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Case No: CA-2023-002394

CA-2023-002421

IN THE COURT OF APPEAL (CIVIL DIVISION)
ON APPEAL FROM THE FAMILY COURT AT EAST LONDON

HH Judge Suh

ZE23C50085

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 19 June 2024

Before :

LORD JUSTICE BAKER
LORD JUSTICE PHILLIPS

and

LADY JUSTICE ELISABETH LAING

D AND A (FACT-FINDING: RESEARCH LITERATURE)

Gemma Farrington KC and Alexa Storey-Rea (instructed by **Wollens**) for the **First Appellant**

Jean-Paul Sinclair (instructed by **Edwards Duthie Shamash**) for the **Second Appellant**

Zoe Gibbon (instructed by **Local Authority Solicitor**) for the **First Respondent**

Rehab Jaffer (instructed by **Sternberg Reed**) for the **Second Respondent**

Deborah Seitler (instructed by **Gary Jacobs & Co**) for the **Third and Fourth Respondents**
by their children’s guardian

Hearing date: 26 March 2024

Approved Judgment

This judgment was handed down remotely at 10.30am on Wednesday 19 June 2024 by circulation to the parties or their representatives by e-mail and by release to the National Archives.

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LORD JUSTICE BAKER :

1. By separate appeal notices, the mother of two boys, D, aged 6, and A, rising 2, and the father of A ask this Court to set aside findings made in care proceedings concerning the boys.
2. This appeal raises issues about the use of medical research literature as evidence in care proceedings under Part IV of the Children Act 1989.

Summary of facts

3. Prior to the matters which gave rise to these proceedings, the two appellants and the boys lived together in a family home. The mother and D's father had separated some years earlier and, although there had been some problems between them at that stage, matters had settled down and D was having regular contact with his father. The family had no involvement with social services and nothing had come to the attention of any professional agency to give rise to any concern about the safety or welfare of the children in their parents' care.
4. On 2 February 2023, when A was nearly 7 months old, his parents took him to the local hospital reporting that, whilst at home, he had fallen on the sofa, hitting his head on the arm rest in which there were wooden slats. He cried, then went floppy and his eyes rolled. He did not lose consciousness but remained drowsy and floppy for about 10 to 15 minutes. The parents reported that both they and the maternal grandmother and step-grandfather were all present in the room at the time of this incident, hereafter referred to as "the sofa incident". In subsequent accounts, none of them said that they had seen A fall, but all reported hearing a noise which was variously described in ways considered below. A had been given paracetamol but had vomited it back up. On examination, he was found to be alert and inquisitive, with no signs of injury and normal eye and facial movements. He was discharged home.
5. On the following day, the mother returned A to the hospital reporting that he had slept poorly and vomited during the night. A CT scan conducted that day revealed intracranial bleeding. Further examinations, including fundoscopy and an MRI of A's head and spine on 5 February 2023, revealed injuries which were described in the local authority threshold document, and subsequently in the judgment, as follows:
 - (i) a 4mm acute axial subdural haematoma on the left frontoparietal region;
 - (ii) a linear subdural haematoma at the interhemispheric fissure extending into the tentorium;
 - (iii) a large extramedullary haematoma in the spinal canal around the caudal equina; and
 - (iv) several deep subretinal round haemorrhages of varying sizes in the left eye.
6. As summarised in this way, the subdural bleeding might be thought to have been detected in more than one location. The expert evidence before the judge, however, pointed out that all of the subdural blood detected on the scans was "over the left cerebral hemisphere" and thus "could be described as 'unifocal' as opposed to 'multifocal'".

7. The hospital staff suspected that these injuries had been inflicted non-accidentally and informed the local authority's children's services. On 4 February 2023, the parents agreed to both boys being accommodated by the local authority pursuant to s.20 of the Children Act 1989. Initially, A, who fortunately made a complete recovery from the injuries, was placed with his aunt, and D with his maternal grandfather (i.e. the maternal grandmother's former husband, who had not been present when A had collapsed). At a later date, A moved to join D with the grandfather, in whose care they remained at the date of the appeal hearing (although, as explained below, they have subsequently been returned to the care of their parents).
8. On 23 February 2023, care proceedings were started in respect of both boys. At a hearing on 7 March, A was made subject to an interim care order and D to an interim supervision order. Case management directions were given for a fact-finding hearing in October 2023. The court granted permission for the joint instruction of the following experts, all consultants – Dr Kieran Hogarth, paediatric neuroradiologist, Ms Benedetta Pettorini, paediatric neurosurgeon, Dr Russell Keenan, paediatric haematologist, Mr Richard Markham, ophthalmologist, and Dr Alun Elias-Jones, paediatrician. Reports were filed by all five and an experts' meeting, attended by all save Professor Keenan, took place on 1 August.
9. At a case management hearing on 8 August 2023, the maternal grandmother and step-grandfather, who had been present on 2 February when A was said to have collapsed, were joined as intervenors. At a further case management hearing in September, an order for cognitive assessment of the grandmother and step-grandfather was made together with an order authorising the appointment of intermediaries to assist them in the proceedings.
10. The fact-finding hearing started on 6 October. The local authority sought findings, set out in a threshold schedule, that A's injuries had been inflicted by one of four individuals – the mother, the father, the grandmother or step-grandfather – and, if the injuries had been inflicted by one of those four adults, that the parent, or parents, who had not inflicted the injuries had failed to protect A from harm. Over seven days, the judge proceeded to hear evidence from ten witnesses, namely all five experts, the local authority social worker, and the four family members.
11. At the conclusion of the evidence, the local authority told the judge that it was now taking a "neutral position" on whether findings should be made. After discussion, counsel asked for time to consider the position. Later that day, the local authority informed the court that it was seeking to withdraw the proceedings. The judge adjourned the hearing until the following day to allow that application to be made in writing.
12. When the hearing resumed the following day, the local authority's application for leave to withdraw was made on the following grounds (as summarised in the agreed note of judgment):
 - (1) the medical expert opinion is inconsistent and in oral evidence all the experts, save for Ms Pettorini, acknowledge that the injury could be accidental as per the accounts of the four adults;

- (2) the parents and intervenors presented well in their evidence and have been largely and materially consistent throughout;
- (3) the social worker's recent evidence in respect of the sofa is persuasive and supportive of the parents' account;
- (4) the social worker continues not to have any concerns about the parents or the intervenors throughout the proceedings;
- (5) the local authority submit that this is a case where they are unable to satisfy the threshold based on the oral evidence.

The application was supported by all parties, including the children's guardian. Counsel for the family members, however, submitted that it was important to have a fully reasoned judgment.

13. After hearing submissions, the judge delivered an ex tempore judgment refusing the application for leave to withdraw. She noted that in *Re GC (A Child) (withdrawal of Care Proceedings)* [2020] EWCA Civ 848, this Court had held that applications to withdraw care proceedings fell into two categories, the first being cases where the local authority was unable to satisfy the threshold criteria for making an order under s.31(2) of the 1989 Act, the second where on the evidence it is possible for the local authority to satisfy the threshold criteria.

“In those circumstances, an application to withdraw the proceedings must be determined by considering (1) whether withdrawal of the care proceedings will promote or conflict with the welfare of the child concerned and (2) the overriding objective under the Family Procedure Rules” (per Baker LJ paragraph 20).

In the present case, the judge held that the case fell into the second category. After carefully considering whether withdrawal would promote or conflict with the children's welfare, she concluded that a fully reasoned judgment was in their interests, adding:

“There is evidential complexity here in my view. I require full submissions with forensic scrutiny of the evidence in order to give the fully reasoned judgment that I am asked to give and which I agree is entirely appropriate. I need a rigorous consideration of the literature in this case, the expert evidence and the family evidence. If the local authority tell me that [the] threshold is not met they need to spell that out to me on a clear fully reasoned basis. This is not a case in which it is appropriate for the local authority to withdraw their application summarily. I will go on to hear submissions. I may revisit the withdrawal application in [my] substantive judgment.”

14. At that point, counsel for the local authority indicated that she was not in a position to make substantive submissions. After further discussion, all counsel initially agreed that they should deliver written submissions. The judge agreed with this proposal and the hearing was adjourned. There was then a change of mind. Counsel asked the judge to

return to court and proposed that there should be a further hearing listed after written submissions to allow them to make supplementary oral submissions. The judge informed them that there was no free time in the court diary and that she would reflect on this proposal after reading the written arguments.

15. All parties therefore filed written submissions. No party invited the court to make findings. The local authority set out lengthy submissions in support of its application to withdraw. Counsel for the parents and intervenors invited the court either to allow the local authority to withdraw or to dismiss the proceedings. The guardian adopted a neutral stance. In the event, no further hearing took place for oral submissions. In her judgment the judge explained:

“On receipt of the submissions, I was satisfied that I understood the parties’ positions and the nature of the parties’ positions did not necessitate giving anyone the right of reply because they all broadly adopted in the same position.”

16. Judgment was handed down on 15 November 2023. It was lengthy and detailed and was accompanied by three annexes: (A) a summary drafted by the judge of various research papers cited by the experts; (B) a note on the law for fact-finding hearings agreed by counsel, and (C) a plain English summary of the judge’s findings. The judge made findings on the basis of which she concluded that the threshold criteria for making orders under s.31 of the Children Act 1989 were satisfied.
17. At the hearing on 22 November, the judge refused an application by the mother for permission to appeal and made various case management directions, including discharging the grandmother and step-grandfather as intervenors. At another hearing on 24 November, she refused an application by the father for permission to appeal, and made further case management directions, including a direction for the local authority to file a risk assessment.
18. Notices of appeal to this Court were filed by the mother on 6 December and the father on 11 December. Permission to appeal was granted to both parents on 4 March 2024.
19. In the interim, the children had continued to live with their grandfather. Following the completion of the risk assessment, the local authority had permitted the parents to have overnight supervised staying contact. At the appeal hearing, we were informed that this had moved onto unsupervised overnight contact. By that stage, all parties had agreed that the children should return to the care of the parents. The only remaining issue was whether that should happen under a supervision order or under a child in need plan with no public law order under s.31. A hearing before the judge to resolve that issue was due to take place later in the week in which the appeal was heard. At the conclusion of the appeal hearing, this Court reserved judgment but, exceptionally, decided not to stay the proceedings so as to avoid any unnecessary delay in reaching a decision about the children’s future. At a subsequent hearing on 28 March, the judge concluded that a supervision order was unnecessary and brought the proceedings to an end. The children have returned to the care of the parents, with D living jointly with the mother and his father under a child arrangements order.
20. In terms of the future of these children, therefore, the outcome of this appeal might be thought to be academic. On the other hand, the judge’s findings, if left undisturbed,

would have relevance if there were any further child protection concerns about them and for any further children born to these parents.

