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## A FEW WORDS ON EXPERT WITNESS OPINION TESTIMONY IN INFANT DEATH CASES

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### INTRODUCTION:

Defending infant/young child death cases is probably one of the most difficult assignments for any criminal defense attorney if for no other reason than the death of a child under any circumstances, (let alone where a parent or caretaker is accused of causing the death), evokes powerful feelings of sadness for the child (and those left to grieve the loss), and enmity for the person who the State alleges is criminally responsible, whether by an intentional act (or acts) of violence, (e.g. striking the child and/or throwing him/her against a hard surface), reckless conduct (shaking a crying infant) or criminal negligence (leaving a mobile infant unattended on top of a changing table).

Seldom is there direct evidence of the act(s) or omissions that caused the injury. Consequently, the People are often compelled to rely on circumstantial evidence (e.g. from the scene and living situation), statements, (whether admissions, implausible or inconsistent explanations) made by the parent/care-giver (e.g. parent, relative, boyfriend, baby sitter), to the police and/or to medical personnel (e.g. ER nurses and physicians), and, perhaps most importantly, the **OPINIONS AND DIAGNOSTIC CONCLUSIONS** of doctors (e.g. pediatrician, surgeon, radiologist, neurological specialist, **MEDICAL EXAMINER** and/or **PATHOLOGIST**) as to the **LIKELY CAUSE AND MANNER OF DEATH**.

The **EVIDENTIARY RULE** in New York State is that an expert (i.e. a person properly qualified as such by knowledge, skill, training and/or education), may testify to an opinion or information concerning scientific, technical, medical or other specialized knowledge when:

- a. the subject matter is beyond the average juror's everyday knowledge or understanding (or will dispel common misconceptions); and
- b. the testimony will **HELP** the jury **UNDERSTAND** the evidence or **DETERMINE** a fact in issue (especially where the facts alone do not lend themselves to a straightforward and accurate judgment about the subject matter. (People v Inoa 25 NY3d 466 [2015]).

Whether the issue (as in a motor vehicle/personal injury case) is: "was the plaintiff's spinal injury caused by the accident/collision in question or the result of degenerative disc disease," or (in an infant death case): "was the child's death an act of violence" (e.g. punching, dropping, shaking), or is there some other plausible, non-criminal explanation (e.g. accidental fall, pre-existing medical condition, brain injury from birth trauma), experts of similar qualifications and pedigrees (and sometimes renown), will sometimes (if not often) **DISAGREE** as to the cause and manner of injury/death.

The disagreement may, in the best case scenario, reflect an honest difference of opinion on a subject where there is room for competing interpretations (i.e. where reasonable minds can reasonably disagree), and, in other cases, it may say more (as with "hired guns"), about their conscious or unconscious allegiance to the side that retained them (and the conclusions that best serve their purposes). Or, it may be that their conclusions reflect their own **BIASES** toward

the subject matter or, as one recent study seems to suggest, from conscious or unconscious beliefs about whether a child of a particular racial or ethnic background who dies unnaturally is more likely (than a non-minority child) to be the victim of a homicide.

#### FORENSIC PATHOLOGISTS AND POSSIBLE COGNITIVE BIAS:

In a recent Washington Post opinion piece on COGNITIVE BIAS of FORENSIC PATHOLOGISTS (2/20/21) by Radley Balko, a study of death certificates of white and black children under age six in the state of Nevada from 2009-2019, and an experiment (conducted by several medical doctors, PhD'S and a Juris Doctor), with 133 forensic pathologists (who were tasked with determining the manner of death of a child where the only variable was the race of the child and designation of the caretaker who brought the child to the ER), revealed that homicide was the more frequent conclusion with black children, and that CONTEXTUAL INFORMATION (considered irrelevant to the determination of the manner of death), could create cognitive bias in the determination of whether the death was homicidal rather than accidental (or indeterminable on the facts presented).

