Full title: Shortage of paediatric radiologists acting as an expert witness: Position statement from the British Society of Paediatric Radiology (BSPR) National Working Group on Imaging in Suspected Physical Abuse

Short title: BSPR Working group on imaging in SPA

Abstract

One of the most challenging areas of radiological imaging in children is the diagnosis of physical abuse. There is a dearth of paediatric radiologists willing to act as expert witnesses particularly in the family courts. There are a number of reasons why radiologists may not be interested or willing to put themselves forward to work as expert witnesses in this field.

A group of imaging experts recently formed the “British Society of Paediatric Radiology (BSPR) Working Group on Imaging in Suspected Physical Abuse (SPA)”. These are radiologists and neuroradiologists with current or previous experience of providing expert witness reports to the court in cases of suspected physical abuse (SPA) met in January 2019. The group discussed chronic inefficiencies in both medical and legal practices and the challenges that arise from working in a legal arena with different structures, goals and assessment criteria, trying to develop pragmatic solutions to some of these barriers. Key issues revolved around organisational inefficiencies, support from NHS Trusts and the RCR to conduct this work, and the risk / benefit of involvement. This work is important for the patient, parents and society in general, and highly rewarding for clinical practitioners who are

involved, but there are several issues with current practices that discourage active participation.

With several members of the group either retired or close to retirement, the shortage of experts is becoming a pressing issue within the UK which will require an engaged multidisciplinary group to come up with creative solutions. Here, the group provide a consensus opinion highlighting the current barriers and potential facilitators to increasing the number of radiologists willing to provide opinions to the Court.

Introduction

The radiological imaging in children who have undergone suspected physical abuse (SPA) is fraught with difficulties. SPA can manifest as a range of abnormalities from fatal or near-fatal catastrophic traumatic brain injury, multiple fractures of the axial and appendicular skeleton, to the identification of occult healing fractures indicative of previous trauma [1]. This work is important for the patient, parents and society in general, and highly rewarding for clinical practitioners who are involved, but there are several issues with current practices that discourage active participation.

Like all clinicians, paediatric radiologists and neuroradiologists are aware of the safeguarding and child protection role they play in their daily clinical practice. Similarly, they recognise that their clinical findings in this context may result in their involvement with and possible Court attendance in both family and criminal proceedings. For these reasons and others, the Royal College of Radiologists (RCR) and Royal College of Paediatrics and Child Health (RCPCH) have produced comprehensive joint guidelines on the careful handling and documentation required

when assessing a child suspected of having undergone physical abuse and the imaging thereof [2]. This includes the establishment of radiological imaging protocols to ensure nationwide standardisation of high quality imaging. The role of the expert witness in court has also been clearly defined, as described at Part 25 of The Family Procedure Rules 2010 'The Duties of an Expert' [3].

In clinical practice, radiologists work as an integral and essential part of the multidisciplinary team, including social workers, police, paediatricians, ophthalmologists, neurosurgeons and neurologists (amongst others) whose expertise within their respective disciplines is eventually presented to the Court to help facilitate the optimal decision making process on behalf of the child. Often, these are cases in which the cause of the injuries may not be immediately apparent, and clinical history often incongruous with the clinical and radiological findings.

There is a national shortage of radiologists in all subspecialties including paediatric radiology. The Royal College of Radiologists 2017 census indicated 7.8% unfilled consultant paediatric radiology posts [2]. As a consequence, much of this specialist work is frequently conducted by non-specialists, in District General Hospital (DGHs), who may not see a sufficient volume of cases or may not have undergone rigorous training in the imaging of children in this particular, forensic, context. If the case subsequently becomes the subject of Court proceedings, then it is not uncommon for a neuro or paediatric radiologist to need to be instructed to provide an expert opinion within their particular domain.

