

IN THE FAMILY COURT
IN THE MATTER OF THE CHILDREN ACT 1989

Coventry Family Court
Little Park Street
Coventry

Date: 14th August 2020

Before :

Her Honour Judge Walker

Between :

WARWICKSHIRE COUNTY COUNCIL

Applicant

and

AQ (1)

CR (2)

BP (3)

K, L and M (Children) (4-6)

Respondents

Mr Sampson QC for the Local Authority

**Mr Vine QC and Miss Steele for the First Respondent instructed by Kundert
Solicitors**

Miss Buxton for the Second Respondent instructed by Rotherham & Co Solicitors

**Miss Connolly QC and Mr Kennedy for the Third Respondent instructed by
Jackson West Solicitors**

**Mr Lewis for the Fourth, Fifth and Sixth Respondents instructed by Johnson and
Gaunt Solicitors**

Hearing dates: 6th, 10th, 11th 12th, and 14th August 2020

JUDGMENT

1. These are care proceedings brought by Warwickshire County Council in relation to three children; K (who is about to be 12 years old), L (who is 4) and M (who is approaching his first birthday). Their mother is AQ (the mother henceforth). M's father is BP (I will also refer to BP as the father for ease in this judgment that relates largely to his child). CR is L's father and the father of K is DS. Very early on in the proceedings I determined that DS should not be served with notice of the proceedings, on the basis that he had had nothing to do with K since she was a baby, had been violent and abusive towards the mother and was still involved in violent crime. The mother was terrified that he would learn of her current whereabouts.
2. The children are represented in these proceedings through their Guardian, Karen Hughes. The care proceedings were issued on the 19th December 2019 and so are now in week 34.
3. This is a fact-finding hearing which has sought to establish the likely cause of injuries sustained by M as long ago as December last year. I can only apologise to M's parents for the delays that have occurred in this case, largely as a result of the COVID 19 pandemic that has affected every part of our society. The only comfort to them and the court is that M, K and L have remained cared for within their family, with the help and support of their maternal and paternal grandparents, who have supervised both the mother and the father in their care of M. Due to their exemplary care of the girls, and the analysis of risk being much lower, the mother and the father have been able to have the unsupervised care of the girls. In so far as is possible, the lives of the children have been able to continue without too much disruption. The local authority has had the benefit of an interim supervision order since the 20th December 2019.
4. This situation has also had the benefit of allowing for the girls being able to spend time with CR. Although he is not her father, K has a warm and loving relationship with him, and she and L spend approximately five nights out of every fourteen in his care. I gave my permission for CR to be have a representative present during this hearing, even though the factual issues do not relate directly to him, as any findings that I make may have implications for L and it was important that he properly understand the evidence I have heard and the basis for my decision.
5. The local authority's final schedule of findings sought is dated the 11th July 2020, and the parents have responded to it, although as I will set out in this judgment, at the conclusion of the oral evidence, the local authority sought to amend the findings sought.

Background to the application

6. M was born at 33 weeks gestation at Warwick Hospital without intervention, but shortly after birth, he was showing signs of struggling to breathe. Within twelve minutes of birth, he was transferred to SCBU. Soon after, it was necessary to transfer him to Leicester Royal Infirmary. So began a period in which M suffered from a number of periods of ill-health.

7. Within her second statement of evidence, the mother set out a list of medical appointments that she could recall M attending in his first weeks of life and I repeat it here;

24 th August	M born at Warwick Hospital and transferred to Leicester and ventilated
28 th August	Transferred back to Warwick
5 th September	Discharged home
7 th September	Midwife appointment at home
12 th September	Health visitor appointment at medical centre
20 th September	Health visitor appointment at medical centre
1 st October	M admitted to Warwick hospital for suspected bronchitis
3 rd October	Ultra sound scan performed on kidneys and discharged home
7 th October	GP appointment
9 th October	Six-week check at health centre
10 th October	M and mother at HV clinic seeking advice – telephone consultation with GP
11 th October	GP consultation
14 th October	Health Visitor contacted re blood in stools – GP appointment met and admitted to hospital
15 th October	Discharged home
16 th October	GP appointment
17 th October	Hearing appointment
20 th October	M taken to out of hours GP at 11.45pm due to breathing difficulties
23 rd October	Weighed at health centre/first immunisations
24 th October	GP appointment -referred to urology
27 th October	Taken to out of hours GP as a result of diarrhoea
28 th October	M admitted to Warwick hospital and discharged
30 th October	Appointment with Dr B at Warwick Hospital
6 th November	Routine immunisations
11 th November	Outpatient appointment at ENT Warwick Hospital
19 th November	Bloods taken
27 th November	Weighed at health centre
28 th November	Telephone consultation with GP
29 th November	Hearing appointment
1 st December	Admitted to Warwick Hospital
4 th December	M transferred to Stoke University Hospital
10 th December	Returned to Warwick Hospital

8. On the 8th December 2019, the local authority received a referral from Stoke Royal Hospital. M had been x-rayed on the 3rd December at Warwick Hospital, but those pictures were understood not to have established any abnormality. However, when Stoke Royal Hospital reviewed the x-rays the next day (on the 4th), they indicated a fracture to the 7th rib and a suspected fracture to the 6th rib. He was transferred back to Warwick Hospital on the 10th December. That same day, the local authority held a strategy meeting and determined that there should be a s47 enquiry.