#### DEATH CERTIFICATE ANALYSIS:

The researchers found that the percentage of deaths deemed to be unnatural (i.e. accident or homicide), as opposed to natural or undetermined, was COMPARABLE (actually very close) for the black and white deceased children. (23.5% to 23%).

However, when it came to homicide vs. accident, the participants attributed death to homicide for 8.5% of black children as compared to 5.6% for white children. More of the examiners ruled the death to be accidental when the child was white (17.7%) while the percentage for black children was (15%).

The data also revealed that the forensic pathologists ruled a white child's death to be a homicide 24% of the time (vs 76% accident) as compared to black children whose deaths were ruled a homicide 36% of the time (vs 64% accident).

The researchers stressed, however, that the actual causes of death were unknown, and as far as they knew, it could just be that black children are more likely than white children to die from homicide. (It may be that such a study was left for another day).

#### THE CHILD-DEATH EXPERIMENT:

The participants (all certified members of the American Board of Pathology consisting of 50 women, 79 men, and four who did not designate their gender, ranging in age from 35 to over 75 years old), were asked to determine whether the child's death was likely: natural, accidental, homicidal or undetermined based on the following scenario:

The three-and-one-half-year-old child's care taker brought her to the ER with diminished vital signs. The caretaker explained that he/she found the child unresponsive on the living room floor. The medical examination revealed bruising on the child's neck, and extremities . The post mortem exam showed a fractured skull and subarachnoid hemorrhage of the brain.

## THE VARIABLE:

Some of the participants were told that the baby was black and the care-taker was the mother's boyfriend (though his race was not specified), and others were informed that the baby was white and the care-taker was her grandmother (with no further details provided).

## FINDINGS:

1. None of the participants found the death to be natural. (Suicide was not an option).
2. 78 participants (i.e. 38 for the black baby and 40 for the white baby) said the death was UNDETERMINED.
3. Out of the remaining 55 pathologists, 23 said ACCIDENT and 32 said HOMICIDE.
4. When the child was BLACK, 35.4% of the pathologists ruled the death a HOMICIDE (vs 6.2% who said it was an ACCIDENT).
5. However, when the child was WHITE, 13.2% ruled the death a HOMICIDE while 27.9% of them said it was an ACCIDENT. (In other words, the pathologists who deemed the death unnatural were FIVE TIMES MORE LIKELY to find that it was a homicide (as opposed to an accident) when the deceased child was black.

The researchers concluded that while relevant contextual information (i.e. circumstantial evidence of surrounding circumstances and how the child appeared upon presentment to the hospital), is important to determining the cause and manner of death, forensic pathologists can be influenced (i.e. biased) by extraneous facts (e.g. the race of the child) that have no real bearing on their medical determination.

In the researchers' view, the decisions of the pathologists were noticeably affected by medically irrelevant contextual information. They posited the possibility that doctors may come to believe over time and experience (i.e. a base-rate expectation), that more black children than white children die from homicides which may shape their conclusion that a given death is more likely homicidal than accidental. The potential danger, in their view, can occur when contextual information is conflated with a medically-based determination.

## PRACTICE TIP:

In view of the subjectivity of determinations with respect to manner of death (i.e. how did it occur), and the possibility of cognitive bias, defense counsel who is defending a black defendant in a child homicide or assault case, may want to determine beforehand how much experience the particular medical examiner/ pathologist has with infant/child death cases where the evidence is circumstantial and the cause/manner of death is open to plausible alternative explanations .

It may also be well worth knowing in how many death cases handled by this expert the child victim was black as compared to white and, where the medical examiner has extensive experience in such cases, how many were ruled to be homicidal and how many were deemed to be accidental or undetermined to see if there is any correlation or consistency based on the race of the deceased. (This would require significant time and research but it may well be worth the effort in appropriate cases, not to suggest that the M.E. is a racist, but, perhaps to imply that his/her conclusions may be affected by cognitive bias. While few experts will readily admit that they are biased, the data may tell a different story, and jurors can draw their own conclusions with respect to the witness' credibility).

