

BOOK REVIEW

Disposition of toxic drugs and chemicals in man 11th edition, by Randall C. Baselt, Seal Beach, CA, Biomedical publications, 2017, 2410 pp., ISBN 978-0-692-77499-1

The first edition of *Disposition of toxic drugs and chemicals in man* was published in 1978–1979 in two parts as 587 pages of well-referenced, concisely presented monographs on drugs and their analysis. The field has expanded enormously over the last forty years, and the 11th edition has over four times as many pages, and six times as many monographs as the 1st edition.

Existing monographs have been revised. For example, this edition has 11 new references in the monograph for morphine, 10 for fentanyl and five for acetaminophen. Baselt has had to run to keep up. The last decade has seen the advent of chemists who can synthesize novel psychoactive substances faster than clinicians, analysts, and law-enforcers can understand them. Baselt nonetheless manages to include 25 different compounds in the monograph on Synthetic Cannabinoids. The 10th (2014) edition listed just 10 in a monograph entitled Spice. An addendum to the main text of the current edition describes some newer phenylethylamine, benzodiazepine, and fentanyl derivatives, with several references from 2015 and 2016.

Forensic scientists tend to over-interpret analytical results. Flanagan and Whelpton provide an antidote to this defect in a preface. *Guidelines for the Interpretation of Analytical Toxicology Results* deals with pre-analytical hazards, and how to avoid them, as well as some more subtle analytical problems. There are useful tables of the many factors that can influence analytical results before and after death, which should induce caution in those who make pronouncements on analytical results alone.

Even in this age of free access to PubMed and Toxnet, Baselt is worth buying for the ready accessibility and careful referencing of the information it gives. There could still be improvements. I would like to see more emphasis on the statistical uncertainty of analytical results. For example, the monograph on gamma-hydroxybutyrate (GHB) tabulates values from a single fatal case in different media. This only helps a little, when the fatal concentrations found in post-mortem femoral blood in two case series ranged from

27 mg/L to 4400 mg/L, and when Baselt quotes 'average' values between 294 and 561 mg/L; nor are we told whether these are median or mean values. The median is more useful if judgements have to be made 'on the balance of probabilities.' In future editions, it might also be worth re-examining the quoted data on acetaminophen concentrations in fatal cases, since experience in hospital shows that death occurs late, when acetaminophen is undetectable. There may be scope for focussing on more modern analytical methods. It is a long time since I analysed drug concentrations, but I wondered how many laboratories still rely on gas-chromatographic methods from the 1960s and 1970s that require a derivatization step.

Disposition of toxic drugs and chemicals in man is indispensable, largely on account of the vigour shown by Dr Baselt in keeping track of the literature and of changes in the field. This new edition builds on firm foundations. After 40 years, Baselt remains an essential starting point for the interpretation of analytical data.

Disclosure statement

No potential conflict of interest was reported by the author.

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Received 28 September 2017; accepted 29 September 2017

<https://doi.org/10.1080/15563650.2017.1388920>