The judgment (1) introduction

21. Given the focus of this appeal, it is regrettably necessary to recite extensive passages from the judgment and Annex A.
22. After a brief introduction, the judge described the history of the proceedings including the fact-finding hearing and the local authority's application to withdraw its application described above. Although she had attached as an appendix to her judgment the parties' agreed note of the law, she referred to various principles derived from case law at various points in the judgment. For example, after summarising the injuries, she included a section headed "Law" in which she cited a number of authorities emphasising that the burden of proof rested on the local authority.
23. At this point in the judgment, under the heading "Submissions", she made a number of comments about how the parties had put their arguments in closing submissions, which, as noted above, were all in written form. She was particularly critical of the local authority's submissions, noting that they "consisted largely of reciting the evidence, with limited analysis". She added:

"The submissions showed little mastery of the complexities of the medical evidence and literature provided. ... At times the summary of the evidence was inaccurate"

Having given examples of the inaccuracy, she concluded:

"In short, I regret to say that the submissions from the Local Authority showed an insufficient understanding of the issues and offer me little assistance in a complex and nuanced case."

24. The judge was plainly troubled by the position adopted by the parties in their closing submissions. In the next section of the judgment, headed "Role of the court", she said (at paragraph 39):

"All the submissions with which I have been provided address the court from the standpoint that the sofa incident was the cause of the injuries. I have not had the benefit in this case of advocates taking different positions and testing the evidence in submissions from differing stand points. None of the submissions address the medical papers in depth, despite the fact that much of the questioning in court focussed on the similarities between A's case and the cases described in Atkinson. None of the submissions make reference to the hearsay evidence in the bundle in the form of the social work or medical notes."

At paragraph 41, she explained:

"It seems to me that the positions of the parties do not relieve me of the duty of giving a full, reasoned judgment, particularly because I am asked to go further than simply stating that the

threshold is not met, and the Local Authority has not proved their case. In preparing this judgment I have read and re-read the bundle several times and revisited repeatedly my notes of oral evidence and those notes of evidence recorded in the submissions. The unusual position in which the court is placed requires the most conspicuous care. I have set out my analysis of the medical papers in an Annex to the judgment but make it clear that my reasoning in the Annex A is an integral part of my assessment. I remind myself that there is no burden on the family to prove anything.”

25. Under the next heading, “Evidence”, the judge reminded herself of three principles set out in the case law, including the often-cited observation of Dame Elizabeth Butler-Sloss P in *Re T* [2004] EWCA Civ 558 [2004] 2 FLR 838 at paragraph 33:

“...evidence cannot be evaluated and assessed in separate compartments. A judge in these difficult cases must have regard to the relevance of each piece of evidence to other evidence and to exercise an overview of the totality of the evidence in order to come to the conclusion whether the case put forward by the Local Authority has been made out to the appropriate standard of proof.’

She also cited my observation in *Re L and M* [2013] EWHC 1569 (Fam) at paragraph 50, which in turn had been taken from the judgment of Charles J in *A County Council v K D & L* [2005] EWHC 144 (Fam) at paragraphs 39:

“Whilst appropriate attention must be paid to the opinion of medical experts, those opinions need to be considered in the context of all the other evidence. It is important to remember that the roles of the court and the expert are distinct and it is the court that is in the position to weigh up the expert evidence against its findings on the other evidence. It is the judge who makes the final decision.”

The judgment (2) The expert evidence and research literature

26. The judge’s analysis of the expert evidence and the research literature to which two of the experts referred formed a major part of the judgment and lies at the heart of this appeal. It is convenient to consider this analysis in three sections (1) her general assessment of the expert witnesses’ evidence, (2) the summary of research papers set out in Annex A appended to the judgment, and (3) three specific issues which she addressed separately.

(1) The expert witnesses

27. In addition to the very extensive analysis of the research literature cited by the experts, the judge devoted a substantial part of her judgment – 88 paragraphs – to the expert evidence, starting with a summary of the evidence given by the five expert witnesses. She said little about the evidence given by Dr Keenan, (whose evidence was confined

to ruling out any relevant haematological disorder) and focused on the other four witnesses. The salient features of her account of their evidence are as follows.

(a) Dr Hogarth

28. The judge described Dr Hogarth, the consultant neuroradiologist, as a “well-prepared witness with a clear mastery of the literature in this area”. It was Dr Hogarth who cited the majority of the research papers identified in the experts’ reports. The executive summary at the start of his report stated inter alia:

“Subdural bleeding from a low level mechanism of injury is thought to be rare but it has been reported. It is possible that the fall described could have produced the left convexity subdural haemorrhage, in my opinion.

The spinal subdural bleeding is a difficult issue. Little is known about the mechanisms needed to produce intraspinal subdural bleeding. Available data suggest that it occurs more frequently in abusive head injury than in accidental mechanisms of injury but the spine is not always imaged in cases of known accidental head trauma so there is a limit to what can be known about it. In my opinion, the finding of the intraspinal subdural bleeding is concerning for inflicted injury but is by no means conclusive.”

29. These points were developed later in the report, in response to an instruction to consider all explanations put forward by the parents:

“There will be understandable concern in relation to the finding of convexity subdural haemorrhage from what on the face of it seems like a low level mechanism of injury; however, the description of the loud bang and the impact against the back of the head is quite vivid to my mind and I am left with the impression that this was a considerable impact. If this is accepted by the Court, then my advice would be that this would explain the convexity subdural blood. The expert ophthalmologist will be relied upon in relation to the retinal haemorrhages. The intraspinal subdural blood is a difficult issue as there is very little in the literature and in my clinical experience that can shed light on this. The reason for this is that spinal imaging is not usually obtained for head injuries resulting from falls where there is known accidental mechanism of injury (unless there is clinical concern for associated spinal injury based on the mechanism). In contrast, spinal imaging is routinely performed for the investigation of inflicted head injury in infants. There is therefore the danger of circularity in interpreting the presence of the intraspinal subdural blood. It is a feature that is commonly encountered in inflicted injury. The available data suggest that spinal SDH is less frequently encountered in accidental injuries.”

30. The judge recorded that, in answer to the question whether A’s intracranial and retinal injuries were the usual picture for a shaking injury, Dr Hogarth had replied that

“there was nothing on the available neuroimaging to think that we should be thinking of anything other than a simple impact injury”.

In answer to a question on behalf of the guardian, he had said:

“when I see a unifocal subdural bleed I would say that was in keeping with an impact injury. I can’t say it is not shaking because I can’t distinguish but no reason to favour shaking over unilateral bleed. On the other hand, if there are lots of bleeds, it is difficult to prefer impact injury as opposed to shaking unless impact had a complex mechanism or significant force that could do a great deal of damage. No hard and fast rules but no reason to advise the court that this is a shaking injury. It is in keeping with impact.”

31. After quoting these answers, the judge commented:

“I note that this evidence was given in response specifically to the intracranial and retinal injuries and not the totality of the injuries A presented with. In his written evidence Dr Hogarth describes the subdural blood over the left cerebral hemisphere as “unifocal”. He was not challenged on this. I note that H167 [the hospital radiological report of an MRI scan carried out on 5 February 2023] records two injuries which were accepted in the parties’ responses to threshold.”

In passing, I record that, as I read Dr Hogarth’s report, the fact that there were two sites of bleeding over the left cerebral hemisphere did not undermine his assessment that it was “unifocal”, and therefore in keeping with an impact injury, as opposed to the “multifocal” bleeding, with “lots of bleeds”, which he advised were more typical of a shaking injury.

32. The judge recorded Dr Hogarth’s evidence about “the theories in relation to what causes spinal subdural haemorrhage”, namely (a) “blood tracking from intracranial compartment into the intraspinal compartment” and (b) direct injury to local structures within the vertebral canal by various mechanisms”. She set out his oral evidence about the spinal bleeding as follows:

“73. In the witness box he was keen to stress that this area is ‘relatively unknown, not fully elucidated. We don’t know everything in medicine. There is emerging data and an inherent limit on how we can find out about this kind of thing. It is quite a difficult area and there is a paucity of data and studies.’

74. He explained that the spinal bleed ‘was concerning for inflicted injury – I am saying that because of the available literature – but it is by no means conclusive – I don’t think we have powerful enough studies – we have to leave this as an open question.’

75. When I pressed him on whether the spinal bleed could be caused by the sofa incident he replied “I don’t know whether the spinal haemorrhage could occur as part of the same mechanism as the fall and head injury.... My interpretation of literature is that we are not at a point where we are able to draw conclusions’.

76. In answer to my question, he told me he inclined towards the spinal bleed being a separate site of bleed because: ‘I think that is an easier way to explain the findings. That is because we have a small amount of blood right at the very top at the we have no blood in the posterior fossa or the neck or the chest and we have a large volume of blood in the lumbar region. The simplest explain is that something that bled and the top and then something that bled at the bottom, hut we cannot be definite on that. We have to allow for the possibility that blood tracked in some way. That is on the face of is it is less plausible, but we can’t know for sure’.

77. He accepted A’s clinical presentation on the sofa was consistent with encephalopathy.”

(b) Ms Pettorini

33. The judge recited the conclusion set out in Ms Pettorini’s report:

“the mechanism for action of the event on 2.2.23 is not compatible with the severity of the brain and spinal injuries and retinal haemorrhages. There is no evidence of impact and the force required is definitely more significant that what is explained by the event by the parents.”

34. The report had not contained a list of references, an omission which Ms Pettorini ascribed to an oversight by her personal assistant. The judge observed “the absence of literature references in the original opinion is deeply unhelpful from the court’s perspective”, although she added that “her remarks in general did not seem out of steps with the papers I had read” and “it was clear to me from her evidence that she was familiar with the literature as she responded to Ms Farrington KC’s questions”. She continued (at paragraph 87):

“The absence of an analysis in her written opinion of the competing explanations for blood in the spine has been highlighted in submissions and is valid criticism. After she had seen Dr Hogarth’s report, which clearly set out competing theories, she did not respond with her views in writing. It is clear from her oral evidence that “all competing theories are well known” that the theories around blood on the spine were not new to her. She clearly should have set them out to assist the court. However, she accepted openly in the witness box that there are limitations to the literature. Her comments in the expert’s meeting ... are suggestive of a grasp of the issues raised by Dr Hogarth and she expressly states that ‘I accept that we are in a

grey area where the lack of evidence and the lack of science does not help’.

35. On behalf of the mother, Ms Farrington had suggested that Ms Pettorini was “completely closed to any view other than her own”. The judge described her as “a robust and clear witness” and “brusque”. She acknowledged that she would have been assisted by a fuller exploration but concluded that the description of her as “completely closed” was “a simplification of her evidence as a whole”. She recorded that Ms Pettorini had agreed with Ms Farrington that there was little in the literature about intraspinal blood and limited data about accidental falls. The judge concluded (paragraph 90):

“Her evidence was that the cause of the injury could be accidental non-disclosed and that she was not necessarily saying that A’s injuries were inflicted. This was a considered and nuanced position.”

