Neutral Citation No: [2017] NIFam 16 ***Judgment: approved by the Court for handing down (subject to editorial corrections)****	***Ref:*** **KEE10371** ***Delivered:*** **6/11/2017**

IN THE HIGH COURT OF JUSTICE IN NORTHERN IRELAND

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FAMILY DIVISION

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Between:

A HEALTH AND SOCIAL CARE TRUST

-v-

A MOTHER, A FATHER

(In the matter of two children: Non-accidental Injury: Causation)

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KEEGAN J

Introduction

[1] This case involves a young child who when just over 4 weeks old was brought to hospital and found to have sustained a large number of fractures and bruising. That was on the evening of 30 March 2016/the early hours of 31 March 2016. I will call the child Tom for the purposes of this judgment. Tom's brother is now aged 5 and he is also involved in these proceedings as a result of what happened to his brother. I will call that child Ned for the purposes of this judgment. The parents of the children are married and they lived a settled family life until the injuries were sustained to Tom. Both parents had some issues in their mental health history which I will come to but it is important to note that Social Services were not involved at any time with the family prior to this incident.

[2] As a result of Tom's presentation at hospital, Police Protection Orders were obtained on 31 March 2016 and subsequently both children became the subject of interim care orders. On 31 March 2016 Ned went to live with his paternal grandparents and he has remained in that placement since then. Tom was discharged from hospital on 6 May 2016 and he has lived with his brother in the kinship placement since that date. The children remain subject to interim care orders and this hearing was to deal with whether or not the threshold criteria has been satisfied to justify the making of full care orders or any public law orders. It

was agreed at a case management hearing that the matter should proceed as a split hearing given the issues in the case.

[3] Ms Simpson QC appeared with Ms Lindsay BL on behalf of the Trust. Ms McGrenera QC appeared with Ms McKeagney BL on behalf of the mother. Ms O'Grady QC appeared with Ms Jennings BL on behalf of the father. Ms Smyth QC appeared with Ms Brady BL on behalf of the Guardian ad Litem. I am grateful to all counsel for their oral and written submissions and for their attention to detail in dealing with the complex matters of evidence which evolved in this case.

[4] I heard evidence over some 13 days and I also heard considered written and oral submissions in September 2017 before I finalised the case. I was due to give judgment in September 2017 however a further issue was raised at that stage which meant that I had to postpone this ruling.

Issues

[5] A case such as this involves the consideration of Article 50 of the Children (Northern Ireland) Order 1995. The language of Article 50 provides a gateway test for the making of any public law order. The Court is required to determine whether a child has suffered or is likely to suffer significant harm. Significant harm is defined as including the impairment of health and development and that may be by way of physical harm, emotional harm or sexual harm or neglect. The other aspect of Article 50 is that any harm must be attributable to the care given by a parent. These are important provisions to ensure that any state intervention is not arbitrary and that it is vouched by evidence. The evidence gathering in this case has been extensive by way of trust reports, expert reports and by way of evidence obtained from the police and the parents statements.

[6] Applying Article 50 to this case a number of propositions have been put before the Court for adjudication. Firstly, I am asked to decide whether or not the Trust case is correct that the child has suffered non-accidental injuries. The Trust contends that the injuries have been suffered by Tom whilst in the care of his parents and so he has suffered and is likely to suffer significant harm if returned to their care. The case is also made that Ned is likely to suffer significant harm and so it is argued that the test is also met in relation to him. The alternative is that the child Tom sustained his injuries by way of accident and if so that cannot reach the test of attribution of harm which is applied against the parents. The other theory that is put forward is that the child Tom in fact has an inherited disease which is described as Ehlers Danlos Type 3 Syndrome (EDS 3). It is argued that that has caused a weakness in Tom's bones which has led to him sustaining the injuries.

[7] It follows that there is a stark choice in this case as to whether or not the child has sustained a non-accidental injury caused by his parents or whether or not the parents have been accused wrongly due to the child having either fallen victim to an accident or succumbed to the sequela of an inherited disease. That is the issue at the

core of this case. The Trust could not say at the outset on their own case which of the two parents caused the injuries and so it was submitted that both parents are in the pool of perpetrators. I should also say that the parents are subject to criminal investigation which has not concluded however all parties agreed that this family case should proceed notwithstanding this.

[8] The actual injuries have been helpfully set out by counsel for the Guardian Ad Litem at schedule 1 of the written submission. Most of the injuries were agreed save some difference between radiologists in relation to three of the fractures which I have highlighted at (ii) (iii) and (xii) of the following schedule:

i. Oblique fracture to the left femur
ii. Metaphyseal fracture to proximate right tibia; Dr Patterson confirms this injury but Dr Halliday is not confident there is a fracture here
iii. Metaphyseal fracture to proximate left tibia; Dr Patterson confirms this injury but Dr Halliday is not confident there is a fracture here
iv. Metaphyseal fracture to distal left femur
v. Costochondral fractures of 3rd-6th ribs
vi. Costochondral fractures of right 4th -7th ribs
vii. Metaphyseal fracture to distal left tibia
viii. Metaphyseal; fracture to distal right femur
ix. Metaphyseal fracture to distal right tibia
x. Metaphyseal fracture to proximal left fibula
xi Posterior aspect of left 5th rib
xii Injury to distal left fibula; Dr Halliday confirms this injury but Dr Patterson feels she would interpret the x ray slightly differently and is not sure whether or not this is a true injury or an abnormality of the bone
xiii Bruise to right side of chest-upper bruise 1.5cm x 0.5 cm
xiv Bruise to right side of chest- lower bruise 2.3cm x 1.0cm
xv Bruise to right side of abdomen-upper bruise 1.0cm x 1.0cm
xvi Bruise to right side of abdomen-lower bruise 1.8cm x 0.3cm
xvii Mark on the back of left shoulder
xviii 5 marks on lower back
xix Bruises to inner and outer surface of left lower leg

With this identification of issues I now turn to the evidence.

The Evidence

[9] The first witness to be called on behalf of the Trust was Dr David Grier, a Consultant Paediatrician. Dr Grier outlined his qualifications and his 23 years of experience over 8 of which was as a consultant. Dr Grier explained in evidence how on 31 March 2016 in the early hours of the morning he was called at home by a Paediatric Registrar. It was reported to him that a 4 week old baby was in the Emergency Department and that the Registrar was concerned about the number of

unexplained bruises on the child and that she suspected he had a fracture of his left femur for which she did not have an explanation. Dr Grier decided to come into hospital and he did so and arrived at approximately 2:10am.

[10] During his evidence Dr Grier provided a narrative on the clinical notes of his attendance at the hospital and treatment of Tom. He explained that this child had marks on his right upper chest, right side of his abdomen and on his back. His left thigh was swollen and the Registrar felt that he had crepitus which Dr Grier explained is a sensation caused when the ends of a fractured bone rub together. This was apparent whenever the left leg was moved. An intravenous drip was inserted and a rapid infusion of saline fluid was administered to Tom because of his pallor and high heart rate.

[11] Dr Grier explained that the child needed morphine. In his view the child was in enormous pain and he was screaming when his thigh was moved. Dr Grier with the use of the body map which had been prepared at the time indicated where all the bruises were found on the child's body. In evidence he also outlined the history given by the mother at the hospital. He said that the mother explained that she had become concerned that Tom had been cross and was not moving his left leg after his father changed his nappy. Dr Grier clarified the time of this with the mother and she informed him that it had been about 00:30am and she said that she had called the GP Out of Hours Service who advised her to bring the child to the Emergency Department. Dr Grier also gave evidence that he later confirmed that this had occurred as the mother phoned the out of hours service at 00:34am and was advised by a nurse to go straight to A&E.