Counsel should also inquire into what contextual information was brought to the medical examiner's attention before he/she reached a conclusion as to the cause and manner of death. Did he or she speak to the detective(s) (or prosecutor), before conducting the autopsy? If so, did the detectives provide any background information with respect to: the victim, the circumstances of his/her living arrangements and demise, the identity of their suspect, (any statements he/she may have made to them or to medical professionals), and what they believe happened? Did they ask questions during the autopsy? Did they request or suggest what the examiner should look for? Did they challenge the examiner's observations or conclusions?

Expert witnesses, like anyone else, can be influenced by who they talk to, what they learn anecdotally, who's seeking their services, what side they're on, what they may believe about people from different races and socio-economic backgrounds. So it may well be worth exploring not only the medicine and science underlying their opinions but to consider the myriad factors that can influence or skew their determinations in a particular direction.

## SHAKEN BABY SYNDROME/ABUSIVE HEAD TRAUMA OR SOMETHING ELSE?

### ORIGIN OF SDS:

Fifty years ago, in 1971, Norman Guthkelch MD, a pediatric neurosurgeon from Manchester England, published a brief study, believed to be the first of its kind, entitled "Infantile Subdural Hematoma and its Relationship with Whiplash Injuries," in the British Medical Journal.

Several years later, in 2008, (according to an article by Joseph Shapiro appearing at [NPR.org](http://www.npr.org)), at an international conference of the National Center on Shaken Baby Syndrome, Guthkelch was credited by a pediatrician/child abuse expert as being responsible for identifying the shaken baby syndrome (SDS) which identified shaking as a mechanism of head injury in infants.

It appears that back in his earlier days, Guthkelch was puzzled and concerned by the number of infants, toddlers and other children in his community who were diagnosed at hospitals with subdural hematomas (bleeding on the surface of the brain), without any clear evidence (e.g. bruises, breaks or other signs of abuse), of the cause. He learned from interviewing several parents (who, back in those days, apparently thought it was not inappropriate let alone dangerous), that they disciplined their recalcitrant children by shaking them.

He later heard of a story about a college professor who suffered severe headaches and was found to have a subdural hematoma (which required surgery) after riding on a roller coaster which stopped violently at its summit. Guthkelch then put two and two together and came up with a theory that children could be shaken violently and develop bleeding in the brain without revealing any external evidence of physical injury. His goal was to warn parents against the dangers of shaking their children.

## SBS GONE TOO FAR?:

As it turned out, Guthkelch would later become distressed over the degree to which other medical professionals and child abuse experts ran with his theory and turned it into a syndrome which, as he saw it, became an all-too-frequent if not hastily-reached explanation that ignored or overlooked other (less criminally consequential) possibilities. As a result, he feared that innocent people might be going to prison for crimes they may well not have committed.

In an Arizona case (where the father was convicted of killing his son by shaking), that he reviewed a few years before his death in 2015, Guthkelch was reportedly troubled by the autopsy report which concluded that the five-month-old baby died of SBS (a conclusion, he said, he “wouldn’t hang a cat on,”), while discounting the fact that the child had presented to the hospital a month earlier with serious seizures and had spent time in the neo-natal ICU after a difficult birth. In his view, the child could just as likely have died from natural causes.

## SECOND THOUGHTS:

A similar concern about jumping to conclusions (of SBS to the exclusion of other possible causes of brain-injury death), was expressed by Patrick Barnes MD, a neuro-radiologist at Stanford University, not long after the 1997 conviction of Louise Woodward, a British au-pair against whom he was the chief prosecution witness in a case where he concluded that she had violently shaken the eight-month-old son of two Massachusetts doctors.