(c) Mr Markham

36. The judge described Mr Markham, the ophthalmic surgeon, as a fair and thoughtful witness. She noted that, in his written report, he had written:

“Falls from height could cause retinal haemorrhage (probably secondary to a rise in intracranial pressure) although this said to be infrequent and in A’s case, he had not even fallen off the sofa on which he was placed. It would seem unlikely that a minor blow to the head from contact with the soft arm of a sofa could cause intercranial bleeding and resultant retinal haemorrhaging I do not believe that A’s intracranial and retinal haemorrhages could have been caused by falling against the soft arm of the sofa even though it apparently has a wooden frame.”

He had not, however, read Dr Hogarth’s report or the papers cited therein, an omission which the judge described as “unfortunate”.

37. She recorded (paragraph 98-9) that in oral evidence:

“When asked about the constellation of injuries excluding the spine he said ‘I still have my doubts about [the] soft arm of the sofa despite the social worker’s recent report, but I could not possibly rule it out. It is a very difficult judgment for a court to make’. He stressed that spinal bleeding was outside his area of expertise NAI is ‘on the list’ he concluded having moved away from calling it ‘high on the list’. He said that there were ‘factors pointing both ways’”.

(d) Dr Elias-Jones

38. In his written report, the paediatrician Dr Elias-Jones had expressed the opinion that the fall against the arm of the sofa was not of sufficient force to have caused the injuries; there was no evidence of a blow to the head to have caused the injuries as there were

no fractures and no external sign of injury such as soft tissue swelling over the skull; and the most likely cause of the haemorrhages and associated retinal haemorrhages was from a shaking episode.

39. In her judgment, the judge was critical of Dr Elias-Jones (as she had been of all the experts who gave evidence). In his case, she observed that the court would have been “greatly assisted by more detail” in distinguishing between mechanisms of injury, that his contribution to the experts’ meeting had been “minimal”, and that he had failed to address any research or the histories given by the family. She recorded that, in answer to Ms Farrington, he had said:

“I would have to accept that it is possible that the subdural and retinal haemorrhage could have come from that one fall but remained concerned about how the spinal bleeding occurred.”

She added that he had “repeated through his evidence that he did not think the spinal bleed could have been caused by the sofa fall”. He accepted that it was possible for there to be no external signs of injury but his own clinical experience was that it was rare.

(2) The judge’s summary of research papers

40. A central issue in this appeal concerns the judge’s treatment of medical literature cited in the proceedings. In the course of their reports, the experts referred to a number of research papers which were included in the court bundle. At least one further paper was sent to the judge after the conclusion of the evidence. A summary of the research papers was drafted by the judge and annexed to the judgment – Annex A. It is by itself a substantial document running to nearly 7,000 words and is a testament to the care and attention which the judge devoted to this troubling case. It includes references to comments made by the experts, in particular Dr Hogarth, about some of the research papers, but also a number of the judge’s own observations from her reading of the papers during and after the hearing.
41. The judge warned that, whilst it was helpful to have these research papers, she was “mindful that research looks at patterns in cases and does not look at A and his specific injuries”. She identified problems with the categorisation of cases for research purposes, reciting Dr Hogarth’s evidence that “determination of whether something is accidentally or inflicted is not a straightforward matter” and that it was therefore necessary to “apply healthy scepticism about whether the definitions in these cohorts may or may not be correct as to how determinations were made”. The judge stated: “given the difficulties in categorising cases for the purposes of research, I have looked carefully at how the researchers did this”. She noted that some papers were based on cases where there had been court findings whereas others were dependent on the veracity of witnesses. She recorded that she had

“explored in some detail with Dr Hogarth how I should interpret the literature, and that he had stressed that it “should not be regarded as a huge source of data and knowledge which will answer all our questions. We need not [sic] to be careful about over reliance on literature but we cannot totally disregard it.”

42. The judge then summarised the findings of 18 papers. In some instances, her comments were confined to a short paragraph, sometimes a single sentence. In others, they were more extensive, extending over several paragraphs, and including detailed observations on their findings and their perceived strengths and weaknesses, some drawn from the expert's evidence, others from her own reading of the papers. Although submissions were made on appeal about the judge's treatment of a number of the individual papers, it is only necessary to consider two.
43. The most extensive section of Annex A addressed one paper ("Childhood falls with occipital impacts", Atkinson and others, *Pediatric Emergency Care*, 2018), which Ms Farrington KC on behalf of the mother had cited in cross-examination of all of the experts. In his report, Dr Hogarth had described this as a study of eight children who had immediately developed symptoms after a fall backwards from a standing or seated position onto a hard surface and were found to have suffered subdural haematomas and retinal haemorrhages. The judge's comments about the paper in Annex A extended over four pages, recording the similarities identified by Ms Farrington between the cases cited in the paper and A's, and weaknesses in the paper noted by the experts and, in some instances, identified by the judge herself. The weaknesses identified included the point, highlighted by Mr Markham in evidence, that "reliance on witness report from family members and children in relation to the injury mechanism carries the risks inherent in such reporting". The judge concluded: "it seems to me that Atkinson is a paper that I must weigh in the balance given the similarities between the reported cases and A's presentation but I can place very limited weight on it given the weaknesses of the study and the number of cases it contains [8]."
44. Another paper considered in the Annex was "Dating the abusive head trauma episode and perpetrator statements: key points for imaging" (Adamsbaum and others, *Pediatric Radiology*, 2014). The judge observed:

"This paper deals with injuries arising out of reported shaking. It does not deal with head injuries more generally and I have not been provided with research papers that deal with symptoms arising out of head injuries more generally. No witnesses were asked questions on this paper. I weigh it with care and bear in mind its limitations, particularly because no expert was asked whether this paper assists the court in relation to head injuries more generally or was asked questions on it."

She recorded that the main points of the paper included:

"Children do not behave normally immediately after shaking and the time of the onset of even mild symptoms appears to be the best clue for dating the incident. The symptoms described in the cases reviewed included a period of "calm or silence" or sleepiness and tiredness in 55% of reported cases; hypotonia in 41.5%; loss of consciousness in 38%; breathing problems in 24% or pallor in 15%. Immediate vomiting was described in 11 of cases.... The paper states that dating the incident remains controversial."

There were, however, problems arising out of the judge's treatment of this paper, as considered below.

45. In relation to the spinal bleeding, the judge further noted Dr Hogarth's opinion that "we are in an area of weak evidence ... I do not think it is entirely conclusive one way or another". She also recorded that Dr Hogarth and Ms Pettorini had both described this as "a very grey area" and Dr Hogarth took the view that research was at an "early stage". Two papers on the topic were cited – "Spinal subdural haematomas in children with non-accidental head injury" (Koumellis and others, *Archive of Disease in Childhood*, 2009) and "Spinal subdural haemorrhage in abusive head trauma" (Choudhary and others, *Radiology*, 2012). In Annex A, the judge made a number of comments about both papers, some based on observations made during the expert's evidence, others from her own reading.
46. At the end of Annex A, after setting out comments on the 18 papers, the judge reached the following conclusions under the heading "What does the research tell us?":

"69. The literature before the court is of varying quality and there is no one study which will answer the questions that this court has to answer directly. There is no case exactly like A's. I agree with Dr Hogarth that the literature needs to be read in conjunction with the clinical and radiological experience of the experts. I agree that I need to be careful about over reliance on the literature but I trust it is clear from my analysis that I do not disregard it either. These are complex cases and I have set out the strengths and weaknesses of the papers I have read.

70. I can place more weight on papers with statistical significance and less on those with smaller case numbers and no statistical significance. I can place weight on the consensus statements because those draw together all the literature and are a product of analysis by a number of specialists in the field drawn together for the purpose, for example by the Royal College. Dr Hogarth identifies Koumellis and Chaudhary as seminal papers. The Royal College consensus paper and these two papers suggest that intraspinal injuries are associated with inflicted injury. I can place weight on these findings.

71.1 agree with Dr Hogarth that "the current state of understanding does not provide infallible evidence". However, the literature can show the larger patterns of injuries observed in research so far. These larger patterns are:

- Subdural haemorrhages are statistically significantly associated with abusive head trauma.
- Retinal haemorrhage[s] correlate strongly with abusive head trauma in children under 3 years old.
- Falls in infants are common. Most falls result in no injury and serious injuries from short falls are very rare.

- Subdural haematoma[s] arising out of short falls are low probability.
- There is a significant association between spinal injury found on the MRI and abusive head trauma.
- The two main theories that are set out in literature to explain spinal blood are tracking and direct injury and none of the literature or the experts set out a well accepted alternative explanation so any alternative remains in the realms of the unknown. This is an area which is contentious.
- When researchers categorise falls, A's would fall with the lower end of the 'short fall' definitions.
- Symptoms are proximate to shaking injuries but dating them remains contentious and reliance on perpetrator statements (as with all witness reports) may not be reliable. I do not have any papers considering symptoms of head trauma more generally.”

(3) Three specific issues

47. Returning to the judgment, after her comments on the experts' evidence, the judge considered three specific issues arising from it.
48. First, she considered the submission that the fact, identified in Dr Hogarth's report, that the spine is not routinely imaged in cases of accidental falls means that there are limitations to the literature base and our understanding of the prevalence of spinal bleeding in such cases. On this issue, she concluded (paragraph 110):

“Whether the spine is routinely imaged in accidental injuries of course has a bearing on the weight that I can put on the literature given that practice has changed and data is limited. I make it clear that [I] rely on literature only in so far as it shows broad patterns, not to decide the case. The experts involved in clinical work led me to understand that it is not simply the case that spinal images are never obtained in accidental injuries in current practice. Indeed, as Dr Hogarth says ‘it is now part of the protocol’. The picture is a nuanced one. However, the real issue for the court is not the prevalence or otherwise of imaging in cases in general but how likely it is that the sofa impact to A's head has caused blood on the spine in the absence of evidence of direct impact between his spine and the wooden frame of the sofa. Here the clinical practice suggests that MRI spine imaging is now performed in more severe head injuries (as with A) and Ms Pettorini that is it unusual to see such a large spinal bleed.”

49. Secondly, she considered the “timing of the injury from a clinical perspective”. On this issue, the judge's citations from the evidence showed a degree of consensus amongst

the experts. “In the expert's meeting there appears to be consensus that the timeline for the injuries was 1 to 3 days. Dr Elias Jones and Ms Pettorini say it is probably within the 24 hours prior to admission”. Dr Hogarth accepted that neuroradiological time frames are unhelpfully broad and that the “last time he seemed well is the best indication of the time frame”. Dr Elias-Jones had said “logically deterioration follows the fall”. Mr Markham’s evidence was that “general thinking in neurosurgery is that the symptoms appear very quickly after the injury.” In her written report, Ms Pettorini suggested the timing of the injury was likely to be “very close” to admission on 2.2.23 and “very likely” on the same day.

