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IN THE FAMILY COURT
AT HAMILTON

FAM-2015-016-000199
[2017] NZFC 2593

IN THE MATTER OF	THE CHILDREN, YOUNG PERSONS, AND THEIR FAMILIES ACT 1989
BETWEEN	THE CHIEF EXECUTIVE OF THE MINISTRY OF SOCIAL DEVELOPMENT Applicant
AND	[ALANA TILO] First Respondent
AND	[MATTHEW TILO]Second Respondent
AND	[EMMA TILO] (BORN [date deleted] 2015)[DYLAN TILO] (Born [date deleted] 2012) Children This Application is About

Hearing:	14-17 March 2017
Appearances:	L Pepperell for the Chief Executive C Rowden for Alana Tilo J Walker for Matthew Tilo K Tan as Lawyer for the Children
Judgment:	13 April 2017 at 4.00 pm

RESERVED JUDGMENT OF JUDGE D R BROWN
[Application for Declaration]

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[1] [Emma Tilo], a baby then four weeks of age, was rushed to hospital on [date A deleted] November 2015. Investigation revealed that she had a large subdural haematoma. She had no external sign of injury. Her parents denied that they had shaken or injured her. They recalled three incidents over the past few days in which her head had, or may have had, what seemed a minor knock.

[2] The hospital concluded, and continues to believe, that its findings establish non-accidental head injury (abusive head trauma).

[3] CYF applied for a declaration that [Emma] and her older brother [Dylan], then three years of age, were in need of care and protection and sought and were granted interim custody of both children. The children were placed in the care of a whanau caregiver in [Location deleted] and have remained there since (15 months).

Issue

[4] Should there be a declaration pursuant to s 14(1)(a) and/or s 14(1)(b) of the Children, Young Persons and their Families Act that the children are in need of care and protection?

Background and history

[5] The children's mother is [Alana Tilo]. Her exact age was not recorded in the proceedings but appears to be about [age deleted]. The children's father is [Matthew Tilo], who is [age deleted]. They have been in a relationship for about six years and have been married for about four.

[6] Mr and Mrs [Tilo] met within their involvement in an [denomination deleted] church.

[7] They live in a small privately rented home in [location deleted].

[8] Mr [Tilo] works as an [occupation details deleted]. Previously he was a [occupation deleted]. Mrs [Tilo] was not working after [Emma] was born but has

been working fulltime since the children were uplifted. I do not know her present occupation but earlier she worked for [occupation deleted]. She has [qualification details deleted].

[9] On [date A deleted] November 2015, a Monday, Mr [Tilo] did not go to work. He had been unwell for a few days. He had made an appointment to see a doctor that afternoon.

[10] In the middle of the day Mrs [Tilo] left the home for a relatively short time to deliver [Dylan] to [school details deleted]. Mr [Tilo] stayed at home with [Emma]. Mrs [Tilo]'s mother then came for an unannounced visit and held [Emma] for a time. She then left, allowing Mr [Tilo] to then leave, his exit up till then having been blocked by her vehicle.

[11] Mr [Tilo] returned after his medical appointment. At the time of his return Mrs [Tilo] was hanging out washing on the line. [Emma] was crying in her room, having been put down, apparently asleep, a short time before. After a brief word with Mrs [Tilo], Mr [Tilo] went inside and picked [Emma] up. Shortly after he queried [Emma]'s condition with Mrs [Tilo], who looked briefly at the baby and concluded that she was effectively half asleep. Shortly after Mr [Tilo] became more alarmed by the child's condition: he had noticed earlier a snatch in her breathing when he went to wash her face and now her eyes appeared unresponsive. A quick decision was made to call an ambulance.

[12] On arrival at [hospital one] [Emma] was assessed as decreased in consciousness and responsiveness and having episodes of stopping breathing.

[13] The immediate suspicion was that [Emma] was suffering from meningitis. Intravenous antibiotics were administered.

[14] A CT scan however revealed an "extra-axial haematoma extending from the vertex to both sides of the cranium".

[15] [Emma] was transferred to Starship Hospital on the basis that she might need emergency neurosurgery.

[16] A second CT head scan taken the next day at Starship was summarised:

> Further maturation of bilateral infarcts. Right sided subdural haemorrhage.

[17] The next day a MRI of the brain and spine took place under general anaesthetic. This confirmed "a subdural haematoma centred on the right parietal and occipital lobes". It also revealed however unusual venous anatomy in [Emma]'s brain and suggested its evaluation with a contrast-enhanced CT venogram.

[18] An EEG had confirmed that [Emma] was suffering seizures. These were treated aggressively. By [date, 4 days after admission, deleted] November 2015 these had improved considerably. Gradually [Emma] displayed greater consciousness and began to feed again.