9. A child protection medical had been undertaken whilst M was in Stoke by Dr X. That reports says this,
“Whilst he was on the intensive care unit, it was noted by our consultant paediatric radiologist that there was evidence of a fracture of the 7th rib on the

left side with some evidence of healing. These were on x-rays done for assessment and management of M's respiratory condition. There was also the suspicion of a fracture on the 6th rib. On review of the x-rays done at Warwick Hospital, it was apparent that the changes in the 7th rib were present on the first x-ray done on presentation on 3/12/19. The radiology report suggested that the appearance was highly concerning for non-accidental injury. The findings of the x-rays were discussed with M's mother. She was not able to remember any event that could have resulted in this injury.

10. As part of this court's enquiry, permission has been granted to instruct two experts; Dr Karl Johnson, paediatric radiologist, and Dr Ahmad, consultant paediatrician. Dr Johnson's first report is dated the 8th April 2020 but that report was quickly superseded by one dated the 15th April. He was provided with the chest and abdomen x-rays that had been taken at Leicester Royal Infirmary on the 24th August, along with the chest x-ray taken the next day. He was also given the chest and abdomen x-rays taken at Warwick hospital on the 24th August and a chest x-ray taken on the 1st October. He also reviewed the chest x-rays from Warwick hospital on the 3rd and the 4th December, and the full skeletal survey performed on the 24th December. From the Royal Stoke University Hospital, he reviewed a chest x-ray taken on the 6th December, a full skeletal survey from the 9th December and a CT chest scan from the same day.

11. His written conclusions can be summarised as follows;

- (1) There is normal bone density with no evidence of underlying metabolic bone disease.
- (2) No fractures can be seen on the x-rays taken on the 24th and 25th August or on the 1st October.
- (3) On the x-ray of the 3rd December, there is a healing fracture of the posterior lateral (back and side of the chest) of the left 7th rib that is between 3- 8 weeks old on the 3rd December (giving the window as 8th October -12th November)
- (4) There is the possibility of a healing fracture to the posterior lateral left 6th rib, which, if present, is also 3-8 weeks old at the same date.
- (5) The subsequent x-rays do not change that clinical picture.
- (6) A rib fracture is the result of a significant force applied to the bone, in excess of normal handling
- (7) Rib fractures are typically the result of severe excessive squeezing compressive force applied to the chest
- (8) An isolated rib fracture could alternatively possibly occur from a direct blow or impact at the site of the fracture
- (9) Dr Johnson was not aware of any child suffering a rib fracture as a result of physiotherapy who had normal bone strength and density although there have been some reported cases outside of the UK
- (10) He would defer to the paediatricians as to the effect of M's prematurity on his pre-disposition to sustain fractures.

12. Dr Johnson was then requested to answer a series of written questions, which he did by email on the 1st June 2020. Unsurprisingly, he was asked to give additional information about the possible fracture of the 6th rib. He responded,

"Healing rib fractures are typically seen as some degree of swelling and expansion of the rib. The degree of expansion of the left seventh rib seen on both the CT examination and chest x-rays is typical for a healing rib fracture. The degree of expansion of the left sixth rib is less conspicuous. This may represent a slightly altered healing response around the fracture site or it may be the very

upper limits of normal expansion seen within a rib as the result of growth. It is for this reason that I am uncertain if there is a left sixth rib fracture. I am unable to give a level of probability regarding the presence of this possible fracture.”

13. He confirmed his view that the dating of fractures remains an imprecise art and it was possible that the fracture he had seen might have been present on the 1st October x-ray but not visualised. He excluded the fracture(s) having been birth related, and whilst he could not exclude medical intervention, including physiotherapy as a probable cause, he considered it to be highly unlikely.

14. In a further email dated the 25th June, he confirmed that the quality of the images he had been provided with were of sufficient quality to undertake the tasks requested of him. He was unable to assist as to the effect of two medications taken by M on his bone density, and he acknowledged that x-rays per se are a poor indicator of the amount of calcium within the bones. It is possible for a child to lose up to 25% of their calcium within their bones before there are any changes observable on the x-ray. He confirmed his view that M’s bones looked normal.

15. Dr Ahmad’s report is dated the 17th May 2020. The executive summary contained within that document reads as follows;

“2.1) M was born prematurely at a gestation age of 33 weeks and three days. He had a very stormy neonatal period. He needed ventilation in December 2019 for RSV positive bronchiolitis. During the investigations for RSV positive bronchiolitis his chest x-rays showed a fracture to his left seventh rib and possibly another fracture to his left sixth rib. There were no other injuries. Intensive investigations did not show any medical or organic cause for his rib fracture(s). The treating paediatricians were of the opinion that M had suffered non accidental injury.

2.2) The parents have suggested that M’s fractures could have been caused by physiotherapy and vitamin deficiency. Investigations had shown that his vitamin D level was marginally low and would be considered insufficient for the causation of fracture(s). Preterm birth was also suggested as one of the possibilities which could have caused or contributed to M’s rib fracture(s). In my opinion, none of the suggested explanations could have caused M’s rib fracture(s). I have discussed my reasons in section 7.