50. The judge recorded that in oral evidence Ms Pettorini said, “we tend to set the event after the last time the child looked well”, noting “it is not science but it is the best I can do. It is a hypothesis. I would not expect a latency, but latency has been reported”. According to the judgment, Ms Farrington had asked whether she was saying that there was a shaking incident before the sofa incident, to which Ms Pettorini had replied: “in my opinion it is an acceleration/deceleration. Not necessarily inflicted”.
51. The judge then (at paragraph 119) made this observation about the timing of the injuries:

“I note that the Adamsbaum paper in relation to the timing of symptoms. However, it deals with a particular type of injury arising from shaking and not head injuries more broadly. None of the witnesses were asked about this paper. The caveats about the literature in general apply to this paper, namely the relatively small number of cases at the limitations of witness report. It is noteworthy that the dating of injuries is said to be “controversial” in this paper and that the injuries described range from mild, which may be missed, to more obvious ones. I note too that A’s presentation evolved. On the sofa he is described as sweating, his eyes deviating and becoming pale. He cried and then went limp and stopped crying. He showed different symptoms at different times, the mother returning him to hospital when he began to vomit.”

52. Thirdly, the judge referred to the evidence given by the experts as to the force required, noting for example Ms Pettorini’s view that the force of the sofa incident was not sufficient to cause the injuries and Dr Hogarth’s reply when asked about force: “we can’t know these things. These accidents happen in the real world and we have to rely on variables like who was there to witness the accident”.

Conclusions on the medical evidence

53. In a final detailed section headed “Drawing together the medical evidence”, the judge set out her conclusions on the expert evidence. She repeated some of the criticisms of the experts mentioned above and some of the conclusions to which she had already referred. For example, at paragraph 136, she returned to the question of timing:

“All experts agree that the timing of the causal event tends to be set after the last time that the child looked well but Ms Pettorini noted that this ‘is not science’. This was not an area of evidence

that rendered precise answers either in clinical experience or literature.”

54. At paragraph 138, she summarised the expert evidence as to the intracranial and retinal haemorrhages:

“Mr Markham, Ms Pettorini and Dr Elias Jones all accept that it is possible that the cause was the sofa incident but think it unlikely. Dr Hogarth took the view that such bleeding from a low-level mechanism was rare but was possible. The expert views taken into account their clinical experience and the Atkinson paper. However, in my view I can place very limited weight on the Atkinson paper with the weaknesses I have spelt out in the literature summary. Dr Elias Jones, Ms Pettorini and Dr Hogarth accept that it is possible to have an impact injury without a visible impact mark but that in the majority of cases there is one from clinical experience The absence of an impact mark is rare in terms the expert witnesses' clinical and radiological experience.”

55. The judge then addressed the spinal haemorrhage. She considered various observations by the experts and submissions by counsel, ending with the following paragraphs:

“142. Dr Elias Jones thought that it was possible that his lumbar area could have made contact with the sofa arm and Dr Hogarth does not rule it out. Ms Farrington submits that his lumbar area ‘could have made impact with the sofa arm and the wooden slats that slanted upwards at the same time as his head’ this is not a submission which I can accept as it invites me to enter into speculation. The evidence does not support a finding that [A]’s spine came into contact with the wooden bar of the sofa on the balance of probabilities.

143. I acknowledge that this is an area contention in literature but the main two explanations for blood on the spine are (a) tracking and (b) direct injury. None of the experts nor the literature present me evidentially with another recognised mechanism. Dr Hogarth was clear that these are the two main theories, and he was not aware that anyone had come up with anything outside these theories. Ms Pettorini stated that the theories were ‘well known’. There is always an “unknown unknown” in medicine, and I bear this well in mind.

144. Dr Elias Jones took the view tracking was ‘unlikely’. However, he acknowledged that Dr Hogarth had more experience than him in this. Mr Markham deferred to the other experts in this. Ms Pettorini is firmly of the view that the blood in A’s spine has not tracked down from the bleed in his brain. She favoured local damage to the veins due to the particular anatomical features of this case. Dr Hogarth also tends to this view but says that he ‘cannot be definitive’.”

The judgment (3) The family background

56. Next the judge considered evidence about the family background – what is commonly called “the wider canvas”. This was a relatively short part of the judgment. She set out a number of matters by reference to a number of the risk and protective factors listed by Peter Jackson J, as he then was, in *Re BR (Proof of Facts)* [2015] EWFC 41. She identified a number of factors that “might increase risk”. The first risk factor on the list in *Re BR* is that “physical or mental disability in children may increase the burden on a caregiver”. The judge cited this and the fact that the older child, D, has a diagnosis of autism and had presented with challenging behaviour. She added, however, that this had not been explored with the parents in evidence in any detail, and noted that “family members and professionals speak in glowing terms of [the mother] as a mother and there is no concern raised in any of the papers about her care for D. No concerns at all have been raised by D’s school on the papers before me. The mother is specifically commended for her care for D.”
57. The judge referred to a number of other factors, including that, whilst there were no reports of domestic abuse between the parents, the breakdown of the relationship between the mother and D’s father had been acrimonious, although they were now co-parenting D and had a cordial relationship; A’s father’s historic convictions for cannabis possession and recent hair strand testing indicating that he had used it recently; and the father’s conviction 15 years ago for breaching an anti-social behaviour order. Amongst the “many protective factors” were the wide family support network; the very positive observations of the parenting assessor about the parents’ relationship and in their parenting of the children; the guardian’s perception that the family had been open to professional involvement; the fact that family finances and housing were adequate; the evidence of a stable and supportive relationship between the parents, which the judge described as “particularly striking because they have been through an intensely stressful time”; the parents’ appropriate actions in taking A to hospital on 2 February and returning him the following day, and the fact that they gave full interviews to the police voluntarily.
58. The judge concluded this section of her judgment in these terms (paragraph 168):

“The presence or absence of any particular factor proves nothing. Children, of course, can be well cared for in disadvantaged homes, or abused in fortunate ones. Each case turns on its own facts. The analysis above, nonetheless, provides a helpful framework by way of background against which I must establish the facts in this case.”

That passage is in almost identical terms to the concluding paragraph of Peter Jackson J’s judgment in *Re BR*, supra, although it omits the first two words of that paragraph – “In itself”.

The judgment (4) – the family members’ evidence

59. The judge then set out a detailed analysis, extending over 98 paragraphs, of the evidence given by the four family members about the events of 2 February 2023. She made a

number of adverse observations about the oral evidence of the parents, noting for example that the mother could recall little about the day on which the incident occurred, that she was “vague ... bordering on evasive” and observing that her “description of the sofa incident appears relatively detailed in the contemporaneous written notes. However, in the witness box it was markedly less so”. She also found the father’s evidence to be “vague”. In contrast, she was more impressed with the evidence of the grandparents. In particular, she described the grandmother’s evidence as “spontaneous and more detailed than the parents”. She recorded the grandmother’s evidence about what A was doing before the sofa incident:

“She was the most spontaneous when she described A on the sofa playing with his purple octopus. She demonstrated how he waved his octopus up and down and how she greeted A calling him “chubby chops”. These are details that no other witness provided. She showed a wiggly type of motion of A playing with his toys. She gave evidence that she did not hold A on that day.”

60. The judge summarised the family members’ oral evidence in these terms:

“Listening to the accounts of the entire family, I am satisfied that neither [grandparent] held A that day. I do not get a vivid, detailed account of how he was presenting immediately before the sofa incident. [The step-grandfather] said that they were not at the mother’s long before the sofa incident. The most vivid account I get is from the grandmother in relation to him playing with the octopus. The impression I gained from [the grandparents] was that the adults were chatting, and that A was playing in the background. Until the sofa incident, I did not get the impression that the adults were giving their sole attention to A, and no one mentioned anything out of the ordinary.”

61. The judge then considered inconsistencies in the various accounts given by the parents. She reminded herself of the observations of Peter Jackson J in *Lancashire County Council v C, M and F (Children: fact finding)* [2014] EWFC 3 at paragraph 9 that discrepancies in repeated accounts may arise for a number of reasons and are not necessarily indicative of culpability. She recorded that she had found a number of obvious inaccuracies in the record keeping. She also observed that counsel for the local authority had “not put all of the differences in nuance to the parents” and cautioned herself about the fallibility and the need to avoid pedantic scrutiny. She nevertheless observed that there had been a “subtle variation” in the parents’ accounts of what they saw on 2 February, which “might be due to the passage of time or a decision to keep things vague as the matter was investigated further”. She also observed a development in the evidence of what the family members heard when the sofa incident occurred. She found no “mention of a sound being described by either of the parents in any of the earliest medical notes where they are repeatedly asked to give the history” and observed that “the absence of any mention of the sound of impact in the records up until this point does not sit comfortably with the mother’s evidence in the witness box that ‘the noise is mostly what I remember. That is what really sticks with me’”. In subsequent conversations, starting with a strategy meeting on 7 February, the four family members had mentioned hearing a sound when (on their account) A’s head struck the sofa arm,

variously described as a “crack”, “bang”, “thud”, “very loud bang”, “loud noise” and “thump”. The judge concluded (paragraph 249):

“It seems to me that throughout the course of the collection of evidence the impact sound is described in an increasingly dramatic fashion and gets louder with the telling. The exception to this pattern is [the step-grandfather] whose evidence did not become more elaborate. There may be various explanations for this. It could be that with hindsight knowing the significance of the injury that memories have become more focused on this point. It could be that quite innocently the family have been sharing their recollections of what happened that day and this has either intensified or clarified what they all separately recall hearing. Alternatively, there could be intentional framing a narrative that attributes the injuries A suffered to this sofa event by some of the family members.”

The judgment (5) - Conclusion

62. The judge then turned to her conclusion. At paragraph 268, she observed that there were various possible explanations for A’s injuries.

- “(a) The sofa incident was the cause.
- (b) The sofa story is a fabrication by all 4 witnesses, and they are lying to protect each other. One of the 4 people present injured [A], and this is known to the others.
- (c) There was an incident prior to the sofa incident that gave rise to the encephalopathy on the sofa and was the cause of the injuries.”

63. She started her concluding analysis by returning to the research literature. She warned herself again about over-reliance on the literature and that it needed “to be read in conjunction with the clinical and radiological experience of the experts” but added that she did not disregard it. She recited the conclusions she had reached at the end of her summary of the literature in Annex A. Having done so, she said (paragraph 271):

“From the medical evidence read in conjunction with the literature I draw the following conclusions:

- (a) A’s injuries are significant ones.
- (b) It is possible that the sofa fall could have caused the retinal and subdural bleeding but unlikely.
- (c) The spinal injury is more likely than not to be a result of direct injury rather than tracking. Of course, we can’t know for sure but the tracking explanation is less plausible. We cannot rule out unknown reasons for blood on the spine which medical science has yet to discover.