[19] On [date deleted] December 2015 she was transferred back to [hospital 1] with a diagnosis of "diffuse cerebral and cerebellar brain injury, traumatic subdural haemorrhage and significant trauma without explanation".

[20] The enhanced venogram suggested at the time of the MRI was, unfortunately, delayed. It was performed on [date deleted] February 2016. It was reported:

> The CT venogram demonstrated restored flow to the right transverse dural sinus and anatomic variations of the superior sagittal sinus and confluences. There was then concern that the flow voids present on the MRV from November at the right transverse and superior sagittal sinus might have been due to venous thrombosis, blood clots in those locations.

[21] Within the order made on 11 December 2015 placing [Emma] in the custody of Child, Youth and Family pending determination of these proceedings, the child was placed in whanau care and she and her brother have had contact with their parents only on a supervised basis. For approximately the last 15 months the children have been placed with a [caregiver details deleted] in [location deleted]. One or both of her parents have driven practically every weekend to see her, a five and a half hour drive in either direction. The parents make a video call to speak to [Dylan] every night that they are not in [location deleted].

Three earlier injuries to [Emma]'s head?

[22] Both Mr and Mrs [Tilo] recounted in consistent textured detail three earlier incidents involving [Emma]'s head.

[23] The first was some time in the week before admission. Mr [Tilo] was carrying a sleeping [Emma] into the house. Mr [Tilo] opened an awkwardly functioning door and followed it through, but the door bounced back against a laundry basket invisible on the floor on the other side of it and the door knob hit [Emma] in the head. [Emma] was said to have woken up and then cried. There was a red mark on her head but no swelling.

[24] The second event was about three days before hospital admission. This incident was initially recorded at Starship Hospital in terms that Mr [Tilo] "dropped" and "threw" [Emma] onto a bed in which invisible in the covers was a Samsung Galaxy tablet. Mr [Tilo] denies he used those words. The issue was not vigorously explored in cross-examination. Mr [Tilo] says that he deliberately fell down on the bed with [Emma] in his arms and the child's head struck the hidden tablet. In his account, [Emma] cried and there was no ongoing sign of any injury.

[25] The third incident was the night before admission. The family was sitting on a couch and a bed settee in their lounge. The television was on. [Emma] was on the (lower) bed settee. [Emma] was lying lengthwise, her feet near her father's legs and her head at the extremity of the bed settee. Without warning, [Dylan] (who is said to be a jumping-about kind of child) jumped from the higher armrest of the adjoining settee onto the bed settee and ended up with his legs around [Emma]'s head. [Emma] screamed. No-one saw the actual jump so the precise point of impact, if any, is not known. [Emma] showed no sign of injury.

Abusive head trauma in infants – the landscape

[26] It is not possible to decide this case without an attempt to survey the present realities of this issue. It is however only a survey because it cannot extend beyond

the specialist and semi-specialist research material produced by consent at hearing and the viva voce evidence of the medical experts for applicant and respondent.

[27] The issue of abusive head trauma has been the subject of profound and sometimes passionate disagreement. The fact that the original term was shaken baby syndrome and is now abusive head trauma betokens a vast amount of thought, research, discussion and argument. It is far more than a matter of terminology.

[28] Shaking as a mechanism for inflicting intracranial injury in infants was first described in an article in a British medical journal in 1971. The research, and the research which followed it, relied heavily on research a few years before wherein rhesus monkeys were placed in fibreglass chairs on tracks and then, with their heads free to rotate, subjected to accelerations similar to those in rear end motor vehicle collisions. Some of the animals were found thereafter to have suffered intracranial injury and some of those animals were found to have had a concomitant neck injury. The resulting proposition that rotational acceleration of sufficient magnitude could cause intracranial injury without impact, and therefore without external evidence of injury, appeared to be an explanation for hitherto unexplained intracranial injury in infants.

[29] In 1987 however a major study of 48 children aged one month to two years with suspected shake injury was published.[1] A biomechanical study involving models of one month old infants (with different neck constructions to allow alternatives in the form of rotation) was established. An accelerometer was attached to the top centre of the dolls head. Each model was subjected to repetitive violent shaking, allowing the head to travel its full excursion several times. The models were held by the chest facing the experimenter and shaken back and forth rather than side to side. At the end of each series of shakes, the back of the model's head was impacted against either a metal bar or a padded surface.

[30] The experiment concluded that the accelerations established for shakes were smaller by a factor of 50 to one than those for impacts. All *shakes* fell below injury

[1] *Duhaime A and Others: The Shaken Baby Syndrome. A Clinical, Pathological, and Biomechanical Study.* J Neurosurg 66: 409-415, 1987.

thresholds established for subhuman primates scaled for the same brain mass while the values established for *impacts* spanned concussion, subdural and diffuse axonal injury ranges. It was found that when the impact was against a padded surface, the magnitude of acceleration was decreased and its time course lengthened to some extent, but such impacts also fell into the injury range. The study ended:

> It is our conclusion that the shaken baby syndrome, at least in its most severe acute form, is not usually caused by shaking alone. Although shaking may, in fact, be a part of the process, it is more likely that such infants suffer blunt impact. The most likely scenario may be a child who was shaken, then thrown into or against a crib or other surface, striking the back of the head and thus undergoing a large, brief deceleration.