2.3) Rib fractures in young babies without a plausible explanation are highly specific for abuse. No plausible explanations were given for M’s rib fracture(s). In the absence of any plausible explanation, I am of the opinion that M had more likely than not suffered nonaccidental injury/injuries.”

16. Dr Ahmad is clear in his written evidence that whilst rib fractures can be seen after cardio-pulmonary resuscitation, the medical records establish that M was never resuscitated. He addresses a number of differential diagnoses in his report, including metabolic bone disease as a result of prematurity, but indicates that this is seen in children born before 30 weeks with a birth weight of 1.25kg or less. He regards M’s Vitamin D level as only being “marginally low” and therefore does not regard the fracture(s) to be resulting from that. He states,

“7.12.4) His vitamin D level was insufficient. This, however, would not make his bones fragile or predispose him to fracture. This is because his adjusted calcium, phosphate, alkaline phosphatase and parathyroid hormone levels were within normal range. His radiological imaging had not shown reduced bone

density or any evidence of any diseases of the bones. Advice from the British Paediatric Adolescence Bone Group (BPABG) is that in the context of unexplained fractures in infancy the level of 25 hydroxyvitamin D (vitamin D) is not relevant to the causation of the fractures unless there is radiological evidence of Ricketts using conventional x-ray techniques and biochemical evidence of Ricketts, i.e. abnormal blood levels of calcium, phosphate, alkaline phosphatase or parathyroid hormone. In my opinion therefore vitamin D insufficiency will not make his bones fragile or predispose him to fractures.”

17. Dr Ahmad indicates that he has given consideration to all the possible causes set out in the body of his report, including the fact that M may have received physiotherapy, and he does not consider any of them to be a likely cause of the fracture(s). He states;

“Physiotherapy would produce the mechanisms that can cause rib fractures but physiotherapists do not use excessive force and therefore in my opinion it would be very unlikely that physiotherapy would have caused the rib fracture(s) to M.”

7.4.2 Rib fractures are caused by severe and excessive compressive or squeezing force to the chest. In the absence of any explanation, it is very suspicious of being caused non-accidentally. It can be caused in road traffic accidents, cardiopulmonary resuscitation and birth trauma. I have never come across any child with normal healthy bones who has had a fracture after physiotherapy but most children who receive physiotherapy do not have chest x-rays after physiotherapy. (The) chest is compressed in chest physiotherapy but I do not believe that any physiotherapist would compress a child’s chest with so much force as to cause rib fractures.”

18. However, he does postulate, in relation to a question as to possible accidental cause or the injury having been sustained during treatment, that he does not exclude the possibility of “*an enthusiastic physiotherapist*” who could have used excessive force. He records that an email received from LB of the therapy department at University Hospital of North Midlands NHS Trust dated the 24th February 2020 states that she checked records from the physiotherapy department and they had no record of M receiving treatment from their department. An unidentified Team Leader from the Access to Records department indicates that M did not receive physiotherapy. Dr Ahmad believes this email to have originated from Leicester. As I will come on to discuss, the parents’ account is that M received physiotherapy in both hospitals. In any event, he is clear that any physiotherapy received by M in Leicester could not account for the rib fracture as it pre-dates the window identified by Dr Johnson. He does, however, fairly acknowledge that record keeping is not always “*very good*” in the NHS and he could not rule out the possibility that M had received physiotherapy that had not been recorded.
19. Rib fractures are painful when sustained and a perpetrator would observe a child’s distress and cry. That pain would gradually subside, and a non-perpetrator would not realise that M had sustained an injury.
20. Dr Ahmad responded to a number of additional questions by way of a supplemental report dated the 11th June 2020. It was his view that whether there was one fracture or two did not affect his conclusions as to the likely cause. In common with Dr Johnson, he had no professional experience of a child sustaining

a rib fracture as a result of physiotherapy although he was aware of the literature from outside the UK.

21. A third set of questions were answered on the 2nd July 2020. He was asked again about the issue of whether the medications prescribed to M for his reflux might have played some role in bone fragility, and he was clear in his written response that they did not.
22. During the course of this hearing, the representatives for both parents have drawn the attention of the court and the experts, particularly Dr Ahmad, to a number of research papers. They are; *The Clinical Characteristics of Fractures in paediatric patients exposed to Proton Pump Inhibitors (6th June 2020)*, *Prevalence and Characteristics of Rib fractures in Ex-preterm infants (November 2012)*, *Keeping an Open Mind: Cognitive Bias in the Evaluation of an Infant with Posterior Lateral Rib fractures (26 October 2017)*, *Unexplained multiple rib fractures in a hospitalised child. Lessons from a serious case review (April 2017)*, *Prematurity and Early Childhood Fracture Risk (January 2018)*, and *Early Acid Suppression Therapy Exposure and Fracture in Children (July 2019)*. I have also been provided with the NICE prescribing guidelines for Ranitidine and Omeprazole and the government website related to the recall of a batch of Ranitidine in October of last year as a result of a concern that it had been contaminated by an impurity called NDMA, a substance associated with a an increased cancer risk. Finally, I have been given an extract from the internet entitled *Rib fractures after chest physiotherapy for bronchiolitis or pneumonia in infants (undated)*.
23. Both parents were interviewed by the police on the 12th March and have filed a number of statements within these proceedings. The police interviews took place in the context of both adults having been charged with an assault pursuant to s20, and they both had the benefit of legal representation.

