A Commentary on Recognising and Reducing Bias in Assessment of Suspicious Childhood Injury

Introduction

This year I published a paper titled "Minimising bias in the forensic evaluation of suspicious paediatric injury" in issue 34 of the Journal of Forensic and Legal Medicine [1]. My paper has since been reviewed in the Quarterly Update, a US-based journal on child abuse and neglect, by Professor Robert Block, a well-respected Child Abuse Pediatrician and immediate past president of the American Academy of Pediatrics [2]. Professor Block had been the first Chair of the newly formed sub-board on Child Abuse Pediatrics and continues to serve on the sub-board, overseeing the training of pediatricians in Child Abuse Pediatrics. He is a regular reviewer of papers relating to professional development for The Quarterly Update. This commentary provides a snap-shot of the highlights in my paper and includes a response to Block's points raised in The Quarterly Update review.

My paper focuses on the issue of bias, providing definitions of types of bias of relevance to professionals who work in forensic disciplines. Implicit bias are those views which individuals hold without being aware and are therefore more difficult to acknowledge and control [3]. Bias has been extensively researched in the forensic sciences following recognition of problems of error involving human interpretation of findings that are vulnerable to bias [4-6]. In child protection and forensic medicine, paediatricians work in a context requiring interpretation of findings which are also vulnerable to the same influences as those described within the forensic sciences. My paper discusses cognitive biases such as heuristics (pattern-recognition short-cuts or rules-of-thumb used to arrive at diagnosis), context bias, confirmation bias and social drivers that may compromise objectivity in any direction.

In the final section of my paper I summarise 10 practice recommendations for paediatricians in the evaluation of suspicious childhood injury to increase objectivity and reduce risk of bias, or "psychological contamination", of assessment of findings. These are reproduced here, with further expansion, including comments from Block and my response where applicable.

Separate Forensic Assessments from Advocacy in Child Protection

Whilst many tasks in medical child protection involves advocacy which aims to prevent harm or further harm in already maltreated children, the assessment framework used for evaluation of findings considered suspicious of harm should be undertaken with the understanding that the duty of the expert is to the court rather than advocacy. Interestingly I have heard American-trained Child Abuse Pediatricians say that they perceive their task when giving evidence in legal proceedings is to “speak on behalf of the child” whose injuries are at the centre of the proceedings. In my view this perception may be perceived as introducing bias and would be seen in many legal jurisdictions to breach the rules of expert evidence which demands that the expert owes his/her duty to the court, rather than to any party to the proceedings [7].

Separate Forensic Evaluation in Assessment of Suspicious Childhood Injury

In my view, when children are admitted to hospital with injuries that are then subject to legal investigation, it is useful to have a distinction between the medical professionals who provide care for the child, and those paediatricians whose primary task is to inform the investigating officers of the interpretation of findings and communicate to legal proceedings with regards to the future safety of the child and informal criminal proceedings. This allows treating physicians to maintain relationships with parents to optimise medical care and reduces risk of patient advocacy bias compromising the medico-legal opinion provided to the court. It is acknowledged however that this is not likely to be possible outside of large paediatric institutions. I would also add that for children assessed as an outpatient in the context of suspicion of...
harm (e.g. an alleged sexual offence) the paediatrician should provide a holistic assessment of the child’s wellbeing rather than simply undertake an assessment which focuses exclusively on their role in the matter as an expert witness [8]. Block’s criticism of this principle is that in his view, “a clinician who has treatment responsibilities builds clinical experience and that experience is what provides comprehensive expertise” [2]. I agree with his point and am not suggesting that experts who work in highly specialised fields of science who lack clinical experience with assessment and management of injured children should routinely be used by legal decision-makers in place of paediatricians with forensic training.

**Restrict Opinion in Medico-Legal Reports to Consideration of Biomechanics of Injury and Injury Plausibility**

In my paper I have stated that the forensic expert should keep an open mind that is independent of socio-economic factors and should not incorporate these factors into the basis of forensic opinion of injury causation [1]. Such factors are however relevant for child protection professionals to be advised of, to inform their own investigation and has relevance to identifying the needs of a family, assisting decision-making and planning in the context of uncertainty. Block fundamentally disagrees, stating: “Although injury mechanisms and physics are important, other biological and sociologic expertise is useful when considering the plausibility of maltreatment” [2]. In my view, it has never made sense for a forensic paediatrician, assessing the same findings, to arrive at a view that a child has been abused in the context of risk factors and to conclude the same findings are not abusive when such factors are absent. Jenny’s paper on missed abusive head trauma showed exactly how context bias compromised objectivity in the assessment of infants with head injuries [9].

To expand on this, in my view the term “diagnosis” should be restricted to defining what injuries have been identified following medical assessment. Anything further provided by a medical expert in relation to the issue of causation should be considered as an opinion. Following a motor vehicle crash, victims are not diagnosed with “car crash syndrome”. They are diagnosed with the individual injuries and the cause of the totality of findings reflects an opinion which is usually unlikely to be contested. For infants with head injuries, the diagnosis is the head injury and the opinion derived from those findings may be that these findings reflect what is generally accepted as involving a high energy inertial mechanism [10]. The paediatrician may then further opine that in relation to the reported history provided by the caregivers, no such mechanism has been described which would adequately explain these findings. This style of communication of opinion clearly differentiates the medical diagnosis from the opinion regarding causation and respects the role of the legal decision-maker to consider the implications of this opinion.