[31] In 2005 the United Kingdom Court of Appeal heard appeals by four carers in whose care infants had died or suffered brain injury.[2] The Court heard ten medical expert witnesses called on the behalf of the appellants and 11 called on behalf of the Crown. The Court also received written evidence from four other witnesses. The essential issue in the appeals was a challenge to the (then) accepted hypothesis concerning shaken babies syndrome and the proposition that the coincidence of "the triad" (encepathology, subdural haemorrhage and retinal haemorrhage) in a child was the "hallmark" of non-accidental head injury.

[32] A team of distinguished doctors led by Dr Jennian Geddes had produced three papers which cumulatively challenged the supposed infallibility of the triad. The issue raised in the Geddes research however receded following the following exchange in Dr Geddes' cross-examination:

> Q. Dr Geddes, cases up and down the country are taking place where Geddes III is cited by the defence time and time again as the reason why the established theory is wrong.
>
> A. That I am very sorry about. It is not fact; it is hypothesis but, as I have already said, so is the traditional explanation…I would be very unhappy to think that cases were being thrown out on the basis that my theory was fact. We asked the editor if we could have "hypothesis paper" put at the top. He did not but we do use the word "hypothesis" throughout.

[2] *Harris v R* [2005] EWCA Crim 1980.

[33] The Court disregarded Dr Geddes' research (known as "The Unified Hypothesis") as a credible or alternative explanation of the triad of injuries. But it continued:

> There are many other medical issues involved in cases of alleged NAHI (non accidental head injury). Further, there remains a body of medical opinion which does not accept that the triad as an infallible tool for diagnosis. This body of opinion, whilst recognising that the triad is consistent with NAHI, cautions against its use as a certain diagnosis in the absence of other evidence. These four appeals raise different medical issues and do not necessarily fail because the unified hypothesis has not been validated. It does mean that the triad, itself a hypothesis, has not been undermined in the way envisaged by the authors of Geddes III.
>
> Mr Horwell in his final submissions invited the Court to find that the triad was proved as a fact and not just a hypothesis. On the evidence before us we do not think it possible for us to do so. Whilst a strong pointer to NAHI on its own, we do not think it is possible to find that it must automatically and necessarily lead to a diagnosis of NAHI. All the circumstances, including the clinical picture, must be taken into account.

[34] In 2009 researchers confronted the circularity of reasoning issue which lies at the centre of the proposition that the triad (intracranial haemorrhage, retinal haemorrhage and encephalopathy) are, without evidence of external injury, capable of establishing shaken infant syndrome.[3] A study at Lille University Hospital compared "corroborated" cases of *accidental* traumatic head injuries in infants to "corroborated" cases of *inflicted* head injury to infants. Corroborated meant in the case of accidental head trauma having occurred in a public space in front of independent witnesses. Corroborated in respect of inflicted head injury was defined as abuse confessed by the perpetrator during judicial proceedings. The study established, by comparing the two groups, that subdural haemorrhage, severe retinal haemorrhage and absence of signs of impact were items of diagnostic value in the differential diagnosis between inflicted head injury and accidental head trauma.

[35] The issue was taken significantly further the following year by the publication of a further French report[4] on the study of 112 cases over a seven year period, in 29 of which the perpetrator had confessed to violence towards the child.

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[3] *Vinshon M, de Foort-Dhellemmes S, Desurmont M: Confessed Abuse versus Witnessed Accident in Infants: Comparison of Clinical, Radiological, and Ophthalmological Data in Corroborated Cases.* Childs Nerv Syst (2010) 26: 637-645.

[4] *Adams Baum C, Grabar S, Mejean N, Rey-Salmon C: Abusive Head Trauma: Judicial Admissions Highlight Violent and Repetitive Shaking.* Pediatrics Volume 126, Number 3, September 2010 546.

These were compared with 112 cases in which there was no confession. It was found that there was no statistically significant difference between the two groups for gender ratio, number of deaths, main symptoms, presence of fractures, ecchymoses, retinal haemorrhages, or subdural haemorrhage pattern.

