England and Wales High Court (Family Division) Decisions

URL: *http://www.bailii.org/ew/cases/EWHC/Fam/2001/6.html*
Cite as: [2001] 2 FLR 90, [2001] EWHC Fam 6, [2001] Fam Law 497

BAILII Citation Number: [2001] EWHC Fam 6

Case No:

IN THE HIGH COURT OF JUSTICE
FAMILY DIVISION

Royal Courts of Justice
Strand, London, WC2A 2LL
11 April 2001

B e f o r e :

Singer J

Between:

RE X (NON-ACCIDENTAL INJURY: EXPERT EVIDENCE)

The names of counsel and instructing solicitors are omitted in the interest of preserving anonymity.

HTML VERSION OF JUDGMENT

SINGER J:

1. I give leave for this judgment to be reported, in whole or in part, so long as the anonymity of the child and her family are preserved. I shall therefore refer to the local authority which brings these care proceedings as LA, to the child in question as X and to her mother and father as M and F. I suggest that, if reported, the case should be cited as *Re X (Non-accidental Injury: Expert Evidence)*. The names of the parties' representatives, for whose submissions I am very grateful, will be omitted from any report for the same reason.

2. This is an application brought by LA for a care order in relation to the child, X, who was born at the beginning of August 1999 and who lived with both her parents without attracting any evident cause for medical concern until on 19 December 1999 they took her to hospital. Then aged but 20 weeks, she was in due course found to have sustained fractures on two previous separate occasions in addition to the injuries which led immediately to her admission.

3. By the time, more than 15 months later, of this hearing before me, all medical experts agree, and the parents have come to accept, that:

> (i) X had sustained a fracture to the posterior shaft of her left eighth rib, close to the spine, which radiologically could be dated as having occurred when she was between 8 and 16 weeks old: that is to say (broadly speaking) between mid-September and the end of October 1999.
>
> (ii) X had sustained a fracture to the lower end of her left radius, at the wrist, which radiologically could be dated as between 3 and 6 weeks old at the time of her admission to hospital: that is to say (broadly speaking) that it occurred sometime during the last 3 weeks of November 1999.
>
> (iii) Sometime between 12 hours and 4 days prior to X-rays taken during the afternoon of 19 December 1999, X sustained metaphyseal fractures to her lower right tibia and fibula, at the ankle.
>
> (iv) During approximately the same timescale X sustained fractures to her left fourth and fifth ribs, at the front near her sternum.

4. Neither parent suggested that X might have come by these fractures at a time when some third person was caring for her. Their evidence was that throughout the whole of her first 20 weeks there were indeed only two occasions when neither of them was with her, each of but a few hours' duration. On both of those occasions she was looked after by the aunt of the mother who (with her husband) has since X's discharge from hospital in January 2000, continuously provided her with primary care to the total satisfaction of all concerned for her welfare (including her parents).

5. M has consistently maintained that nothing untoward happened to X, nor was she subjected to any form of rough handling, at any time while she was in her care or jointly being looked after by both parents. F's position has been and remains precisely the same.

6. The evidence of the four mainstream medical experts (of whom one,

Dr W, was also involved in X's care while she was in hospital) is in essence that rib fractures such as these, and metaphyseal fractures such as these, and (although to a lesser extent) a wrist fracture such as this, whether alone or as a series such as here, point overwhelmingly to non-accidental injury as the diagnosis, subject to two reservations. The first is to exclude a number of bone disorders (all of them rare, and some of them extremely rare) as potential causes of the fractures. The second reservation is that of course careful consideration must be given to what the parents (and any other relevant carer) say, and when and how they say it, about the circumstances of the child's care and any incidents which they describe as potentially causative. In X's case, these four experts are agreed that none of the ways in which the parents describe themselves, and others, as handling X would cause even one of these fractures. They therefore remain without any plausible explanation to set against what these doctors regard as the probability (at the very least) that X's injuries did not come about by accident or mishap.

7. Set against this, and to be balanced appropriately in my judgment and decision, is the evidence of the parents. I wish at once to emphasise, and have not for a moment lost sight of the fact, that these two parents are held in high regard by everyone who has had personally to do with them in the course of these proceedings. I shall develop the detail of this hereafter, but for present purposes, in explaining the stark issue which has arisen in this case, it is sufficient for me to say in ordinary everyday terms that they are not the sort of parents at whose hands one would expect a baby to sustain injury.

8. There is however one signal exception to what I have just said about the high regard in which these parents have been held. A different view was taken of them by a jury in September last year. They were jointly charged with cruelty to X. The particulars of the offence, as stated in the indictment, were that 'on a day between the first day of October 1999 and the nineteenth day of December 1999 …[they] wilfully assaulted, ill-treated, neglected, abandoned or exposed [X] in a manner likely to cause [her] unnecessary suffering or injury to health'. I have read a quantity of the documentation used at and emanating from the trial which led to that conviction. I have also read the sentencing remarks of the Recorder when he ordered each parent to serve 200 hours of community service. It is clear that the prosecution case did not, as some might have thought it would, proceed on the basis that either of the parents had caused X's injuries, but rather with a view to establishing that in relation to one, two, or all occasions of fracture they had failed to seek appropriate medical attention or (in the case of the final ankle and rib fractures) had not done so rapidly enough.

9. As has been pointed out, the effect of those convictions is that each of these parents is a Sch 1 offender. It might also be thought that such convictions would impact upon these proceedings as a result of s 11 of the Civil Evidence Act 1968. By virtue of that provision, in civil proceedings such as these the fact of these convictions is 'admissible in evidence for the purpose of proving, where to do so is relevant to any issue in those proceedings, that he committed that offence'. Once a person's conviction is proved that person 'shall be taken to have committed that offence unless the contrary is proved'.

10. But I really have no difficulty at all in concluding, for the reasons I shall now state, that the convictions are in no helpful sense relevant to the issues with which I have to deal in these proceedings. For it is completely unclear both from the verdicts of the jury and from the transcript of the Recorder's sentencing remarks upon what factual findings and even in relation to which one or more fractures each of these parents was convicted. In short, no relevant factual conclusions emerge from the criminal proceedings which assist in these. For the primary focus of the investigation before me has indeed been the causation of these injuries. And for reasons I shall explain I do not find it necessary to reach or to express conclusions upon the question whether either parent should have been alerted, or alerted sooner, to any distress or other signs of injury demonstrated by the baby.

11. Therefore, at the outset of these proceedings, and again in the course of final submissions to me, I made clear my view that the only fair way in which in these circumstances to proceed would be to ignore the convictions and any further, necessarily speculative, consideration of their basis. I am therefore entirely content to evaluate the evidence in this case with a total disregard for those convictions.

12. I have also heard evidence from Dr Colin Paterson who ascribes the probable cause of X's fractures to a bone condition he describes as Temporary Brittle Bone Disease (TBBD). He acknowledges that this diagnosis is controversial. The mainstream experts from whom I have heard evidence (and the opinions of others who have researched and published on the topic) contest the very existence of any such condition as a scientifically demonstrated entity. Upon this controversy, although myself inexpert in these contentious medical issues, I must necessarily rule. But beyond that, and in the circumstances which I shall describe, I propose also to make findings about the manner in which Dr Paterson arrives at and presents his opinions in this forum of child protection proceedings, and to consider in the light of those findings whether it has been right for him to be accorded the status of an expert with the privilege and influence which that status brings.

13. The focus of these proceedings is X's welfare, and that is the court's paramount consideration. It is for LA which brings these care proceedings to establish that the threshold criteria prerequisite to a care or supervision order are met. All parties agree that if my conclusion is that X's injuries were sustained at the hands of one, or other, or both her parents then indeed the threshold criteria are crossed. It is essentially towards reaching a conclusion upon that issue that this stage of the proceedings has been directed.

14. It is also common ground between the parties that if I am satisfied that X's injuries were non-accidental, then they must have been sustained at the hands of one, or other, or both of her parents, by reason of the continuity of their care to which I have already adverted.

15. The burden of proof in these civil proceedings upon LA is, of course, the balance of probabilities, which if findings of abuse are to be made must demonstrate the degree of strength and cogency described by Lord Nicholls of Birkenhead in *Re H and Others (Minors) (Sexual Abuse: Standard of Proof)* [1996] AC 563, sub nom *Re H and R (Child Sexual Abuse: Standard of Proof)* [1996] 1 FLR 80. In assessing whether the allegations have been established, therefore, I must bear in mind as a factor that the more serious an allegation the less likely it is that the event occurred, and thus the stronger should be the evidence before the court concludes that the burden is proved. It is very serious to allege that the admitted injuries in this case were sustained by this baby at the hands of a loving parent other than as a result of underlying medical cause or accident. It is not something which I would find proved without sufficiently cogent evidence.