The position of the parties

24. Although at the outset of the hearing, the local authority sought a finding that M had sustained fractures to both his 6th and 7th left ribs, Mr Sampson QC quite properly amended this position only to seek a finding in relation to the 7th rib as a result of the evidence of Dr Johnson that I will discuss briefly below. It is asserted, on the balance of probability, that this was an inflicted injury by a deliberate application of excessive force, and that either the mother or the father is responsible. The parents have always denied ever hurting M or handling him in a way that could have broken his rib. Unusually, at the conclusion of the evidence, it was submitted on behalf of the Guardian that it was not possible for the court to determine a causative event or any failing in parental care that could establish that the threshold was crossed.

The parents' written evidence

25. The mother has described the delivery of M having been induced as result of low foetal movements, and the fact that she had developed a Strep B infection. The medical notes indicate that staff decided to treat M with a CPAP facemask, but there were problems with the machine. He was intubated at 5.30am and transferred to Leicester at 1pm. The mother describes M having been given a drug that made him unresponsive and by the time that she was able even to see him for the first time, he had already been ventilated. The diagnosis was that M was suffering from prematurity, respiratory distress, lung collapse, congenital pneumonia, sepsis was suspected and he had a duplex kidney.

26. The mother told the police that whilst in Leicester Royal Infirmary, M received physiotherapy and a course of antibiotics. After three nights in Leicester, he was transferred back to Warwick until his discharge on the 5th September. Whilst at Leicester, neither parent was able to stay with him.
27. On the 1st October, the mother took M to her GP because she was concerned about his breathing. She says that he was struggling and his chest was recessed. In fact, she told me in evidence that she had clearly had a disagreement with the receptionist at the doctors, who had been resistant to offering her an immediate appointment. But when the GP saw M, it was she who called for the ambulance, and the mother travelled immediately to hospital with him, leaving her car and pushchair behind. M was admitted to Warwick Hospital with a cough and a fever and the diagnosis was initially one of viral bronchiolitis, but he was not found to be RSV positive. It was thought that he had a viral infection. He was discharged home on the 3rd October. During this admission, the mother was with him throughout, save for when she went for a shower or for something to eat.
28. Before he was discharged, M underwent an ultrasound scan of his liver and kidneys. The mother told me that it was necessary for her to hold M still on the bed, whilst the radiographer undertook the scan. She recalls that his abdomen front and back were scanned, and he turned onto his left side. It was her view that some pressure was used and the process caused M to cry.
29. Both the mother and father look back at the date of M's six week check on the 9th October as the date when they think that his presentation changed. At around that time, the mother took the videos which I have viewed as part of the evidence. It is right to say that he looks like a little baby who is in some discomfort or pain. He is obviously grunting. The mother tells me that she recorded M so that she could show medical professionals how he was presenting.
30. In fact, she had been to the GP only two days before this check-up, due to her concerns about M being uncomfortable when feeding. It was at this appointment that M was first prescribed Ranitidine for reflux.
31. He had one further admission to Warwick overnight on the 14th October due to a concern about blood in his stools. He was discharged without there being any resolution, but M was seen by the GP only two days later, when the mother once again expressed her concern about mucous in his stool. His formula was changed to Nutramigen. On the 24th October, Carobel (a milk thickener) was also prescribed to assist with M's reflux.
32. On the 28th October, he was admitted for the day, and was diagnosed with viral gastroenteritis, and prescribed Omeprazole and another change in formula.
33. M had another day admission on the 19th November as a result of the mother once again seeing blood in his stools. She told me in evidence that, as far as she is aware, the cause of this bleeding has never been investigated or properly understood. She still sometimes observes mucous in his stools.
34. During all of these admissions, M has been cared for, held, observed, and treated by numerous doctors and nurses; too many to recall precisely or to mention. The mother tells the court that sometimes she would walk back onto the ward having

left M for a short period of time and she would be aware that he was crying, although never screaming. But she did regard this crying as unusual as M was normally so laid back.

35. On the 1st December, the mother told the police that M woke up in the middle of the day and she noticed that he had a very high temperature and was breathing really hard. She called 111 and an ambulance was called. She says that they were taken straight to resus on arrival at Warwick Hospital and the next day the decision was made to intubate and ventilate him due to his worsening condition. He was then transferred to Stoke.
36. It was the mother's belief that M had had physiotherapy every time that he had been ventilated, and she said, "*when they do, it's like worse than CPR.*" She told the police officers that she was aware of number of occasions that he received physiotherapy whilst admitted to Stoke. The father told the police that the physiotherapy that he had observed in Warwick was "*brutal, absolutely brutal*" and that the staff had to push M's chest "*right down.*"
37. The first time that she left M in the care of the father was on the 30th October, when she went to collect some parcels and food. It was for no more than an hour. On the evening of the 13th November, she went to the theatre, and the father took both took and collected her, but looked after M for the evening. The mother has accepted that she was otherwise reluctant to leave M with anyone else. The father has been clear that on that evening, M simply had his feed and slept. The mother recalls that when she got home, she fed M again in bed, and she and the father had a chat before everyone went to bed.
38. Both parents were adamant in police interview, as they have been before me, that neither of them has ever deliberately harmed M, nor observed the other to do so.