> All the perpetrators described having shaken the infant violently. All the confessions included terms that denoted violence, and all the authors admitted the violence of their acts in response to the corresponding question from the Court or the police enquiries. All children were taken under the arms and shaken violently, sometimes with verbal abuse. In five cases a final violent impact of the infant's head on a bed was described.
>
> The shaking was described as a single violent episode in 13 cases (45%). In four cases, the perpetrator reported symptoms immediately after the shaking. In six cases, the author put the child to bed immediately after the shaking and only discovered the presence of abnormal symptoms 1.5 to 3 hours later…
>
> Repeated episodes of violent shaking were described in 16 cases (55%). The number of admitted shaking episodes ranged between 2 and 30 (mean: 10). Shaking was described as habitual (ie, daily) for several weeks or months in six cases. In the latter, the minimum number of episodes was estimated to be between 10 and 30. In three cases, the perpetrator did not give details about the number of episodes. 10 perpetrators described in the immediate period of exhaustion, in which the child "would go to sleep after the shaking".

[36] It is of high significance to me for the purposes of this survey to note that 11 of the 29 children of the confessed deliberate shaking group are listed to have had *no* skin lesions, fracture, other injury or previous injury.

[37] In 2016 the Swedish Agency for Health Technology Assessment and Assessment of Social Services published a controversial report.[5] The report addressed the methodologies of the enormous number of pieces of research on the issue. Of 1065 pieces chosen for initial survey, 1035 were excluded because they did not meet the inclusion criteria (for example, only studies comprising ten or more cases and, very significantly, only cases of traumatic shaking which were witnessed (eg video recorded) or in which someone had confessed to shaking the child were included). Of the remaining 30 studies, only two were assessed to have *moderate* quality and none high quality. The quality of the evidence was deemed to be *limited* (low) when combined assessment of studies of high or moderate quality disclosed

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[5] *Traumatic Shaking – The Role of the Triad in Medical Investigations of Suspected Traumatic Shaking:* SBU Report Number 255E.

factors which markedly weakened the evidence. The quality of the evidence was deemed to be *insufficient* (very low) when there was a lack of studies, when the available studies were of low quality or when studies of similar qualities showed contradictory results. (It is however important to note that limited evidence for the reliability of a method or an effect does not imply complete lack of scientific support.)

[38] Before closing this part of the judgment, I record the support within the materials produced at hearing for the evidence of Dr Kelly, that a lack of visible external injury can be illusory, and where children have died, a visible injury can be found at autopsy. Duhaime recorded, "In seven cases, however, impact findings were noted only at autopsy, and had not been apparent prior to death" and I have cited already the research that records that nearly half the children in "confessed" cases of abuse in that research are recorded to have shown no apparent injury.

[39] I end this survey by acknowledging its limitations. As a lay person I am limited in my understanding of medical processes, and although I have allowed myself to research the meaning of unknown medical terms, I have not allowed myself to go any further. Secondly, as a Judge must be, I am confined to what has been produced to me, and I am acutely aware, from the material I have had access to, of the vast amount of further material.

The medical evidence for the applicant

Dr Kelly

[40] CYF called Dr Patrick Kelly.

[41] Dr Kelly is a senior and very experienced practitioner with many years experience in, and teaching of, child abuse and neglect. Dr Kelly has presented research at both national and international professional conferences and has published a number of original scientific articles on the subject in peer reviewed medical journals.

[42] Dr Kelly is the service clinical director of the specialist team within the Auckland District Health Board which deals with children and young people where there are concerns about possible abuse or neglect.

[43] Dr Kelly did not at any stage treat [Emma] in hospital. He reviewed all the clinical records and other source material and particularly the reports of Dr Joshua Friedman who treated [Emma] but who has subsequently left the hospital.

[44] Dr Kelly offered a careful, modulated and detailed opinion on [Emma]'s situation and the cause of it. He believes that the pattern, history and presentation of the event for which she was treated in November/December 2015 are consistent with, and consistent only with, abusive head trauma. Dr Kelly's position is that it is neither possible nor necessary for him to identify the particular mechanism by which [Emma]'s brain was injured. Nor is the fact that the child displayed no gripping or other external signs of injury or harm of any moment: Dr Kelly's evidence, which I accept, is that he has himself observed at post mortem broken ribs in a baby who showed no external sign of injury.

[45] I experienced Dr Kelly's position to be the result of years of involvement with injured and abused children. I think that Dr Kelly's position was partly summarised when he said (in regard to the "scaling" of evidence based medicine):

> Now number 1 is a randomised control trial, so that is grade 1 scientific evidence and of course you can do that with drugs, you can give beta blockers to one group of people and a placebo to another group and you randomise them and you see whether it works or not. There are no randomised control trials for abusive head trauma and there never will be for obvious reasons. The next step down is any other kind of control study but of course the problem that you have with a control study in the field of abusive head trauma is that there will always be an element of circularity. So for example even if you take what some people have used as the gold standard, which is a confession or a conviction in a criminal court, someone could argue, "well the confession was extorted or contaminated or motivated by factors other than telling the truth". Or they could argue that the conviction in the criminal court was a plea bargain or someone took the blame for somebody else. So there is always an element of circularity in Level 2 evidence, so Level 3 evidence is a case control study. Level 4 evidence is a cohort study which is the kind of study that I publish, where I've taken 20 years of our experience. Now, my study, because it's Level 4, will not even get into the Swedish document because they will say it's circular, it was a child protection team at Starship, we had our own preconceived ideas, we saw what we wanted to see, therefore it's circular. I