16. In arriving at my conclusions I have also borne very much in mind what Wall J said in *Re AB (Child Abuse: Expert Witnesses)* [1995] 1 FLR 181, 187-188, namely that:

> 'Judicial findings of abuse can rarely if ever be made in isolation and on medical evidence alone: the factual substratum from which the allegations of abuse arise is usually of critical importance in an overall assessment of the case. This, of course, is all the more so here, since a medical expert points to extraneous factors (absence of visible signs and the child's appearance as seen by others in the community) as supporting his thesis that non-accidental injury has not occurred.'

17. Nor do I lose sight of the fact that these observations were made by Wall J specifically in relation to assertions as to causation made to him in that case by Dr Paterson who, as before me, relied upon precisely similar extraneous factors in support of the same thesis.

18. I shall state my conclusion before turning to the evidence. I reject Dr Paterson's theory and opinion, and his evaluation that TBBD is the probable cause of X's fractures. I find (and indeed it is common ground) that there is no other potential medical condition from which X might suffer which could explain the fractures. I conclude, notwithstanding their many excellent qualities, that one, or the other, or both parents bear responsibility for the injuries. I believe therefore that certainly one of them and probably both could tell me more about these injuries and their sequelae than to date either of them has. I believe that the combination of the weight of mainstream medical opinion and the absence of plausible explanation for these injuries takes me well over the fact-finding hurdle necessary to establish the (Children Act 1989) s 31(2) threshold provision, that X suffered harm attributable to the care given to her 'not being what it would be reasonable to expect a parent to give …'.

19. On the evidence which I heard, combined with all the other material available to me in the documentation, I am however unable to reach a conclusion upon the balance of probabilities whether these injuries were sustained at the hands of one rather than the other parent, or indeed whether at the hands of one rather than both. Neither LA nor the guardian who has throughout these proceedings represented X seeks to persuade me otherwise. I might have a view, formed in particular as a result of the oral evidence of the parents, that one or other of them appears more likely to have been the person whose self-restraint snapped. But such a view would be based upon suspicion and hypothesis, rather than derived from firm findings of probability. I therefore prefer to give no indication as the case now stands whether I would be disposed to attribute responsibility one way or the other.

20. All parties have recognised that if such should be my conclusion, it would follow that the threshold criteria are established in relation to each parent upon the basis that in the case of neither of them can the risk of future harm to X be excluded. That conclusion necessarily follows from the rationale of the Court of Appeal in *Re B and W (Threshold Criteria)* [1999] 2 FLR 833, as explained on appeal when the case reached the House of

    Lords and was reported as *Lancashire County Council v B* [2000] 2 AC 147.

21. This being the conclusion I arrive at, that the threshold criteria are met in the case of each parent, I have not gone on to make factual findings upon the evidence I heard as to the likely response of the child to, in particular, the first two fracture episodes. If further evidence emerges in the course of the assessments which will now proceed upon the basis of my primary findings, then it may be necessary to revisit the question whether the parent free of responsibility for the actual injury failed adequately to protect the child, either by failing to seek obviously necessary medical intervention or by shutting his or her eyes to any appreciation that the child had sustained unexplained injury.

22. This, then, is one of that very sad category of case where a judicial finding is, I would suggest, virtually inevitable in the absence of any tenable and plausible explanation from carers of the circumstances in a which a pattern of episodes of fractures occurs to an immobile infant in the first twenty weeks of her life, but for which no medically acceptable underlying physiological cause can be advanced. This is not a conclusion lightly to be taken by a judge in the face of denial from parents in a case such as this where I have no doubt that each loves X very much indeed and where so far as I can tell on the evidence she was otherwise well cared for by them. Of course one has enormous sympathy for both parents, with whichever of them responsibility rests, who must face the reality that their baby's injuries have not occurred naturally. The instinctive human reaction of sympathy to parents in this situation means that as one listens to the evidence one looks hard for something which may establish that neither parent bears responsibility. But, with whatever sympathy one listens to the parents in this agonising dilemma, the fact remains that if alternative organic causes are excluded the pattern of injury here accepted can in the absence of plausible explanation lead only to a conclusion of non-accidental injury for which no candidate other than one of the two of them has been suggested.

23. That absence of tenable and plausible explanation carries evidential weight in this case, as in cases where one has far less objective evidence to support the proposition that what the parents say should be accepted as true. With parents such as these it is all the more reasonable to suppose that if there were a plausible explanation it would by now have been advanced. Nor is there any presumption of law (or indeed of commonsense) that otherwise loving, caring and responsible parents can never momentarily lose control, once or more than once, if circumstances conspire against them in a manner which they are ill-equipped to withstand. If this is the reality of how X came by her injuries, one would hope that the parent responsible could be given effective help to prevent recurrence, and that the parent who was not responsible could be helped to provide effective protection against risk (if the parents remain living together). It is obvious that the potential for such help would be enormously reinforced if the circumstances in which the injuries occur could be clarified. For the moment, however, all that this judgment can clarify, for whichever of these parents may not already know it, is that X did not come by her injuries in their care by any process of mere accident.

24. F was 33 and M 20 when X was born. Each was asked questions about the course of their lives until they met in August 1998. There are aspects of their upbringing and development which might be of note to a psychiatrist considering what scope developmental factors might have in contributing to a situation where either of her parents might injure X but (quite rightly, at this stage) I have heard no such evidence, and I and everyone else in the case agree that as between the parents I can reach no conclusion which is responsible. Therefore I have concluded that it is best to maintain the neutrality of this judgment, as between the parents, by excluding reference to factors that I or others might (rightly or wrongly) think significant. I adopt the same approach in relation to aspects of the couple's relationship to each other and their manner of bringing up their baby which again might or might not, rightly or wrongly, seem to have some significance.

25. Relevant however to the background for present purposes may be that before their meeting M had hoped to develop a career in child care. She was some two thirds the way along a course in child care when through circumstances entirely beyond her control and which in no way reflect badly upon her she was obliged to discontinue her studies. While on that course, however, she had some quite extensive experience of looking after children, one of whom was only 4 months old when that care first started.

26. Relatively soon into their relationship, in about November 1998, M became pregnant. The parents started to live together in December 1998 in a flat bought by M. I am not aware that either party faced significant financial difficulties prior to X's hospitalisation. F was virtually in continuous employment up to X's birth. M's employment had by then come to an end, but at some stage F was also able to rely upon the proceeds of sale of his previous home.

27. M was for a time unwell after her return home from X's hospital confinement. Her condition was clearly debilitating and painful, but seems to have resolved within the timescale of a 5 or 7-day course of antibiotics. In her evidence to me she described, however, continuing and considerable lack of energy and lassitude.

28. It seems that notwithstanding any mixed feelings which either parent might have had about M's pregnancy so soon into their relationship (and I should stress that neither parent in fact expressed any reservations on this score), by the time X's birth approached each was looking forward to it. They had agreed that F should play as large a role as possible in X's care from the very outset, and that because of his unavoidable absences through work he should assume major responsibility for her care during the evenings and at weekends, and on specified nights. He arranged to be free of work for X's first 4 weeks at home, during which both parents described him as playing the major role in all aspects of her care, especially when M was ill and during the period she took to regain her strength. F's evidence in fact was that he took positive steps during the fourth week of his self-elected paternity leave gradually to introduce M to more active care for X. But thereafter he was away at work on week days from quite early in the morning until quite

late in the evening, although with rare exceptions his work did not take him away overnight. Again, the pattern both described was that when he returned in the evenings he would effectively take over X's care, regularly bathing and changing her, feeding her from bottles prepared by M, playing with her and putting her to bed.

29. M's pregnancy with X was uneventful as was her birth. She was somewhat post-mature, but there is no suggestion of any anxieties in relation to her health during the perinatal period. X at and after birth demonstrated no signs of osteogenesis imperfecta (OI: brittle bone disease) in any of its conventional manifestations nor of rickets, nor of any metabolic bone disease. X was described by both parents as an easy baby who for the most part slept through the night. She had early colic, but this responded well to a preparation recommended by the midwife. She had periods when she had colds and snuffles, but nothing to cause alarm. She had what the parents were quite clear was one episode of what they described as projectile vomiting, but that apart she did seem to bring up some milk frequently at the end of her feeds. This vomiting, or possetting, had stopped after X went into the care of her great-aunt when the suggestion was taken up to feed her less frequently. It may be that in the parents' care she was simply being given more milk than her stomach could comfortably contain. From sleeping initially in the parents' bedroom in her Moses basket, from about mid-October she had progressed to sleeping in that Moses basket in a cot in a bedroom adjacent to theirs. This development was clearly not wholly welcome to F, of whom I formed the impression that he doted on and delighted in his child, as indeed M confirmed whilst also confirming how delighted she was at his degree of involvement.