The Law

39. In respect of the task of determining whether the 'facts' have been proven the following points must be borne in mind as referred to in the guidance given by Baker J in *Re L and M (Children)* [2013] EWHC 1569 (Fam) following on from *Re JS* [2012] EWHC 1370 (Fam). The burden of proof is on the local authority. It is for the local authority to satisfy the court, on the balance of probabilities, that it has made out its case in relation to disputed facts. The parents have to prove nothing and the court must be careful to ensure that it does not reverse the burden of proof.
40. The standard to which the local authority must satisfy the court is the simple balance of probabilities. There is no room for a finding by the court that something might have happened.
41. Findings of fact must be based on evidence, and the inferences that can properly be drawn from the evidence, and not on speculation or suspicion. The decision about whether the facts in issue have been proved to the requisite standard must be based on all of the available evidence and the court should have regard to all of the evidence.
42. The opinions of medical experts need to be considered in the context of all of the other evidence. The roles of the court and the expert are distinct and it is the court

that is in the position to weigh up the expert evidence against its findings on the other evidence. It is the judge who makes the final decision.

43. The evidence of the parents is of the utmost importance. It is essential that the court forms a clear assessment of their credibility and reliability. They must have the fullest opportunity to take part in the hearing and the court is likely to place considerable weight on the evidence and the impression it forms of them (*Re W and Another (Non-Accidental Injury)* [2003] FCR 346).
44. It is common for witnesses in these cases to tell lies in the course of the investigation and the hearing. The court must be careful to bear in mind at all times that a witness may lie for many reasons, such as shame, misplaced loyalty, panic, fear, and distress. The fact that a witness has lied about some matters does not mean that he or she has lied about everything (*R v Lucas* [1981] QB 720).
45. The judge in care proceedings must never forget that today's medical certainty may be discarded by the next generation of experts or the scientific research would throw a light into corners that are at present dark. Particularly, recent case law has emphasised the importance of taking into account the possibility of an unknown cause. The possibility was articulated by Moses J in *R v Henderson-Butler and Oyediran* [2010] EWCA Crim 126 when he said,
"Where the prosecution is able, by advancing an array of experts, to identify a non-accidental injury and the defence can identify no alternative cause, it is tempting to conclude that the prosecution has proved its case. Such a temptation must be resisted. In this, as in so many fields of medicine, the evidence may be insufficient to exclude, beyond reasonable doubt, an unknown cause. As Cannings teaches, even where, on examination of all the evidence, every possible known cause has been excluded, the cause may still remain unknown."
46. Finally, when seeking to identify the perpetrators of non-accidental injuries, the test of whether a particular person is in the pool of possible perpetrators is whether there is a likelihood or a real possibility that he or she was the perpetrator. In order to make a finding that a particular person was the perpetrator of non-accidental injury the court must be satisfied on a balance of probabilities. It is always desirable, where possible, for the perpetrator of non-accidental injury to be identified both in the public interest and in the interest of the child, although where it is impossible for a judge to find on the balance of probabilities, for example that Parent A rather than Parent B caused the injury, then neither can be excluded from the pool and the judge should not strain to do so.
47. Section 31 (2) provides:
"A court may only make a care order or supervision order if it is satisfied
(a) that the child concerned is suffering, or is likely to suffer, significant harm;
and
(b) that the harm, or likelihood of harm, is attributable to
(i) the care given to the child, or likely to be given to him if the order were not made, not being what it would be reasonable to expect a parent to give to him; or
(ii) the child's being beyond parental control."

One fracture or two and when was it sustained?

48. Dr Johnson explained to the court that, as any fracture heals, its appearance changes. In the early stages, it is possible to see a white line radiologically. As the

body begins its healing response, there will be a cloudy appearance, like cotton wool around the fracture site. Over time, this woolly area will become thicker and more solid, akin to an 'egg shape' around the bone. At the end of the healing response, this will gradually dissipate.

49. In relation to the appearance of the 6th rib, he was equivocal about whether what the scans show are a healing response to a fracture or a normal variant as a result of normal developmental in the growth of the bone. What he was completely unequivocal about was that the appearance of the 6th rib was different to the appearance of the 7th rib. He was clear that there was a fracture to the posterior lateral side of the 7th rib, and he was able to identify that there was a healing response as a result.
50. The fact that the 6th and 7th rib appear differently on the scans does not assist in determining the issue of whether there are two fractures or only one. The body's healing response will vary depending on the amount of bleeding caused at the time, the extent of displacement of the bone and the individual way in which that body responds to the injury. He told the court that it was not unusual in his experience for two fractures to have a different appearance, even if caused at the same time, in the same way.
51. Dr Johnson was clear that the fracture is most likely to have been caused within a period 3-8 weeks prior to the 3rd December. However, in his oral evidence, just as in his written report, he was prepared to concede that the fracture might have been present on the 1st October, but not visible on the x-ray. He was more flexible about extending the farthest date of the window to 9 weeks than being prepared to move the nearer date. In his words, if there had been a perfect scenario that explained the causation of the fracture that had occurred nine weeks from the 3rd December, the x-ray appearance would not exclude that being the likely cause. He was less willing to be flexible about the end of the window being the 18th November. Dr Johnson was keen to impress upon me that the dating of fractures is an imprecise science and can only ever be a best estimate, based on the clinical knowledge that we have as to the body's healing response. But there are many factors that can affect an individual's response that inevitably leads to a degree of uncertainty.
52. The parents accept that there is a fracture to the 7th rib in their written responses, and the presence of that fracture was not challenged in the oral evidence. I am entirely satisfied that M sustained a fracture to the posterior lateral aspect of his 7th rib. I accept Dr Johnson's evidence both as to the likely window but also as to the inherent uncertainties in making that estimate.
53. I am not satisfied to the requisite standard that there was a fracture to the 6th rib. When an expert of Dr Johnson's experience and ability tells the court that he is 'equivocal' about the presence of a fracture, it appears to me that the court could not make such a finding. Quite properly, the local authority accepted this evidential position and did not pursue a finding that there was such an injury in closing submissions.