[12] Dr Grier gave evidence that an x-ray of the leg confirmed the presence of an oblique fracture of the middle of the shaft of his left femur which was angulated and misaligned. During the course of the hearing Dr Grier produced the x-ray to court and even to an untrained eye the extent of this fracture was very clear. The femur as he described is the longest bone in the body and this was a solid single bone broken in half. Dr Grier explained in vivid detail that he considered this was a truly dreadful injury which must have been caused by the application of significant force. He also said that he took the unusual and unprecedented step in his career of calling 999 and involving the police, particularly as he knew there was another child at home. He said that one nurse was particularly badly affected by the state of the child.

[13] Dr Grier was also taken through the police photographs of the child at the time. He explained the various injuries and bruises through the use of the photographs. In his report Dr Grier states that he explained to the mother that the child had a fracture and bruising for which he had no plausible explanation. He said that when this was put to her the mother said that she did not have an explanation. The written report of Dr Grier refers to the fact that the mother suggested that the injuries could have resulted from Tom being strapped into a seat for the first time the previous day. Dr Grier confirmed that he explained to the mother his belief that

this was not an adequate explanation and that he had to consider that the most likely cause for the bruises and fractures was that Tom had been deliberately harmed.

[14] Both in his report and in his evidence Dr Grier stated that the presentation of the mother at hospital was something that he and the Registrar remarked upon. In his report and in evidence Dr Grier said that the mother appeared very vague and completely unemotional throughout his assessment. In particular he stated that "she showed no concern when he was crying in pain or when I explained that I believed that the most likely cause for his injuries was that he had been deliberately harmed."

[15] In his report of 1 April 2016 Dr Grier sets out his review of the results of the investigations. He records as follows:

> "This legal survey series of x-rays has been reported by Dr Stephen Hall, Consultant Radiologist, as indicating that he had probable fractures at the costochondral junctions of his left 4th, 5th, 6th and 7th ribs. There were abnormalities of both bones (radius and ulna) in each forearm and right lower leg bones (tibia and fibula) which will require repeat x-rays to determine if they are fractures. As well as his oblique fracture of his left femur there were also abnormalities in the lower part of his left femur (distal femoral metaphysis) and the upper part of his left tibia (proximal tibial metaphysis). Dr Hall concluded his report by stating that there was evidence of multiple fractures. His blood tests indicated that he had normal clotting times and platelet numbers and that his fibrinogen level and haemoglobin were lower than normal. The doctor says that he believes that these abnormal blood tests could be accounted for by internal bleeding caused by his femoral fracture. The report concludes by saying 'it is my clinical opinion that the most likely cause for Tom's injury is physical abuse'."

[16] Dr Grier filed a second report in relation to this case as he was asked to comment upon medical information about another child who is a cousin of Tom. The mother had suggested that this might be relevant in that she thought Tom might suffer from a medical condition which ran in the family. Consent was given to look at the notes and the doctor reported upon this. Dr Grier gave evidence that the child involved did have some injuries but that these were in keeping with trauma associated with her birth and were very different from the injuries sustained by Tom. He found that whilst the two children are second cousins, he did not believe that there was any hereditary association between the two children which would account for the bruising and the fractures.

[17] In a third report dated 13 March 2017 Dr Grier comments on the reports from other experts in the case. In that report he highlights that "the report from Dr Holick has given me some concerns as a clinician which I feel I need to mention." Dr Grier expanded on this during his evidence as he said that he seriously doubted the diagnosis of Dr Holick in relation to hypermobility of the parents and the child and his use of the Beighton score. In summary Dr Grier concluded that the reports did not change his opinion.

[18] Dr Grier was cross-examined by the parents' representatives on the basis that he had a closed mind in that he would only consider non-accidental injury in this case. It was put to him that he had not taken a full family history and that this was a significant failing.

[19] The subsequent history given by the father that he had crushed the baby when stumbling forward with him in his arms was put to Dr Grier. Dr Grier pointed out that this explanation was not given to the medical professionals treating the child at the hospital but in any event he did not think that this would account for all of the injuries sustained by the child. Overall, Dr Grier was clear in his evidence that this was a case of non-accidental injury and indeed a very difficult and disturbing case which he had to involve the police, a course which he did not undertake lightly.

[20] Dr Shane McKee a Consultant in Clinical Genetics then gave evidence. Dr McKee referred to a clinical note that he had prepared in relation to his involvement with this child. He said he had 13 years' experience working in this area. He said he was asked to assess this child when he was 3 months of age. At the clinical appointment the child was accompanied by his mother and father as well as his older brother, grandmother and a social worker. Reference is made in the report to the history given that the mother's brother had received a diagnosis of one of the forms of Ehlers Danlos Syndrome but there were no concerns in the immediate family. Reference is also made in the report to the fact that the mother's cousin has, as the doctor understood, also recently had a baby and there was a fracture but he had no further details about that.

[21] Dr McKee described this baby as very normal. He said that he examined his eyes and his teeth and he looked for the signs of a connective tissue disorder. He examined his movement and his growth and interaction. The doctor said that this child had normal growth, that he was bright, interactive and entirely socially appropriate. He said he had no concerns about his general development. He said that his muscle tone, posture and head control were very good and he uses all limbs appropriately. The doctor said that his joints were not hypermobile, his skin was normal and in good condition. Dr McKee stated that his eyes were normal in appearance and alignment and the sclera were perfectly normal for his age. The doctor said that he had full normal mobility and no resistance to examination or play. He said that he had a single crease on the left hand, but this is a common enough finding in the normal population and no cause for concern. The doctor said

that he did not see any signs of a connective tissue disorder in Tom that might predispose him to excess bone fragility and he said this would be backed up with the excellent healing he has experienced.

[22] Under cross-examination Dr McKee did not accept that the various photographs put to him showed blue sclera and therefore indicated that the child had Ehlers Danlos Syndrome. He rejected that suggestion and gave evidence that this diagnosis could not be undertaken on the basis of photographs but in any event the child did not have abnormal blueness to his eyes. He said that a child of this age would have some blueness but it was not to an abnormal degree. He said that the child did not have very soft skin. He said that mottling occurs in children of this age and was nothing to worry about. He said that the palmer crease was nothing to worry about. Dr McKee gave evidence that joint hypermobility is present in 10% of the population but that does not mean that everyone with it has a connective tissue disorder. He said there was no genetic test however this was a specialist area and in his experience a rheumatological expert would usually make the diagnosis. When it was put to him that there were red flags in this case given the child's presentation he disagreed.

[23] Dr McKee agreed that if both parents had EDS 3 there was a 75% chance genetically that this child would have the condition. He was however clear under cross-examination that this child did not have any signs of an inherited condition. He referred to osteogenesis imperfecta (OI) and said that the child did not have any signs of that. He also referred to EDS which he had some knowledge of and said that in his opinion this child did not have any signs of it which would lead to a diagnosis. The doctor rejected the criticism that his examination had not been long enough or extensive enough and overall despite extensive cross-examination the doctor was steadfast in this view in relation to this child. He also confirmed that the child's vitamin D levels were within the normal range.

[24] The next witness was a Dr F W Alexander who was instructed by the father in this case. He adopted his report and confirmed his involvement in an expert meeting. His report is dated 16 September 2016. This doctor is an Honorary Consultant to the Newcastle and Nuffield Hospital having been a Consultant Paediatrician and Clinical Manager to the Great North Children's Hospital at the Royal Victoria Infirmary. He is now a Consultant Paediatrician at the Newcastle and Nuffield hospital. Dr Alexander confirmed that he been involved over the last 40 years in approximately 400 cases of non-accidental injury and he also assisted in a large number of accidents and paediatric medical negligence cases.

[25] Dr Alexander opined that the injuries to Tom were very serious. In particular, he described the femur as the biggest and strongest bone in the body. He said that this was not just a case of rough handling. Dr Alexander referred to the fact that there would be significant pain emanating from an injury such as this. He said that this would involve screaming. He said that if someone was one day or 101 days old this would be excruciatingly painful. In the opinion of Dr Alexander there was no

evidence that this child was an easy bruiser. He said that he had normal vitamin D, the x-rays were normal and the other tests were fine. As such the doctor stated that in his opinion this child had suffered from an inflicted injury.