After Woodward was sentenced upon her murder conviction to 15 years-to-life in prison, Barnes reportedly reconsidered his opinion and concluded that if he had it to do over, he would have said that the evidence of shaking was inclusive. In his view, not unlike Guthkelch’s, SBS has become an all-too convenient, go-to diagnosis in criminal cases when other explanations cannot be excluded. (The judge reduced Woodward’s conviction to involuntary manslaughter and she was sentenced to time-served). (See [nytimes.com](http://nytimes.com) article and article from [ABClawcenters.com](http://ABClawcenters.com) (Birth Trauma Litigation Group): SBS: Is it Over-Diagnosed? 9/16/15).

What was once an oft-used and readily relied-upon diagnosis, SBS (which more recently has been labeled ABUSIVE HEAD TRAUMA [AHT]), has, within the past several years, become a subject of vigorous debate and disagreement among medical professionals including pediatricians, medical examiners, forensic pathologists, ophthalmologists, radiologists and neurological specialists.

Many experts who observe the so-called “TRIAD” of symptoms\* (unexplained bleeding in the brain, swelling of the brain and retinal hemorrhaging), conclude that shaking is the likely (if not only cause) of injury and death. Others, focusing on more recent findings with respect to falls from short heights (formerly discounted as a cause of death from head trauma in young children), other possible explanations of retinal hemorrhages [pressure from brain swelling as opposed to rotational force], and biomechanical research (on whether shaking can create the force necessary to cause death-producing injuries), may tend to look for less damning explanations (e.g. accidental fall, birth-related trauma, or pre-existing blood conditions or other maladies) that might pre-dispose the child to bleeding in the brain.

\*Commonly described observable symptoms in children believed to be victims of SBS include: irritability, lethargy, sleeplessness, breathing difficulty, loss of appetite, vomiting, fainting, inability to focus, seizures, learning disabilities, unconsciousness, coma and death.

Some risk factors associated with SBS include: high stress, single parenthood with little or no help, depression, drug or alcohol abuse, history of child abuse (as victim), unstable family life. (See WebMD).

#### FOURTH DEPARTMENT CASE: PEOPLE V BRADLEY:

In People v Bradley 2014 NY Slip Op. 24418 (2014), the Monroe County Court, after a several-week-long hearing involving several expert witness, GRANTED the defendant's CPL 440.10(1)(g) motion to vacate her conviction for Murder 2d degree (PL 125.25[4]), because of a dramatic change in main-stream medical knowledge and thinking about the causes of pediatric head injury, which, in the court's view, cast significant doubt on the reliability of the opinions of the People's experts (as testified to in the defendant's 2001 trial), that the two-and-a-half year old victims' death (which they attributed to SBS), could not possibly have come from a fall (as the defendant had claimed).

The facts were that the father dropped the little girl off at the defendant's in-home day center in the morning at which time the child was fine. When the father returned to pick her up that afternoon, she was unresponsive. The defendant explained that while she (defendant) had gone to the bathroom, the child (Brittney Sheets) had fallen off a bench or chair onto the carpeted floor at hit her head. The child was taken to the pediatrician who called an ambulance to take her to the hospital. She died the next day.

At trial, the pediatrician testified that based upon medical school training, reading of texts and journals and treating children, Brittney's death was consistent with SBS (with no evidence of external injury), and inconsistent with a fall (the defendant said the bench or chair was 18 inches high), because, to his knowledge, falls from under ten feet do NOT cause serious physical injury in a child.

The pediatric ICU doctor similarly opined that the child suffered a non-accidental brain injury, and that the forces occurring in a fall from a short height are RARELY, IF EVER life-threatening. (He did acknowledge a 2001 study by John Plunkett MD indicating that short falls can be fatal to children, but he was not moved off of his conclusion of SBS).

The medical examiner (Dr Rubinstein), noted seeing bruises on the child's throat and abdomen (and inside the scalp), and the only sign of trauma to the back of her head was a small (and, in her opinion, clinically insignificant) contusion in the area of the cerebellum. She observed subarachnoid hemorrhaging and a subdural hematoma in the back and middle of the brain as well as bi-lateral retinal hemorrhages. She concluded that Brittney suffered massive trauma (not unlike from a car accident), that was indicative of violent shaking followed by a sudden impact with a surface. In her opinion, the child suffered multiple injuries to her central nervous system caused by ROTATIONAL FORCES (i.e. most likely SHAKING) followed by an impact.

