

# Trafton & Matzen

## Attorneys at Law

Lecture Series:

### SHAKEN BABY SYNDROME



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**S**haken Baby Syndrome/Shaken Impact Syndrome is a well recognized diagnosis made frequently in emergency rooms across the United States and many foreign countries, often without due consideration for many other recognized medical conditions that are known to replicate or mimic signs of SBS/SIS. Emergency room physicians are trained to immediately suspect abusive head injury when a young child presents to the emergency room with intracranial bleeding, most specifically subdural bleeding (tearing of the bridging veins in the brain caused by violent acceleration/deceleration forces), cerebral edema or brain swelling and retinal hemorrhages without a history of a high speed motor vehicle accident or fall from a significant height. It is believed by many in the medical profes-

sion that this constellation of injuries can only be caused by significant acceleration/deceleration forces to the head and neck, which cannot occur from common household falls. The diagnosis is most often made in children less than 1 year of age who present with this constellation of injuries. These children also frequently present with injuries to the chest or torso, such as rib fractures where the perpetrator has grabbed the child and squeezed during the violent shaking. The diagnosis is also strengthened by the presence of fractures to the long bones or metaphyses, which are believed to occur either from grabbing of the child by the arms or from the arms flailing about during the violent shaking and striking an object fracturing the bone. Another finding that is almost always found is diffuse axonal injury, shearing of axons in the brain caused by the violent acceleration/deceleration forces. Physicians do not agree on how many of these symptoms must be present to reach a definitive diagnosis of SBS/SIS, claiming that the symptoms vary in each child. However, most physicians claim that subdural bleeding, brain swelling and retinal hemorrhages is pathognomonic (conclusive) of SBS/SIS.

There is significant debate amongst physicians regarding the force necessary to cause subdural bleeding and retinal hemorrhages in a child. In an article in the New England Journal of Medicine, a group of neurosurgeons concluded that shaking alone may not be enough to cause significant enough injuries that lead to death and that some type of impact combined with the shaking is required to produce the severity of injuries that cause death. Hence, the term Shaking Impact Syndrome. Despite this article and a considerable amount of other debate in the medical literature, many physicians still believe that shaking is enough to produce injuries causing death in a young child.

As stated, physicians believe that the presence of retinal hemorrhages in a young child

is pathognomonic of abusive head injury. They claim that other than child birth, it takes significant force to cause retinal hemorrhages and the presence of retinal hemorrhages in a child with subdural bleeding and no history of an automobile accident or fall from significant height is conclusive evidence of abuse. This fact itself is very easily challenged, since there are numerous recognized causes of retinal hemorrhages including intracranial bleeding itself, significant intracranial pressure caused by brain swelling, hypoxia or lack of oxygen to the brain, many inborn errors of metabolism (metabolic and mitochondrial disorders), child birth and many others. Physicians themselves do not agree on what causes retinal hemorrhages in a child that has been shaken. Some claim it is the acceleration/deceleration forces that cause the bleeding and others claim it is the significant pressure caused by brain swelling resulting from the shaking.

Unfortunately, because physicians are trained and believe that the constellation of injuries described above are conclusive of child abuse, very little is often done to rule out other well recognized and known causes of the same exact symptoms. Many inborn errors of metabolism are known to cause subdural bleeding, brain swelling and retinal hemorrhages. Glutaric aciduria Type I is one such rare metabolic disorder that is known to produce identical symptoms. Very often, children with inborn errors of metabolism are undiagnosed by their pediatricians, since the first time any such disorder presents itself is by a sudden onset of a neurological encephalopathy, usually triggered by a febrile illness, requiring emergency treatment. Fortunately, if diagnosed early enough, most inborn errors of metabolism can be treated. If untreated many inborn errors of metabolism can be fatal. Detection of many of these inborn errors of metabolism requires specific testing of blood, plasma and muscle tissue and these inborn errors are often impossible or very difficult to detect or diagnose after death. Most emergency rooms do not conduct thorough testing and do not preserve the proper tissues and samples for later testing when they immediately reach a suspicion of abuse and a diagnosis of SBS/SIS. This leaves it to the parent or care provider to prove the existence of such a disorder without the benefit of the necessary samples, unfairly placing the burden of proof on the defendant to prove his or her innocence. Many of these disorders can cause subtle or even significant developmental delays in affected children.

Encephalitis is another known cause of intracranial bleeding and swelling that is often brought on by a respiratory illness or other viral infection. Encephalitis is known to cause neurological emergencies and death in young children. Physicians should use extreme care in obtaining a careful history of any recent illnesses of the child that could have been the triggering event for encephalitis. After death, autopsies will sometimes reveal abnormal findings in the lungs or other organs suggesting a recent or chronic viral illness.

Diabetes Ketoacidosis is another known cause of intracranial bleeding and related brain swelling that may result in diabetic shock and related seizures. This disorder is evidenced by specific blood testing revealing abnormalities in glucose and related blood levels and needs to be carefully considered by the treating physician.

Vaccinations have also been reported to cause similar brain related symptoms as those caused by SBS/SIS. Many physicians refuse to believe that this is a very real possibility supported by a significant amount of research. The United States government has specifically established a fund that compensates families for children injured by vaccinations. That fund is reported to pay out millions of dollars per year to families with children injured by vaccinations. It is hard to imagine that the U.S. government would pay this amount of money

year after year with no support for the conclusion that vaccinations do sometimes have seriously negative effects on children.

Parents and care providers accused of shaking a child need a highly specialized defense that consists of a team of expert witnesses that can review the records and rule out all other potential causes of the child's injuries. These experts include, a pediatric ophthalmologist, pediatric neurologist, pediatric neurosurgeon, neuropathologist, forensic pathologist, pediatric radiologist, pediatrician and in the case of metabolic disorders evidenced by developmental delays, occupational therapist, physical therapist and child developmental therapist. Often, the parent or care provider faces a charge of Manslaughter or Murder and faces years or life in prison. Our firm has spent countless hours obtaining resources related to SBS/SIS and resources related to other known causes of the exact same symptoms to use in challenging doctors that come to court and claim that the constellation of injuries are conclusive of SBS/SIS. Parents and care-givers are at a significant disadvantage against the limitless resources of the state and prosecution and the tendency for bias and prejudice by a jury in a case involving a dead or seriously injured child. Parents and care-givers need attorneys and a team of experienced professionals that are knowledgeable and skilled in the nuances of brain injuries and the numerous causes of such. Our firm offers these services, resources and access to expert witnesses to parents, care-givers, and other attorneys. We are available to assist to consult or appear pro hoc vice as second chair in any state across the country. If you or your attorney would like to speak to us, please either call or email [Attorney Verne E. Paradie, Jr.](mailto:Verne.E.Paradie@traftonandmatzen.com)