(d) It is unusual not to see a sign of impact in the circumstances described by the parents although it is possible according to both clinical experience and literature.”

64. She then summarised her findings about the family evidence:

“272. Looking at the evidence of the family against broad canvas of all the evidence, I found [the grandparents] to be credible. They gave unstudied accounts and remembered more details of the day than the parents, despite their cognitive limitations. [They] have been asked if they would lie for the family. They denied this.

273. The parents’ evidence I found vague, and I gained the distinct impression that they were trying to avoid giving details, in particular of what happened on the day before the fall. Even making allowances for deficits in note taking, it seems that their accounts have shifted in subtle ways. I place no determinative weight on hearsay evidence, but it does not enhance their credibility or reliability.

274. In my view the description of how A behaved after falling back on the sofa is a vivid one and the description of his symptoms is consistent across the accounts given by all parties. He is described as sweating, his eyes deviating and becoming pale. He cried and then went limp and stopped crying. The medical evidence suggests was that this was an encephalopathy.”

She concluded “I do not think the four witnesses have fabricated the sofa story in its entirety”, but continued: “however, I need to examine carefully whether the sofa incident was the cause of the symptoms”.

65. At paragraph 275, the judge then set out the arguments for and against the sofa incident being the cause of the injuries. She reminded herself again that “medicine does not have all the answers”. She identified the following factors as being in favour of the sofa incident as the cause:

“(a) All experts accept that it is possible that the sofa fall could cause retinal and subdural bleeds.

(b) It possible that the head injury left no impact sign.

(c) This was a witnessed event (albeit not directly) by 4 witnesses, two of whom I found credible.

(d) The medical evidence suggests that the symptoms take place proximate to the injury. A does not look visibly unwell in the pictures provided in evidence as taken that morning by the mother, which might lead one to pinpoint the sofa as the cause of his injuries.

- (e) The noise of impact described, if accurate, suggests a significant impact.
- (f) It is possible that the blood on the spine was caused by tracking from the brain. This is not the explanation which the experts favour
- (g) The social worker's observations of the sofa are consistent with those of the family and she has no criticism to make of them."

She then (at paragraph 276) identified the following factors against the sofa incident being the cause:

- “(a) The literature in general suggests that falls are very common in young children and injuries are usually trivial. Dr Hogarth agrees “we do not see subdural very often in low level mechanism of injury”.
- (b) Injuries to the brain and retina like this from short falls are “rare”.
- (c) Although the experts gave evidence that the short fall could cause the retinal and intracranial bleeding, this view was obtained from the experts in cross examination, predominantly by reference to the Atkinson paper in particular, on which I can place very limited weight.
- (d) Both Dr Hogarth and Ms Pettorini think tracking is the less likely explanation for the spinal blood, albeit Dr Hogarth takes care to stress the weaknesses of the research in this respect and to stress that his view is not definitive...
- (e) The descriptions of the noise of impact increased over time in the evidence and are variously described. The evidence of the loud noise of the impact does not sit easily with the lack of sign of impact.
- (f) On the balance of probabilities, the spine did not make contact with the wooden arm of the sofa.
- (g) The description of the sofa incident has become more vague over time in the parent's evidence and one analysis is that they have become less willing to commit to the details of the day.
- (h) The timing of the sofa incident fluctuates across the evidence.
- (i) The evidence of the parents was vague and lacking detail in relation to what was happening that morning before the sofa incident.

(j) [The grandparents] did not hold A. He was in the background on the sofa whilst they were chatting to the parents. Their focus of attention was not on him so if he were displaying mild symptoms from an earlier incident I am not confident that they would have picked them up.

(k) The force necessary to cause the injuries on the sofa is not quantifiable in precise terms [I]t seems to me that it is unlikely that a child A's size in a seated position on a soft sofa surface with some give could generate force significant enough to cause such serious injuries. The force involved in A's fall back would have been less than that involved in the greater distances involved in the Atkinson and Alspac papers. By all accounts this is among the shortest of short falls. It is onto a surface which is part fabric and padding with wood underneath, not an entirely hard surface.

(i) The consensus at the experts meeting was the injury occurred within the 24 hours prior to admission. Although logically symptoms follow injury, the impression I gained was that this was not an exact science and that mild symptoms described in literature may be overlooked. A's symptoms developed over time as described by the parents."

66. The judge then considered the arguments for and against the injuries being caused by another "acceleration/deceleration mechanism" prior to the sofa incident. She identified the following points in favour of this proposition:

“(a) This mechanism is the one that best explains the particular constellation of injuries from a medical perspective by reference to the literature in my view. Both the bleed in the brain and on the spine can be explained with reference to the breaking down of bridging veins in the skull and the direct injury to vessels in or around the spine. Broad trends in literature are more consistent with this mechanism (again, with the caveats I have set out in the literature review).

(b) The clinical experience of the clinical experts who routinely treat children is consistent with this this constellation of injuries being caused by this mechanism.

(c) This mechanism accounts for lack of impact sign.

(d) Most retinal injuries [are] associated with shaking

(e) I do not have a clear picture of A's presentation on the sofa prior to the fall back. [The grandmother] gave me the most vivid account, but all accounts given were short on detail. Neither [grandparent] held A and were chatting to his parents. The visitors were distracted to a degree. Any mild symptoms he

may have been experiencing from a prior injury may not have been picked up by [the grandparents].

(f) The evidence given by the parents as to what exactly they and A did before [the grandparents] arrived and before the sofa incident was vague and lacking detail.

(g) Although we have a photo of A on the school run awake and alert, the last picture taken before the fall is of him asleep, so it is difficult to assess whether he is lucid in that picture.

(h) The neurological time frame for the injuries is the widest. The consensus is that the injuries took place within the 24 hours prior to admission at the experts' meeting. Those with clinical experience give evidence that logically deterioration follows the insult and that Ms Pettorini says that it was likely "on the same day. The literature on dating injuries suggests that this area remains "controversial" and is based on perpetrator report, which Mr Markham rightly flags must be borne in mind. Latency cannot be ruled out and A's symptoms progressed on the parents' account.

(i) The hypothesis that an earlier incident was the cause of A's presentation on the sofa was first identified by treating clinicians on 15 February 2022 and Ms Pettorini aligned herself with this view."

She identified the following factors against the proposition:

“(a) The brain injury is not typical of shaking injuries, which tend to be unifocal [sic – this is a misprint – the judge plainly means “multifocal”], according to Dr Hogarth (with whom Ms Pettorini agreed). However, there are no “hard and fast rules”. However, I note that technically there are two sites of blood in the brain not one and that Dr Hogarth appears to have overlooked this.

(b) Children do not behave normally after shaking (a type of acceleration/deceleration mechanism) and the time of onset even mild symptoms (which can include sleepiness) is the best clue for dating the incident (Adamsbaum). None of the adults describe any symptoms prior to the sofa incident, although the descriptions of A on the sofa they give are not detailed.

(c) The parents do not report any other incident or accident.

(d) It is arguably odd for the mother be in a photo with A sleeping if there had been some traumatic incident earlier that morning, although there is a window of time before and after this photo about which I do not have great detail and the photos are not date or time stamped.

(e) [The grandparents] did not report anything out of the ordinary about A when they arrived, albeit they did not hold him, and their attention was not solely on him.”

67. The judge then turned to consider whether, if there was “an acceleration/ deceleration mechanism” prior to the sofa incident, it was accidental or not. This, she said, involved consideration of the following factors:

“(a) Ms Pettorini was clear that she could not say whether the injury was accidental or not.

(b) Mr Markham suggested that this case was finely balanced.

(c) Dr Hogarth suggests that we do not have enough studies to call it in a conclusive way.

(d) Dr Elias Jones did not retract his view about shaking, although he made various concessions in cross-examination about the possibility of the sofa being causative

(e) If it was an accident, I have evidence that the mother has reported an accident for D before, and it seems illogical that the parents would report a sofa accident but not any other unless there was a degree of culpability or blame involved.

(f) The mother has been deeply emotionally distressed during these proceedings and that she clearly loves A. The father loves A too. The parents’ care for the children in all other respects has been seen to be of a high standard and there are no other concerns. That does not exclude the possibility that one or other of the parents may, in a moment of weakness or negligence, have unintentionally or intentionally handled the baby hard enough to cause injury but it may suggest that they are less likely on the balance of probabilities to have done so.

(g) The literature points towards the constellation of injuries being consistent with abusive head trauma. However, the distinction between abusive and non-abusive trauma in literature is blurred and mis-categorisation is possible. For example, in the consensus study both abusive and non-abusive head trauma are defined by reference to an acceleration/deceleration mechanism leading to intracranial injury.

(h) The parents may have not witnessed any incident or accident that caused the injuries, through a lack of supervision. A is not ambulant so this is less likely to happen. The medical evidence leaves open the possibility of an unwitnessed fall. An unobserved fall would have still placed A in danger arising from inadequate supervision. However, it seems unlikely that a carer would have been unaware of an event of sufficient force to cause

these injuries to A. If they were not aware, that would have been a grave parental omission.

(i) If the parents were aware of an incident or accident that could have caused these injuries, then they have not been straight with me. This may [be] suggestive of a degree of culpability, although I remind myself that people may lie for a number of different reasons.

(j) None of the family members think that the parents would deliberately hurt A.

(k) The lack of detail about what was happening on the morning before the sofa incident and before [the grandparents] arrived fall may suggest that something happened other than an accident.”

68. Finally, the judge set out her findings as follows:

“285. The court is not always bound by the cases put forward by the parties but may adopt an alternative solution of its own and I have looked at the case of *Re S (A Child)* [2015] 1 UKSC 20. I have reminded myself that Judges are entitled where the evidence justifies it to make findings of fact that have not expressly been sought by the parties but I should be very cautious about doing so (see *Re G and B (Fact finding)* [2009] EWCA Civ 10 and *Re A, B and C (Fact Finding; Gonorrhoea)* [2023] 1 EWCA Civ 437). I remind myself therefore that any additional or different findings must be securely founded on the evidence and that the fairness of the fact-finding process must not be compromised.

286. It seems to me more likely than not that A did have an incident on the sofa during which the grandparents were present. I accept the evidence of all family members as to his symptoms. However, I am not satisfied that the sofa incident was the cause of his injuries and the symptoms flowing from them. I agree with the analysis of Ms Pettorini consistent with the treating clinicians, that this was arising out of an earlier trauma. I conclude on the balance of probabilities that the incident on the sofa was not the cause of the injuries.

287. I find that the grandparents have given a vivid and unstudied account and the extent of their involvement is exactly as they describe it. I do not find that they were present for, or involved in, the causal incident.