30. To all outward appearances, and to all external observers, X thrived in her parents' care. M was meticulous, so it seems, in presenting her to the health visitor and at the clinic, with one single exception in the week preceding her hospital admission. M has a brother who lives locally with his partner and their child, a son only a few months older than X. M would discuss X's progress and any problem she perceived with them, and also with the aunt to whom I have referred and with whom X now lives. I have not heard from them, but am prepared for present purposes to accept that they never had cause to be concerned about X's progress. Appropriate inquiries and investigations were made, with clear parental co-operation, to exclude the possibility of any congenital hip problem, the inquiry being provoked by M's own medical history as a child. Nothing untoward was found and M was offered reassurance. X was regularly weighed, and would be stripped naked for that purpose by one of the clinic staff. Nothing untoward was observed on these occasions in terms of external bruising, nor in response to handling in the course of these operations did any suspicion of fracture or other injury arise. The dates for all such contacts have been carefully plotted from the records which are available and I have been invited to draw from that the conclusion that as none of these health care professionals observed anything untoward, then that supports the proposition that the parents either did not or should not have. There is however a qualitative difference between seeing a child relatively rapidly for the purpose of weighing, or even for a periodical developmental test (on the one hand), and the continuous and repetitive handling, feeding, cleaning, clothing, bathing and other forms of interaction which, day in and day out, embody parental care (on the other). The undisputed reality remains that X did indeed sustain on one occasion a fractured rib, and on another occasion a fracture to her wrist, before ever she was brought to hospital with fractures to her lower leg and further fractures to her ribs.

31. In about October 1999, M did observe a bruise. She described it as being on the front left side of the baby's chest, about or slightly smaller than an adult thumb. She showed it to F, but they both took the view it was not significant. She did however show it to her brother who expressed the same view, adding apparently that some babies bruise easily, and that she should not worry.

32. Only one element of unresolved concern had arisen prior to X's admission to hospital, and that had to do with her weight. Her rate of weight gain, as plotted at the clinic, slowed and then for a period levelled off. Note of this was made by the health professionals, and clearly they intended to keep her weight under review. She was due to go back to the clinic to be weighed again on 14

December 1999, the Tuesday of the week preceding her admission, the following Sunday, to hospital with fractures. That is outside the 12-48-hour period prior to admission postulated for the occurrence of these fractures. I cannot on the evidence as it stands attribute significance to this failure to take X to the clinic as requested, but do observe that it sticks out as the exception to what was otherwise described by one of the experts as an exemplary record of co-operation in keeping appointments demonstrated by M.

33. These parents' domestic and social lives seem to have centred round their child. I have already referred to the fact that they can remember only two occasions of a few hours duration each when she was not in the care of one or other of them. M might pop out to the shops leaving X with F. From the early morning of 2 December to the early morning of 4 December 1999 F was abroad in connection with his work, but one of M's girlfriends stayed with her and X overnight. He was also away overnight on 7 December 1999. On 14 December (the day of the missed invitation to take X to be weighed) he learned midday that he had to go on a long drive which would mean that he would not get home until late that evening. He and M decided that she and X would accompany him in the van on what seems to have been at least a 6-hour return drive. He decided the next day to take a few days off work before Christmas, upon the basis that there was Christmas shopping to be done. Not much Christmas shopping seems to have been done until that Saturday, the day preceding X's hospitalisation. M was alone with X during the late afternoon and evening of the Thursday when F went to a concert. The next day was spent in part with M's brother and his partner. On the Saturday the parents took X out on an extended shopping trip during the course of which F carried her in a front-slung harness. Neither can now remember with clarity, they say, how often or by whom she was changed during the course of this visit. But it would have only have been for such purposes and for the time necessary to effect them that X would have been out of their joint care.

34. M's evidence is that over these few days X was somewhat grizzly, which she put down to teething. She also seems to have had some diarrhoea, although from the descriptions given it was not particularly severe. She was also possetting at this time. F had not noticed anything of particular significance. But when they got back from their shopping trip on the Saturday he was lying playing with X whilst she was lying on her back on her changing mat with her legs unclothed. He was letting her push against his hand with her feet in the gentle way he described to me when he observed that there was a marked reluctance on her part to push with one of her feet. He pointed this out to M without making anything very much of it. She was beside them watching television.

35. X was put to bed as usual that night, although she was not bathed by

    F as he would usually have done that evening. According to him, as he was about to follow M to bed later that night he went to see X in her room and had reason to believe that she was unsettled. He gave her a dose of Calpol and suggested to M that they should take her into their bed for the night. She slept, he says soundly, between him and the wall. Neither parent describes anything untoward then happening until next morning.

36. F got himself and X up first, and made preparations for her bath. He undressed her and put her in it. As part of her usual bathing routine, he told me, he would support her upright and she would ordinarily bear weight on her legs. On this occasion he observed that she was reluctant to carry her weight on her right leg. He called out to M to show her, and then went to dry X. While she was on her mat M pointed out to him that her leg was swollen, as he indeed observed was the case. From there they went, on this account so far as I can see with appropriate despatch, to the locum doctor and thence to casualty, arriving there just after midday.

37. At the hospital a description was recorded of the child 'screaming'. As I understand it, the parents did not initially agree that the word was used. F said that he told her how worried he was when he learned of her subsequent use of that word in her police interview. He felt it was an extreme

description which would give rise to a worrying and unjustified impression. M though has described the sort of sound she meant while clarifying that this was not really a scream. Far more like a scream was what both parents say they heard in the course of what was clearly for them an extremely distressing incident later at the hospital.

38. The admitting doctor's initial working diagnosis was that the swelling to X's leg was the result of an infection, and thus that there was an urgent need to commence intravenous antibiotics. For this purpose it was necessary to insert a line into a vein. That this with a 4-month-old baby can be a difficult and distressing process is apparent from the other evidence I have heard. The attempt was made by a doctor, accompanied by a woman member of the nursing staff. The father's description of it is graphic. First they tried each hand to insert the cannula, and then each foot, including the swollen foot. F's evidence is that he had to intervene to stop the doctor very firmly grasping her foot round the back of the sole and the ankle in an attempt to find a vein. M supports his observation. I will consider this evidence in the context of any causative link between the bruising to that part of X's foot and her metaphyseal fractures, to which I next turn.

39. Various tests were carried out, and X's legs and feet X-rayed. Thus it was ascertained that she had sustained fractures, although for some time precisely what fractures remained unclear.

40. At about 7.30 that evening, X was seen by Dr M, a paediatrician, during the course of his ward round. He observed a bruise to the back of X's right ankle measuring 2½cm by 2cm. This was the first observation of that bruise, and none had been noted either by the general practitioner or by the admitting hospital doctor earlier the same day.

41. On 21 December 1999, and again on 5 January 2000, full skeletal surveys of X were conducted, and they together with the initial X-rays were referred to Professor Helen Carty for opinion. She is a consultant paediatric radiologist at Alder Hey Children's Hospital in Liverpool. She diagnosed the fractures which at the outset I have described, and expressed her views that there was nothing to suggest underlying bone disease and that the rib and metaphyseal fractures, in particular, are characteristic of non-accidental injury, which in her opinion X had suffered. She also drew attention to a factor to which I have not so far referred, that on admission to hospital there was quite considerable swelling of the fractured leg, which she regarded as unusual in association with metaphyseal fractures, and evidence of damage not only to X's bones, but also to the soft tissues of the affected area.

42. Child protection procedures were invoked. The parents were arrested, interviewed under caution and subsequently charged. X was discharged from hospital into the care of M's aunt and her husband. The parents co-operated with these arrangements with the result that care proceedings were not in fact instituted until 24 March 2000, since when interim care orders have been continuously in force.

43. The parents also co-operated fully in an assessment of their parenting skills. That assessment, concluded in March 2000, records that throughout its preparation both parents had been fully co-operative, and had demonstrated that they were able to care appropriately for X to whose needs they were responsive and gave priority. No concerns over their parenting emerged. They shared the parenting role equally. Again, I confirm that I have fully taken into account as part of the overall picture this extremely positive assessment.

44. It is unnecessary for me to trace the precise course of developments in the preparations for this and the criminal hearing which took place until the latter was concluded on 3 November 2000 with the sentence of 200 hours' community service to which I have referred. Suffice it to say that by the time of the next directions hearing in these proceedings, on 20 November 2000, medical reports had been obtained from relevant personnel at the hospital who had treated X the previous December (including the consultant paediatrician, Dr W), and from two other experts. These were

the paediatric radiologist Professor Carty to whose initial report I have already referred, and another consultant paediatrician Dr Rogers, who was instructed on behalf of M for a second opinion. Retired in 1998, Dr Rogers was latterly a consultant community paediatrician at the same hospital as Professor Carty and honorary senior lecturer in community child health at the University of Liverpool.

45. His conclusions (leaving aside timing issues which were subsequently by agreement resolved) were that the first rib fracture was caused by a non-accidental compression injury to the chest, that the wrist fracture in the absence of a history of an accident was probably non-accidental; that the fractures to her right ankle were of a type virtually diagnostic of non-accidental injury, and were associated with what he described as 'severe injuries' to the surrounding soft tissues; and that about the same time as that ankle injury and whether as part of the same incident or as a separate episode, X again experienced a compression force to her chest which fractured two more ribs. In his view the history and pattern of bone damage were nothing like that which would be expected if any underlying bone abnormality was present. He found himself in agreement with all the main findings and conclusions of those (to whom I have referred) who had previously reported in the case.