**Adopt a Process of Active Construction of Differential Diagnosis for Individual Findings**

This process generates “forward-thinking” rather than reliance on heuristics which involves increase risk of error due to “blind-spots” [11]. This is particularly useful when radiologists report on findings in the context of suspicion of harm which allows the forensic paediatrician to actively consider the differential diagnosis of reported findings.

**Recognise and Safely Manage Uncertainty within the Timeline of Investigation**

The extent of forensic opinion required varies, depending on the stage at which the expert is asked to contribute an opinion. I have previously written papers in relation to paediatric child protection which has focussed on the careful use of language to communicate complex information to professionals without medical training such as those who have the legal responsibility of safeguarding children and the courts [12-14]. In my view, a report which is written as an Interim Report whilst a child is still in hospital to inform those professionals who are investigating a suspicious injury is broader in scope than one which is later issued to the criminal jurisdiction once investigations are complete. The former report acknowledges that at the time of writing, an investigation is still in place and should state that any relevant information derived from such investigations should be given to the report-writer to then consider before a final report is issued. An interim report may reasonably identify risk factors for abuse that are thought to exist at the time the child is in hospital so that investigating professionals can assess whether they do exist and/or the impact they may have on the child, but the opinion given by the paediatrician should not at that time use those risk factors as a basis for their opinion regarding injury causation. To respect the boundary between the paediatrician and the legal decision-makers (who consider all the evidence derived from investigations alongside the medical evidence) it is useful for the interim opinion to be restricted to whether the initial suspicion of harm is resolved or sustained. Recommendations on further inquiries that may be helpful can be added to the Interim Report alongside what supports or interventions the paediatrician considers may be useful to help support the family, child or carer or specify further medical investigations that are planned and why. This section is not typically included in a report that is issued to the criminal jurisdiction.

**Incorporate Psychology into Training in Paediatric Forensic Medicine**

Topics such as understanding aspects of perception and judgment, decision-making and social influence can enhance theoretical knowledge of bias in forensic training. This is now standard training for forensic scientists who routinely function as an expert witness for the courts and would be useful to incorporate into training for paediatricians in child protection [4].

**Adopt a High Level of Self-Awareness in Conducting Child Protection Assessments**

An expert should identify their own biases and actively consider the opposite to enhance objectivity. They should remain independent of parties that request opinions and demand all information is provided before offering an opinion.
Gain Experience in Giving Evidence which has been Requested by Either Legal Side in Cases Involving Allegations of Child Abuse

In my view, it is important for paediatricians employed in child protection services to enable access for defense to seek forensic opinions. It has never made sense to me for paediatricians who work in child protection to refuse to provide opinions requested by defense legal professionals, on the sole basis that they don’t, on principle. This identifies an obvious bias which may then be exposed in legal proceedings. By being willing to provide an opinion it goes without saying that such an opinion about the facts would be the same, regardless of which “side” (prosecution or defense in criminal matters; designated authority as applicant or family in child protection proceedings) is requesting the opinion, hence avoiding adversarial bias. It is also essential that the expert has access to all the relevant facts before issuing such an opinion.

Have Peer Review Mechanisms in place

What peer review is exactly varies between institutions and individuals. Whilst worthy of broader discussion, this recommendation highlights the importance of exposing the facts and the inferences derived from those facts to a broader number of experts, whilst still retaining the responsibility for the opinion to remain with the designated expert.

Ensure Strong Leadership Qualities in Peer Review Processes and Case Discussions

This requires a group leader who is participative, with high level skills in recognising and managing negative group dynamics. Seeking to disprove opinions by incorporating “a devil’s advocate” into case discussions can minimise “groupthink” factors operating [15]. My final comments about my paper and the subsequent critique by Block are a reflection on the climate and culture in this field of work. Block started his review by claiming that the title of my paper had been mis-spelled, by writing in the Quarterly Update “Minimising (sic) bias in the forensic evaluation of suspicious paediatric injury” [2]. My paper had been published in a journal which uses British spelling of English as per author guidelines. In writing this response I have been careful to use American spelling when referring to American specialists, and British spelling when writing my own content. Whilst I appreciate there are inevitably some differences between the legal jurisdictions in British-derived legal systems (such as exists in Australia) and the US, I suspect we have more similarities of overarching purpose than difference. Like all paediatricians who choose to work in this difficult field, I am an advocate, committed to the prevention of the international issue of child abuse and neglect and much of my work in child protection involves caring for those who have experienced harm and neglect or remain at risk of harm. My work as an expert witness must, by virtue of law, adhere to the rules of the expert witness which requires us to be non-partisan to the “sides” in the proceedings as we owe our duty to the court. By providing objective evidence which is reliable, reasoned and free of bias I believe this will enable the courts to better perform their tasks which is to safeguard children, administer justice and ensure fairness is afforded to all those involved.
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