> mean I would argue that each of these cases goes through a very careful filtering process from the emergency department doctor to the neurosurgeon or the paediatrician to my team, paediatric radiologist, the metabolic specialist, the paediatric haematologist, then we have a case conference with Child, Youth and Family and the police and then it goes through a police investigative process and then it might come to a family court and then it might end up in a criminal court. Well you could say we are all thinking in a circular fashion but I have to say that in this area in practice, Level 4 evidence is probably about as good as we are going to ever get so the problem with a document like the Swedish document is that it is essentially excluding virtually all the evidence that arises from the observation of paediatricians around the world and the narrower you make the level of studies that you will accept, the smaller the number that you end up with.

[46] Dr Kelly carefully reviewed the three incidents in which [Emma] was recorded to have received possible knocks or blows to her head in the days leading up to her hospitalisation and firmly rejected them as the cause or a contributing cause to the hospitalisation on 23 November 2015. He detailed and reviewed a broad range of health issues that could conceivably have been operating and rejected them. His conclusion was that [Emma]'s presentation was a clear example, in some ways a classic example, of abusive head trauma.

[47] It was put to Dr Kelly that the evidence established the likelihood or possibility that there had been a thrombus (a clot) in [Emma]'s right transverse venous sinus. Dr Kelly accepted the possibility but rejected it as a possible issue in the damage that had occurred to [Emma]'s brain. In his view the swelling in [Emma]'s brain had compressed the arterial flow and the result was radiologically identifiable arterial infarction. In the doctor's view, it was not venous infarction which it would have been if in fact a clot had restricted the venous drainage system of [Emma]'s head.

Evidence of Dr Carl Wigren

[48] The respondents called by audio visual link the evidence of Dr Carl Wigren, who lives and practices in Seattle, Washington, USA. Dr Wigren is a medical doctor with speciality training in anatomic pathology and some speciality training in forensic pathology.

[49] Dr Wigren accepted that he had no specialist qualification in paediatrics and his experience as a paediatrician was confined to standard training within his initial degree.

[50] Dr Wigren discounted Dr Kelly's opinion. In Dr Wigren's opinion, [Emma]'s father's illness at the time [Emma] was hospitalised and its potential for transmission to [Emma] had not been sufficiently appreciated. Equally the child's "moderate dehydration" as had been recorded by the hospital, had not been sufficiently appreciated. There had, in Dr Wigren's opinion, been a failure to carry out a range of tests for blood clotting disorders. In Dr Wigren's view, the evidence disclosed clots in [Emma]'s right transverse venous sinus and in her superior sagittal sinus (the major vein lying in the crown of the head). In Dr Wigren's opinion, these clots were indicative of a potential coagulation disorder. In Dr Wigren's view, thrombosis was a more likely cause of [Emma]'s haemorrhage.

Evidence of Dr John Galaznik

[51] The respondents called evidence from Dr John Galaznik, who is a Board Certified Paediatrician, residing in Alabama, USA. Dr Galaznik gave evidence by audio visual link from Philadelphia.

[52] Dr Galaznik's evidence begins and proceeds on the basis that [Emma] at the time of her admission to hospital was a four week old baby who had had three head impacts before her admission, the most important of which from the doctor's perspective was the incident the night before her admission, in which [Dylan] had jumped onto her head. In the doctor's view the imaging of [Emma] demonstrated thrombosis in her right transverse sinus and in her sagittal sinus. In his view MRI imaging on 25 November 2015 established that the blood in [Emma]'s head was from three to seven days old indicating that the bleeding had begun on 22 November which was of course the day that [Dylan] jumped on her.

[53] It was Dr Galaznik's view that no symptoms might be immediately evident in the injured child in those circumstances.

[54] In his report, Dr Galaznik had said:

> The AAP (American Academy of Paediatrics) COCAN has multiple positions statements [2007, 2009, 2014, 2015] making the point that infants can have significant intracranial pathology or evolving intracranial pathology and no recognisable symptoms/findings on physical exam appreciable to family or medical personnel.

[55] This position appears to be supported by an article[6] put to him in cross-examination, which contains the statement:

> Infants with intracranial injuries frequently have no or non-specific symptoms, so the absence of neurologic symptoms should not exclude the need for imaging.