This "expert witness" in most family cases is a single joint appointed expert whose role is to help the Court interpret, understand and integrate often complex imaging

findings, with the clinical findings in other disciplines in what are in the main complex and difficult cases. Clearly the number of experienced personnel available and willing to give such an opinion is small and currently decreasing. The shortage of medical experts has been recognised by the legal profession, with Sir Andrew McFarlane, the President of the Family Division of the High Court of Justice noting in a recent key note address; *"…I have been struck by accounts from courts all over the country as to the greater difficulty that now exists in finding experts who are prepared to take on instruction in a family case. This is apparently a particularly acute problem in the field of paediatric radiology, which, as you will imagine, is a core discipline in many child abuse cases, and (even more worryingly) in the field of paediatrics itself."* [4] Following from this, he has now established a working party to identify and attempt to seek remedies for the shortage of all medical experts willing to provide input to the family courts, including radiologists.

Creating a working group

There are a number of reasons why radiologists may not be interested or willing to put themselves forward. To address this, a group of imaging experts recently formed the "British Society of Paediatric Radiology (BSPR) National Working Group on Imaging in Suspected Physical Abuse (SPA)". Members were paediatric radiologists or neuroradiologists with current or previous experience of providing expert witness reports to the court in cases of suspected physical abuse (SPA), or an interest in doing so. The first meeting of this group was in Birmingham in January 2019 to provide a consensus opinion highlighting the current issues felt to represent a barrier to increasing the number of radiologists willing to provide opinions to the Courts. The

group discussed chronic inefficiencies in both medical and legal practices and the challenges that arise from working in a legal arena with different structures, goals and assessment criteria, trying to develop pragmatic solutions to some of these barriers, summarised in Table 1. With several senior members of the group either retired or close to retirement, the shortage of experts is becoming a pressing issue within the UK which will require an engaged multidisciplinary group to come up with creative solutions.

Contextualising the Role of Radiology

Radiological imaging is one part of the complex jigsaw puzzle of evidence that needs to be presented to the Court in cases of SPA. This includes clinical history and examination, blood results, social context, ophthalmology assessment and input from a variety of other disciplines. We do not wish to over-emphasise the importance of imaging, or the nuanced interpretation required, but radiology is often used in the immediate clinical context to triage cases into those in whom physical abuse is a real possibility. Whilst other clinicians may look at medical images as part of their clinical practice, only radiologists have the responsibility for image analysis and issuing an interpretative report from which clinical and legally valid conclusions may be drawn.
In a recognised proportion of cases, imaging may pick up cases of SPA as an incidental finding in a study requested for other reasons, hence imaging often plays a vital role in both the diagnosis and assessment of children with SPA.

We recognise that it is only right and proper that all medical evidence in cases of SPA must be evaluated and examined in open court to protect the rights of any involved parties and facilitate a fair trial. However, the child also has the Human

Right (under the Children's Welfare part of European Human Rights Act [5]) to not undergo significant harm, including physical harm or neglect, and there is an obligation on the state to take preventative measures to protect a child who is at risk. It may be argued that the shortage of neuro and paediatric radiologists (along with other medical experts) could impede the child's legal right to access such justice.

Current issues in providing medical expert witness opinion

Key to understanding the issue of the paucity of clinicians acting as medical expert witnesses is the entirely voluntary basis on which they do so and the (generally) negative views held of the current process. Below is a summary of the key issues at important stages of the process.

Who can act as an expert in SPA

Imaging in the context of suspected physical abuse is highly specialised and often requires nuanced interpretation and full recognition of normal variants, typically requiring experience of thousands of "normal studies". Unlike most other medical diagnoses, there is no external gold standard for the diagnosis of abuse. There is no pathognomonic skeletal injury specific for physical abuse and imaging features that constitute abusive head injury can be variable. To provide an expert opinion it is essential to have a wide range of experience in the imaging of accidental trauma and some of the differential diagnoses, to recognise "non-accidental" i.e. abusive/inflicted trauma. However, the majority of children in the UK are imaged in district general hospitals (DGHs) as opposed to tertiary paediatric units, but many experts work in

tertiary centres. In reality, any radiologist with sufficient experience can act as an expert witness in the field, but improving links between larger paediatric centres and regional hospitals through mentoring programs may help increase the pool of experts available.