288. The timing of the accident is not an exact science but allows for a prior incident to the sofa which gave rise to the presentation of symptoms on the sofa.

289. I am satisfied that A suffered his injuries as a result of an acceleration/deceleration mechanism which could have been accidental or non-accidental in origin. It is more likely than not, not the sofa incident as described that caused the injuries. On consideration of all the evidence, this is more likely than not to be the explanation for the medical findings. In my view, a force more significant than the sofa incident was involved.

290. I have considered very carefully whether I can identify how this occurred, and whether A was in the care of one or both of his parents at the time. The evidence of the parents each has been unsatisfactory for the reasons I have analysed.

291. I find that the injury was sustained by A in the care of his parents and he came to significant harm in their care. The evidence does not enable me to identify a sole carer responsible for the injury or with sole knowledge of it.

292. I am satisfied that A sustained an injury through an acceleration/deceleration event, either non-accidental or accidental. This involved more significant force than the sofa incident. One or both of the parents would have, or should have, been aware of an event involving more significant force than the sofa. If accidental, it seems more likely than not that there was a degree of recklessness or negligence. If unwitnessed there was a degree of lack of supervision or awareness on the part of the adults involved. It was either deliberately inflicted, accidental or negligently arising. In my view was serious and attributable to a lack of reasonable parental care.”

The appeal

69. On behalf of the mother, Ms Farrington KC and Ms Storey-Rae put forward five grounds of appeal, which were adopted by Mr Sinclair on behalf of the father. There was considerable overlap between the grounds which can be fairly summarised and reordered as follows.
- (1) The judge acted as her own expert and conducted her own analysis of the medical research material. She was wrong to make findings that were not supported by evidence but were in the main made as a result of her analysis of the medical research literature (grounds 1 and 2).
 - (2) She failed to make proper findings on the oral evidence she had heard but conducted a ‘balance sheet’ analysis of ‘factors’ as if she were carrying out a welfare analysis (ground 2).
 - (3) She erred in her treatment of the “protective” and “risk” factors (ground 3).
 - (4) She wrongly made findings which were not explored with the parents during evidence nor with counsel in submissions and which were based in part on

speculation and hearsay evidence in the documents not put to the parents (ground 4 and 2).

(5) She reversed the burden of proof (ground 5).

70. The principal focus of the submissions made by Ms Farrington in support of the mother's appeal, which were adopted by Mr Sinclair on behalf of the father, was directed at the judge's treatment of the research literature. It was argued that the judge elevated her own analysis of the literature to a status far above other evidence, and used that as the prism through which she evaluated all the other evidence in the case. The judge tried to find the answer buried within literature and, having found what she thought was the answer, applied it to the case. As a result she failed to analyse or give any proper weight to the totality of the expert evidence, in particular the evidence of Dr Hogarth, as to the possibility of the accident on the sofa causing the injuries. The consequence was that she made findings which were wrong when the answer was quite straightforward. In the presence of four witnesses, A had an accident when he fell back on a sofa which had wooden slats under the padding. He became seriously unwell and his parents sought appropriate medical treatment for him not just once but on two occasions. He was not injured by his parents and the judge was plainly wrong to make the findings that she did.
71. Ms Farrington sought to identify a number of passages in the judgment which were based on the judge's interpretation of the literature. She was particularly critical of the judge's dismissal of the Atkinson paper and her conclusion that she could place little weight on it. She submitted that none of the experts gave evidence to that effect and Dr Hogarth regarded it as a significant paper which should be brought to the court's attention. She further submitted that the weight attached by the judge to her analysis of the literature relating to spinal bleeding was wrong, given Dr Hogarth's advice about the lack of research in the field.
72. Ms Farrington highlighted the comment concerning the timing of the injuries in paragraph 276 amongst the factors cited by the judge as being against the sofa incident being the cause.

“Although logically symptoms follow injury, the impression I gained was that this was not an exact science and that mild symptoms described in literature may be overlooked.”

Ms Farrington argued that this was not a finding supported by the evidence. The weight of the expert evidence was that the encephalopathy would have ensued fairly quickly after the event. She submitted that there was no exploration with any of the witnesses about whether there had been symptoms observed before they were aware that A had fallen back on the sofa. The evidence suggested, however, that he had been fine and normal. Ms Farrington relied in particular on the evidence of the grandmother, whom the judge found to be a credible witness. It was her evidence that on arrival A was “playing with his purple octopus and making noises, excited with his toy”. This was not the presentation of a child who has just been shaken or fallen.

73. Ms Farrington contended that it was the judge who first introduced the theory that there had been an earlier incident prior to the collapse on the sofa. During Ms Pettorini's evidence, she had cited a comment in the hospital notes, written by a clinician who was

not called to give evidence, and asked the witness “Am I right as understanding you as saying that there could have been an incident before the sofa – have I got the right end of the stick? to which Ms Pettorini had replied “you have”. Ms Farrington pointed out that none of the other expert witnesses were asked by the judge about the theory that the injuries had been sustained through “another acceleration/deceleration mechanism prior to the sofa incident” which the judge ultimately concluded “best explains the particular constellation of injuries from a medical perspective by reference to the literature”. Ms Farrington submitted that the judge’s finding was pure speculation. She had her own theory and ignored the evidence of a witness she found credible.

74. A further strand of the arguments on appeal was that, although the judge carried out an exhaustive summary of the evidence, she failed to make findings on important aspects of the case. In particular, Ms Farrington submitted that, whilst the judge made various observations about the parents’ evidence, describing it as vague and lacking in detail, she failed to make any clear findings as to their credibility (in contrast to the grandparents, who she expressly found to be credible). Furthermore, although she recited a considerable amount of evidence about the child’s condition prior to the sofa incident, she failed to make any specific finding about it. Another example concerned the noise described when A fell back on the sofa. In a lengthy passage in the judgment, the judge pointed out that there was no mention of any sound in the parents’ early accounts in the hospital and described how the accounts about the noise developed over time. The implication was that the inconsistencies undermine the reliability of the family’s evidence about this, yet the judge failed to make any specific findings about it.
75. Ms Farrington raised two further complaints about this aspect of the judgment. First, she submitted that the judge’s analysis of the evidence about the sound made when A’s head was said to have collided with the arm of the sofa was based on her own study of documents which were not put to any of the family members in evidence. Secondly, the implication in the judgment that the accounts of the sound were unreliable was inconsistent with the judge’s finding that the grandparents were credible witnesses whose evidence she accepted. Both of them referred to hearing a “thump” or thud”. In the witness box, the grandmother said she heard a “great thud” which was “terrible and so loud ... it made me feel sick”.
76. Ms Farrington submitted that the judge’s use of a balance sheet was indicative of her wrong approach. Instead of asking whether the local authority had proved to the requisite standard that A’s injuries were attributable to the care provided by his parents not being what a reasonable parent would give, she had asked whether on balance the injuries were attributable to the sofa incident (which she accepted had taken place) or to an earlier acceleration/deceleration event and, having concluded that it was the latter, whether or not it was accidental.
77. With regard to the judge’s treatment of the protective and risk factors, Ms Farrington argued that the judge wrongly characterised positives and protective factors identified in respect of the parents and the family as ‘risks’. For example, she regarded the fact that the mother is a carer of an autistic child as a risk factor when it should have been seen as a positive factor because all the evidence is that her care of D was exemplary. Ms Farrington further submitted that, despite considering various protective and risk factors, the judge made no findings of fact about them and attached no weight to them on the ground that they “prove nothing”.

78. Ms Farrington submitted that important elements of the judge’s ultimate findings were never explored either with the parents in evidence or with counsel in submissions. She accepted that the judge reminded herself (at paragraph 285) of the need for caution when making findings that went beyond those sought by the parties, but contended that she had then gone on to make findings on which the parties had had no notice of and on which they had had no opportunity to comment. In particular, she cites the findings (a) that there had been an acceleration/deceleration event prior to the fall on the sofa; (b) that one or both of the parents should have been aware of it; (c) that, if it was an accidental event, it seemed more likely than not to have involved a degree of recklessness or negligence, and (d) that, as it was either deliberate or negligent, it was serious and attributable to a lack of reasonable care. If the judge was considering making findings that went beyond the case advanced by any of the parties, it was incumbent on her to give them an opportunity to make submissions about them. Although counsel had sought a further hearing at which they could make oral submissions, the judge had declined to arrange it because there was no space in her diary.
79. The position of the other parties on the appeal can be summarised very briefly. On behalf of the local authority, Ms Gibbons filed a skeleton argument saying in a single sentence that the local authority “do not support the mother and father’s application for permission to appeal and support the findings of HH Judge Suh”. At the hearing of the appeal, she made no submissions, saying that she was content to rest her case solely on the judgment. On behalf of D’s father, Ms Jaffer supported the appeals but made no substantive submissions on the grounds. It was therefore left to the guardian’s counsel, Ms Seitler, to respond to the appeal. Although the guardian had initially supported the local authority’s application to withdraw the proceedings, and then adopted a neutral position in written closing submissions, she now opposed the parents’ appeal against the findings. In a succinct skeleton argument, supported by brief oral submissions, she argued that the medical research papers formed a central part of the case. They were identified by the experts, discussed during their oral evidence, and formed part of the parties’ final submissions. The judge was therefore obliged to evaluate them within the context of what she had heard during the trial. In those circumstances, it cannot be said that she elevated her analysis of the research. She had merely taken it into account when assessing the expert evidence put before her. In other respects, she had carried out a comprehensive analysis of the evidence and there was no basis on which this Court could properly interfere with her findings.

Discussion

80. The role of research literature in expert evidence was explained by Kerr LJ in *R v Abadom* [1983] 1 WLR 126 at 129 to 131:

“In the context of evidence given by experts it is no more than a statement of the obvious that, in reaching their conclusion, they must be entitled to draw upon material produced by others in the field in which their expertise lies. Indeed, it is part of their duty to consider any material which may be available in their field, and not to draw conclusions merely on the basis of their own experience, which is inevitably likely to be more limited than the general body of information which may be available to them [T]he process of taking account of information stemming from

the work of others in the same field is an essential ingredient of the nature of expert evidence Once the primary facts on which their opinion is based have been proved by admissible evidence, they are entitled to draw on the work of others as part of the process of arriving at their conclusion. However, where they have done so, they should refer to this material in their evidence so that the cogency and probative value of their conclusion can be tested and evaluated by reference to it.”