[56] Dr Galaznik quoted from an article entitled, "Cerebral Venous Thrombosis: A Potential Mimic Of Primary Traumatic Brain Injury In Infants":[7]

> These focal haemorrhages can be misinterpreted as traumatic parenchymal contusions, especially if extra-axial haemorrhage is reported instead of cerebral venous thrombosis, leading to a misdiagnosis of trauma as to cause of blood products…It is important to recognise that a significant number of patients in these reported cases presented with delayed signs of symptoms, as long as two weeks after traumatic event…Heller et al., published a large series on children with CVT and showed that more than 50 percent of children who developed CVT after an inciting event had a prothrombotic risk factor and many more than one…Imperative to screen for specific abnormalities such as Factor V Leiden, *G2021A* mutation, lipoprotein (a), protein C, protein S, antithrombin, and antiphospholipid antibodies. In patients with these risk factors, even a minor or unnoticed trauma may increase the likelihood of developing CVT.

[57] Dr Galaznik demonstrated through CT and MRI imaging of [Emma] his belief that there was demonstrated a thrombus in [Emma]'s right transverse venous sinus and in her posterior sagittal sinus.

[58] Dr Galaznik is semi-retired and devotes his available time to his area of interest which is allegation of physical injury of infants and small children. In cross-examination he set out an engaging and detailed perspective on shaken child syndrome/abusive head trauma. He spoke familiarly of various biomechanical research. His position is that the present evidence is that a child could be killed by

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[6] *Kellogg ND: Evaluation of Suspected Child Physical Abuse*. Pediatrics Volume 119 Number 6, June 2007 1236.

[7] *Krasnokutsky MV*. AGR: 197, September 2011.

shaking, but only if the child's neck was injured to the extent that the child's breathing stopped. Such neck injury would be clearly visible on examination. Otherwise, shaking could only injure or kill a child if it were accompanied by impact.

[59] I experienced Dr Galaznic as vitally interested in the subject of the physical abuse of injured children. Although he has no specialist qualification, he has spent significant portions of his working life working in paediatrics. While I assume that he and his views are not necessarily mainstream, his evidence was extensively backed up by references he produced and he came ready to hold up to the light materials he brought with him to support his position.

[Alana Tilo]

[60] I strongly experienced [Alana Tilo] to be a straightforward and very believable person. For example, in response to a general question about discipline, she said, without being asked and apparently unconscious of the fact she was defending herself as a possible abuser:

> Um, I mean I, I'm anti-smacking, I am but I mean I have done that a couple of times with [Dylan].

[61] I think she was unaware of the innocence logic in her answer to the "problem" that she was the only one home at the time of the putative injury:

> No, there wasn't anyone else home. It was just me and [Emma]. And I've already said what I did in that hour. We've already said any other – when they're asking us what kind of, what other possibilities could there be, we've already told her about the accidents. We thought it was – we initially thought it was from the one from the night before 'cos that was the most recent. And we thought that was it and we thought, how, how are we ever going to tell [Dylan] that one day because we thought that was, that was what it was from. *We didn't even want [Dylan] to ever found that, because of [Emma] being in hospital was because of [Emma], [Dylan] jumping on her, that's what we were worried about* but Patrick Kelly and Dr Friedman can say all they want that something happened in that timeframe but it doesn't make it right, doesn't mean that they're right because I was there. They weren't. I had my baby. They didn't. (Emphasis added)

[62] The dynamics of the relationship between Mr and Mrs [Tilo] are an issue. On the morning of [Emma]'s hospitalisation they had had an argument over Mr

[Tilo]'s repeated request and Mrs [Tilo]'s repeated initial refusal to cook Mr [Tilo] a steak. I am satisfied that this issue was not indicative of an oppressive relationship of power and control. When the issue was raised with Mrs [Tilo] in cross-examination, she smiled to herself. It was plain from her answers that such a request was within the cooperations of their relationship. Her refusal was because she knew she did not know how to cook it the way he wanted. She grumpily agreed (partly because he was sick) but the steak turned out badly as she knew it would. Mr [Tilo] then grumpily ate the steak.

[63] Asked about the argument that followed Mr [Tilo]'s smacking [Dylan] after [Dylan] jumped on [Emma]'s head, and the fact that Mr [Tilo] had come in three or four times to apologise, Mrs [Tilo] said:

> Cos I'm quite, I'm just quite stubborn out of us two. He's always – any, any time we have a little, anything like this, he's always the first to apologise and he's the bigger man and he always finishes it, but I'm just really stubborn about it all the time and that's what I was doing at that time. I was just, just pushing my way, just giving him the silent treatment.

[64] In 2013 there were two police callouts to the home. There was no physical violence. Mr and Mrs [Tilo] were arguing and damaging each other's property. They both now view this kind of thing as silly and immature. In the courtroom, unaware as far as I can tell that he was being watched, Mr [Tilo] shamefacedly covered his face with his hand when this was being discussed.