[26] In Dr Alexander's view the father's history did not add up particularly as it was not given at the time and he said that was highly significant and detracted from the truthfulness of the explanation. Dr Alexander also referred to the fact that the injury to the leg would have been caused by more than normal handling. He referred to the likely mechanism as grabbing and the application of significant force to the leg. He also explained the bruising as being in a scalloped pattern which he thought was caused by pressure, grabbing and squeezing of flesh through hands to create the pattern.

[27] Dr Ian Ellis then gave evidence instructed on behalf of the mother. He is a Consultant Clinical Geneticist at Alder Hey Children's Hospital in Liverpool and he has held that position alongside being a senior lecturer in clinical genetics at the School of Medicine in the University of Liverpool since 1993. Dr Ellis also referred to the fact that he is the author of more than 50 papers and abstracts on clinical genetics topics, genetic screening and research into hereditary pancreatitis and familial pancreatic cancer and legal and ethical aspects of medical genetics. Dr Ellis stated that he has written over 50 medico-legal reports many involving alleged non-accidental injury of infants and children examining the differential diagnosis, possibility of bruising, bone fractures, osteogenesis imperfecta (OI) and other connective tissue disorders.

[28] During his evidence Dr Ellis accepted that he was not seeing patients with EDS on a daily basis as he did not consider it was common but he saw a number every week amounting to 100-150 a year. When asked about the various signs that counsel for the parents argued indicated EDS Dr Ellis was quite clear that there were no clinical signs. He discounted the issue of a palmer crease. He said that the child did not have any unusual blue sclera. He also said that there were no other findings that would lead him to consider that the child had hypermobility.

[29] Dr Ellis also filed a specific comment whereby he raised various concerns about the reports filed by Dr Holick. That is the update of 15 May 2017 in which he disputes Dr Holick's diagnosis. Dr Ellis was taken through some of the research materials and he provided a useful history of EDS 3 within the diagnostic spectrum. He opined that EDS 3 is common and in his view it is over diagnosed and it is difficult therefore to diagnose reliably. Dr Ellis clearly contended that photographic evidence would not lead him to make a diagnosis of EDS 3. He said that a physical examination was required. Overall, this doctor even though pressed during cross examination maintained his view that the blood and x-rays showed no clinical evidence of a blood disorder and no evidence of low bone density. He said that the bony architecture of this child and skeleton was normal. He said that the vitamin D was within normal levels. He said that the child did not have OI. He said that a tinge of blue in the sclera was not striking in a young child of this age.

[30] Dr Ellis also referred to the fact that if properly diagnosed EDS 3 was a lifelong condition which may turn into arthritis. As a result he said that it would be expected that if a child bruised easily and EDS 3 accounts for it you would expect it to continue all over the body particularly when handled or pressure is to be applied. He said that in his view it was unusual that the child did not experience bruising when undergoing various medical procedures. He also said that bone fragility is not obvious in this child given that the child has not experienced any other fractures and fractures cannot simply be spontaneous. Overall, Dr Ellis was clear in his evidence that there is no genetic cause for the injuries.

[31] Dr J Allgrove then gave evidence. He is a Consultant Paediatrician and Paediatric Endocrinologist with specialist expertise in metabolic bone diseases. He was instructed by the Guardian ad Litem. This doctor filed a report for Court which is dated 11 February 2017. The doctor explained that he has been a Consultant since 1988 at Great Ormond Street Hospital. He explained that he had examined this child when just under one year old and interviewed the paternal grandmother and both parents. The doctor was taken through various issues relating to the child. He indicated that as a result of the physical examination he undertook that this child scored as normal and that he had no issues in terms of mobility. Dr Allgrove did say that the mother had indicated that she might have hypermobility. He rejected any suggestion that there were deficits in his examination. He confirmed in evidence that the grandmother did not tell him that the child was susceptible to bruising.

[32] Dr Allgrove said that there was a significant grey area about whether or not EDS 3 resulted in bone fragility. He said that this was not medical certainty. Overall, his opinion was that there was nothing in the family history that might support a diagnosis of any condition that would pre-dispose the child to an increased likelihood of fractures at his age. Dr Allgrove did accept that the other child Ned may show some signs of hypermobility but he was quite clear that in relation to the subject child there was no issue. He said that Tom presents as a robust young boy who is very healthy looking, he has no hypermobility, there was no bruising present when he saw him and he has no clinical features to suggest osteogenesis imperfecta. The conclusion of this witness was that the pattern of his fractures is not typical of a child who, at the time, was not mobile.

[33] A further expert witness was called by the Guardian ad Litem namely Dr Madeline Rooney, Senior Lecturer and Consultant in Paediatric Rheumatology, based at Musgrave Park Hospital and Queen's University, Belfast. Dr Rooney gave evidence that she has 27 years of experience in the field as a paediatric rheumatologist working in Northwick Park, Middlesex, Great Ormond Street Hospital, London and then from 1999 as a Senior Lecturer and Consultant in Paediatric Rheumatology in Musgrave Park Hospital and Queen's University, Belfast. Dr Rooney said that she runs the regional Paediatric Rheumatology Unit including the Paediatric Osteogenesis Imperfecta Service in Northern Ireland. Dr Rooney adopted her two reports.

[34] Dr Rooney gave evidence in relation to her clinical experience of examining the joints of children. She said that she saw approximately 40 children a week. She said she might have referrals regarding connective tissue disorder or EDS and that she would see children 2 or 3 times a week with that diagnosis. Dr Rooney recounted her physical examination in detail. She described looking at the texture of skin, looking for bruising, looking for at the sclera, assessing elasticity, scarring and muscle bulk in the joints. Dr Rooney said that the child was very lively, interested and bubbly. She said that she examined him for 5-10 minutes. She accepted that he became distressed but said that this was perfectly normal and that she had done the musculoskeletal check by then. Dr Rooney found that the child had no issues with skin elasticity or such like. She said his skin was normal. She said his teeth were normal. She said he had no concerning bruising. She said that his eyes were not unduly blue for his colouring. Dr Rooney referred to an examination of his joints which she said were normal and he would have scored 2 out of 8 on the Beighton score.

[35] Dr Rooney was taken in detail through some of the research literature and she helpfully commented upon it in understandable language. In broad terms she said that this research was not obviously pointing to issues with bone fragility from hypermobility and in any case this child did not have hypermobility. Dr Rooney rejected any suggestion of shortcomings in her examination. She also confirmed that the child's vitamin D was not clinically significant as it was in the sufficient range albeit at the lower part of the range. She also referred to the fact that the child was clearly radiologically normal. Dr Rooney disputed Dr Holick's view. When asked about capillary fragility she said that there was no evidence of this in what were described as "bruising diaries".

[36] When questioned by counsel as to her methodology Dr Rooney clearly stated that she did look for a differential diagnosis in this case. She said that she came to this case with an open mind and she clinically examined the child and she looked for evidence and could not find any evidence of hypermobility to sustain a diagnosis of EDS 3.

[37] Dr Rooney was also asked about some developmental delay present in relation to this child. In answer to this she highlighted the fact that the child was in traction for some time and has made up any developmental delay quite well so she indicated that this was not a concern to her. She said that the positional talipes the child had at birth was also not an issue for her. She said the single palmer crease was not an issue. She said that the flat feet were normal.