It should also be recognised that the organisation of paediatric imaging services differs considerably across the country. In some centres, reporting of the brain and body are done independently by separate sub-specialty radiology groups, whereas in general and in smaller centres, these would be reported by the same radiologist with experience of reporting images of both the head and body. Both would be considered “experts” to the court, but have different practices and experiences.

Imaging in suspected physical abuse is becoming increasing complex and given its importance in clinical practice and society, this area of radiology may need to be considered a sub-specialty in its own right. Better definition of who is an expert (years of training, qualifications) rather than self-certification may also avoid the use of contentious overseas experts giving evidence outside of their area of expertise. This would need a dedicated working group, which we have formed within the BSPR, and we also propose a dedicated RCR Child Protection Officer (analogous to the RCPCH Officer for Child Protection), to lead and champion this work and raise the profile of such a vital and fundamental aspect of the paediatric radiologist’s workload.

Being instructed / accepting instructions

The frustrations of day-to-day dealings with solicitors were also a frequently cited issue for those practising regularly in this field. The current limited panel of experts are overwhelmed with requests for opinions from solicitors, often regarding the same cases but seeking instruction from different parties (not always immediately apparent), or requesting advice but with insufficient information or clinical context to enable the expert to make a decision regarding whether to accept the case. It is not unusual to receive a bundle with well over a thousand pages (with constant email updates) from the lead solicitor. It may not be possible to review this volume of documents thoroughly, interpret the imaging, review the relevant literature and produce a report within the 10-hour time limit that is typically approved. A standardised approach to bundle organisation, content and timely provision would help reduce inefficiencies in case acceptance and reporting.

Time to write a report and attend court

With increasing clinical demands on NHS consultant's time, there remains little flexibility within the working week to allocate to non-programmed activity. To evaluate and prepare a report in a complex physical abuse case may take around 10 hours. There is currently no incentive for NHS Trusts to allow consultants to engage in expert witness work, as their other clinical work cannot be "backfilled" given the paucity of available staff to provide cover. The legal aid hourly rate does not compensate an NHS trust adequately for loss of their radiology staff sufficient to employ additional staff, were such locums to exist in the first place. The Medical

Protection Society (MPS) has recently called for NHS Trusts to release clinicians to appear in court [6]. However, identifying the time to attend court largely requires the radiologist to take annual leave, to have sufficient flexibility to make up lost time by working weekends and/or evenings or the good will of colleagues to cover clinical demands, which is no longer widely available within pressurised NHS reporting environments.

Difficulties in physically attending court have long been cited as reasons for not engaging in Court proceedings. For example, radiologists cite difficulties with arrangements within their control, including negotiating time to attend court, and difficulties finding working IT facilities to present evidence at a distance (telephone or video conferencing) when only certain courts allow this, as well as issues outside of their control, typically last minute cancellations without the professional courtesy of reimbursements or apology. Following such experiences, several members of this working party struggle to continue working in this domain, let alone encourage others to engage in the future. We suggest all courts could hold pre-trial case conferences between relevant experts in the presence of the judge, to reach consensus on a schedule of agreed and disputed points which then become open to cross examination in court; this would focus the court and experts to improve efficiencies. Anecdotal evidence suggests that this is rare rather than commonplace: frequently witness lists are modified at the start of the trial rather than in advance adding to the inefficiencies associated with attending court.

The adversarial system

There is a gulf in common practices between medicine and law. Doctors are used to discussing opinions openly, being challenged by colleagues in a multidisciplinary team environment, by patients and their families. However, while we fully recognise that it is imperative that an expert should be able to justify his or her opinions as part of the legal process, doctors are frequently unprepared for the more adversarial and inquisitorial approach taken by courts, where even “fact finding” meetings have been known to degenerate into attempts to discredit witnesses rather than challenge the evidence. Standard approaches by judges could improve this.