[Matthew Tilo]

[65] In closing submissions the Court was urged to see Mr and Mrs [Tilo] as, among other things, "transparent" and I agree that in Mr [Tilo]'s case there was a childlike openness in all his evidence. In his early years Mr [Tilo] was a gang member. That he would and could confess that when asked about his youth is not exceptional. Nor perhaps was his willingness to tell how he had come to leave the gang after a fellow member had grossly exceeded the crime Mr [Tilo] had agreed to facilitate. What *was* unusual was his instinctive, unconsidered willingness to record that he had agreed to facilitate the crime, the robbery of a tinnie house, because the

perpetrating gang member had offered him half the money and drug proceeds and those were things Mr [Tilo] *wanted*.

[66] Mr [Tilo] appeared to be without guile. He appeared to search recall for answers sometime thinking for a long time before tapping a finger and answering.

[67] It is my strong sense that the Mr [Tilo] I saw would not be capable of the duplicity required for him to accuse Mrs [Tilo], which I am satisfied he did, of injuring [Emma] if it were him who was responsible for [Emma]'s injury.

The law

[68] Section 14(1)(a) and (b) of the Children, Young Persons And Their Families Act 1989 provide:

> **14 Definition of child or young person in need of care or protection**
>
> (1) A child or young person is in need of care or protection within the meaning of this Part of this Act if—
>
> (a) the child or young person is being, or is likely to be, harmed (whether physically or emotionally or sexually), ill-treated, abused, or seriously deprived; or
>
> (b) the child's or young person's development or physical or mental or emotional wellbeing is being, or is likely to be, impaired or neglected, and that impairment or neglect is, or is likely to be, serious and avoidable…

[69] Section 71 of the Act provides:

> **71 Court may make declaration in absence of proof of responsibility for neglect or ill-treatment of child or young person**
>
> Where—
>
> (a) An application for a declaration that a child or young person is in need of care or protection is made on any of the grounds specified in paragraph (a) or paragraph (b) of section 14(1) of this Act; and
>
> (b) The Court is satisfied that, but for the failure of the evidence to establish that a parent or guardian of the child or young person or a person having the care of the child or young person is culpable in relation to the harm suffered by the child or young person, the grounds for making the declaration are made out,—

the Court may find those grounds made out.

[70] The standard of proof is the balance of probabilities.

[71] Baroness Hale in *Re B (Care Proceeding: Standard of Proof)*[8] said:

> The standard of proof in finding the facts necessary to establish the threshold under…the Act is the simple balance of probabilities, neither more nor less. Neither the seriousness of the allegation nor the seriousness of the consequences should make any difference to the standard of proof to be applied in determining the facts. The inherent probabilities are simply something to be taken into account, where relevant, in deciding where the truth lies.

[72] In *Z v Dental Complaints Assessment Committee*[9] the majority of the Supreme Court said:

> [104] Child welfare cases may form an exception because of the complexity of the impacts of judicial decisions on children and those caring for them, who may be alleged to be perpetrators of harm. In most instances, however, the reality is that a finder of fact in a civil case does generally look for stronger evidence of serious allegations before being satisfied that an event was more likely to have occurred than not. Morris LJ once put it this way in a leading case:[10]
>
> > [T]he very elements of gravity become a part of the whole range of circumstances which have to be weighed in the scale when deciding as to the balance of probabilities.
>
> [105] The natural tendency to require stronger evidence is not a legal proposition and should not be elevated into one.[11] It simply reflects the reality of what judges do when considering the nature and quality of the evidence and deciding whether an issue has been proved to "the reasonable satisfaction of the tribunal".[12] A factual assessment has to be made in each case. That assessment has regard to the consequences of the facts to be proved. Proof to a tribunal's reasonable satisfaction will, however, never call for that degree of certainty which is necessary to prove a matter in issue beyond reasonable doubt.

[73] Where, as here, there is disputed medical evidence, courts have expressed the need for caution.

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[8] [2008] UKHL 35; [2009] 1 AC 11; [2008] 3 WLR 1; [2008] 2 FCR 339; [2008] Fam Law 619
[9] [2009] 1 NZLR 1
[10] *Hornal v Neuberger Products Ltd* [1957] 1 QB 247 at p 266 (CA).
[11] As is emphasised in *Re B* at paras [63] and [64] per Baroness Hale.
[12] *Briginshaw* at p 362, per Dixon J, cited above at para [98].

[74] In *R v Cannings*[13], the United Kingdom Court of Appeal said:

> These observations serve to highlight the second problem which can arise in this case, and cases like Sally Clark and Troupti Patel. We have read bundles of reports from numerous experts of great distinction in this field, together with transcripts of their evidence. If we have derived an overwhelming impression from studying this material, it is that a great deal about death and infancy, and its causes, remain as yet unknown and undiscovered. That impression is confirmed by counsel on both sides. Much work by dedicated men and women is devoted to this problem. No doubt one urgent objective is to reduce to an irreducible minimum the tragic waste of life and consequent life-scarring grief suffered by parents. In the process, much will also be learned about those deaths which are not natural, and are indeed the consequence of harmful parental activity. We cannot avoid the thought that some of the honest views expressed with reasonable confidence in the present case (on both sides of the argument) with have to be revised in years to come when the fruits of continuing medical research, both here and internationally, become available. What may be unexplained today may be perfectly well understood tomorrow. Till then, any tendency to dogmatise should be met with answering challenge.