[38] Dr Holick was then called on behalf of the parents and he adopted his two reports. Dr Holick explained that he had initially been contacted directly by the mother by email before being instructed in this case. He said that he was a Director of the Bone Density Clinic in Boston University. His medical degree is from 1976 and he referred to an extensive CV since then which is largely directed towards work in the area of vitamin D deficiency. Dr Holick stated in evidence that as a

result of the mother's contact with him he had an interview on the telephone. He said he was "pretty convinced" due to the conversation with her that both and her husband had EDS and that there was a high likelihood that this could explain the injuries to this child. He went on to explain that he thought in his clinical opinion that EDS was also connected with fragility fractures. He said that there had not been a discussion about this in relation to infants until recently when he had written a paper in March 2017 where he put some of his research together.

[39] Dr Holick also referred to the skype interview that he had with the parents and he said on the basis of that he had diagnosed EDS in both parents. Dr Holick consistently referred to the fact that he had the most experience in this area and as such he considered that his report should be determinative of this issue. Dr Holick opined that the child had blue sclera and that this was a very clear clinical sign of EDS Type 3. He disagreed with the other experts and he suggested that they did not have much expertise in the area repeating his view that "this is my area."

[40] When pressed under cross-examination Dr Holick imparted that his role was to give evidence as an expert on behalf of the mother and father primarily but he did not quite realise that he also had to give evidence on an independent basis for the Court. He said that he had been involved in cases in Australia, one in London in the United Kingdom and in the USA and New Zealand. He said these were cases where the parents had been accused of child abuse and as a result of his testimony it was found that in fact the children had EDS.

[41] During the course of cross-examination Dr Holick was effectively challenged on his Beighton scoring in relation to the parents. Dr Holick was also taken to the photographs provided by the parents in relation to the baby. He said that the child had blue sclera from photographs. Also for the first time during cross-examination the doctor said that the photographs provided by the parents showed that the child had bruising in various areas around his face just after birth. Dr Holick said that that was a clear sign of EDS. Dr Holick also said that the vitamin D test did not necessarily mean that the child did not have vitamin D deficiency. When it was put to Dr Holick that he did not raise this in any report as a concern Dr Holick did not give any explanation about that, however he gave substantial oral evidence about the issue of vitamin D deficiency. Dr Holick said that he was very confident in his diagnosis of EDS in this child based on the information provided. He opined that both parents have it and that "it all fits very well. "

[42] When asked the question whether 17 fractures in a 4 week old constituted serious injury the doctor appeared to state that they did not. The doctor referred to the child's ribs as being like toothpicks. He also referred to the birthing process as a potential cause even though this was not mentioned at all in his report. When asked about this omission he said he was not asked to put this in his report. When asked about why he thought the child had not sustained any further injury he said that that was due to minerals being put down in the bones and the child's bones healing well. Overall, Dr Holick disagreed with all of the other experts in the case and asserted

that he had the greater expertise to determine this case on the basis of his skype interview with both parents and on the basis of what he had read in the papers about this child and his brother.

[43] The radiological evidence was agreed in this case and is comprised in the consultant radiology reports of Dr Halliday instructed on behalf of the parents and Dr Patterson, instructed on behalf of the Trust. There are some variations between the radiologists in terms of the timeframe when each of the fractures was sustained. However, these consultants were broadly in agreement and this consensus is best summarised in the expert minute as follows:

> "The femoral fracture has been caused by some sort of twisting force to the leg. And, it could occur if the child was picked up roughly by the leg or if the leg was twisted roughly during a nappy change. It can also occur accidentally but Tom is an immobile baby and so some accident would have to be described and there has not been one basically. Dr Patterson says I would agree, to have caused the type of femoral fracture that Tom had would have been caused by some sort of torsion or rotational force which can be accidental trauma if there is an appropriate history given or the only history that I was given with the parental fall with the baby and I do not have any more detail so I was not able to concur any further and certainly there were not more injuries, just one, so I do not feel there was a history that had been proffered that would explain the fractures.
>
> As regards the 3rd, 4th, 5th and 6th ribs on the left Dr Patterson said these likely occurred between 3 17 March. Dr Halliday 17-31 March. As regards the fractures of the right 4th, 5th, 6th and 7th ribs Dr Patterson said these likely occurred between 3 and 17 of March, Dr Halliday 17-31 March. As regards the posterior aspect of the left 5th rib Dr Patterson said between 3-17 March. Dr Halliday between 17-31 March.
>
> As regards the left femur shaft fracture Dr Patterson said between 21-27 March, Dr Halliday between 20-31 March. As regards the distal left femur Dr Patterson between 3-17 March and Dr Halliday. As regards to the distal right femur between 17-31 March from both doctors. As regards the proximal left tibia Dr Patterson between 3-17 March, Dr Halliday said

> that that was probable but did not age that. Dr Patterson as regards to the proximal right tibia said between 3-17 March. Dr Halliday raised an issue about this particular fracture. Then as regards the distal left tibia it was agreed between 7-21 March. Then as regards the distal right tibia between 17-31 March. Then in relation to the proximal left fibula between 7-31 March. As regards the distal left fibula Dr Halliday said 17-21 March, Dr Patterson was not so sure on timing on this. As regards the left and right 7th and 8th ribs Dr Patterson was suspicious in relation to these, Dr Halliday could not find these as rib injuries. It was not discussed at the expert meeting.
>
> Overall, in relation to the radiological findings the doctors concluded that the child had sustained multiple fractures on more than one occasion."

[44] Two social workers gave evidence in the case. The social workers both adopted the reports and confirmed the Trust case that this was a non-accidental injury case and that in the absence of the clear indicator as to which parent had caused the serious injuries to the child the case was that both parents were in the pool of perpetrators. The social workers were then questioned about peripheral issues and a case was implicitly made that they were biased against the parents. This part of the evidence was not particularly helpful to me in deciding the core issue in the case but I will summarise it as follows for completeness sake.

[45] Firstly, Ms Newport, the field social worker, recounted some difficulties which she had with the parents in this case. In particular she gave evidence that the mother was telling professionals that the child definitely had a genetic illness. There was no real dispute about that and although inaccurate it does not influence my consideration of the issue in this case. Ms Newport also considered that the mother was on occasions misrepresenting the child's symptoms. She said that the mother's position often conflicted with what the carer was saying about the child. Miss Newport was effectively cross examined about this evidence by Ms Mc Keagney with the result that while there was some foundation for what was said by the social worker it appeared to me to be somewhat exaggerated or taken out of context. In any event this part of the Trust case is not something I am relying on in terms of deciding on the question of non-accidental injury.

[46] Ms Newport was also challenged about her conduct of a meeting that she had with the parents whereby she discussed the case. It was put to her on behalf of the father by Ms O'Grady that she was essentially pressuring him to tell the Trust that the mother had injured the child. The father said that he made a complaint about this and that this was unprofessional on the part of Ms Newport. In relation to

the latter issue the senior social worker, Ms Lynas, gave evidence. She referred to a contact sheet which was a record of a meeting with the parents in relation to this issue. Ms Lynas confirmed there was no actual complaint made that Ms Newport had been asking the father to implicate the mother. That appears to be correct however it seems to me that there was a breakdown in communication at this point.

[47] The mother then gave evidence to the Court. She described the history of her relationship with the father. She said that they met in 2004 and they married in 2009. She said she worked full-time as an editor and gave up work in 2009 when she took ill with functional hemiplegia. The mother referred to her recovery time which involved physiotherapy and then her thought that she would like to try to have a baby. The mother referred to the fact that she got pregnant with her first child in 2011. This was a planned child and he was born in 2012. The mother gave detailed evidence about the birth of the child which she said was traumatic. She had wanted to have a natural birth but ultimately she ended up having to have a caesarean section and she gave evocative evidence about the trauma she experienced from that.

[48] The mother was pleased that the child was healthy but after the birth she had to undertake some therapy to deal with what had happened to her. She gave evidence that she was referred to a community psychiatric nurse and then she undertook some cognitive behavioural therapy for a year. She said that she was left with post-traumatic stress disorder from the birth however she found the cognitive behavioural therapy and the mind techniques very effective healing tools. The mother then said that she discussed having another child with her therapist and then she tried again for a child and became pregnant. The mother said that professionals worked closely with her in relation to the birth of her second child given what had already happened and she said that the birth of Tom was less traumatic and she was calmer in relation to it.