81. The rules about expert evidence in family proceedings are set out in Part 25 of the Family Procedure Rules. Under FPR rule 25.14(1), an expert’s report must comply with the requirements set out in Practice Direction 25B. Paragraph 9.1 of the Practice Direction, headed “Content of the expert’s report”, stipulates that the expert’s report must, inter alia

- “(f) in expressing an opinion to the court
 - (i) take into consideration all of the material facts ..., identifying the facts, literature and any other material, including research material, that the expert has relied upon in forming an opinion;
 - ...
 - (iii) indicate whether any proposition in the report is a hypothesis (in particular a controversial hypothesis) or an opinion deduced in accordance with peer-reviewed and tested technique, research and experience accepted as a consensus in the scientific community
 - ...
 - (g) where there is a range of opinion on any question to be answered by the expert
 - (i) summarise the range of opinion;
 - (ii) identify and explain, within the range of opinions, any ‘unknown cause’, whether arising from the facts of the case (for example, because there is too little information to form a scientific opinion) or from limited experience or lack of research, per review or support in the relevant field of expertise;
 - (iii) give reasons for any opinions expressed”

82. The equivalent provisions in the Civil Procedure Rules are found in Part 35, including Practice Direction 35 and the appended Guidance for the Instruction of Experts in Civil Claims. The provisions are expressed in somewhat less detailed and specific terms in the CPR than in the FPR but there is no material difference between them.

83. Published scientific works were admissible at common law as evidence of public facts stated in them and this rule is expressly preserved by s.7(2)(a) of the Civil Evidence Act 1995. But the long-established practice is for such works to be admitted through the evidence of expert witnesses rather than simply quoted by counsel or consulted by the judge: *Collier v Simpson* (1831) 5 C & P 73. Research literature only becomes part of the evidence if it is cited by an expert in their report or put to them in cross-examination. But as Phillips LJ pointed out during the hearing, any literature cited in this way becomes part of the evidence in the case. Medical research literature, in the form of peer-reviewed articles and occasionally textbooks, is frequently cited by expert witnesses as part of their opinion evidence in fact-finding hearings in the family court.
84. How should a judge approach research literature cited to the court? As Kerr LJ observed in *Abadom*, the reason for requiring an expert to refer to the research material on which they have relied in expressing their opinion is so that the cogency and probative value of their conclusion can be tested and evaluated by reference to it. The judge is therefore entitled and, where necessary, required to scrutinise the research cited when assessing the expert's opinion evidence. The reliability of an expert's opinion may be enhanced if it supported by research literature. On the other hand, it may be undermined if it is contrary to the research literature. This is all part of the overriding principle that the judge must reach her decision on the totality of the evidence.
85. In considering the research literature, however, the judge must exercise caution. First, she should not use analysis of research as a stand-alone method of trying to decide what happened. It can help to confirm the accuracy or reliability of the expert's opinion. It is not a tool for the judge to use herself independently when analysing the evidence. She is not the expert.
86. Secondly, in areas of scientific controversy and uncertainty (such as causation of intracranial bleeding in infants), there is a risk that the judge may be drawn into too extensive an analysis which will distract from the central issue in the case. There is a danger that the obligations on the expert in Practice Direction 25B to identify the literature and research material they have relied on in forming their opinion and to summarise the range of opinion on any question to be answered will lead the judge into an unnecessarily detailed analysis of the material.
87. Thirdly, there are particular difficulties with the research literature about the causation of intracranial bleeding in infants. They were succinctly considered by Lieven J in *A Local Authority v AA and Another* [2022] EWHC 2321 (Fam) ("AA"). Her judgment was delivered following a fact-finding hearing concerning the causation of subdural and retinal haemorrhages in a 9 month old girl. There are thus some similarities between AA and the present case. In fact, Dr Hogarth was a witness in both cases and some of the academic papers cited to Lieven J were also cited to the judge in the present case. I stress, however, that I am not drawing any comparison with the ultimate findings of Lieven J in AA but rather with her treatment of the academic papers to which she was referred. In her judgment (at paragraphs 36 to 39), Lieven J identified "a number of difficulties with research in the field of infant head injuries and its causation". These included:
- "the most obvious ...[is] that it is not possible to carry out any empirical research, which leaves the data very difficult to analyse in a wholly objective and comparative manner";

- the fact that there are “relatively few cases where there is unequivocal evidence, such as CCTV footage, that proves whether the infant was shaken or suffered a short fall”;
 - concerns about the reliability of data based on “confessions”;
 - “problems with the detail of the studies and the degree to which the cases are self-selected”
 - the polarisation of opinion in this field, in particular in the context of litigation in the United States.
88. Fourthly, when a large volume of research is cited, there is a danger that it may obscure other important parts of the evidence. As Peter Jackson J observed in *Re BR (Proof of Facts)* [2015] EWFC 41 at paragraph 8, (cited by the judge at paragraph 169 of her judgment) “the medical evidence is important, and the court must assess it carefully, but it is not the only evidence”. In *A County Council v K D & L* [2005] EWHC 144 (Fam) at paragraph 39, Charles J observed,
- “It is important to remember (1) that the roles of the court and the expert are distinct and (2) it is the court that is in the position to weigh up the expert evidence against its findings on the other evidence.”
89. The judge in the present case was plainly aware of the applicable legal principles derived from the many reported authorities mentioned in Annex B and/or cited in the body of the judgment. But despite her conscientious approach to the task, she went astray in her treatment of the research evidence in a number of respects.
90. The judge’s exhaustive analysis of the medical literature and the expert evidence is testament to the care she devoted to this case. But on any view it was unnecessary and disproportionate. As I have already noted, the diagnosis of inflicted head injury, and in particular the question whether a baby can sustain intracranial bleeding from a low level fall, have been matters of controversy for a number of years. But the current state of medical opinion is clear. As Peter Jackson LJ recently observed in *Re R (Children: Findings of Fact)* [2024] EWCA Civ 153 at paragraph 15, “the debate about serious head injury from low-level falls is well-trodden territory”. The preponderance of expert opinion at the moment, which was reflected in the opinion of the experts in this case, is that low-level falls usually do not cause intracranial and retinal bleeding of the sort suffered by A but may do so on rare occasions. The presence of intraspinal bleeding is thought to be an indication of abusive shaking, but this is a grey area and the causes of such bleeding are not at present well understood. There was nothing in the research literature considered by the judge which materially added to this.
91. By itself, the fact that the analysis in Annex A was disproportionately long would not, of course, justify interfering with the judge’s findings. I am, however, persuaded by Ms Farrington’s submission that the judge elevated her analysis of the research to such an extent that it became the prism through which she assessed the rest of the evidence.
92. In her ex tempore judgment refusing the local authority’s summary application to withdraw the proceedings, the judge had said that she needed “rigorous consideration

of the literature”. As noted above, the judge was critical of the closing submissions she subsequently received from the local authority, stating that they “showed little mastery of the complexities of the medical evidence and literature provided” adding that “none of the submissions address the medical papers in depth” . It is correct that the local authority’s closing submissions did not include an analysis of the literature. But it was not the role of counsel to provide an independent assessment of the literature. Literature and research material is only admissible in so far as an expert has referred to it in forming his opinion. Counsel’s submissions could only extend to addressing the question whether the literature supported the expert’s opinion. In fairness to local authority counsel, it should be pointed out that her submissions did contain a reasonably full summary of the evidence given by the experts including some of their references to research in their reports and in oral evidence.

93. In due course, the judge herself gave “rigorous consideration of the literature” in Annex A, the conclusions of which were incorporated into the judgment. At paragraph 41 of the judgment, she described Annex as “my analysis” of the medical papers and described her reasoning in the Annex as “an integral part” of her overall assessment. I accept that, given the extensive reference to some of the articles during cross-examination of the experts, she was right to consider it in the context of her assessment of their evidence. But in doing so she elevated the literature to a position of decisive importance which it did not warrant. There is a strong impression that she treated the research literature as the primary source of the opinion evidence and the experts’ testimony as ancillary to it.
94. The judge repeatedly referred to the research literature throughout her judgment. Despite her warnings to herself that she needed to be careful about over-relying on it, it seems to me that is unfortunately what happened. The most striking of many examples is that, when carrying out the balance sheet analysis towards the end of the judgment, the first factor identified by the judge for the proposition that the injuries were caused by another acceleration/deceleration mechanism prior to the sofa incident is that it “best explains the particular constellation of injuries from a medical perspective by reference to the literature in my view” [my emphasis]. This is a clear example of the judge assessing the evidence by reference to her own assessment of the literature. I accept Ms Farrington’s assertion, which was not contested by the other parties, that none of the experts was asked about this possible explanation, save for one question put by the judge to Ms Pettorini.
95. Ms Farrington made a series of complaints about the judge’s analysis of some of the individual research papers, including the Atkinson paper. With one exception, having considered those papers myself at some length following the appeal hearing, I am unpersuaded that the judge made any material errors in summarising them. But in saying that, I acknowledge that this is one judge commenting on another judge’s assessment of specialist literature.
96. The exception is the Adamsbaum paper relating to the timing of symptoms. In my view the judge’s treatment of this paper was irregular and her conclusions about it were wrong.
97. The first point to make is that, although this paper (published in 2014) was included in the list of references at the end of Dr Hogarth’s report, and subsequently included amongst the research papers in the court bundle, it was not mentioned in the body of

the report. There is a citation of a paper by Adamsbaum mentioned in the report (at lines 337 to 341) but it is a *different* paper (published in 2010). It seems that none of the advocates spotted this error and it is unclear whether the judge noticed it (although she did observe that none of the witnesses had been asked about the paper). It follows that the 2014 paper was not referred to in the evidence save that it was included, apparently by mistake, in Dr Hogarth's list of references and therefore found its way into the bundle. It follows that, quite inadvertently, the judge's observations about this paper were unrelated to any evidence given by any of the experts.

98. This is particularly unfortunate because the judge placed considerable reliance on her interpretation of the paper in a way which was, in my view, not wholly correct.
99. The abstract of the article states, so far as relevant to this appeal:

“Dating the incident ... remains controversial. The aim of this article is to review the most reliable features used for dating the incident, based on both legal statements by perpetrators and medical documentation.”

It then identified three “key points”, including that

“children do not behave normally immediately after shaking, and the time of onset of even mild symptoms appears to be the best clue for dating the incident.”

Within the article, the authors noted that in 53 cases where a child had been shaken the perpetrator had been asked to describe the initial symptoms presented by the baby. In 100% of those cases, changes in behaviour were described immediately after the shaking, or even during the shaking. The symptoms described varied from severe to mild.

