

'Paediatric Forensic Medicine and Pathology', Busuttil A, Keeling J (Ed), 2008 [Hodder Arnold](#), ISBN 978034073157 £175

Nearly 20 years following the publication of Mason's classic text on paediatric forensic medicine and pathology, Busuttil and Keeling have produced a concise compendium on this fascinating sub-specialty of forensic pathology.

Co-written by 20 authors, it is a clearly written and lavishly illustrated guide to those topics of particular relevance to the forensic investigation of the death of an infant or child, running to some 500 pages.

The authors have targeted pathologists and clinicians alike, and although the result is a text that provides a 'one-stop-shop' overview of the subject, the level of detail included for forensic pathologists, for example, is somewhat lacking.

For clinicians working in the field, there are excellent chapters on the clinical assessment of the potentially abused child, and the legal framework within which examination of such a child takes place – albeit with a heavy slant towards the Scottish legal system – is clearly explained. Chapters on suspected sexual abuse and the radiological imaging of potentially abused children are well illustrated, and comprehensive.

Children presenting with unexplained bruising are investigated clinically for a 'tendency to bruise', and the investigation of haematological abnormalities is thorough. However, there is little emphasis on the utility of such investigations for forensic pathologists. In contrast, post mortem investigations for suspected biochemical abnormalities are well described, although 'reference ranges' for some compounds – such as ketone bodies – are not alluded to, reducing the practical utility of the contents of this book.

The presence of retinal haemorrhages during the examination of a potentially abused child is a finding that requires an explanation; a chapter on such retinal haemorrhages details the clinical findings, but is not comprehensively illustrated, and does not provide sufficient detail for pathologists faced with the task of identifying, documenting and interpreting the presence of such haemorrhages.

An overview chapter on the post mortem examination of babies and children is succinct, and the thorny issue of determining whether an infant discovered dead was born alive and led a 'separate existence' from its mother is dealt with comprehensively.

Toxicological samples taken at post mortem examination in paediatric cases is not covered in sufficient detail to be of any practical assistance to the forensic pathologist; a chapter on forensic paediatric toxicology does review the techniques used to perform such toxicological analyses, but there is little detail on the interpretation of findings. The authors make the point that the

extrapolation of toxicological databases for interpreting drug levels in developing children is 'hazardous' and 'prone to error', but provide no detailed advice on how to overcome such potential errors.

The documentation of, and interpretation of the significance of, 'non-accidental' or 'inflicted' head injury in the paediatric population is of critical importance to forensic pathologists performing post mortem examinations on children who have died and who have been found clinically to have brain swelling and/or bleeding around the brain.

The interpretation of findings in such children is – and has been for a number of years – the subject of intense controversy in the forensic community, the subject of Court of Appeal judgements and most recently an Inquiry into paediatric forensic pathology services in Ontario, Canada (see <http://eforensicmed.blogspot.com/2008/02/paediatric-forensic-pathology.html> for links to some useful related resources).

Against this backdrop, it is disappointing to find that the chapter on 'head and neck' injuries makes no mention of this controversy, and presents a 'minimalist' discussion of the subject. One specific 'area of controversy' concerns the potential for 'short falls' to result in fatal head and/or neck injury, and the authors effectively dismiss the body of literature available – both 'for' and 'against' the potential for such falls to lead to a fatal outcome – by reference to their own observational study over '700 child hours' carried out as part of a 'Special Study Module' (an type of undergraduate medical study) at Edinburgh University in 2004.

The biomechanical analysis of fatal head/ neck injury in 'non-accidental' or 'inflicted' head injury in children is also intensely controversial, with difficulties identified in the precise modelling of the infant head and neck anatomy, and its response to mechanical 'loading' in circumstances such as alleged 'shaking' of infants, 'impacting' infants' heads against solid surfaces etc, or a combination of the two mechanisms. The authors in this book make no reference to the controversies accompanying this topic, and present a slanted view of the literature available.

Other chapters adequately cover forensic topics such as deaths as a result of exposure to fires and smoke, drowning, forensic dentistry and 'accidental' injuries, with some useful illustrations and references.

A chapter on 'expert witness testimony' provides a useful overview of the duties of an expert witness, although there is no detailed advice on expert testimony regarding specific paediatric topics, such as the interpretation of 'inflicted head injury', and no reference to recent Court of Appeal judgements (e.g. R V Harris, Rock, Cherry and Faulder [2005] EWCA Crim 1980).

There *is* a need for a practical 'all-inclusive' text on the forensic pathological aspects of the investigation of deaths involving infants and children that draws on the evidence-base found in the literature and identifies the limitations of the available evidence. Such a text needs to be targeted more clearly to the needs of the reader and, in particular, to their clinical or pathological needs.

Although there is clearly a need for clinicians to understand the pathological findings in cases of potential abuse, and vice versa, the needs of the forensic pathologist are not necessarily the same as those of the clinician faced with a live – but injured – child in hospital.

The forensic pathologist must document all potentially significant post mortem findings – positive or negative – and be in a position to provide the courts with a reasoned and balanced interpretation of the significance of those findings based on the available literature; if the available 'evidence base' is lacking, that failure must be drawn to the attention of the courts, so that the limitations of their expert opinion are clear to all parties involved. This textbook, whilst admirably covering the breadth of topics of interest to forensic pathologists, does not provide an 'all-inclusive' practical guide to the forensic pathological investigation of an infant or child death.