Clinicians are comprehensively trained to provide an integrated approach to dealing with uncertainty, reaching differential diagnoses for their patient based on training, experience, instinct and the ability to evaluate patients over time using empirical treatments in order to save lives or initiate treatments. Much of this would not meet the beyond “reasonable doubt” criterion of guilt or innocence required by a criminal court. Indeed, many of the decisions made within medicine would fall well below this measure, yet regularly save patients’ lives within a resource-limited system designed towards maximising the number of patients treated in the most efficient way possible. In the courtroom, some of these practices are within neither the scope nor responsibility of the radiologist, but are nevertheless raised in the course of giving evidence, and therefore become open to scrutiny by opposing counsel. Whilst the current state of NHS working practice is within each radiologist’s area of expertise, the responsibility for them is not.

Some of the basic principles of the medical approach, including how clinicians assess probabilities (likely, possible, probably, definite, to exclusion of all others) and familiarity with current NHS procedures would be highly beneficial to solicitors, barristers, judges and jurors alike, but providing this background information remains challenging. It would be useful for clinicians to spend time learning how the court system works, but equally it would be beneficial for those working in the legal profession to spent time with medical experts outside of the court arena, in a busy hospital to understand how relevant information, or the lack of it, influences medical decision making. Most radiologists would be open to offering "shadowing experiences" to facilitate this.

Feedback

Lack of feedback was cited as a major issue in many cases. Whilst the expert witness will be widely criticised for not following the strict rules of how to write a report and make the correct declarations [3], solicitors should equally be held to account to follow the rules regarding feedback and/or instruction. Judges have readily given feedback to individual radiologists when approached for inclusion in their medical appraisal, but this is currently on a somewhat *ad hoc* individual arrangement. This type of feedback would not only be individually beneficial, but with reflection would also form valuable continuous professional development (CPD) which could contribute to towards consultant appraisal and revalidation. Recognition of this work by the RCR in this context would be invaluable.

Professional fees

Adequate and efficient payment for services remains an important issue, but not in order for expert witnesses to become wealthy. There is a cost burden to acting as an expert witness, manifest by increasing insurance premiums under private practice, GDPR compliance, and recovering payments from instructing parties. In order to recover some of these costs from taxable income, the expert witness requires adequate reimbursement as efficiently as possible. The current Legal Aid Agency rate is confusing and somewhat arbitrary in the current market place (£108 per hour for paediatric radiologists; £136.80 for neuroradiologists but for whom it is case-specific) [7]. For some, this rate is too low to consider, when compared to private practice income available elsewhere. For many, the disparity in rates of pay is confusing, but the overwhelming frustration is the frequent delay by the respective parties in providing payments. In some cases, this can be up to 2 years (not unusually written-off as bad debt) but with immediate HMRC requests for tax payments, and immediate increases in insurance premiums, this often means that expert witnesses beginning this process find themselves significantly "out of pocket" for months. Whilst none of these issues are in themselves "deal-breakers", there is an onus on the legal profession to adapt in order to encourage NHS consultants with the appropriate expertise to engage in this voluntary activity. When compared to other less risky private practice initiatives available to clinicians, expert witness work in contentious arenas inevitably becomes less and less attractive.

Furthermore, where there is more than one party involved (the majority of cases), the onus falls to the medical expert to seek payments from each of the multiple parties

Involved (CPS, two defendants' solicitors, guardian, local authority etc.) which multiplies these issues. A simple solution to this would be a central scheme akin to the Tenancy Deposit Protection [8], whereby the finances to pay the expert are put into a central independent "pot" at the beginning of the instruction and released on completion of the report. The administration charges for such a scheme could be incorporated into the current legal infrastructure: were such a scheme adopted it would likely encourage more experts to make themselves available and hence improve access to justice for both child and defendants.

Additional disincentives / negative publicity

Negative publicity for medical professionals who attend court is rare, but can be professionally damaging. When experts are named in court, vexatious complaints against radiologists are a real problem, with media intrusion to the point of "door-stepping" (media attending the clinicians' home for interview) and significant reputational damage, from which there is little redress even when inaccurate or libellous. Whilst radiologists need to conduct themselves to the highest professional standards, referrals to the GMC and websites targeting individuals have resulted from unsubstantiated allegations.

Radiologists do not expect special protection, but the personal cost of high-profile reputational harm, social media and online mainstream personal criticism of the expert and potentially his/her family, mean that this work becomes unattractive even to the most altruistic of practitioners. This is a further personal cost burden of undertaking this work, and fear of this potential negative impact on professional and

personal lives may be enough to turn anyone off this work, such that if trainees continue to view this as voluntary additional work, the number of experts will shrink rather than grow in future.

