

September 20, 2010

# Anatomy of a Misdiagnosis

By DEBORAH TUERKHEIMER

Chicago

A WOMAN calls 911 to report that a baby in her care has gone limp. Rescue workers respond immediately, but the infant dies that night. Though there are no external injuries or witnesses to any abuse, a jury convicts the woman of shaking the baby to death.



Vivienne Flesher and Ward Schumaker

More than 1,000 babies a year in the United States are given a diagnosis of shaken baby syndrome. And since the early 1990s, many hundreds of people — mothers, fathers and babysitters — have been imprisoned on suspicion of murder by shaking. The diagnosis is so rooted in the public consciousness that, this year, the Senate unanimously declared the third week of April “National Shaken Baby Syndrome Awareness Week.”

Yet experts are questioning the scientific basis for shaken baby syndrome. Increasingly, it appears that a good number of the people charged with and convicted of homicide may be innocent.

For the past 30 years, doctors have diagnosed the syndrome on the basis of three key symptoms known as the “triad”: retinal hemorrhages, bleeding around the brain and brain swelling. The presence of these three signs (and sometimes just one or two of them) has long been assumed to establish beyond a reasonable doubt that the person who was last taking care of the baby shook him so forcefully as to fatally injure his brain.

But closer scrutiny of the body of research that is said to support the diagnosis of shaken baby syndrome [has revealed methodological shortcomings](#). Scientists are now willing to accept that the symptoms once equated with shaking can be caused in other ways. Indeed, studies of infants’ brains using magnetic resonance imaging have revealed that triad symptoms sometimes exist in infants who have not suffered injuries caused by abuse. Bleeding in the brain can have many causes, including a fall, an infection, an illness like sickle-cell anemia or birth trauma.

What’s more, doctors have learned that in many cases in which infants have triad symptoms, [there can be a lag of hours or even days](#) between the time of the injury and the point when the baby loses consciousness. This contradicts the idea that it’s possible to identify the person responsible by looking to the baby’s most recent caregiver.

Last year, the American Academy of Pediatrics [recommended that the diagnosis of shaken baby syndrome be discarded](#) and replaced with “abusive head trauma,” which does not imply that only shaking could have caused the injury.

The new understanding of this diagnosis has only just begun to penetrate the legal realm. In 2008, a Wisconsin appeals court recognized that “a shift in mainstream medical opinion” had eroded the medical basis of shaken baby syndrome. The court granted a new trial to Audrey Edmunds, herself a mother of three, who had spent a decade in prison for murdering an infant in her care. Prosecutors later dismissed all charges.

Troublingly, though, Ms. Edmunds’s case has been a rare exception. Most shaken baby convictions have yet to be revisited. New cases are still being prosecuted based on the outdated science.

Despite the shift in scientific consensus, debate about the legitimacy of the shaken baby syndrome diagnosis continues. Some scientists point to [studies using dummies modeled on the anatomy of infants](#) as evidence that shaking cannot possibly generate sufficient force to cause the triad of symptoms — or that it could not do so without also causing injury to the infant’s neck or spinal cord. But others challenge the validity of these studies and maintain the belief that shaking alone can (though it need not) cause the triad.

What’s needed is a comprehensive study of shaken baby syndrome to resolve the outstanding areas of disagreement. The National Academy of Sciences, which last year [issued a comprehensive report on the scientific underpinnings of forensic science](#), would be the ideal institution to undertake such a study.

In the meantime, however, there remains the question of justice. In Ontario, an official investigation concluded that there are deep concerns about the science underlying the triad, and now the province is reviewing all convictions based on shaken baby syndrome. Similar inquiries should be conducted on a statewide level here in the United States.

For decades, shaken baby syndrome has been, in essence, a medical diagnosis of murder. But going forward, prosecutors, judges and juries should exercise greater skepticism. The triad of symptoms alone cannot prove beyond a reasonable doubt that an infant has been fatally shaken.

\*\*\*\*\*

Deborah Tuerkheimer, a professor of law at DePaul University, is a former assistant district attorney in Manhattan.

### ***Related Searches***

- [Shaken Baby Syndrome](#)
- [Murders and Attempted Murders](#)
- [Babies](#)
- [Edmunds, Audrey](#)