

## BOOK REVIEW

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### Review of: *Drug Effects on Psychomotor Performance*

**REFERENCE:** Baselt RC. Drug effects on psychomotor performance. First ed., Biomedical Publications, Foster City, CA, 2001, 475 pp.

The first book reached for by most forensic toxicologists practicing in the postmortem drug testing arena is Baselt's *Disposition of Toxic Drugs and Chemicals in Man*, currently in its fourth edition. Baselt has, with this new volume, provided those toxicologists practicing in the impaired driving arena with a similarly valuable resource. Covering most of the commonly prescribed, centrally acting drugs, and a wide range of illicit drugs, the book contains 140 monographs. The format will be familiar to users of Baselt's original work. Each section succinctly reviews the pharmacology of each drug, considering publications of clinical trial data, recommended doses and associated plasma concentrations of both the parent and metabolites, when they are known, the drug's metabolism, and the warnings contained in the *Physicians Desk Reference* for the drug with respect to its potential effects on driving, or psychomotor skills. This is followed by a review of laboratory studies, which have included assessment of psychomotor effects from the use of the drug. Review of these studies is made more intelligible by the inclusion of a glossary of technical terms. Further sections are included on driving studies (where they exist) and epidemiology. Finally, Baselt summarizes all the material in terms of whether, and in what circumstances, there is evidence of psychomotor impairment. He is careful, however, to stress when these conclusions are based on specific driving studies and when they are inferred from more primary effects.

An excellent six-page glossary is provided of terms commonly used in the behavioral psychology, and human performance literature, and includes, for example, brief descriptions of the circular lights test, critical flicker fusion, and delayed auditory feedback test, and their significance. These terms are frequently encountered in the behavioral literature, but not in the forensic literature. Furthermore, the index is complete and is useful for finding generic, and proprietary drug names.

The list of drugs covered is very comprehensive, and up to date, and includes, for example, GHB, kavain, sibutramine, and

melatonin. The only omission of any consequence appears to be butalbital. There is no section on alcohol, which, although covered extensively elsewhere, would have been a nice inclusion. One limitation of the book, outside of the control of the author, stems from the extent to which the source literature reports plasma drug concentrations, while forensic toxicology invariably deals with whole blood concentrations. The author does not list blood/plasma ratios.

Most of the monographs are three to four pages in length, and provide an excellent review for the experienced toxicologist on the way to court. This is not a primary textbook on toxicology or pharmacology however, and review of the source literature is strongly recommended for a more in depth understanding of the issues that might affect interpretation. The section on marijuana is easily the longest at 12 pages, and justifiably so, since this is one of the most frequently encountered drugs in impaired driving cases, and has been extensively studied. This monograph evenly reviews the literature and also examines the effects of combining marijuana and alcohol, cocaine, and propranolol—typical questions in these types of cases.

One of the unsettling things emerging from this extensive review of existing literature on how drugs affect driving, is how few specific studies have been performed on this important issue. This leaves the toxicologist in most cases to infer the consequences of drug use from other tests of psychomotor function, common therapeutic effects, and known side effects. The author notes, however, that with more recently introduced drugs, more appropriate studies of psychomotor effects appear to be conducted.

The reader also needs to heed the limitations stressed in the introduction and throughout regarding the influence of age, gender, tolerance, cross-tolerance, effects of changing dose, chronic long term administration, combined drug use, and combined drug and alcohol use on the ultimate level of impairment experienced by the user. Consequently, the reader needs to understand that toxicology results need to be interpreted within the context of other known facts, observations, behaviors, and witness statements.

With this book, the compilation of 20 years of experience, Baselt provides his peers with another outstanding resource in the day-to-day practice of forensic toxicology, which should be included in every toxicologist's library.

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