The defense expert (Dr. Greendyke), opined that at least some of the blood in the brain and eyes occurred post mortem and some was indicative of an earlier trauma. He concluded that the child died from a violent impact to the head (not shaking) consistent with a fall.

## CPL 440 HEARING:

At the CPL 440 hearing, the defense called several witnesses, including a pathologist, (Peter Stephens MD), who offered that: 1. short-distance falls CAN cause death in children; 2. retinal hemorrhages can result from increased PRESSURE in the brain from swelling AS OPPOSED to a ROTATIONAL INJURY (i.e. shaking); 3. there is doubt in the traditional SBS-based medical thinking that shaking actually DISRUPTS THE BRIDGING VEINS on the brain's surface between the brain and the skull.

A BIOMECHANICAL ENGINEER (Kenneth Monsard PhD), concluded that a shaking that is severe enough to cause fatal brain trauma should also injure the child's neck but there was no evidence of (internal) neck injury in this case. He also stated that falls from even a few feet can generate a level of force that is GREATER than the force generated by shaking a child. He also questioned whether shaking alone could cause the kind of brain injury sufficient to cause death. In his view, biomechanical research indicates that the accelerations associated with shaking are lower than what would be expected and required to cause the injuries that existed in this case.

John Plunkett MD, referenced above, testified to his studies and additional research demonstrating that the impact from falls from relatively low elevations are capable of causing death. (Thus, in his view, the position of the People's experts to the contrary, as stated at the 2001 trial, was simply wrong).

Plunkett also testified that the victim's injuries (including small-volume, acute subdural hematoma, malignant, rapid brain swelling, contusion at the base of the left temporal lobe and brain herniation) (i.e. SWELLING AND HERNIATION) combined to cause the victim's demise. The bruise on the back of her head was EVIDENCE OF AN IMPACT with a solid surface or object while her head was in motion.

Michael Baden MD, a well-known pathologist (who had his own show, AUTOPSY on HBO), concluded from review of the autopsy and other records that Brittney's death was due to impact from a fall rather than from rotational forces. He testified that he observed what he described as a "coup-contrecoup" injury (i.e. injuries 180 degrees apart) which is indicative of a moving head striking a hard surface.

(The prosecution called rebuttal witnesses including a pediatrician, who testified, inter alia, that short falls are rarely fatal, and another doctor who said that the child's death was due to a fall, with or without shaking).

A radiologist, a Dr Mack, called by the defense, testified that shaking generally does NOT generate enough force to rupture the bridging veins (previously thought to be a tell-tale sign of SBS), and Brittney's CT Scan and MRI were not indicative of this condition. He concluded that her brain swelled rapidly and increased at the hospital thereby limiting blood flow in the brain and diverting it to her eyes, thereby explaining the retinal hemorrhaging.

Similarly, a pediatric neuro-surgeon (Dr. Waldman), a prosecution witness, saw no evidence of torn bridging veins (as well as no evidence of epidermal hematoma which he said he would expect to find, but did not).

A prosecution-called pediatrician, Dr Galaznek, acknowledged that since 2010, the medical community has no longer discounted "short falls" as a possible cause of the types of injuries observed in this case, and that shaking as well as blunt force impact can cause neurological



injury. In addition, retinal hemorrhaging can be indicative of SBS/AHT or other conditions (e.g. blunt force trauma) and not just limited to rotational injuries.

Patrick Barnes MD (the prosecution's expert in the Louise Woodward case referenced above), testified that Brittany's injuries were more consistent with an IMPACT INJURY than with shaking.