46. The professional expert evidence in the case was accordingly unanimous that X had sustained serious non-accidental injuries. But M had heard a broadcast in relation to children found, it was said inappropriately, to have been abused, and via inquiries this led her to Dr Paterson.

47. An application was then made to permit him to be instructed to investigate and report and for that purpose to see X. It was envisaged that his report would lead to the need for other experts to respond, and for there to be a further meeting of experts (as two had already taken place, resulting in substantial agreement). What was to have been the hearing in relation to causation issues fixed for 3 days in early December 2000 was as a result vacated.

48. Dr Paterson's report is dated 22 January 2001. He made clear his need to see the full medical records from the hospital. He described his report as provisional, presumably for that reason. His conclusion reads as follows: 'Taking all the evidence I have reviewed to date in this case, I would have thought it more likely than not that the fractures were caused by bone disease, probably Temporary Brittle Bone Disease'. By 9 February 2001, Dr Paterson had been provided with copies of the missing records, and also with a request from the solicitors instructing him asking him to include in any addendum report 'any objective evidence of your theory/theories relating to brittle bone disease'. They also asked for copies of any relevant articles written by him or by others in support of his theories. On 9 February 2001, Dr Paterson replied that he had nothing to add to his report in the light of the materials he had now seen, and that in response to the request for further information he had already sent a bundle of publications to the guardian ad litem.

49. Dr Paterson's report led in turn to further reports as follows.

50. First came a report from Dr W dated 18 February 2001. He was highly critical of Dr Paterson's belief that TBBD is a distinct clinical entity, a view 'not shared by the vast majority of experts working in the fields of child abuse and the radiology of non-accidental injury'. He moreover specifically commented that although Dr Paterson in his report when dealing with the history as given to him by the parents referred to the small bruise on X's left chest in about October 1999 and the swelling and bruising seen before and emerging at hospital in December, Dr Paterson had not dealt with the fact that (in Dr W's view and those of the other experts) such bruises and soft tissue injury if unexplained were strongly suggestive of non-accidental injury.

51. On 12 March 2001, Dr Rogers filed a further report in response to that submitted by Dr Paterson. It too expressed what from his evidence it became clear was more than mild scepticism 'about the reality of TBBD as a pathological and disease entity'. He regarded the evidence in support of

such condition as 'elusive (to put it no more bluntly) in paediatric practice', but regarded as an unsatisfactory state of affairs that TBBD 'emerges from time to time to provoke avoidable controversy and adversarial debate in court proceedings'. He then posed a series of questions arising from Dr Paterson's opinion, to which I shall return.

52. The introduction of Dr Paterson into the case required the involvement of an additional consultant paediatrician, Dr Mughal, who has a special interest in the diagnosis and management of childhood bone disorders. In addition to his hospital practice as a general paediatrician at a busy hospital serving Manchester and the North West, Dr Mughal is a senior lecturer in child heath. He has a special responsibility for child protection issues for the NHS Trust within whose area he works. He prepared a careful and impressively balanced report dated 15 March 2001. Its salient conclusions are that the metaphyseal fractures found when X was admitted are characteristic of non-accidental injury usually caused by a substantial pulling or twisting force applied to growing ends of long bones. He regarded the bruising that was noted around her right ankle as a pointer to such a mechanism, that is that it was likely that her right ankle was grabbed and pulled and/or twisted. Although he did not draw the significant swelling of her leg from calf to below the knee into his report as such a pointer, from his evidence it was quite clear that he regarded that too as a significant element in his conclusion of non-accidental injury. He noted that the previous fractures revealed by the skeletal surveys occurred whilst she was in the care of her parents, but (as was radiologically confirmed by a further skeletal survey undertaken in the course of the hearing before me) that no further fractures had occurred since X was removed from her parents' care. Dr Mughal concluded that X did not suffer from any condition associated with diminished bone strength and that in his opinion non-accidental injury was the most likely explanation for her skeletal injuries.

53. On 20 March 2001, a telephone conference was conducted by the guardian and his solicitor between Dr Paterson and Dr Mughal to clarify a number of issues, including the questions raised by Dr Rogers. Only then did it become clear upon what basis Dr Paterson had apparently felt able in his report to make no reference to the bruises and swelling when assessing the validity of his TBBD diagnosis.

54. As can be seen, the introduction of Dr Paterson into the case last November led to 4 months' delay in arriving at the point which this judgment now reaches. It led to two further reports from experts already instructed, and to the introduction of an additional expert who reviewed the entire case from the point of view of his particular expertise in bone disorders, and produced a lengthy and reasoned report. Before Dr Paterson reported, the medical experts were in substantial agreement that these injuries were non-accidental, and as to the nature and degree of force likely to have been required to produce them. I have no doubt that the parents would have wished to cross-examine one or more of those experts, but would expect that the judge at what would have been last December's hearing would have been astute properly to limit the scope of that questioning to appropriate probing and testing of the validity of the experts' approach, given their effective unanimity and the absence of any expert evidence with exculpatory effect. As to the length of the hearing before me, Professor Carty's evidence could not be completed in the period originally allotted to it on the first day of the hearing, so that she was obliged to return to court early on a further day to complete her evidence. The evidence of Dr Rogers took most of a morning. Dr Paterson took a full day. And the evidence of Dr Mughal and of Dr W between them took up the equivalent of a further full day.

55. I agree whole-heartedly with the view that care proceedings, with their potential to disrupt family life, must impose extremely high standards on all those involved with them, which must of course also be reflected in the care and consideration which they receive as part of the court process. I am not for a moment suggesting that any court should adopt a cavalier approach to the need to ensure that all relevant expert advice and potential difference of opinion is properly deployed by the time the court comes to consider the issues which arise. But that high degree of responsibility is owed also by experts. Delay in settling the life of this child, for herself and for her parents, has

a large cost which is to be measured in areas just as significant as delayed outcome, lengthened hearing times, and the time and expense involved in commissioning further reports from those already instructed or freshly instructed as a result of a controversial diagnosis such as that proffered by Dr Paterson.

56. Dr Paterson has had a distinguished career in medical research within and around his core subject of bone disease. Dr Mughal paid tribute to his 'tremendous track record of good high quality research', particularly in the fields of OI and osteoporosis. He has published and lectured prolifically. His curriculum vitae runs to 23 typed pages. I stress that I am in absolutely no position to comment upon the quality of his work in areas other than his diagnosis of TBBD in X's case.

57. It is important at the outset to state that Dr Paterson does not hold himself out as an expert in radiology, nor in paediatrics, nor generally in relation to child abuse issues. He explained that he sees many X-rays in the course of his work, and that he needs to know a fair amount about genetics. The children he sees come to him either via a medical referral because of diagnosis or doubts concerning the condition of their bones, or as medico-legal referrals to seek his view upon the potential for an alternative to abuse as the cause of the child's fractures. Thus he sees a limited cohort, rather than the broad spectrum of the population, of children, and in this regard he is in a distinctively different position from a general paediatrician.

58. It is clear that Dr Paterson has significantly advanced and spread understanding that OI should be included in the differential diagnosis as a possibility when considering fractures in children. I have no doubt that an earlier stage in his career he made a significant contribution in a number of cases by establishing OI, rather than abuse, as the cause of fracture in some children.

59. Dr Paterson told me how from about 1985 he began to have referred to him a number of patients where OI could not be supported as the cause for fractures. He began to detect observable similarities across what he identified as a distinctive group of children. Typically they presented an enormous amount of fractures occurring more usually in the first 6 months of life, but in some cases extending as long as a year. And then the condition seemed to improve.

60. Another significant linking factor, in his developing view, was what he describes as the 'discrepancy' between the huge number of fractures detected, and the paucity or absence of evidence of the external injury which (in his opinion) would have been required to inflict the injury to normal bone. It does seem that at this relatively early stage of his thinking Dr Paterson, when speaking of this 'discrepancy' was considering bruising at or near the time and site of the fractures, rather than the incidence of the unrelated bruising which (as it seems to me) he has more recently brought into his evaluation of 'discrepancy' as a pointer towards inclusion in his group.

61. The first published work relevant to these questions appeared in February 1990 in the *Journal of the Royal Society of Medicine*, entitled 'Osteogenesis imperfecta and other bone disorders in the differential diagnosis of unexplained fractures'. Of true OI he observed that:

> '…fractures may occur with little or no trauma and fractures may well not be accompanied by the physical signs of bruising, swelling or contusions that would otherwise be expected. Generally bruises are much more common than fractures in genuine cases of non-accidental injury. In Osteogenesis Imperfecta however, although bruising is a feature of the disorder, there may paradoxically be little bruising at the site of the trauma.'

62. In the same article Dr Paterson postulated for the first time his theory of TBBD. He hypothesised that copper deficiency might hold the key to the underlying cause. He identified what he said were the clinical, laboratory and radiological features of 35 patients with TBBD. He identified as risk

factors a pre-term birth, multiple pregnancies, and bottle feeding. In conclusion he drew attention to what all who have to form opinion and make decision in this area must bear very much in mind that:

> '…a misdiagnosis of child abuse may have devastating consequences for the family and not least the child itself ? The parents who adamantly deny causing fractures may be telling the truth.'

