitis. "I meet so many parents who never knew about meningitis and are astonished that there is a vaccine to prevent it," Abby says. "The truth of the matter is that vaccines save lives."



Loss of limbs, severe skin scarring, hearing loss, neurological damage and kidney failure occur in nearly 20 percent of meningococcal infection survivors.

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EPILOGUE

By Alison Singer

My daughter Jodie was diagnosed with autism when she was 2½. Given that I grew up with an older brother with autism, I often wonder why I didn't notice the symptoms earlier. But I didn't. And for a long time I blamed myself for that.

When you have a child with a severe disability, it is natural to want to blame someone or something. I think this is why some parents of children with autism cling to the misconception that vaccines cause autism, despite mountains of scientific evidence exonerating vaccines.

Back in the 1990s, parents were right to raise the question of whether vaccines could be responsible for the increase in autism prevalence. Our medical and public health officials responded to these concerns, conducting more than 20 studies looking at whether vaccines, vaccine ingredients, and combinations of vaccines could be contributing to the rise in autism diagnoses. The answer each time was a clear and convincing "NO." There is no evidence that vaccines cause autism. What we know is that vaccines save lives. They do not cause autism.

Now some parents are concerned about the timing of vaccines and the number of vaccines children receive, worried that there may be "too many too soon." The vaccine schedule recommended by the Centers for Disease Control and Prevention is designed to offer children the maximum protection and the greatest safety. Delaying vaccines only increases the amount of time your child will be susceptible to life-threatening illness. A child's immune system can easily handle the immunological challenge of the current vaccine schedule, which is miniscule compared to what kids confront in the natural environment every day. In fact, a single ear infection is a greater immunological challenge to a child than all childhood vaccines combined.

A decision not to vaccinate will leave your child vulnerable to deadly diseases, but will do nothing to reduce the chance of autism. Please protect your children by vaccinating them. And if you suspect your child may have a developmental delay or autism, ask your doctor about a full diagnostic screening and early intervention services.

As co-founder and president of the Autism Science Foundation, and former executive vice president of communications and awareness of Autism Speaks, Alison Singer is one of the most visible figures in the autism community. Recently she has stepped to the forefront of the ongoing debate about the link between vaccines and autism, speaking widely about the plethora of scientific studies that fail to indicate any link between vaccines and autism. She continues to advocate for autism research that is unrelated to vaccines – in the hopes of uncovering the true underlying causes of autism. She has been featured on "Oprah," "NBC Nightly News," "Good Morning America," "The Apprentice," NPR, Newsweek and Discover magazine, in addition to countless blogs and local newspapers. Alison is the mother of a child with autism.

Prior to becoming a professional advocate, she spent 14 years as a vice president and news producer at NBC and CNBC where she produced the award-winning series "Autism: Paying the Price" in 2004.

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The mission of the Center for Vaccine Awareness and Research at Texas Children's Hospital is to provide the public with the resources and information they need to understand the increasingly complex issue of vaccination.

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RESOURCES/REFERENCES

Resources:

www.vaccine.texaschildrens.org
www.cdc.gov/vaccines
www.ecbt.org
www.familiesfightingflu.org
www.immunize.org
www.immunizationinfo.org
www.meningitis-angels.org
www.nfid.org
www.parent2parentonmeningitis.org
www.vaccinateyourbaby.org

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ABOUT THE AUTHORS

Rachel M. Cunningham, M.P.H., is the immunization registry and educational specialist at Texas Children's Hospital, where she coordinates the development and distribution of immunization educational materials. Cunningham also coordinates immunization registry use for Texas Children's Hospital and Texas Children's Pediatric Associates. She earned her bachelor of science degree from Oral Roberts University and has a master's degree in public health from The University of Texas Health Science Center at Houston. Her primary interests are child and maternal health, immunization education and improving immunization registry use.



Julie A. Boom, M.D., is director of Infant and Childhood Vaccines for the Center for Vaccine Awareness and Research at Texas Children's Hospital, director of the Texas Children's Hospital Immunization Project, and associate professor in the Section of Academic General Pediatrics at Baylor College of Medicine in Houston. After graduating from The University of Texas at Austin with a bachelor of science degree in biology/biological studies, Boom received her medical degree from Baylor College of Medicine. Boom completed her pediatric residency at Children's Hospital Boston. Following residency, she practiced pediatric primary care at Children's Hospital of Philadelphia. Since returning in 1997, she has led several research and outreach projects that focus on childhood immunizations. Since 2001, Boom has led the development, implementation and expansion of the Houston-Harris County Immunization Registry. Her primary interests include community-wide immunization coverage levels and immunization education.



Carol J. Baker, M.D., is executive director of the Center for Vaccine Awareness and Research at Texas Children's Hospital and professor of Pediatrics and of Molecular Virology and Microbiology at Baylor College of Medicine. She was head of the Section of Infectious Diseases in the Department of Pediatrics at Baylor College of Medicine for 25 years. She serves as chair of the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices. A widely published researcher, Baker has authored or co-authored more than 400 articles, reviews, book chapters and one book. Her work has focused on all aspects of pediatric infectious diseases, especially group B streptococcal infections and vaccine research. Baker received her undergraduate degree from the University of Southern California, medical degree from Baylor College of Medicine and completed her pediatric residency at Los Angeles County-University of Southern California Medical Center and Baylor College of Medicine. Pediatric and adult infectious diseases fellowships were completed at Baylor, Harvard Medical School and Boston City Hospital.