#### THE COURT'S FINDINGS:

The court noted, first, that a CPL 440 motion which is addressed to the court's discretion (People v McFarland 108 AD3d 1121 [4th dep't 2013]), requires that the defendant demonstrate by a PREPONDERANCE OF THE EVIDENCE, the existence of NEW EVIDENCE that would likely change the outcome of a new trial (if granted), that such evidence was discovered since the trial (and could not have been discovered with due diligence before then), and which is material, non-cumulative and consists of more than just impeachment information (People v Jackson 238 AD2d 877 [4th dep't 1997], People v Bryant 117 AD3d 1586 [4th dep't 2014]).

The court found that the defendant established that: 1. a SIGNIFICANT CHANGE in medical science with respect to the causation of head injuries in children in general and as to the SBS hypothesis in particular, has occurred; 2. new biomechanical research of head injuries reveals that the prosecution doctors MISCONSTRUED the medical evidence to conclude that shaking (or shaking followed by an impact) was the ONLY MECHANISM capable of causing the victim's injuries. As it turned out, those experts, in the court's estimation, were WRONG in concluding that children could not die as a result of head injuries caused by a fall.

Subsequent research has shown that: 1. children can and do die from falls from a short height; 2. biomechanics can explain the forces involved in a fall; 3. advances in imaging have cast doubt on the theory that shaking causes tearing of bridging veins.

The court also noted that doctors now view RETINAL HEMORRHAGES very differently (i.e. they can be caused by trauma and intracranial pressure as opposed to rotational force consistent with shaking). Moreover, the old view that the three-part combination of injuries (brain bleeding, swelling and retinal hemorrhages) constituted clear-cut evidence of shaking (virtually creating a presumption thereof), has been modified to acknowledge the existence and overlapping of causes (whether accidentally, recklessly or intentionally imposed). And, the medical profession no longer dismisses short falls as a possible cause of injuries previously reserved to a diagnosis of SBS.

In response to the People's argument that new opinions about evidence do not constitute new evidence under CPL 440, the court determined that significant developments in the medical profession's interpretation of brain injuries in children demonstrated that the information relied on by the People's experts in 2001 were either demonstrably wrong or at least, subject to serious debate (which could be hashed out by the experts at a new trial).

With respect to the unlikelihood of a different outcome at a new trial as argued by the People, the court felt that People's experts would be hard-pressed, in light of new developments, to assert that the victim's injuries could not have been caused by a fall, (as the defense claimed it occurred). In the court's view, recent medical and scientific opinion significantly and substantially undermined the positions taken by the People's experts at trial.

The court went on to conclude that the developments in medicine and science that created a sea-change with respect to SBS/AHT only arose after the verdict, and the defendant would now have the scientific, evidentiary wherewithal to back up her theory that the victim's death was caused by something other than violent shaking as the People alleged.

Accordingly, the court granted the defendant's motion to vacate the judgment of conviction and granted a new trial. The Appellate Division affirmed the court's judgment at 144 AD3d 1562 [4th dep't 2016).

#### PEOPLE V THOMAS: NO NEED FOR A FRYE HEARING:

Right around the time of *People v Bailey*, the defendant in *People v Thomas* 2014 NY Slip Op. 24350, ( Westchester County Ct. 2014), [murder/manslaughter of a child case], bought a motion for a FRYE HEARING, alleging that there is no basis in fact for the SBS theory and it is no longer generally accepted in the field of biomechanical science. (*Frye v US* 293 F. 1013 [DC Circ. 1923]).

The People argued that there was no basis for a Frye hearing inasmuch as SBS (despite some recent disagreement among medical professionals]) has long enjoyed general acceptance in the MEDICAL community (*Matter of Lou R* 131 Misc2d 138 [Family Ct. Onondaga County 1986]), and it has even been incorporated by the Legislature into PL 120.02(2)(b) (*Reckless Assault*: defined as recklessly causing serious physical injury to the brain of a child less than five years old by extreme ROTATIONAL CRANIAL ACCELERATION and one or more of: i. subdural hemorrhaging or ii. retinal hemorrhaging).