63. Within 5 months of the publication of that article, however, Dr Paterson was the subject of severe criticism in relation to evidence which he gave as an expert in the case of *Re J (Child Abuse: Expert Evidence)* reported fully at [1991] FCR 192 and (in abbreviated form, as a note only) under the style *Re R (A Minor) (Experts' Evidence)* [1991] 1 FLR 291. The case related to a ward born 12 weeks premature who at the age of just over 3 months was brought to hospital by her parents with what was subsequently proved by brain scan to be extensive brain damage. The evidence pointed to shaking incidents. The child had also sustained five rib fractures and numerous fractures to all four limbs. As to Dr Paterson's evidence, at 209 in the longer report the judge, Cazalet J, observed:

> 'He accepted that he has been criticised in certain previous cases for developing particular theories as to their causation. In the present case I think he may have developed a theory of causation rather than a diagnosis ? He made only a cursory reference to the ultrasound scan findings, which for reasons I have given were central to the question under consideration. In stating his conclusion he referred only to the fractures.'

I draw attention to that criticism of Dr Paterson's approach, which was also a feature leading to criticism of him by Wall J, 4 years later, and 7 years ago, in the case of *Re AB (Child Abuse: Expert Witnesses)* [1995] 1 FLR 181 from which I have already quoted.

64. In other respects Cazalet J did not accept the evidence of Dr Paterson to the effect that in the light of his theory there was nothing to suggest the child had not suffered spontaneous rib fractures, for instance as a result of coughing.

65. Dr Paterson was not (as the longer report demonstrates) the only witness whose approach was castigated by Cazalet J in the succinct observations he made at the conclusion of the case about the responsibilities of expert witnesses. I agree with every word he said on this topic, and prefer to reproduce rather than to summarise his valuable observations:

> 'Expert witnesses are in a privileged position; indeed, only experts are permitted to give an opinion in evidence. Outside the legal field the court itself has no expertise and for that reason frequently has to rely on the evidence of experts. Such experts must express only opinions which they genuinely hold and which are not biased in favour of one particular party. Opinions can, of course, differ and indeed quite frequently experts who have expressed their objective and honest opinions will differ, but such differences are usually within a legitimate area of disagreement. On occasions, and because they are acting on opposing sides, each may give his opinion from different basic facts. This of itself is likely to produce a divergence.
>
> The expert should not mislead by omissions. He should consider all the material facts in reaching his conclusions and must not omit to consider the material facts which could detract from his concluded opinion.
>
> If experts look for and report on factors which tend to support a particular proposition or case, their reports should still:

(i) provide a straightforward, not a misleading opinion;

(ii) be objective and not omit factors which do not support their opinion; and

(iii) be properly researched.

If the expert's opinion is not properly researched because he considers that insufficient data is available, then he must say so and indicate that his opinion is no more than a provisional one.

In certain circumstances an expert may find that he has to give an opinion adverse to his client. Alternatively, if, contrary to the appropriate practice, an expert does provide a report which is other than wholly objective - that is one which seeks to "promote" a particular case - the report must make this clear. However, such an approach should be avoided because, in my view, it would: (a) be an abuse of the position of the expert's proper function and privilege; and (b) render the report an argument, and not an opinion.

It should be borne in mind that a misleading opinion from an expert may well inhibit a proper assessment of a particular case by the non-medical professional advisers and may also lead parties, and in particular parents, to false views and hopes.

Furthermore, such misleading expert opinion is likely to increase costs by requiring competing evidence to be called at the hearing on issues which should in fact be non-contentious.

In wardship cases the duty to be objective and not to mislead is as vital as in any case because the child's welfare, which is a matter of extreme importance, is at stake, and his/her interests are paramount. An absence of objectivity may result in a child being wrongly placed and thereby unnecessarily put at risk.'

66. In October 1991, Dr Paterson submitted an article for publication to the *American Journal of Medical Genetics*. He submitted a revision in July 1992. The article was published in 1993. The point has been made before me by others that this is a relatively obscure rather than a high profile mainstream publication, and that the peer review which presumably Dr Paterson's article received before publication was authorised may well have been from geneticists, not qualified to comment from a paediatric or child protection viewpoint upon the theory there to some extent restated and the argument for the existence of TBBD.

67. Dr Paterson's sample had now grown to 39. He postulated as the likely cause a temporary deficiency of an enzyme involved in the processing of collagen. He described the disorder as 'a self-limiting OI with spontaneous improvement. The fractures were often numerous but were confined to the first year of life'. He wrote that 'in each case there was a gross discrepancy between the radiological evidence of injury and the superficial evidence of trauma as recorded by professionals and others outside the family at the time when supposedly the fractures occurred'. Amongst possible risk factors he again listed pre-maturity, multiple pregnancy and artificial feeding, but added the presence of joint laxity in one parent. His conclusion was that he (and his co-authors) 'recognise that much further work is needed but it seems to us almost certain that one or more temporary brittle bone diseases exist'.

68. That was the published state of Dr Paterson's research when he gave evidence before Wall J in *Re AB*. His reported judgment deals specifically with the part played by Dr Paterson's evidence in that case, evidence which for the reasons extensively set out he forcefully rejected. In that case as in this the critical difference between Dr Paterson on the one hand and the other experts in the case lay in the assessment of the causation of injuries undisputed as to their existence, dating and extent. In that case, as well as an array of fractures, there was evidence of shearing contusional injuries to the brain. The view of the other experts was that they were almost certainly

caused by shaking. The child's injuries were ascribed by these other experts, clearly, to non-accidental injury. The parents offered no plausible explanation, and Wall J concluded that the baby's injuries were entirely consistent with non-accidental injury and inconsistent with anything else.

69. Dr Paterson's conclusion in *Re AB (Child Abuse: Expert Witnesses)* [1995] 1 FLR 181 was that 'the large number of fractures in this case almost certainly reflects some form of brittle bone disease'. It is apparent from the 'comments' section of his report quoted at 186 of the law report that in arriving at that conclusion he relied upon observations from persons other than the parents that no evidence of injury was observed. He took the view that it would be almost inconceivable that a series of deliberate injuries such as these would produce no evidence. He repeated that 'in general, in genuine non-accidental injury, bruises are much more common than fractures'. He relied, again, upon the 'discrepancy' between the radiological and the physical evidence of injury, and expressed the view that the major fractures of the humeri would have represented substantial trauma had the bones been normal, and thus that the absence of trauma pointed to abnormality of the bone. He reached similar conclusions in relation to rib fractures, commenting in particular in that case that 'there was no evidence that the child had bruises on the chest to suggest injury'. He concluded with the observation that 'the discrepancy between the physical and the radiological signs of injury is the hallmark of all forms of brittle bone diseases'.

70. It is in particular to be observed that Dr Paterson's comments contained no reference whatsoever to the undisputed brain injury suffered by this child.

71. Wall J, from 190, embarked upon a useful analysis of the duties of experts in children's cases. As well as referring to the words of Cazalet J reproduced above, Wall J pointed to the uniformity of view across Divisions of the High Court discernible from the description of the duties and responsibilities of expert witnesses contained in the decision of Cresswell J in *National Justice Cia Naviera SA v Prudential Assurance Co Ltd, The Ikarian Reefer* [1995] 1 Lloyd's Rep 455, [1993] 2 Lloyd's Rep 68. It is to be observed furthermore that at 195, in the part of his judgment dealing with his assessment of the underlying causation of the injuries, Wall J considered the expert evidence in that case (which included evidence from Dr Carty) that fractures in young children frequently occur without evidence of bruising, for which the explanation given is that certain types and sites of fracture may cause no significant soft tissue damage. If there is no significant soft tissue damage there may be no evidence of bruising. That view was supported by literature referred to in Wall J's judgment. I draw particular attention to this because before me, nearly 7 years later, Dr Paterson still relies in support for his proposition that TBBD exists upon the supposed 'discrepancy' between the number of fractures and the absence of bruising associated with those fractures. That is quite apart of course from the consideration in X's case that whether or not the chest bruise observed in about October was associated with the first rib fracture, X should not have borne such a bruise at an age of between 2 and 3 months; and that in relation to the ankle fractures there was certainly evidence of swelling prior to and at the time of admission, which is either (as Dr Paterson suggests) indeed a manifestation of the underlying fracture or (as the other experts in the case maintain is much more likely) evidence that the child's leg was subjected to unacceptable external trauma.

72. It would be tedious in this judgment to recite all those other areas in which Wall J found Dr Paterson's evidence wanting. He found his conclusion that the child in that case 'almost certainly' suffered from TBBD as one which by no stretch of the imagination could be sustained on the scientific evidence. He was very concerned that Dr Paterson had told him that his, the judge's, specific finding of non-accidental injury would not prevent him from treating the case in his records as one of TBBD. It follows that I must approach with caution Dr Paterson's attempt to rationalise his now enlarged cohort of alleged TBBD sufferers, knowing as I do that he has made the diagnosis in the case of that child upon a basis described by the judge as so unsustainable, and has reached it without reference to the impact on his theory which the undisputed brain damage should have had.