[49] After the birth of Tom the mother said that the child was slightly jaundiced, he had an in-turned left leg and foot and she said he had a single palmer crease. This child was born by way of caesarean section as well so the mother referred to the fact that she was in pain and her mobility was affected for some weeks after the birth. She described her physical condition as far worse than after the previous section. As a result the mother's evidence was that her husband did the majority of the work at home because she was not physically able. She said that he undertook the feeding, the nappy changing and that she rested for a long period of time on the sofa. So while she bonded with the child she could not do a lot of the physical tasks.

[50] The mother described the child as a very settled and contented baby. She did say that he cried but she had no particular concern about that because as she said babies cry and that might be due to a variety of things such as being hungry or needing changed. The mother said that the midwife visited about 4 times and the health visitor came as well and that there were no issues raised in relation to the child. She did mention a clicky hip at one stage but overall she said that everyone was positive about her. She recounted that the health visitor last visited on Friday

11 March 2016 although she had thought it was the 15 March. However, she said there were no issues in relation to that visit.

[51] The mother recounted that she telephoned the health visitor for advice on 21 March 2016 as that weekend Tom had become very upset, he was gulping and had chapping around his lips. She said she was concerned about him that he was irritable, there was a slight smell of vinegar and there was reflux. The mother's evidence was that she did speak to a health visitor on the phone and the advice was to try medications and anti-reflux formula. The nurse said that other than that she could come to the clinic on Monday. The mother said that she was advised that she could also attend the general practitioner at A&E or the Wednesday morning drop-in at the clinic. However, on the mother's evidence, it appeared that the plan of action from the conversation was to see if the thicker feed would help. The mother said that her husband went and got the feed and that did help so she did not go to the doctor or the clinic as the child became more settled.

[52] The mother then gave evidence about events on 30 March 2016. She said that that was a normal enough day and she described in detail what happened. The mother was alone for part of the day. The mother said that her husband took on the child care tasks when he came back. The evidence in relation to the evening was particularly important as the mother said that around 9:30pm the child did become a bit unsettled and there were difficulties in winding him. The mother said that her husband took the child upstairs and he was dealing with him, settling him and giving him a bottle. As this was happening the mother said that she was logging into her online banking. The mother recounted that the father said the child was dirty and he was going to go and change him and he took him to the other child's room to a changing table.

[53] At this point I asked the mother to describe her house and she said it was a chalet bungalow with two bedrooms upstairs and a small landing. I requested the police photographs which ultimately proved extremely helpful in terms of understanding the geography of the house.

[54] The mother continued that she was on the bed in her own room doing the internet banking when the father left the room to change the child. She said that she did not see or hear anything until the father called her and said something along the lines of "honey come quick". At that stage she saw that the child was crying very intensely, she set the Kindle down and went across the hall to the room. She saw her husband who was distraught. She described him as panicking, shouting and crying. He said he did not know what had happened and when she looked at the child she saw that the leg was limp and she knew something was wrong. The mother then said that she made some internet enquiries by googling what a limp leg in a baby meant. She then said that she spoke to Out of Hours and ultimately she decided that she would go to the hospital. During her evidence the mother said that this was the first time that she had driven since her section and she went herself in the car to the hospital.

[55] The mother recounted what happened at the hospital in detail. She denied that she was unemotional. She said that she did not compute that the leg was broken. She said she was shocked that the police were called and that the family were held overnight and that her other child was taken into care. She accepted that she did not give any explanation at the hospital but the next day she said that her husband had said about his trip on the stairs. She said that her husband had not told her about that and she could not really get to grips with why that might be apart from the fact that she said he was very confused himself on the night in question.

[56] The mother then gave evidence about the child and was clear in her belief that from birth the child had been nasally and sniffly with congestion. She believes that the child had reflux. She also believes that this child profusely sweated from an early age. She said that the child was behind developmentally. She said that the child had blue sclera. She said that the child had a low vitamin D test. The mother referred to a vitamin D test that she took in and about July 2016 so 3 months after the incident which concluded that she had vitamin D insufficiency. Upon questioning it became clear that this test was conducted by correspondence with a clinic in England. The mother also referred to the fact that she felt both her and her husband had hypermobility and also that Ned had hypermobility. She relied extensively on the opinion of Dr Holick in relation to this who she said she sourced herself and who she spoke to prior to formal instructions. In summary the mother said that this incident was in no way connected with non-accidental injury as this child had bone fragility as a result of having Elhers Danlos Syndrome.

[57] The mother was asked about her previous mental health issues and in particular her psychiatric evidence was put to her that she had experienced some issues after the birth of her first child, that she did not want to have a boy and that she had some issues in terms of having the child. The mother gave evidence that she had volunteered this history at the hospital but that she had sought treatment for her poor mental health when she needed it and that there was no issue with her mental health at the birth of this second child.

[58] The father also gave evidence to the Court. He explained that he was a teacher aged 33. He said he had no criminal record, he was teetotal and he had never been in trouble with the police. The father accepted that in 2012 he experienced low mood shortly before his first child was born. This emanated from a disagreement with his mother who he wanted to become more involved. He said the doctor recommended counselling and gave him anti-depressants. He said that he found great strength from his church. The father explained that the birth of his children were very happy events for him. He described Tom as a happy child. However, he was quite clear in saying that this was a child who bruised easily. In particular he said he had regular red marks and that he noted a red mark on the child's nipple at one stage.

[59] In evidence the father explained his view that Ned had potentially fallen on the baby as he heard a squeal and saw this happening on the sofa. He said this was on the 11 March on the day of the health visitor calling. He said he did not tell his

wife about this as he had no evidence that there was any suspicion of an incident. In relation to the 30 March the father recounted evidence that he had been out during the day at the church but when he came back he took over the feed and the changing of the baby. He said he left the bedroom where his wife was undertaking the internet banking and he went out the bedroom door tripping over his boots. He said he had the child in his arms and he cannot believe he hurt the child. In the process of recovering himself from the trip he said that he crushed the child and he nearly headbutted his knee and he heard a pop or a crack. He said he had never heard anything like it and the child was screaming and very upset. He said he did not remember pulling the door closed.

[60] I asked the father to explain exactly where his boots were with the help of the police photographs and the father clearly said that his boots were in the bedroom and he marked that on police photograph 25. He said his wife saw nothing and he was so upset that he did not tell her that there was a trip so she did not mention anything at the hospital but he was very sure that this had caused the child's injuries.

[61] The father also gave evidence that the social worker had through a series of what were called "reflective chats" stressed that he must confess to his wife having injured the child. The father's evidence was along the lines that the Trust was obsessed with implicating his wife and he was upset about that. The father gave evidence about his wife being verbally assaulted by a social worker who supervised contact although this was not put to the Trust witnesses. The father also referred to physical symptomology which he said established that the child had the inherited disease of Ehlers Danlos Syndrome. In his evidence the father emphatically said that he had not intentionally hurt the child. He said it was hard to talk about the trip but that he thought that had caused the injury by accident. He said that there was something going on and that there was an agenda on behalf of the Trust to implicate his wife. He said his family had been torn apart, this was a knife to his heart and he regretted what had happened.

[62] In cross-examination Miss Simpson thoroughly took the father through his police interviews which contradicted much of what he said in evidence and in various parts contradicted each other. The father accepted that there were contradictions in the interviews, his statement and his evidence and at various stages he accepted that "it does not make any sense."