M's underlying health

54. Rib fracture aside, there can be no doubt that, as Dr Ahmad said in evidence, M was an "ill child who had a lot of problems." As I have already indicated, he was born 7 weeks early weighing 2.175kg. Within twelve minutes of his birth, he was

transferred to SCBU, had a canula inserted and was receiving IV anti-biotics. Two hours later, the decision was taken to intubate him. He was suffering from pneumonia and jaundice. He was started on an NG tube once he was admitted to Leicester and oral vitamins. He had a collapsed lung and has subsequently been diagnosed as having a duplex kidney.

55. Dr Ahmad was willing to accept that prematurity is associated with an increased risk of bone fragility and therefore fracture and that this might have been the case in relation to M, even though he did not fall into the category of babies that suffer from metabolic bone disease of prematurity. It is also clear that feeding and nutrition were a difficulty for M. Dr Ahmad accepted in oral evidence that premature babies are routinely discharged with prescriptions for a multi-vitamin, vitamin D and iron, as well as a high concentrate formula as a result of the fact that a significant proportion of the mineralisation of the bone in a foetus occurs in the final trimester. M lost one half of that valuable time in utero. In fact, M was prescribed Abidec (a multi-vitamin) from the 5th September, but not vitamin D. He was not prescribed an iron supplement until 28th October.
56. Dr Ahmad confirmed that M was prescribed iron as he was anaemic. Under cross-examination, he was taken to the known haemoglobin readings, and he told me that the observation of blood in M's stools was a possible cause for that anaemia. M's haemoglobin levels were 135 on the 25th August, 149 on the 26th August, 85 on the 3rd October and 73 on the 15th October. Dr Ahmad was clear that there had to be an explanation for the falling levels. Bleeding from the GI tract was one explanation, but if it is right that the mother only saw blood on a few occasions, he could not rule out there being another explanation. He did consider that M being anaemic was not directly relevant to the causation of the rib fracture or the level of force required to inflict it. However, it might be associated with and an indicator of poor nutrition.
57. Soon after his discharge home, the mother is reported to have discussed with the health visitor changing M's formula as a result of decreased bowel movements. By the 8th October, she was seeking advice from the GP as it was her view that M might be suffering from lactose intolerance. Two days later, she was reporting M being very uncomfortable about thirty minutes after a feed and that he was suffering from frequent wind. During both the admission on the 1st October and on the 15th October, the mother was reporting problems with feeding. She tells me in her evidence that she tried five different makes of milk before she found one that M could tolerate, and he suffers from a cows' protein allergy alongside the intolerance to lactose. She felt that M was not consuming enough milk, despite his weight gain, and he would be sick after a feed.
58. Dr Ahmad was asked about the evidence of poor nutrition. He was prepared to accept that simply because M was putting on weight was not evidence in and of itself that he was getting all of the nutrients that he needed. Poor feeding and frequent vomiting would be capable of effecting how his body absorbed the vital minerals and vitamins that it would need for good bone strength. He was not getting enough iron, that much was clear. Whilst the bio-chemistry results performed on the 8th December were normal (apart from a slightly low vitamin D), he acknowledged that those tests had not been performed at any time before that date, so whether M was suffering from poor nutrition that was affecting his bio-chemistry was an unknown prior to that date.