73. At 199, Wall J summarised 'to put the matter at its lowest' a series of criticisms of Dr Paterson. To these I will return.

74. Dr Paterson's two articles have not escaped criticism in the medical literature. They have however gathered but scant support. I do not propose to deal with the literature in detail, but would mention three points. Insofar as Dr Paterson claims support for his notions from an article in a journal called *Calcified Tissue International* by Messrs Miller and Hangartner in 1999 and from the article by the same paediatrician Marvin Miller in

    Seminars in Perinatology in the same year, I entirely accept the critical analysis to which Dr Mughal and Dr W subjected them. Secondly, I accept the point made by Dr W that in all the years since Dr Paterson first promulgated his theories tens of thousands of researchers and trainee and qualified paediatricians around the world will have been looking for supporting evidence, which, if found, would by now have been published. Thirdly, I was distinctly unimpressed by Dr Paterson's inability to differentiate, in relation to an article by him published in the *New Law Journal* in May 1997, how many children judicially found to have been abused whom he claims to have followed up and found to have remained abuse-free had, and how many had not, been returned to their previous carers.

75. In the April 2000 issue of *Paediatrics* appeared a piece of retrospective research entitled 'Cause and clinical characteristics of rib fracture in infants' which its authors (Bullock, Schubert et al: representing the specialities of emergency medicine, paediatrics, radiology and the micro-speciality of paediatric radiology at two hospitals in Ohio and Winnipeg) describe as 'the largest report of rib fractures in infants to date'. Its conclusion is that most rib fractures in infants are caused by child abuse. Its detailed observations and conclusions run starkly counter to themes in the evidence of Dr Paterson.

76. In short, and having considered carefully the way in which those in this case and others in the literature have expressed conclusions against the existence of TBBD as an identifiable disorder, I can only say that in my judgment its existence is very far from proven. It remains at best a highly controversial theory. Unless and until a far broader section of the medical community accepts its existence, I for my part very much doubt whether it can be appropriate for courts in this jurisdiction to have such an as yet unaccepted hypothesis as TBBD presented as an explanation for fractures in children.

77. I am aware from documentation put before me, but not in fact discussed in the course of the case, that in at least one recent case Dr Paterson's views have found favour. I refer to a case decided in September and October of last year by a Sheriff in Glasgow, which decision is said to be the subject of a pending appeal. It is of course for every court, in the final analysis, to reach decisions upon the evidence before it.

78. What I do, however, suggest is that extreme caution should now be exercised by courts within this jurisdiction whenever application is made for Dr Paterson's opinion to be sought. I am the third High Court judge over an 11-year period to express in judgments authorised for publication such profound reservations both as to the existence of TBBD as an entity, and as to the manner in which Dr Paterson has approached and exercised his function as a medical expert in a care case. If, in future, application is made in any such case for leave to instruct Dr Paterson to express his opinion, then I suggest that it would be prudent for any family proceedings court, and in the county court for any district judge or circuit judge, to transfer the application for directions and for a specific hearing, as soon as practicable, to a High Court judge. Then, before leave is given to instruct him, if appropriate and if necessary the validity of his theory and the methodology of his research can be assessed at an early stage. It is reasonable to assume that the purpose of instructing Dr Paterson may be to see whether he is prepared to diagnose TBBD. If that is indeed the position, then it may be material for the court as a preliminary issue to decide whether his

alleged expertise in relation to this unproved condition is potentially evidence in relation to which a court should extend to him an expert's status, privileges and responsibilities.

79. Next I propose to summarise the areas in which Dr Paterson differed from the other experts whose evidence I heard in this case. I propose to do so by reference to Dr Paterson's report as expanded in his oral evidence before me. For I have already sufficiently described, in my view, what was until his arrival in the case the uncontroverted consensus view of all the other doctors of whatever discipline involved in the case, based (as more than one reminded me) upon their own relevant professional experience backed by and consistent with decades of developing understanding of child protection issues in the context of physical abuse.

80. Let me first quote again the conclusion at which Dr Paterson arrived at the end of six double-spaced pages. It is 'I would have thought it more likely than not that [X's] fractures were caused by bone disease, probably temporary brittle bone disease'. I have already noted that he asked for and was supplied with additional documentation, which led him without further elaboration or reservation to confirm his opinion.

81. Dr Paterson examined the child and interviewed the parents and he read the medical and social work reports and the statements and records of interview of the parents.

82. The history he recorded was taken from the parents. He noted that according to them the only problem had been that from the age of about 2 weeks she vomited frequently and that often this vomiting was projectile in nature. He recorded the dates and frequency of X's meeting with and weighing sessions by the health visitor, and her other contact with medical and nursing staff.

83. As part of the history he recorded the small bruise observed by both parents in about October 1999, and that M had drawn it to the attention of her brother, this indicating the absence of any attempt at concealment. Dr Paterson made absolutely no further reference to that bruise. He did not attempt to relate it to the accepted timing of the first rib fracture, nor (from reading his report) would one suppose that he might regard such a bruise as counter-indicative of TBBD, given his oft-stated position in relation to the 'discrepancy' which he regards as suggestive of TBBD. This then does in my judgment justify the criticism that insofar as this bruise is apparently a counter-indication for TBBD (whether in fact it was or was not associated with the first rib fracture) it was incumbent upon Dr Paterson as an expert to make that plain in his report and to explain what (if any) weight he gave it in the formulation of his opinion.

84. It may moreover be significant that Dr Paterson surprisingly adopts the same approach as did M, and F, and her brother in relation to this bruise, that it was of no significance. That is in marked contrast to the paediatric opinion I have received in this case which is to the effect that any bruise upon the body of an immobile child of this age, incapable of self-injury, is of great significance. This bruise, in my judgment, is the first of the constellation of factors upon which, at the conclusion of the case, I should rely in finding non-accidental injury established notwithstanding sustained denial from parents who in happier circumstances I would find credible as witnesses.

85. The next part of the history related by Dr Paterson refers to the day prior to X's hospital admission. The parents obviously told him that after an unsettled time during the day she slept through the night but on the following morning was reluctant to bear weight on her right leg, the calf of which was swollen. His report continues 'at this stage there was no evidence of bruising. Some bruising was reported to be visible around the right ankle later that day or on the following day'.

86. It is in fact totally clear from the hospital records that the bruising was noted for the first time at 7.30 on the day of admission, rather than the following day, although some doubt must exist as to how long prior to that time it in fact emerged. It became evident that the parents were uncertain

quite when the bruising was first seen, and that they related it at least potentially to what they say happened when attempts were being made to introduce a drip. But it is, in my view, at the very least surprising that Dr Paterson at no point in his report comments upon the actual timing of the discovery of the bruise, nor (even more surprisingly) upon how it may impact upon his theory that X probably suffered from TBBD. For, again, that theory is in large part based upon an absence of bruising in association with fracture as one hallmark of what Dr Paterson describes as the syndrome.

87. This bruising therefore required at the very least detailed and careful consideration in Dr Paterson's report. But it received no further mention whatsoever. That is in my view an astonishing omission, rivalled only by the fact that the swelling undoubtedly present prior to admission also received not a single further mention.

88. I referred earlier to the fact that in his report in response to Dr Paterson, Dr Rogers posed a number of questions. He expressed surprise that Dr Paterson again (in the light of *Re AB (Child Abuse: Expert Witnesses)* [1995] 1 FLR 181, and indeed Cazalet J's case) seemed to overlook or discount clinical aspects of the case apparently at odds with his views. By this Dr Rogers meant the extensive soft tissue injuries associated with the fractures to the right ankle. Dr Rogers considered that even if there had been no underlying fractures considerable trauma would have been needed to sustain these injuries: trauma for which the parents cannot account, which has no obvious accidental explanation, and which cannot itself be due to hypothetical underlying fragility. He therefore asked how Dr Paterson reconciled these striking features of the case with his criterion (to help establish a diagnosis of TBBD) that fractures in such cases are present with little or no other evidence of injury?

89. Dr Paterson gave his answer in the course of the 20 March 2001 telephone discussion with Dr Mughal. He seemed unaware that the hospital records demonstrated clearly that the bruising was observable on the evening of the day of admission rather than the following day. His response is recorded as being that, if there was indeed such bruising, it might, in isolation, slightly reduce his confidence in his diagnosis. As to the swelling, he inclined to the view that the fractures caused the swelling, rather than that the swelling was caused by an assault.

90. As to the bruising, the other experts with varying degrees of incredulity would not credit the description given by F, supported by M, of attempts made to introduce a drip to the swollen right foot, coupled with the suggestion that the foot and ankle were so firmly grasped in the course of this attempt as to cause this bruising. Dr Paterson however regarded this an entirely plausible cause for the bruising. I accept that what F describes is unlikely and should not in any circumstances happen. I suspect that the reality is that he has developed a heightened, vivid and dramatic recollection of what for him would have been an extremely painful episode. It was clear from F's evidence that he is particularly affected by the thought that his daughter suffered avoidable pain on this occasion, and indeed on others. Such a necessary medical procedure as the introduction of a drip performed upon an ill child so young as this would naturally seriously upset and distress any parent present. The reliability of his recollection, and of the mother's, is for these reasons in my view understandably suspect.