The court REJECTED the defendant's argument that BIOMECHANICS was the relevant scientific community inasmuch as injury assessment is essentially a medical determination and doctors not only diagnose but also determine causation of injuries.

The court also ticked off a laundry list of cases already finding SBS/AHT to have gained general acceptance in the medical community including: *People v Van Norstrand* 85 NY2d 131 (1995), *Matter of Infinite G.* 11 AD3d 688 (2d dep't 2004), *People v Goodridge* 251 AD2d 85 (1st dep't 1998), *People v Moore* 112 AD3d 981 (3d dep't 2013), *People v Benjamin* 202 AD2d 996 (4th dep't 1994), *People v Hershey* 85 AD3d 1661 (4th dep't 2011), *People v Damien S.* 45 AD3d 1384 (4th dep't 2007).

Hence, in the court's view, there was no need to re-invent the wheel on a matter of science that was neither new nor novel and which had already been found several times to enjoy general acceptance in the relevant scientific community.

The court also took JUDICIAL NOTICE that SBS/AHT is recognized as a diagnosis by the CDC and the National Institute of Neurological Disorders, the American Pediatric Association and the Mayo Clinic. (citing *People v Jones* 73 NY2d 427 [1989]). It also noted that SBS derives support from over 40 years of research in the fields of pediatrics, neuro-science, ophthalmology, orthopedics, radiology pathology, epidemiology and even biomechanics.

In the court's view, there is no basis, as the defendant alleged, to say that SBS has no basis in fact, and a shift in mainstream medical thinking (as noted in *People v Bailey supra*), or a division in opinion (whether the symptoms attributed to SBS are exclusive to SBS or consistent with other causes), does not amount to a debunking of the diagnosis.

The defendant was free, in the court's assessment, to present whatever alternative theories of injury causation that the evidence and science supported. And, as with all cases that come down to the opinion of expert witnesses, it is ultimately up to the jury to decide which view is supported by the evidence in determining whether guilt has been proven beyond a reasonable doubt.

The court also rejected as untimely (i.e. raised only in responding papers), and without merit the defendant's arguments that: PL 120.02 is unconstitutional, (no notice to the AG of intent to raise such challenge per Exec. Law 71); the Grand Jury minutes should be re-examined (based on the improper testimony regarding SBS); the hearing on probable cause to arrest should be re-opened; and the indictment should be dismissed.

#### FINAL OBSERVATION:

As noted at the outset, child-death cases are particularly challenging for many reasons including the emotionally-charged subject matter as well as the often technical nature of the evidence required to establish the cause and manner in which the death occurred. What may have once been considered a very difficult if not impossible diagnosis to overcome, (especially where a jury may well be looking to place blame upon an adult for the death of an innocent and helpless human being), SBS/AHT, as evidenced by the vigorous (and sometimes heated) debate in the medical community based upon new information, may not be the sure-fire, silver bullet for the prosecution that it may once have been.

Counsel assigned to these cases MUST become well versed in the science, medicine (and biomechanics) of pediatric head injuries and identify an EXPERT (or experts), who can help you understand the evidence and determine whether the police, medical personnel and prosecution have jumped to a conclusion (of SBS) without first considering (and ruling out) all other plausible explanations for the injuries (whether an accidental fall, birth trauma from a protracted and stressful or injurious delivery, blood disorder, collagen disorder, vitamin deficiency, metabolic disorder etc).

It is also worth considering whether law enforcement or the medical professionals formed a conclusion into which they sought to fit the facts, (based on hunches or assumptions), or allowed the facts to lead them to a conclusion that was supported by the evidence. Counsel may also look into whether the forensic pathologist may have been influenced by a cognitive bias such that certain extraneous "contextual factors" not necessarily germane to a medical diagnosis may have influenced their conclusions. They may not admit it, but, as noted above, the facts may suggest otherwise.