59. Given the fact that the fracture had most likely occurred 3-8 weeks prior to these tests, Dr Ahmad was willing to accept that it was possible that he had abnormal bio-chemistry at the time of that the fracture was sustained. If he did, this was capable of causing increased bone fragility. Dr Ahmad agreed with the opinion of Dr Johnson that this bone fragility would not necessarily be observable on any x-ray. Dr Ahmad was also willing to accept that if M's feeding was poor, and if his levels of nutrition was affected as result, it was possible that his Vitamin D levels had been lower than seen in December in the preceding weeks. The possibility of a kidney disorder and a liver disorder, both of which have been suggested in M were also capable of affecting blood biochemistry.
60. Respiratory distress/pneumonia could not be a possible cause the rib fracture but Dr Ahmad accepted that they could both make a child less likely to eat, leading to the same nutritional problems and increased bone weakness as a result.
61. On the 28th October, M was prescribed with Omeprazole, a protein pump inhibitor class of drug in order to treat his symptoms of reflux. The initial prescription was for 4mls once per day, but this was increased on the 21st January to 5mls. The mother now tells me that he is on 10mls twice per day – what would appear to be the maximum dose for a child under the age of one. On the 7th October, he had also been prescribed Ranitidine oral solution, three times a day.
62. As I have already stated, prior to the commencement of the evidence, Dr Ahmad had been sent the bundle of research papers that I set out at paragraph 22. At the start of his evidence, he immediately wanted the court and the parties to know that he accepted that Omeprazole was associated with osteoporosis and an increased risk of bone fragility. He accepted that the findings of the study from America "*The Clinical Characteristics of fractures in Paediatric Patients Exposed to Proton Pump Inhibitors*" from June 2020 had concluded that otherwise well patients who were exposed to PPIs had an increased risk of fracture within two years of exposure. Lower extremity, spine and rib fractures were more common. That same study also suggests that the fracture hazard of 23% of children prescribed a protein pump inhibitor increased to 31% in children under one year who were also taking a H2 receptor antagonist class of drug, of which Ranitidine is one. M was taking Ranitidine from 7th October which was then replaced by Omeprazole from the end of October.
63. Dr Ahmad was clear. Omeprazole could offer an explanation for the fracture, in that there is evidence that it can weaken a child's bones and, as a consequence, the amount of force required to fracture a bone would be reduced. He was only able to offer an apology to the parents for not having included this opinion within his written evidence.
64. The parents observed M to receive physiotherapy soon after birth at Leicester Royal Infirmary, and then at Warwick before he was transferred to Stoke. Once at Stoke, the physiotherapy was frequent as the parents had given their consent to M being part of the BEST trial for the treatment of bronchiolitis. None of that treatment has been recorded. But in any event, the local authority makes the proper submission that both observed events occurred outside of the window for the timing of the fracture and so cannot be the cause of it. The parents accept that neither of those incidents could be the cause of the observed fracture, and it is also accepted that the 'brutal' physiotherapy did not cause a fracture, as none was

observed on the x-ray taken on the 24th December, despite M having been taking Ranitidine and Omeprazole for a number of weeks prior to that date.

65. However, it is argued that the parents only became aware of that physio as having happened by way of chance. Specifically, in Warwick, they only went into the room to say goodbye to M before he left for Stoke and happened upon the treatment being given. It is said that it must at least be possible that other physio was administered about which they are unaware.
66. There was a lengthy discussion with Dr Ahmad as to the relevance of the absence of bruising. He conceded that if there was, in fact, only one fracture, it was his view that the mechanism for infliction was more likely to be a direct blow. Such a focal application of force is more likely than not to cause a bruise, although if there was some bone fragility, the force required to break the bone would be less and so a bruise might not be seen. He also informed me that in those circumstances, the pain response would be reduced as a result of less force being necessary.
67. Dr Ahmad quite properly informed the court that, as it is not known within a window of five weeks, when the fracture was sustained, it is equally not known whether a bruise was present or not. Both parents are clear that they never observed a bruise, and if there was a bruise, they must be lying about that. But I do have to note that within the window from the beginning of October to mid-November as identified by Dr Johnson, M had spent three nights and six days in hospital, and had ten medical appointments, many of which were related to his breathing, in which I must be able to infer his chest and back would have been exposed in order to listen to his chest. No-one has ever seen a mark to him.

The wider canvass

68. Both the parents have had previous relationships. The mother's relationship with DS was very abusive and she was only 19 years old when she had K. She tells me that she separated from CR in 2017 and she and the girls initially went to live with family members. She obtained her own council property a little later. It was clear that she had not intended to start another relationship so quickly, but she met the father in August 2017, and by August 2018, they made the decision for her to surrender her own tenancy. From that point, she and the girls spent time at the father's home as well as some time with her parents.
69. When the mother separated from CR, she sought the support of her GP for anxiety and depression. She was prescribed 100mg of Sertraline, plus an additional 50mg to take when she needs it. She is compliant with her medication and her GP acknowledged that the current situation was not assisting the mother in accessing therapeutic intervention that might be able to take the place of medication. The mother told me that she does not currently experience low moods, save for upset relating to these proceedings. Certainly, at the time of M's birth and in the subsequent weeks, there is no indication that she told anyone that she was struggling emotionally. In fact, she had provided a chronology of her moments for virtually the whole period after M was born, and it is clear that she was busy with the girls and M, but also saw a number of family and friends and was enjoying a number of different pleasant family activities.
70. There has never been any social care involvement with the family. All three children are much loved and well cared for. There are no issues of drug use,

alcohol addiction, domestic violence, accommodation problems, money worries or anything similar. The father is self-employed as a log-burner fitter, and the mother is a dental nurse. She told me with a clear sense of pride that she is the safeguarding lead at her dental surgery.