[63] When the father returned to give evidence for the second day he asked to address the court. I allowed him to do this before his cross examination continued. The father then said he had been disrespectful to the court the previous day in that he had given incorrect information that was factually wrong. Essentially he said that he had wrongly described the trip and the shoes had not been in the room but they had been outside the room in the landing. Cross-examination then continued and the father accepted that he had been untruthful in his evidence but he said that was because he felt under pressure. It was put to him that the Court could not have any

confidence in what he has said given that he had told untruths to both the police and the Court. The father was also challenged about the fact that he did not mention the child sustaining a pop or crack to police at any stage. The logistics of the house were again put to the father but he maintained that his wife could not have either seen or heard what happened. The father repeated the symptomology of EDS as stated by Dr Holick and said that the child had the condition.

[64] The father was pressed as to why he had not told his wife about the trip. Again he could not explain but during his evidence on the second day he said that whenever he told his wife about falling she was furious and threatened to throw him out of the house. This was the first time this had been mentioned.

[65] The father accepted that this was not in his statement and that the first time this evidence had been heard was this second day in the witness box. The father denied that he had changed his story in the witness box to fall into line and provide a consistency with the evidence given by his wife. He was quite clear that neither he nor his wife had intentionally caused the injuries but that his trip had resulted in the child accidentally sustaining some injuries and that the child had the inherited disease EDS.

Submissions of the parties

[66] Ms Simpson ably augmented her written submissions by focussing upon the three core questions namely (i) what are the injuries, (ii) what may have caused them and (iii) who may have caused them.

[67] In terms of the first question Ms Simpson submitted that the Guardian's schedule was the most accurate regarding the injuries and that there was consensus save three fractures which were not fully agreed by the radiologists. Ms Simpson frankly conceded that any uncertainty may mean that some injuries could not be proven to the requisite standard but that the case involved a large number of fractures in any event.

[68] As to question two the main issue was whether the injuries were brought about as a result of the child suffering from EDS. This Ms Simpson said depended on the Court's view of the evidence of Dr Holick. Ms Simpson submitted that the evidence could not lead to a conclusion that the child did suffer from this condition and in any event even if he did there is no clear link between the syndrome and bone fragility in infants. A further point Ms Simpson made was that the Court would need some credible evidence as to when the child may have fractured even if there were an organic cause. She submitted that the evidence regarding Ned potentially rolling over onto the baby on the sofa was unreliable and the father's evidence as to the trip was also not credible. All of this, Ms Simpson said leads inexorably to a conclusion of non-accidental injury on the facts of this case.

[69] In terms of who may have caused the injury, Ms Simpson submitted that as both parents' had the opportunity and were the only care givers for the child during the relevant time, they should both be in the pool of perpetrators.

[70] Ms McGrenera submitted that there was no dispute regarding the law but she enjoined the court to look at a wider canvas relying on various authorities set out in her comprehensive written argument. Ms McGrenera also reminded the Court that the burden rests upon the Trust to prove the case and that a case could not be established upon supposition alone.

[71] Ms McGrenera raised an important point about the threshold requirement that each child had to be looked at separately. The baby was clearly injured but the older child is also in care on the basis of likelihood of harm and Ms McGrenera suggested that may not be sustainable given the different circumstances. As this was not flagged in the original submission I allowed counsel time to look at it and further submissions were filed which I have considered.

[72] Ms McGrenera accepted the accuracy of the schedule of injuries provided by the Guardian at schedule 1 attached to that submission.

[73] Ms McGrenera relied on the evidence of Dr Holick in terms of causation. She said that he was cutting edge in this field and a respected clinician. She submitted that the rib fractures could have been caused by normal handling especially winding and she said that the femur did require rougher handling but that was the stumble.

[74] Ms O'Grady also had no issue with the law or the medical schedule of the injuries. She echoed Ms McGrenera's submissions. She referred to the written evidence of Dr Halliday in support of the rough handling issue. Ms O'Grady stressed that the issue of EDS is emerging and so the court should be careful not to discount it as a cause. Ms O'Grady frankly addressed the fact that her client accepted there were inconsistencies in his evidence but she said that was not fatal in the overall scheme of things. Finally Ms O'Grady referred to the fact that this was a family which had not come to the attention of Social Services and that I should regard the social history as important.

[75] Ms Smyth submitted that the parent's case about EDS, winding causing injury and the stumble causing injury could not be made out. She relied upon Dr Rooney's evidence regarding EDS 3 which she stressed is a purely clinical diagnosis. Dr Rooney actually saw the child and so Ms Smyth submitted that her evidence was persuasive. Ms Smyth contended that Dr Holick's report and evidence fell short in many respects and she outlined these areas in written submission. Finally Ms Smyth brought me to the case Re J 2013 UKSC 9 and the dicta of Lady Hale as regards likelihood of harm to Ned. On the basis of that decision she submitted that the threshold was established in relation to him as well as the baby who was injured.

Further evidence

[76] At the submissions hearing, Ms McGrenera raised the issue of Ned having undergone some potentially relevant medical intervention. She referenced a contact sheet in relation to this which referred to some testing by Professor Morrison at the genetics clinic. This was an appointment which the grandmother attended with Ned when some new issues were raised particularly about the paternal grandfather's health. Ms McGrenera requested a report. I directed the Trust to provide a report and I received some further material by consent about this issue. Also, upon application by the mother's representatives I allowed some of the experts to comment. I received updates from Dr Holick, Dr Ellis and Dr Rooney.

[77] I convened a further hearing to deal with the issues raised and in particular to consider whether the case should be adjourned for further evidence including genetic testing. Counsel addressed me on this but there was broad agreement that the further evidence did not really highlight any new issues. Ms Smyth made the point that the genetic testing was not something Dr Rooney recommended from a clinical point of view but it could be undertaken. The timescales for this appear to be at least 6 months. In any event, counsel for the parents did not ask that the case be postponed for this having read the updated reports however they did ask that the Trust conduct the testing as part of the ongoing monitoring of this family particularly given some issues with the child Ned. The Trust agreed to do this and that seems appropriate in terms of ongoing monitoring of this family. Of course if anything should arise the matter can be revisited.

Consideration

[78] I begin by reminding myself of some guiding principles when determining a case such as this.

(i) The burden of proof is at all times upon the local authority, in this case the Trust, to prove the case before the court.

(ii) The standard of proof is on the balance of probabilities.

(iii) The court must decide on the basis of an evaluation and not on the basis of speculation or a theoretical possibility.

(iv) Each case must be adjudged in the round, by consideration of all of the evidence.

(v) Medical opinion must be weighed up by the judge bearing in mind the expertise of the particular witness and the analysis put before the Court. I heed the warnings from cases such as R v Cannings [2004] EWCA Crim 1.

(vi) The parents' evidence in a case such as this is extremely important in terms of assessing credibility. However, I also bear in mind the warnings that emanate from R v Lucas [1981] QB 720. That in essence enjoins the court to be careful to bear in mind that a witness may lie for many reasons such as shame, misplaced loyalty, panic, fear and stress and the fact that a witness has lied about some matters does not mean that he or she has lied about everything. This was a criminal case but it is also important in family proceedings to bear in mind the pressure of proceedings and also the issue of an ongoing criminal investigation in the background.

(vii) It is important to look at the full picture in any case and to keep an open mind particularly in relation to medical matters. I am acutely aware that today's medical certainty may become tomorrow's uncertainty. As Butler-Sloss P in Re U (Serious Injury: Standard of Proof), Re B [2004] 2 FLR 263 said:

> "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 would throw a light into corners that are at present dark."

(viii) I must also consider whether in cases such as this, the cause of a child's injury is actually unknown and cannot be established.

(ix) In a case such as this if I discount a genetic condition I must consider whether if I am deciding on non-accidental injury a perpetrator can be identified. If not a pool may be identified and that is sufficient to allow for threshold criteria to be passed.

[79] In terms of the injuries, all of the parties agreed the Guardian's schedule which I have set out at paragraph 8 herein. I will make a finding on that agreed schedule that these injuries were sustained save the injuries which the radiologists cannot agree upon. I make no finding in relation to those injuries.

