

Preface to the Twelfth Edition

Monitoring human exposure to drugs and chemicals via measurement of the agents themselves, their biotransformation products or their biomarkers in biological specimens has never held more significance than it does today. The numerous applications of such appraisals include therapeutic drug monitoring, emergency toxicology, employee drug screening, clinical diagnosis of disease, industrial chemical exposure, assessment of ecocontaminant absorption, drug-facilitated sexual assault, criminal poisoning and investigation of sudden or unexpected death. This book is dedicated to providing the essential information needed to launch a search for suspect agents by delineating the fate in the human body of the most commonly encountered substances. The ultimate choice of analyte and specimen will be a function of factors such as the physicochemical and biochemical properties of the substance, the magnitude of the dose, the time elapsed since exposure, the route of administration, the availability of specimens and the purpose of the examination.

In this current edition, we have added over 280 drugs and chemicals, bringing the total coverage to more than 2000 substances. The single volume format and the page count were maintained by slightly increasing the text line length and reducing the citation font size. The new entries include amino acids (leucine, tyrosine), anabolic steroids (clostebol, methisterone), amphetamine derivatives (ethylamphetamine, 4-fluoroamphetamine), antibiotics (bleomycin, pefloxacin), antineoplastic agents (niraparib, volasartib), antipsychotic agents (benperidol, prothipendyl), antiviral agents (grazoprevir, trifluridine), benzodiazepines (metizolam, nimetazepam), bronchodilators (doxofylline, procaterol), contrast agents (gadobutrol, ioversal), dietary supplements (hydroxycitric acid, tyrosine), fentanyl analogues (florofentanyl, ocfentanyl), hormones (histamine, vasopressin), hypoglycemic agents (ertugliflozin, gemigliptin), performance enhancers (ipamorelin, hexarelin), pesticides (metolachlor, permethrin), plant poisons (aristolochic acid, coniine), shellfish poisons (brevetoxin, domoic acid), street drugs (desomorphine, 3-methoxyphencyclidine), synthetic cannabinoids (AMB-FUBINACA, MEPIRAPIM), synthetic cathinones (clephedrone, mexedrone) and vitamins (folic acid, pyridoxine).

The book's alphabetical index and CAS number index have again been placed onto our website as searchable pdfs to facilitate locating compounds. Please note that substances are listed alphabetically under the name of the active principle, and therefore agents such as akee, castor beans and kratom will be found under hypoglycin A, ricin and mitragynine, respectively. The List of Abbreviations has been expanded somewhat, and once again it was necessary to include an Addendum at the end of the text to accommodate some last-minute drug entries. I wish to thank Professors Robert Flanagan and Robin Whelpton for updating their very valuable Foreword. And, I am very grateful for all the suggestions for improvements submitted by readers over the last several years.

RCB

"The greatest medicine of all is teaching people how not to need it."

Hippocrates

"All who drink of this remedy recover in a short time except those whom it does not help, who all die."

Galen

"The present work was undertaken in response to a demand from our many professional friends who have become keenly interested in this line of laboratory investigation. We lay but little claim to originality but feel that if we have collected the major part of the information that is so widely scattered throughout the journal literature of the past three or four years, and boiled it down into a readily digested form, our labors will not have been in vain."

R.B.H. Gradwhol, in *Preface to the Newer Methods of Blood and Urine Chemistry*, 1917