100. Although not cited by the experts, this paper therefore provided support for the consistent views about timing expressed by all four experts in their evidence – that “the last time he seemed well is the best indication of the time frame” (Dr Hogarth), “logically deterioration follows the fall” (Dr Elias-Jones), “the symptoms appear very quickly after the injury” (Dr Markham) and “we tend to set the event after the last time the child looked well” (Ms Pettorini).
101. In her analysis of the paper in Annex A, however, the judge identified several features as undermining its reliability. First, she correctly stated that the paper “deals with a particular type of injury arising from shaking and not head injuries more broadly”. The relevance of the paper in the context of this case, however, was that it provided support for the proposition that a baby would exhibit symptoms immediately after being shaken. Secondly, she stated that the caveat about the small number of cases applies to this paper as to the literature in general. Yet the number of cases cited (53) is larger than in a number of other papers (for example, the eight papers cited in the Atkinson paper). Third, she says it is also subject to the caveat about the limitations of witness reports. The striking feature of the paper, however, is that all of the 53 perpetrators report seeing immediate symptoms in the baby. Finally, she says that “it is noteworthy that the dating of injuries is said to be ‘controversial’ in this paper”. But as I read the paper, that observation is in part a reflection of the lack of precision in the timing of injuries from

imaging and is not intended to dilute one of the “key points” in the paper that children do not behave normally immediately after shaking and the time of the onset of even mild symptoms appears to be the best clue for dating the incident.

102. My reading of the paper is that it provides reliable support for the unanimous view of the expert witnesses as to the timing of injuries. The judge’s reading of this paper led her to downplay the significance of their evidence as to timing. I recognise, of course, that, in putting forward my interpretation of a paper which was neither considered by nor put to the experts, I could be said to falling into the same error as the judge. The real problem is that the paper was not properly part of the evidence because it was not considered by any of the expert witnesses. This is particularly important because the judge attached significant weight to it when reaching her conclusion that the child had suffered an earlier acceleration/deceleration event at some prior to the sofa incident.
103. The starting point when considering the possibility of an earlier incident should have been the eyewitness evidence about A’s condition. None of the family members described anything unusual about A prior to the sofa incident. His grandmother, whose evidence the judge found to be credible, described him playing with his toy octopus and waving it up and down. The judge discounted this on the basis that the literature stated that timing of injuries was “controversial”, and symptoms of a shaking injury varied and could in some cases be mild. As none of the adults picked A up or paid him close attention in the period immediately before the sofa incident, she thought it was possible that they may have missed symptoms of an earlier acceleration/deceleration event. But this reasoning was based on a mixture of her reading of the literature and speculation, not on the evidence.
104. Given the clinical consensus amongst the experts that it was likely that the causative event occurred after the last time the child looked well, and the evidence of the family members that he was well before the sofa incident, I accept Ms Farrington’s submission that the judge ought to have ensured that all the experts (and not just Ms Pettorini) were given an opportunity to comment on the suggestion that A had suffered another acceleration/deceleration mechanism prior to the sofa incident, which the judge found “best explains the particular constellation of injuries from a medical perspective by reference to the literature”. Furthermore, as the possibility of an earlier event had not been raised with any of the experts save briefly with Ms Pettorini, it was unfortunate that counsel were not given an opportunity to address it in closing submissions. Ms Pettorini made a passing reference to “latency” in her evidence which the judge cited in the judgment (“I would not expect a latency, but latency has been reported”) but this was never raised with the other experts, nor in submissions. But it led the judge to conclude (paragraph 288) that “the timing of the accident is not an exact science but allows for a prior incident to the sofa which gave rise to the presentation of symptoms on the sofa.”
105. In addition to the justifiable complaints about the judge’s treatment of the research literature, there are three further concerns about her judgment which, taken together, have led me to conclude that her findings cannot stand.
106. First, alongside her over-reliance on the literature, the judge failed to reach her decision on the basis of the totality of the evidence. In assessing the likelihood of the injuries having been sustained as a result of an event involving an acceleration/deceleration mechanism prior to the sofa incident, she was required to consider not merely the

evidence about what happened on the day of the collapse but also the “wider canvas” evidence about the family. She listed a number of “factors that might increase risk” and then identified “many protective factors in this family”. But she did not consider what relevance any of these factors had to the central issue of whether A’s injuries were inflicted non-accidentally. Instead, she seemingly set them to one side, saying “the presence or absence of any particular factor prove nothing”.

107. As noted above, the paragraph in the judgment which concluded with those words was taken almost verbatim from Peter Jackson J’s judgment in *Re BR*. But in saying

“[i]n itself, the presence or absence of a particular factor proves nothing”

Peter Jackson J was not saying that the presence or absence of any of the risk or protective factors carries no weight. The fact that

“children can of course be well cared for in disadvantaged homes and abused in otherwise fortunate ones”

does not mean that the home circumstances carry no weight in the fact-finding exercise. Yet in this case, having identified, under the heading of “risk and protective factors”, some factors about the family which were plainly relevant, the judge seemingly disregarded them when carrying out her analysis. As noted above, the judge reminded herself of Dame Elizabeth Butler-Sloss P observation in *Re T*, supra, that “evidence cannot be evaluated and assessed in separate compartments. A judge in these difficult cases must have regard to the relevance of each piece of evidence to other evidence and to exercise an overview of the totality of the evidence”. But having mentioned this crucial principle, she failed to apply it when making her findings.

108. In fact, there were a number of significant factors in the family background which pointed against a finding that A’s injuries had been inflicted. They were fairly set out in the written submissions (about which the judge was, as noted above, extremely critical) filed by the local authority in support of its application to withdraw the proceedings. Of particular importance was the fact that the parents attended the hospital promptly after their account of A’s fall; that there were no other signs of injuries or indicators of abuse; that the care given to D was seen to be of a high quality; that this was not a socially isolated family, or one that was previously known to social services; that there was no evidence of domestic abuse in the household prior to the incident in question; that the social worker reported observing a warm relationship between the parents, and that they showed appropriate warmth to both children. Furthermore, as counsel for the guardian put it in closing submissions to the judge, this was a family who had

“entirely opened their doors to professional involvement. They have positively encouraged professionals to come to their home and observe them with their children. The guardian’s view is that they have been entirely transparent.”

109. These were all factors which pointed away from the injuries being inflicted by one of the parents and away from any culpability for negligence. Yet when the judge came to draw up her balance sheet analysis of whether the sofa incident had caused the injuries,

there was no reference to these factors at all, save for a passing reference to the fact that the social worker had no criticism to make of the family. At the end of her judgment, having concluded that the injuries were sustained prior to the sofa incident, the judge referred briefly to the high standard of care and the fact that there were no other concerns when considering whether it was or was not accidental. In my view, however, she was in error in disregarding the positive factors about the parents until this late stage. When considering whether or not the injuries were sustained, as the parents maintained, as a result of the sofa incident, she failed to have regard to the totality of the evidence.

110. Secondly, I also accept Ms Farrington’s submission that important elements of the judge’s ultimate findings were never explored with the parents in evidence nor with counsel in submissions. It is true that the judge reminded herself of the principle that, although the court in care proceedings is not confined to the case advanced by the parties, it must ensure that any different findings made are securely founded in the evidence and that the fairness of the fact-finding process is not compromised, citing the decisions of this Court in *Re G and B (Fact-Finding Hearing)* [2009] EWCA Civ 10, *Re A, B and C (Fact-Finding: Gonorrhoea)* [2023] EWCA Civ 437. As the judge noted at an early point in her judgment, all the submissions with which she been provided addressed the court from the standpoint that the sofa incident was the cause of the injuries. The judge’s ultimate conclusions that there had been an earlier event, either accidental or non-accidental, and that, if it was accidental, it was more likely than not to have involved a degree of recklessness or negligence and thus to be attributable to a lack of reasonable care, were outside the parameters of the case advanced by the local authority. Ms Farrington’s submission to this Court that there was no exploration with any of the witnesses about whether there had been symptoms observed before they were aware that A had fallen back on the sofa was not disputed. In the course of the appeal hearing, Ms Gibbons told us, somewhat hesitantly, that she had raised the possibility of an earlier incident in cross-examination of the parents but it was not addressed by any counsel in submissions and overall seems not to have featured significantly in the hearing. I accept the submission that, as the judge was considering making findings that were materially different from the case advanced by any of the parties, the right course would have been to give counsel an opportunity to make submissions about them. It was therefore very unfortunate that she was unable to arrange a hearing for oral submissions when that opportunity could have been taken.
111. Finally, there are flaws in the judge’s ultimate conclusion in paragraph 292. Having concluded that the injuries occurred through an acceleration/deceleration event that occurred prior to the sofa incident, she was unable to reach any conclusion as to whether it was accidental or non-accidental. At this point, for the first time, she stated that, “if accidental, it seems more likely than not that there was a degree of recklessness or negligence. If unwitnessed there was a degree of lack of supervision or awareness on the part of the adults involved. It was either deliberately inflicted, accidental or negligently arising”. She made no finding either way. So far as I can see, the assertions that “if accidental, it seems more likely than not that there was a degree of recklessness or negligence” and that “if unwitnessed there was a degree of lack of supervision or awareness on the part of the adults” are unsupported by any analysis or reasoning. There was no consideration of how an event involving the child suffering trauma involving acceleration/deceleration could have come about without human agency being

involved, and at least one parent knowing and failing to seek medical treatment for the child.

112. At no point did the judge stand back and consider the implausibility of the scenario she eventually concluded had happened – that the child, living with parents about whom there were no other material concerns and who had demonstrated a close and loving relationship with their children, had suffered an earlier incident that day, either accidental or deliberate; that following that incident he had not displayed any symptoms that were noted by any of the adults; that he had been seen by his grandmother to be playing happily with his toy octopus; that in the presence of four adult family members he had then suffered a fall onto the hard arm of the sofa after which he developed clear symptoms of encephalopathy, which led his parents to take him to hospital immediately and thereafter to co-operate entirely transparently with the professional agencies.
113. I therefore conclude that, despite the very great industry and concern that the judge devoted to this case, her evaluation of the evidence was flawed and her reasoning does not sustain her conclusion. The high hurdle for an appellate court interfering with findings of fact has been crossed. For these reasons I would allow the appeal and set aside the judge’s findings.
114. What should happen now? At the conclusion of the hearing, we indicated to the parties that, in the event that the appeal was allowed, we would invite them to make further written submissions as to the next steps. Since the hearing, however, the proceedings have concluded with the making of no order under s.31 in respect of either child. In those circumstances, it would be plainly disproportionate to order a rehearing of the fact-finding hearing. In allowing an appeal, this Court may make any order that would have been open to the court below. In this case, it would have been open to the judge to accede to the local authority’s application for leave to withdraw the proceedings. For my part, I would propose that we should therefore allow the appeal and substitute an order granting the local authority leave to withdraw. As we are taking a different course from the one indicated at the end of the hearing, we must give the parties the opportunity to make further brief submissions on this matter, accompanied with a draft order, to be filed with the Court so that we can reach a decision about it before the judgments are formally handed down.

PHILLIPS LJ

115. I agree.

ELISABETH LAING LJ

116. I also agree.

[Postscript: Under an order agreed between the parties on the handing down of these judgments, the local authority was granted leave to withdraw the application for a care order, with the child arrangements order in respect of D made by the judge remaining in place.]