[80] In looking at causation the question in this case is does this child have a genetic condition causing bone fragility and easy bruising which would account for the injuries I have identified. I have considered a vast body of medical opinion in relation to this issue. All of the professionals are agreed save Dr Holick. That does not in itself mean that Dr Holick is wrong. Indeed I welcome healthy medical debate in these types of cases. I also make allowance for the fact that Dr Holick is an expert from outside the jurisdiction where there may be different practices. I accept that he has experience in treating children with EDS in his clinic and that he is experienced in relation to vitamin D deficiency. However I was unimpressed by the doctor's dogmatic view that he was the preeminent medical voice in this case. That does a

huge disservice to the other highly experienced doctors who gave evidence. Dr Holick was also at a distinct disadvantage as he did not actually examine the child. With that backdrop in mind I must critically analyse all of the medical evidence in forming my own view of this case.

[81] Having listened carefully to the evidence and read the reports again and the minutes of the expert meeting I am firmly convinced that Dr Holick's opinion is not one upon which I could rely. To begin with it is clear to me that this doctor did not approach this case on the basis of being an independent expert to the Court. He said in evidence that he was instructed by the parents and that he did not understand his role to be more expansive than that. I find this extremely worrying and surprising particularly as I stressed the expectations of the Court when granting leave.

[82] It is important to note that the mother initially contacted this witness and he engaged in conversations with her in advance but from the very word go he thought that there was a diagnosis of EDS in this case. This doctor's hypothesis was clear and he worked from it rather than establish a diagnosis from the facts. In other words, his analysis was the wrong way round. In any event I cannot find on the evidence that this doctor could credibly stand over a diagnosis of the parents having EDS on the basis of skype interviews and his assessment using the Beighton scoring test. I entirely accept the evidence of the other experts that it is not appropriate to undertake an assessment in this way. I also note that the parents did not undertake any other EDS assessment.

[83] There are clear deficits in the written reports of Dr Holick which were highlighted by counsel. For example, the doctor did not mention significant matters that he relied upon in evidence such as the child suffering bruising at birth. He also cherry picked parts of the information provided directly by the mother into his report in relation to signs of EDS and discounted other parts. He made a case in evidence that the child had vitamin D deficiency however the child's test was sufficient and nowhere in his report does he reference the strong view he presented in evidence on this issue. This again is a significant failing in an expert report.

[84] I found it worrying that the doctor would say that injuries of this nature were not serious. He seemed to explain this by saying that they were not injuries because the child had bone fragility but nonetheless in a case such as this a witness should be able to appreciate the significance of the serious myriad fractures and pattern bruising to this child. I cannot believe that he really meant what he said and I am prepared to think that something must have been lost in translation.

[85] The reliance upon research was extensive in this case and much of this was provided by Dr Holick. I found it extremely concerning that the doctor would maintain reliance upon a discredited report from a radiologist, Dr Patterson, who had referred to "temporary OI." When asked about this Dr Holick simply said "its literature out there so why should it be discounted." In relation to the other research I note that Dr Holick principally relied upon his own paper published in March 2017

which suggests out some linkage between EDS 3 and infant bone fragility. However, there are serious concerns about this view given the small study and the nature of the study put forward and the characteristics of the patients in the study the majority of whom had vitamin D deficiency. I agree with the other experts in this case that such a small study cannot be definitive. Indeed, Dr Holick relied on another paper from a distinguished journal which points out that there is no established link between bone fragility and EDS 3 in infants.

[86] For all of the above reasons and on the basis of observing Dr Holick's examination over numerous days I am far from persuaded by his evidence. I could not rely on such an opinion. It seems to me that the parents' case has been not enhanced by the use of such an expert. I should say that during the course of the hearing I asked Dr Holick to provide case reports of other cases in which he had appeared in in the family courts both in America, the UK and beyond. However, he did not present any of these and I can only take from that that there are no case reports that are relevant to the matter I have to deal with. The one case found by Ms Smyth in which Dr Holick appeared in the USA does not assist the case he made.

[87] By contrast I found Dr Rooney's evidence particularly impressive. She was modest enough to say that she has not appeared as an expert witness in Court for some time however she has extensive experience of examining children. Her evidence was extremely comprehensive and persuasive in relation to this. After her evidence it was refreshing that she actually wrote to the Court and the parties to say that she had reconsidered one answer in favour of the mother. I consider that Dr Rooney presented a fair and balanced view in relation to her examination of this child. I do not accept the criticisms of the examination in terms of time or format or extent. It was quite clear to me from her evidence and from her vast experience that this child does not have EDS. I also rely upon the evidence of Dr Allgrove who is experienced in this area and he too having examined the child said that the child does not have EDS. The evidence of Dr Ellis, an experienced geneticist was also convincing. Finally, the evidence of Dr McKee, a Geneticist, who examined the child, is important in this area as he examined the child and found no signs of EDS. I prefer the evidence of these witnesses to that of Dr Holick.

[88] It must be borne in mind that EDS 3 is a condition which as one of the witnesses said relates to hypermobility. This is effectively a motor condition and it seems to me that there is a leap in terms of a motor condition also having metabolic effects. The research on this is not clear. I accept that Dr Allgrove suggested that there might be some linkage in another case before the courts in England. I accept that Dr Holick has also voiced this opinion in one recent research paper. But this does not seem to me to equate to an established link in relation to bone fragility in infants caused by EDS 3. I accept that medical science does move on but I can only decide on the basis of the evidence I have. On that basis I do not have the evidence upon which I could equate Tom's fractures and bruising to EDS 3. I accept the high probability that the child would have EDS if the parents have it, but I am not convinced the parents have it and I am similarly unconvinced that the child has the

condition. I bear in mind the considered view of Dr Ellis that there is a danger in this type of case that EDS 3 is over diagnosed. As some of the experts said, many of us have symptoms of hypermobility in limbs. However that does not automatically result in injury and the problems that arise when the condition leads to joint dislocation.

[89] I accept the evidence which was unchallenged from the radiologists that the child has sustained a significant number of fractures and that they seem to have occurred during a period in the run up to the injury being brought to the attention of the hospital. I accept the evidence that it is likely that the femur fracture was recent when the child went to the hospital. However, the evidence in this case is that some of the fractures occurred on an earlier occasion. I know that during the course of the hearing there was some dispute about whether the femur fracture was oblique or spiral. I am not convinced that much turns on this, the fracture was a complete broken bone and in my view it cannot have been caused by normal handling.

[90] I accept entirely the evidence of the paediatricians who said that to cause this injury would require considerable force and that the child would be in excruciating pain. I also accept the evidence that the bruising included fingertip bruising and also that there is no evidence that this child was an easy bruiser. It is important to note that since the child was placed in care he has not sustained any fractures. That in my view is a highly important factor in terms of any query about bone fragility. Also I accept Dr Rooney's evidence that the so called "bruising diary" does not show a child that has bruised easily since being in care.

[91] I was impressed by the evidence of Dr Grier in relation to his description of the presentation of this child at hospital. I cannot ignore the fact that Dr Grier felt that he had to call the police on this occasion and that the child was extremely poorly, tachycardic, needing morphine and screaming in pain if touched on the leg. That evidence highlights the extreme circumstances present in this case. I commend Dr Grier for taking an interest in the EDS point and the Beighton scoring however I do not consider that he really is an expert in this area and so I am not relying on his evidence in relation to that. But I am relying on his evidence of the clinical picture at hospital and I consider that in these types of cases the evidence of the treating doctor is significant in relation to the child's presentation at hospital. I also accept his evidence about the presentation of the mother however that is not in itself determinative that she caused an injury as I am prepared to accept that she may have been in shock and confused at the time.