91. Whereas Dr Paterson would regard the delayed emergence of this bruise as a factor in support of his alternative proposition, that it reflected blood seeping from the site of the metaphyseal fractures to the surface tissue, there are other and in my view more cogent probabilities. For I do not discount as inherently unlikely that both the GP and the admitting doctor at the hospital who examined X earlier that day did not see the emerging bruise. Each was dealing with a small baby in obvious pain and distress who needed urgent medical attention. It seems to me, frankly, more likely that they failed to observe the bruise than, for instance, that one of the hospital staff grasped X's heel and ankle so firmly as to cause this bruise.

92. Thus, on balance, I do conclude that this bruising relates to the degree of force with which one of her parents grasped her about the ankle and indeed possibly about the calf at or about the same time as the metaphyseal fractures were inflicted, and with such violence as would cause in a child of this age both the swelling and the bruising.

93. It follows that, even looked at in isolation, this fracture with its associated soft tissue injury fits ill into the spectrum of Dr Paterson's supposed syndrome.

94. But the fact that I do not accept Dr Paterson's opinion in relation to the causation of this bruising (nor indeed as will be apparent as to the swelling) is in my judgment far less significant then the remarkable and worrying absence of any discussion of the potential impact and the alternative causation of each of these conditions upon the process whereby he arrived at his apparently confident conclusion.

95. As to the swelling, Dr Paterson suggests that all fractures cause swelling (an observation to be contrasted, incidentally, with the thrust of his previous papers) which on this occasion was indeed apparent. He suggests therefore that the contusion derives from the fracture site, rather than from the application of external force. He also suggests that the swelling was in fact comparatively minor. This is at odds with the strength of the parents' reaction to it when first observed, and is indeed also at odds with my own observation of the extent of the swelling clearly discernible on the X-rays taken that same day.

96. The experts regard the swelling, and indeed the bruising, as highly suggestive of non-accidental injury. None of them said so in terms, but again I remind myself that these are all incidents contributing to a constellation of injury which, when viewed collectively, derive overwhelming impact. They agree that any fracture can cause swelling but that not in every case is swelling to be observed. Their opinion of the extent found in this case is that it is a highly unusual accompaniment of undisplaced metaphyseal fractures through the growing area at the extremity of this child's legbones.

97. Dr Paterson told me that he had not thought it necessary to provide any narrative explanation of the thought processes whereby he felt able to disregard both the swelling and the bruising in his search for the reliable diagnosis at which he claimed to have arrived. I regard that as a reprehensible shortfall below the clear duty and responsibility of an expert witness in this field.

98. In his report Dr Paterson turned next to the history of the parents. Nothing of note was to be found here, even though both he and Dr Mughal agreed that F demonstrated what in the context they regard as an insignificantly minor degree of joint laxity.

99. Dr Paterson examined X and had an opportunity to observe copies of the X-rays. Insofar as points of detail emerged from his interpretation of the film as contrasted with those of Professor Carty, those difficulties were resolved by the time the case commenced before me. I do not propose to go into detail, either, about the relatively late development of theories amongst the experts as to whether, and if so in what order, distinct episodes of injury were sustained by X in the period prior to her hospitalisation. I agree with more than one of the experts who described any such conclusions derived as speculative. In the context of the overall history of fracture and injury to this child nothing is to be gained, in my judgment, by over-elaboration of this type. Certainly the alternative conclusions which I might have reached do not detract in any way from my overall decision.

100. In the opinion of Dr Paterson, X-rays of X's skull demonstrated what he described as a 'copper-beaten' appearance which he stated could be a pointer to a rare inborn disorder known as hypophosphatasia. He stated that that condition could cause fractures at her age and that it would be sensible to exclude the condition by tests. Professor Carty, however, disagreed and in

her view (and with her far more extensive exposure to infant skull X-rays) regarded this as merely a variant of normal, with no significance. Hypophosphatasia as a potential defect in this child was seriously discounted in his written evidence by Dr Mughal, but by the time he came to give his evidence the results of the blood test which I authorised on the first day of the hearing had (to the satisfaction of Dr Paterson, the parents and everybody else in the case) disproved the hypothesis of hypophosphatasia.

101. Next, Dr Paterson in his report made the comment that the fact that parents cannot explain fractures is as typical of the various bone diseases as it is of non-accidental injury. He 'noted the consistency of the accounts provided by the parents and the fact that X was not kept hidden but was frequently seen both by nurses and doctors and by her extended family during the period when the fractures were occurring'.

102. Dr Paterson seems very readily prepared to take parental denial at face value. He treats, as will be apparent, parental denial as a diagnostic tool supportive of TBBD as the explanation for fractures. I have to say that this is naïve. Experience demonstrates how often impossibly hard it is for an otherwise responsible parent to admit in advance of a hearing such as this any loss of control which, very probably to their great shame, has led to injury in their otherwise consistently loved child. Yet it is by no means unknown for compellingly credible admissions subsequently to be made. A denial carries weight in the context of plausible alternative causation. But where as here the constellation of factors (even were all of them indicative rather then diagnostic) adds up to a high probability that the injuries were non-accidental, then if the only person who on the evidence may have caused them is one of the parents, both parents' denials cannot be true.

103. Dr Paterson next opined that 'had the bones been normal at the time substantial force would have been needed to cause each fracture and appreciable soft tissue injury would probably have accompanied the fractures'. However, the agreed position by the time Dr Paterson came to give his evidence before me was that these bones were normal (the possibly 'copper-beaten' skull aside), and that this child did not suffer and had not suffered from any recognised and possibly relevant metabolic bone disorder. It is a case of TBBD or nothing, as Dr Paterson ultimately acknowledged. Again (and I traverse ground already covered), as to the first rib injury there was the possibly associated chest bruise described by the parents. But if that was not in fact relevant to the site and timing of the fracture here was good evidence of a fracture without 'appreciable soft tissue injury'. In fact, however, the other expert evidence supported by published material (such as the Bulloch research), is to the effect that rib fractures in healthy children are relatively frequently (at least by reference to their relative rarity) first detected on X-ray, and then give rise to a high degree of suspicion of abuse.

104. As to the wrist fracture, the other medical witnesses recognise that it could be caused in the course of an accident, but an accident about which the parent then holding, or dropping or falling with the child would retain a clear recollection. More significantly, however, in relation to the injuries which took X to hospital, they were indeed associated in the case of her leg and ankle with what I accept was very appreciable soft tissue injury. Its causation I have already discussed.

105. Immediately before reaching his conclusion, Dr Paterson expresses the view that 'metaphyseal fractures are often symptomless and not anticipated from the physical signs seen on examination even when they are fresh'. The other experts agree with him that, in general terms, metaphyseal fractures, which are in themselves infrequent in infants of this age, may indeed be symptomless, but would say that that is true even in cases of admitted abuse.

106. Dr Paterson told me that any doctor who had seen the 110 or so children who, in his view, suffer from this condition would say that they share the same syndrome if that doctor had had an opportunity to see these patients, or if he saw the database which (according to Dr Paterson) provides the objective evidence. I repeat that it is in those circumstances surprising,

and should of itself give rise to a cautious approach to his theory, that such an extremely small number of doctors do appear to sympathise with his view.

107. A feature for inclusion in the TBBD group is the number of fractures. In a sense, the more the better, for diagnostic purposes. Dr Paterson said that he could be more dogmatic in the case of rib fractures, that the greater the number the more likely was TBBD to be the underlying cause, if bruising was absent. He gave an example of a child with 30 fractures but no bruises as one exhibiting the gross 'discrepancy' to which he referred. But, he went on to add, where the number of bruises is smaller it is more difficult to sustain a diagnosis of bone disease, although that does not mean that it is not present. His opinion nowhere reflects that the fact that the number of fractures found in X is relatively few should in any way lead to caution in the diagnosis.

108. That his diagnosis was, he says, arrived at with such caution only became evident when he came to give his oral evidence. Then, rather than in his report as one might have expected, he conceded that the 'discrepancy' is not so obvious in X's case as there were not that many recent fractures 'and thus I have to qualify my report by saying that the conclusion is cautious, and that is why I only say that TBBD is probable'. Dr Paterson agreed that the qualification he had just expressed did not emerge specifically from his report, and that it might have been desirable had it done so. He thought that it was implicit. I have to say that I regard that attitude as deplorable.