71. K has had some difficulties. She was seen by CAMHS on the 26th July 2018 for an initial assessment and was apparently given a diagnosis of anxiety and depression. There also seems to have been some discussion about attachment difficulties and autism, although the mother told me that neither of those issues has been followed through. The family decided to buy K a hamster, Lily, to help her anxiety and to give her an outlet for her thoughts and feelings (she was encouraged to talk to Lily) but sadly, Lily has died recently. The mother told me that K needs a lot of one-to-one time, and will only talk about her feelings if she is 'walking and talking' so they often go for walk just the two of them.
72. During one of the first conversations that the couple had with the police and social workers after the fracture was discovered, the father is reported to have described K as "*hard work*" but then went on to describe the manifestation of that in similar terms to the mother.
73. It was suggested to both of the parents during the course of their evidence that K's presentation might have been a cause of stress to one or other of them, particularly as in the Autumn of last year, she was making the transition to secondary school. Both of them denied this. Both told me that the father had previous experience of being a step-father to one boy, with whom he has maintained a relationship. The mother said that she made it clear from the outset that the girls were everything to her, and that the father had always been willing to take her lead in parenting. They did not describe any conflict over the children and M was a planned baby.
74. His arrival did not alter this dynamic. I was told that both girls were excited and happy to have a brother and any jealousy was denied. The father accepted that he did not take any period of parental leave, partly he said because M was early and he had worked booked in, as the autumn is always a busy time. He was reluctant to let his customers down. He had always intended to have two weeks off at Christmas. He was pressed on why it was that he had only had two short periods alone with M, and why he had not given the mother more 'time away' from the home, given that she had the responsibility of caring for three children. "Surely she must have been exhausted?" he was asked. Both he and the mother denied that she was.
75. Both of them denied any tensions in their relationship, either about the division of responsibility or any other issue. The local authority has questioned whether the picture of home life that has been given is unrealistically 'golden' and that it could not be right that there was so little friction. But the impression that I have formed is that they are both quite quiet, mild mannered people, who when in a relationship with each other, have found a way of communicating that does not involve arguments. The father in particular, is softly spoken and unassertive, and I can entirely see how, as a new parent, he would have naturally taken a step back from caring for a new born baby and girls who were not biologically his, in favour of the mother who clearly regards being a mother as the most important job she will ever have. Having said that, I entirely accept their joint evidence that he is a loving and caring father to all three of the children. Whilst they clearly decided

between the two of them that he would go out to work and the mother would take the load at home, there cannot be any criticism of either of them for that choice, nor would it be right for me to assume that decision inevitably caused conflict. Every family is different, and what works for one group of people would be a disaster for another. There was no sense from the mother's evidence, even looking back, that she was doing too much, or that she wanted more help with the children.

76. I have had the benefit of being the allocated judge to these proceedings for every hearing. I do not think that there has been one single hearing that the mother has not wept her way through nearly every minute of it. She was at the brink of tears for much of her evidence. Her love for all of the children shone through. When she was asked to describe them individually, her face lit up and I got a real sense of each of their characters. It was clear to me that, rather than seeking to conceal the truth of the cause of the fracture, she is stricken with guilt at not knowing what happened to her son, and, in her mind, not having been able to keep him safe.
77. I wholeheartedly endorse the submission made by Mr Vine QC in his closing submissions that both the mother and the father are demonstrably good parents and demonstrably truthful witnesses. There is no evidence that they have told a single lie to any professional about anything. I do not accept that their account of a happy and content home life is anything but accurate.
78. I do not believe that either the mother or the father deliberately inflicted a rib fracture to M. I believe them when they tell me that there was nothing about their care of him that could have caused this injury. Their obvious honesty, their concern for M and their distress at being thought to have hurt their baby was and is palpable. This was a family who sought the advice of professional after professional throughout the relevant period, and never did either parent express frustration in relation to M, or seek to conceal him from professional eyes. It is inconceivable that during this period, one of them knew that they had harmed M and was attempting to conceal it.
79. The father only had the care of M twice. Once for an hour and once for an evening. There is no evidence at all that M was upset or distressed during either of those periods, or that the father has sought to conceal a causative event.
80. I am not satisfied to the requisite standard that either of these parents inflicted the injury to M. Just like them, I do not know how the fracture was caused. What I am entirely satisfied of is that there are a number of features in M's medical history that could have led to a degree of bone fragility; prematurity, poor nutrition (as a result of his general ill-health, poor feeding, and possible liver or kidney problems), alongside the recognised side-effects of taking Omeprazole and Ranitidine. I do not know whether his poor feeding was affecting his ability to absorb the nutrients he required in order to develop strong bones. I do not know whether his Vitamin D was low in the window when he sustained the fracture. I do not know whether there was a session of physiotherapy that is not noted, or whether a procedure or examination was undertaken in a way that it should not have been. Neither am I able to determine any of those questions. The medical picture for M throughout the first three months of his life was so complex, that it is quite impossible for me to determine what, if any, was the effect of one or a combination of all of these factors might be. But the parents are not required to establish the probability of an alternative explanation, nor do I have to be satisfied as to the probability of an alternative cause.

81. Whilst I entirely accept the submission made by Mr Sampson QC that it cannot be the case that a local authority seeking findings in relation to a fracture such as this must be able to establish at each relevant point that a child's blood chemistry and therefore bone strength were normal, in this case, in circumstances where there are features that have been accepted as being able to cause increased bone fragility and I do not have tests that show all was well, there must be at least a possibility that there was a reduction in M's bone density that might have been a significant feature in the causation of the fracture.
82. The inevitable consequence of these findings is that I do not find that the threshold is satisfied in this case.
83. I want to end by saying this to the parents. I am acutely aware of how difficult the last eight months have been for all of them, including the respective grandparents, L and K and M. Child protection procedures exist to prevent children being harmed, sometimes very seriously. I hope that they will be able to accept that this experience was necessary, not to protect M in the end, but to protect all of the other children in this country who do need the help and protection of professionals to keep them safe from harm. I very much hope that this family can now concentrate on their recovery and I wish them the very best for the future.