[92] I now turn to the parents' evidence. I bear in mind that the parents are subject to a criminal investigation. They were also stressed and court proceedings are difficult in these types of cases. I give them every allowance for that and I understand in these cases that sometimes parents lie about certain things but are actually telling the truth about other issues. I also bear in mind that these parents have had no social services intervention before this case. That is an important factor

which I take seriously and it makes this a troubling case. However I have to decide the case on the evidence before me.

[93] Unfortunately, in this case I cannot accept the parents' accounts for a number of reasons. Firstly, I found the evidence as to Ned falling and potentially causing some of Tom's injuries while he was on the sofa to lack any credibility. The story told in evidence was unfocussed and very unclear and in any event I heard no convincing evidence that this would be a likely mechanism of any of the injuries which occurred on more than one occasion.

[94] I also cannot accept that the child sustained the femur fracture due to the father tripping and crushing the child. That in my view does not accord with the type of force needed to cause such injuries. In any event it cannot have caused previous rib and leg fractures. More fundamentally I cannot accept the account given about the trip. It is totally unbelievable to me that the father would not mention this to the mother immediately when it happened if it was an innocent occurrence within the house whereby a small 4 week old baby was placed in a position of being in severe pain. Secondly, the father then allowed the mother to go to the hospital and face questioning by medical professionals totally in the dark. I just cannot accept that. Thirdly, the father's story to the police is confused and inconsistent. Ms Simpson skilfully extracted the considerable extent of this during cross-examination. Fourthly, the father gave incorrect evidence to me in Court. On the first day of hearing he clearly said that placed the boots in the room and marked the place on a photograph. Then when he came back to the witness box he changed his story.

[95] I did not find any compelling evidence to establish that winding caused the rib fractures. It is a well-known fact that young babies can be fractious and require constant winding however thankfully this everyday event does not result in an influx of babies with rib fractures in our hospitals. As regards the femur fracture I take Ms O'Grady's well-made point about Dr Halliday's evidence. This was a written opinion, and was not tested in evidence. At its height it refers to rough handling during nappy change which involves twisting. Of course it goes without saying that this is beyond the normal day to day handling. In any event as Ms O'Grady conceded, there is no evidence that this type of traumatic event occurred. The child suffered a broken femur which would provoke a cry and distress and there is no history of the parents saying this type of event ever happened.

[96] Unfortunately I consider that the parent's evidence had a contrived quality to it. In my view they both wanted to make explanations fit their own narrative. They have always wanted to make a story fit and that goes for the trip and it also goes for the EDS. But when unpicked through skilful cross-examination by Ms Simpson and Ms Smyth the story does not add up in relation to EDS just as the story does not add up in relation to the trip or any other explanations. Unfortunately neither parent gave credible evidence to me on the core issues in the case.

[97] The reality is that this child sustained serious injuries whilst in the care of both parents. I accept that the health visitor's report was good as to the child's welfare on 11 March. So it seems to me that something must have happened after that date and up to 31 March. That is a significant period of time when the parents could not produce any objective evidence to say that the child was well. I also note that the mother's evidence conflicts with that of the health visitor she called on 21 March. By virtue of the health visitor's statement it is noted that the mother was advised to attend with her general practitioner. But the mother did not and she self-medicated the child. It is significant in my view that the mother did not attend at the doctor or the clinic during the relevant period. So nobody can really present an objective picture of what was going on with the child. The trip story does not add up in the father's case and I cannot accept for one moment in a house as small and compact as this that the mother would not have either seen the trip, heard the pop or the crack or heard the very blood curdling cry that the child would have given out upon sustaining a fracture. Dr Alexander said that even if you were one or 101 you would be in excruciating pain if you sustained a femur fracture. I cannot believe the parents' evidence in relation to this.

[98] I am unable to conclude which parent actually inflicted these injuries. I bear in mind that this is a very small baby. There are also very serious multiple injuries in this case which occurred on more than one occasion. Fundamentally the emphasis in family law is that children reside with their parents but that is only as long as it is safe to do so. There was a firm denial that any issues may have caused either parent to have a loss of control or that there was a lack of coping ability underlining events. I have to say that if such evidence were before the Court the Court would be sympathetic because that is exactly the type of evidence that leads a Court to be able to assess risk, to offer support and to confidently work out how risk can be managed. But in a case where none of that is put before the Court by way of explanation the Court is left with very little by way of choice.

[99] Overall, having assessed the evidence, I cannot decide which parent has actually caused the injuries. Both parents were caring for the child at the relevant time and so I conclude that both parents are in the pool of perpetrators for the injuries to Tom.

[100] I accepted that Ned is a different child and that he has not suffered actual harm. The case in relation to him is based upon likelihood of harm. The parents suggested that even if I found against them in relation to Tom that I could dismiss the case regarding Ned given his age and the different circumstances pertaining to him. I have considered this and I reject the argument. This case is characterised by many of the facts Lady Hale identifies in Re J (Children) [2013] UKSC 9. There were multiple injuries, on more than one occasion and unsatisfactory, conflicting and inconsistent accounts given by the parents. As such there is a foundation upon which to base an assessment of likelihood of harm in relation to Ned. I could not simply dismiss the case in relation to him. The issue is best dealt with in care

planning in any event when with the benefit of expert reports I can assess the parent's capability regarding each child in accordance with the welfare checklist.

[101] The care planning hearing will look at whether rehabilitation is possible in this case. That will have to be carefully assessed by professionals. I stress that it is important to engage appropriately qualified and experienced experts in this complex case. The issue of risk management requires assessment. I am also keen that the case is progressed as swiftly as possible given that decisions need to be made about the future of the children. I am pleased that both children are currently settled in a kinship placement at present. I have allowed a relatively high level of contact whilst this case is being prepared and particularly given that there is a kinship placement. I note that the contact has been positive and I will hear the parties about any issues in relation to that pending a care planning hearing.

Conclusion

[102] I have decided on the balance of probabilities that the Trust has proven its case and established the threshold criteria in accordance with Article 50. I have considered each child separately. In the case of Tom I find that he has suffered and that he is likely to suffer significant harm namely physical and emotional harm as a result of the actions I attribute to his parents. In the case of Ned I find that he is likely to suffer significant harm namely physical and emotional harm as a result of the injuries and care provided to Tom. For the avoidance of doubt I make findings of fact as follows.

[103] The child Tom has sustained the following non accidental injuries:

i. Oblique fracture to the left femur
iv. Metaphyseal fracture to distal left femur
v. Costochondral fractures of 3rd-6th ribs
vi. Costochondral fractures of right 4th -7th ribs
vii. Metaphyseal fracture to distal left tibia
viii. Metaphyseal; fracture to distal right femur
ix. Metaphyseal fracture to distal right tibia
x. Metaphyseal fracture to proximal left fibula
xi. Posterior aspect of left 5th rib
xiii. Bruise to right side of chest-upper bruise 1.5cm x 0.5 cm
xiv. Bruise to right side of chest- lower bruise 2.3cm x 1.0com
xv. Bruise to right side of abdomen-upper bruise 1.0cm x 1.0cm
xvi. Bruise to right side of abdomen-lower bruise 1.8cm x 0.3 cm
xvii. Mark on the back of left shoulder
xviii. 5 marks on lower back
xix. Bruises to inner and outer surface of left lower leg

ii. These injuries occurred on more than one occasion.

iii. These injuries were attributable to the care given by the parents given the timeframe in which they occurred.

iii. Each parent has failed to protect that child from harm.

v. Each parent is in the pool of perpetrators for the injuries to Tom.

vi. Ned is likely to suffer significant harm as a result of the care provided to Tom.

[104] Finally, I want to pay tribute to the way in which all representatives have approached this difficult and complex case. It is particularly clear to me that the counsel and solicitors for the parents left no stone unturned in representing their clients' interests. I will hear the parties as to the timetable for care planning and any other issues that arise.