[75] In a later decision[14] Butler-Sloss P said:

> …there is a broad measure of agreement as to some of the considerations emphasised by the judgment in *R v Cannings* that are of direct application in care proceedings. We adopt the following:
>
> (i) The cause of an injury or an episode that cannot be explained scientifically remains equivocal.
>
> (ii) Recurrence is not itself probative.
>
> (iii) Particular caution is necessary in any case where the medical experts disagree, one opinion declined to exclude a reasonable possibility of natural cause.
>
> (iv) The Court must always be on guard against the over-dogmatic expert, the expert whose reputation or amour proper is at stake, or the expert who has developed a scientific prejudice.
>
> (v) The Judge in care proceedings must never forget that today's medical certainty may be discarded by the next generation of experts, or that scientific research will through light into corners that are at present dark.

Discussion and decision

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[13] 2004 2 Cr. APP. R.7; [2004] 1 All ER 725 (CA); [2004] 1 WLR 2607.
[14] *Re U: Re B (Serious Injuries: Standard of Proof)* [2004] 2 FLR 263 at [23].

[76] In *Q v Chief Executive of the MSD*[15] Panckhurst J, considering an appeal in broadly analogous circumstances, said:

> The legal principles, the *Wray* case and the witness evidence are all to my mind constructive. Judge Coyle, when considering the approach to expert evidence, said that where there was competing evidence, it fell to the Court to reach a determination as to what evidence it preferred. This is too stark, as it overlooks the third possibility of an unknown aetiology. It also suggests that the expert evidence is paramount, whereas in my view the whole canvas must be considered, the more so where expert opinion evidence is disputed. This I think is a point of major importance. The Judge first made findings based solely on the medical evidence which were decisive of the end result. He proceeded on the basis that the medical evidence was so compelling that there was no room for doubt. As a result, his assessment of the parents was not put in the balance alongside all the other evidence. It simply never came to that. I do not see the case in these terms. To my mind, there are uncertainties in relation to the medical evidence and the appraisal of the parents was therefore a key part of the jigsaw.

[77] In the present proceeding a baby has been brought to a hospital with no outward signs of violence but with an intracranial haemorrhage. She has very significant brain damage which is likely to impair her whole life.

[78] The applicant's evidence does not claim to be able to determine how the child was injured but proposes that, in the absence of realistic alternative explanation, the child's medical condition is consistent with, and consistent only with, abusive head trauma.

[79] By a narrow balance, I proceed on the basis that, on the evidence and research known to me, shaking *without impact* did not cause this damage.

[80] I accept it as proved that head impact may cause injury only visible on post-mortem examination. I also accept that the absence of grip marks and bruises are similarly not definitive. But the fact remains that this child had no visible skull, body or other injuries.

[81] She was however a child with either an abnormality of the right transverse dural sinus or a thrombus in that blood vessel. An enhanced venogram was not possible at the time and therefore there can be no certainty on the issue.

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[15] [2014] NZFLR 533 at [89]

[82] Dr Kelly said:

> It is very rare, if ever, to get subdural bleeding from venous obstruction but it can happen if you get back pressure that causes a venous infarction. The brain becomes very congested and swollen, you start bleeding into that brain, and then the blood ruptures out of the brain into the subdural space. That's a completely different mechanism from traumatic subdural bleeding and is actually extremely rare. So these are arterial infarcts, not venous infarcts.

[83] This is the critical point but I find myself with no evidence as to how, and how reliably, an imaging conclusion can be reached as to whether an infarct is arterial or venous.

[84] My very cautious lay assessment of two published articles suggests at the least questions as to the relationship between sinus venous thrombosis and subdural haemorrhage.

[85] Ultimately I am left with an unresolvable question mark. I cannot exclude the possibility that there was a clot in [Emma]'s cerebal venous system and it was the cause of the damage to her brain.

[86] I turn to Mr and Mrs [Tilo]. I remind myself that pleasant, honest people can injure children. I remind myself that honest people can persuade themselves that an unpalatable truth was not so. But ultimately, at a human level, I believed each of them when they said that they had not harmed [Emma].

[87] Finally, it is always necessary to allow for the fact that in all areas, but particularly this, today's certainties may be revised tomorrow.

[88] For those reasons I find that the grounds for the making of the declaration have not been established. The application is dismissed. The s 78 custody order is discharged. Costs are reserved.

D R Brown
Family Court Judge