109. I have already referred to Dr Paterson's belief that if the recent rib fractures found on X-ray after admission were the result of abuse, he would expect there to be signs: and thus that their absence supports his diagnosis. His underlying assumption is however directly contrary to the view of the other experts from whom I heard, and to the opinions expressed in medical literature, that symptomless rib fractures are caused by squeezing and compression of the infant rib cage. When asked to give an explanation why the only reference to the bruising first seen after the child's admission to hospital to be found in his report is an account of what the parents told him, Dr Paterson agreed that the bruising was highly relevant but that he did not think he needed to mention it once more. He accepted that the bruising might either reflect trauma causing the fracture, or might relate to blood and other fluids tracking from the site of the fracture to the surface. He regarded the latter, as I have said, as the more likely source for the bruising, and bolstered his opinion by reference to his belief that bruising caused externally tends to be visible within minutes whereas bruising tracking from the fracture site can be a late-appearing sequel.

110. Let us leave aside the fact that majority expert opinion is firmly contrary to these views. What concerns me is his explanation that he had seen no need to elaborate and to divulge the thought processes whereby he discounted the bruising, and that he thought it was implicit in his report. He must though have realised that if he is wrong about the source of the bruising, then the fact that this child sustained a fracture immediately associated with bruising is, in Dr Paterson's own terms, counter-indicative of TBBD.

111. He made no further reference than that which I have already noted (recounting parental report) to the swelling of the leg because he told me that he holds the view that it is 'generally accepted in medicine that swelling is a normal consequence of fracture which just happens. You see it frequently though not always. I did not think that would be a contentious issue and that is why my thought process is not revealed. It is because any doctor's thought process would be the same.' But that assumption is unwarranted as is proved, again, by the evidence of strongly-held expert opinion to the contrary from paediatricians and from Professor Carty. She accepted that metaphyseal fractures can cause swelling, but that it is rare (as here) for swelling to be detectable on X-ray. The point is that swelling, if caused by external trauma, would counter-indicate TBBD, in precisely the same way as the bruising. It is therefore again lamentable that Dr Paterson felt able glibly to rely upon such unwarranted assumptions as to what other doctors' opinions would be, before relying on one of his own which prior inquiry (or research of the literature) might have shown him to be controversial. He must have known, in my judgment, when he came to prepare

his report that it would be wrong for him subsequently to tell me in evidence that 'the swelling is purely the result of the fracture. I did not think that there would be any dispute about that'.

112. Similarly irresponsibly lame, in my judgment, was Dr Paterson's explanation for his failure to attribute any significance in his report, nor to discuss in any way, the chest bruise described by the parents. It would clearly be material for him to discuss it, as its presence is, again, a counter-indication for TBBD as he theorises its existence. His response to this point was that even if he allows for this bruise it is only one bruise, and hence a 'discrepancy' remains. He agreed however that this bruise was a pointer against his discrepancy argument.

113. A 'history of vomiting' is described by Dr Paterson as a 'minor additional pointer' to TBBD. Following his standard practice, Dr Paterson had asked the parents about vomiting. He told me that he tries to allow for the possibility that in response to this question he may get an enthusiastic response. In X's case, it would seem, this is precisely what he was given and accepted. As discrepancies go, that between the history of frequent projectile vomiting given to Dr Paterson, and the single occasion described by both parents to me, is marked. In the face of that discrepancy, Dr Paterson appeared to concede that he should discount X's vomiting as a pointer towards her inclusion in the TBBD category of children. What is however, in general terms, more worrying is that upon inquiry it became clear that when he asks for a description of a child's pattern of vomiting he makes no attempt at comparative evaluation with, for instance, the incidence of vomiting of the degree and quality upon which he says he relies with that found in the population generally of babies of that age. How therefore he can say that vomiting to this subjectively described and very unspecific degree is a pointer to the disease which he postulates is hard to understand.

114. Precisely the same point militates against any sensible reliance upon bottle feeding as a feature of children whom he regards as suffering from TBBD. He in fact told me that he has over the years come to discard this as a relevant factor. But, when he did regard it as relevant, it is clear from his answers that he had no idea whatsoever how the proportion of bottle to breast-fed children within his cohort compared with the population of babies at large. He appeared simply never to have considered the fact that such a comparison might be helpful in deciding whether his observation had any statistical or indeed clinical significance at all in the context of his investigation of TBBD.

115. In summary, Dr Paterson agreed that X was not pre-term, nor the product of a multiple pregnancy. Her pregnancy and delivery were normal as was her subsequent development. He now was disposed to exclude vomiting as a relevant pointer. He discounted paternal joint laxity as having any relevance. Every potential known underlying bone defect or disease had been excluded, save TBBD. He, however, explained that the absence of all these pre-disposing or identifying factors (so far as his own published research is concerned) did not mean that X is outside the normal criteria for TBBD. He approached the problem from the viewpoint that there is nothing that makes this child fall outside the postulated group, and that therefore there must remain concern that this may not be a true case of non-accidental injury. He conceded (though again from his report one would not have discerned it) that this is not as strong a case as others he has diagnosed.

116. At the conclusion of his evidence I asked Dr Paterson what it is that takes X's case outside the category of 'unresolved/non-accidental injury' to which he assigned 14 of the 128 medico-legal referrals to him between 1974 and 1996 which he has discussed in a 1997 *New Law Journal* article? What, therefore, were the factors that led him to the conclusion that X does not fall outside the TBBD group? He relied upon three factors. The first was his concern that there were more fractures than would be consistent with the amount of soft tissue injury sustained by the child over the whole period when the fractures occurred, that it to say throughout the 20 weeks of her life. In other words, he would have expected bruises (or, it would seem on the evidence, more bruises) as well as these fractures. Next, at the time of writing his report he

thought that vomiting was a more significant factor than the evidence I had heard established. Finally, he did not think that in his own history-taking he was being given an inaccurate account of the history leading up to these fractures. Notwithstanding this necessary shift (given the disparity between what he elicited from the parents and what they told me) on the topic of vomiting, he nevertheless held to his view that X suffers from TBBD and was not the subject of non-accidental injury.

117. I have dealt with these matters at such length in an attempt to demonstrate what in my judgment is the subjectivity, the unreliability, the unscientific and the unproved nature of Dr Paterson's speculations that TBBD exists as a clinical entity, and (in particular) that X in any event falls within the syndrome. It is, in my opinion, a syndrome which can only be recognised by someone with tunnel vision who notes only those positive factors which are self-selected, and adapts his description of the disease as he goes along, thus enabling him to disregard, indeed to ignore, factors which from his own published work one would suppose he might regard as relevant.

118. To conclude, as has done Dr Paterson, that X is within this description requires yet further definitional flexibility. I am satisfied that X's injuries were caused non-accidentally and not as a result of anything which Dr Paterson may describe as TBBD. I agree with the observation in closing submissions of counsel for LA that Dr Paterson's evidence was woeful, and that his attempts to categorise X's injuries as TBBD bring nothing but discredit to him and his theory. He has indeed travelled a very considerable distance in this case from the indicators set out in his papers.

119. In my judgment, in relation to any future potential diagnosis by Dr Paterson of TBBD, his methodology and his credentials to express opinion deserve to be and should be subjected to rigorous scrutiny before he is given leave to report in further cases.

120. In this case, notwithstanding guidance directly referable to him from Cazalet J in 1990 and from Wall J in 1994, Dr Paterson has in my opinion provided a misleading opinion, failed to be objective, omitted factors which do not support his opinion, and lacked proper research in his approach to the case in point. Thus he fails all Cazalet J's tests.

121. When I then turn to set his performance in this case against the conclusions of Wall J at 199 of *Re AB (Child Abuse: Expert Witnesses)* [1995] 1 FLR 181, I conclude that he has again lapsed:

> (i) by failing to deal in his report with the bruising and swelling, he misled by omission to a very serious extent.
>
> (ii) although his report did in this case state that his work in this field 'remains controversial', he nonetheless went on to assert what in my view is misplaced 'increasing confidence' that TBBD is a real disorder. He plainly continues to lack objectivity and he continues to omit appropriate reference to and discussion in the appropriate place, his report, of factors which do not support his opinion.
>
> (iii) he continues to prefer his own view based on his own largely subjective categorisation and investigation in preference to findings judicially reached upon the totality of the evidence in a case.
>
> (iv) in this case the conclusion in his report that TBBD as the cause of the fractures was 'more likely than not' was highly subjective, and indeed unsubstantiated by his own published research.
>
> (v) M and F in this case have been misled by his unsustainable opinion.

(vi) as in *Re AB* his intervention in the case has rendered it far lengthier and costlier than could be justified by any realistic expectation that his diagnosis would be accepted.

122. It is for these reasons that, as I accept extremely unusually, I have made suggestions as to how in future applications to involve Dr Paterson as an expert medical witness should be approached.

123. The directions that I might give at the conclusion of this judgment were discussed when all legal representatives were present at the conclusion of submissions last week. The LA will file any further evidence upon which it relies, together with all assessments and its care plan by 7 June 2001. The parents will file their evidence in response by 12 June 2001. The guardian will report by 15 June 2001, upon which day I will hold a pre-trial review. This tight timetable is necessary in what I hope will be the successful attempt to conclude this long overdue inquiry at the hearing before me on 28 June 2001.

Directions accordingly.

PHILIPPA JOHNSON

Barrister