Action points

This BSPR consensus statement serves to identify the current themes which may require adaptation by both the medical and legal profession concurrently in order to encourage more radiologists to engage in this essential and rewarding work. We recognise that many of these issues are generic and not isolated to radiology nor even to the medical profession, but we would be willing to try or pilot novel methods to see whether new solutions could be then employed in a wider context.

In particular, we suggest the implementation of the following:

1. Develop a mentoring program to assist interested radiology colleagues
2. Produce a handbook outlining the process in a simple step-by-step guide.
3. Continue to promote cross-disciplinary educational events with input from solicitors and judiciary to “demystify” the process for all concerned.
4. Engage fully and raise these issues with other groups including Right Honorable Sir Andrew McFarlane’s working party
5. Discuss with the Royal College of Radiologists (RCR) regarding recognising expert reporting as continuing professional development (CPD).
6. Establish a permanent voice within the RCR (analogous to the Safeguarding Officer within the Royal College of Paediatrics and Child Health), to raise the profile of safeguarding medicolegal work and to emphasise this within radiology training and undergraduate medical teaching.

Summary

We look forward to working with the legal profession to help demystify some of these issues, stimulate discussion about how expert witnesses are treated both within and outside the courtroom, and highlight the most pressing questions for modernisation. Clearly, the protection of children is a societal responsibility that extends far beyond the remit of the radiologist, but we have an essential role to play and would encourage our colleagues nationwide to continue to work with us to this end.

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Table

Table 1. Summary of issues with potential solutions to the shortage of pediatric radiologists engaging in expert witness work.

Issue	Rationale	Potential "Medical" solution	Potential "legal" solution
Shortage of experienced personnel	Shortage of Radiologists	RCR Recruitment drive	
Shortage of experienced personnel	Shortage of Pediatric Radiologists	Encourage RCR to acknowledge court attendance as CPD ? Joint RCR / RCPCH expert witness training	Cross-disciplinary educational events
Shortage of experienced personnel	Confidence in medicolegal expert witness work	Mentoring / Buddy system through BSPR	Feedback from the courts for CPD and appraisal
Principles / understanding	Familiarity with differences between medical and legal frameworks	Expert witness training available: RCR / RCPCH combined approach	Judges need training in medical approach, probabilities, and familiarity with current NHS radiology practices.
Radiologists Attending court	Unwilling to subject themselves to unnecessarily harsh adversarial system	Mentoring / Buddy system through BSPR	Invite radiologists to attend court to "demystify" experience
Attending court – NHS perspective	Difficulty taking time out of clinical practice to attend court Inefficiencies around time and timetabling of attending court	Fees for court attendance do not cover NHS locum costs NHS Trusts can't find locums at short notice	Improved Dial-in facilities Standardisation between courts / judges regarding physical presence at court

Lack of feedback	No feedback from solicitors or judges in most cases regarding performance, outcomes etc.	Seek 1:1 feedback directly from judges	Solicitors to comply with rules regarding feedback Judges to offer feedback
Adequate reimbursement	Significantly raised insurance premiums for medicolegal expert witness work, GDPR compliance etc.	None	Simplify and standardise payments. Fees set by court need to acknowledge additional expenses incurred, tax implication etc.
Payment efficiency	Current legal aid fee set low Delays with payment from solicitors, multiple providers No standardised approach	Fixed rate system possible, or third party cost recovery vehicles	High variation between cases, lack of national approach Centralised “deposit” service
Reputational risk	Risk of reputational harm, media and social media risk	Families put at risk from controversial outcomes despite non-controversial expert witness reports	Expert witnesses not named in high profile court cases, judges to understand significant risk of harm in this manner
Risk benefit analysis	Competing interests on radiologists time: NHS, Research, Private practice	Finance incentives better elsewhere, at lower risk	Understanding that expert witness work is currently entirely voluntary

Declaration of interests

☐ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

☒The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

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