

BOOK REVIEW

Martindale: The Extra Pharmacopoeia 27th Edition*

reviewed by

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The publication of a new edition of Martindale is a notable event for all of its various users and calls for sincere congratulations to the Editor and his staff for having completed the enormous task of improving and enlarging an established reference text without producing an unwieldy volume. Compared with the previous edition, the 27th, published in June 1977, is slimmer, has a larger page size and is handsomely bound in red with blue and lettered in gold. With the further advantage of a change in type, the new volume is a pleasure to use.

When William Martindale published the first and pocket-sized edition of the Extra Pharmacopoeia in 1883 he can scarcely have imagined that he had laid the foundation for the development of a reference volume containing information on drugs and medicine in current use that would become of universal acclaim.

Martindale: The Extra Pharmacopoeia is ubiquitous and the increased coverage of world wide proprietary products in the 27th edition will assist not only those overseas but also those in this country who find themselves confronted by a problem of drug identification resulting from international travel. The general index has been enlarged accordingly and now contains over 43 000 entries.

The familiar format of previous editions has been retained. Part 1, the largest section, now contains some 3130 monographs on drugs and ancillary substances divided into 112 chapters. It is helpful to find the chapter titles included in the List of Contents rather than among the lists following the preface. Some changes in classification have been made in line with current thinking and practice: thus Anorectics and Central

Stimulants have been separated and a new chapter on Central and Respiratory Stimulants incorporates some of the monographs, e.g. on amphetamine, methylphenidate, pemoline etc., together with those previously included under Nikethamide and other Respiratory Stimulants.

Modification of other chapter headings means, for example, that substances are grouped as antineoplastic agents, vasodilators, trichomonocides, narcotic analgesics, purgatives and muscle relaxants rather than being found in association with nitrogen mustards, glyceryl trinitrate, metronidazole, morphine, senna and tubocurarine respectively. Similarly a new chapter on metals and some metallic salts has allowed the amalgamation of monographs from several chapters in the previous edition. Saccharin and other sweetening agents are now grouped more logically with flavouring and colouring agents. Perhaps with a degree of nostalgia one must record that arsenic no longer merits inclusion in Part 1.

There are new and much enlarged chapters on Levodopa and some other anti-parkinsonian agents, Propranolol and other β -adrenergic blocking agents and Prostaglandins. In the previous edition, levodopa was classified with Amino acids and nutritional agents and amantadine as an antiviral agent whilst propranolol was grouped with Quinidine and other cardiac depressants and prostaglandins were to be found in Part 2. Such is the pace of progress in the use of therapeutic agents.

Substances covered in some of the other chapters are not strictly drugs or medicines but are, nevertheless, relevant either as aids to clinical diagnosis, self-treatment (e.g. insect repellents, sunscreen agents), or in formulation.

The monographs are variable in length reflecting the comparative importance of the substance. The information given includes synonyms, notes on properties, toxic effects and their treatment, precautions necessary,

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absorption and fate in the body as well as actions and clinical uses. The abstracts of published information and other references that are often included undoubtedly contribute greatly to the value of the monographs.

Part 2 contains 1040 monographs for Supplementary Drugs and Ancillary Substances listed in alphabetical order. This section includes obsolescent drugs, new drugs that have yet to become established and others that are available overseas. Some monographs for drugs included in Part 2 of the 26th edition have been revised and retained, as for example: aconite, carbon monoxide, methylene chloride, nicotine, phosphorus and serotonin. New monographs cover a wide variety of substances including many new benzodiazepine derivatives (e.g. alprazolam, camazepam, flunitrazepam, ripazepam, triflubazam), some β -adrenergic blocking agents (e.g. atenolol, bupranolol, labetalol, nadolol, toliprolol hydrochloride), a few dyes (e.g. neutral red, prussian blue), some other synthetic drugs (e.g. etidocaine hydrochloride, fenbufen, naltrexone) and ancillary substances such as methylmethacrylate, phosgene and vinyl chloride. Also, two natural products, *miracle fruit* and *serendipity berry*, make their debut.

The large increase in the number of substances included in Part 2 of the 27th edition compared with the 26th (460) seems mostly to be accounted for by new drugs with a significant proportion contributed in respect of drugs available and in use overseas rather than in the U.K.

The composition of more than 1450 'Over-the-Counter' proprietary products forms the content of Part 3. Clearly there is some overlap with the previous parts of the book and, it must be remembered, legal regulations concerning the sale of drugs may be varied from time to time. This section is especially helpful in cases of suspected poisoning where the composition of the product is not immediately apparent from its name and when there is urgent need to assess the possible harmful effects—often in a child.

Following on after Part 3 is the Directory of Manufacturers which gives complete postal addresses for all manufacturers and distributors whose products are mentioned. This is followed by the Index to Clinical Uses and finally by the General Index. Other essential information such as abbreviations, weights and measures, dissociation constants, atomic weights of the elements and a new table for the determination of body surface area from height and weight is to be found in the pages following the preface. For the first time, metric units alone have been used for doses, but the weights and measures section provides a helpful summary of SI units and their equivalents of metric and imperial units.

Undoubtedly many users of Martindale seek information on drug action including side-effects and toxicity and few will be disappointed. The Editorial team has obviously made a wide search of journals for relevant facts and supporting abstracts but it must be remem-

bered that the material included has had to be selected and the user must take heed to avoid complacency. The problem of selecting material, especially from research papers, to provide an accurate and balanced appraisal of current knowledge is great and it is difficult to discern the criteria used for selection. Throughout Part 1 there is a lack of references to books and monographs on specific substances and to foreign language journals, while the inclusion of material from a limited number of recent journals alone may not reflect the current state of knowledge. This is particularly true of the monograph on Alcohol, and especially of the abstracts in the section on 'absorption and fate'.

Some of the factual omissions from the previous edition persist, perhaps because the review of published work is limited to the period between editions. For example, rather more is known of the human disposition of chloroquine than appears in the monograph but the relevant research papers pre-date the 26th edition.

Another section that could be improved is the introduction to the Chapters on Hypnotics, where no account has been taken of published pharmacokinetic data for some of the intermediate-acting barbiturates. It is misleading to suggest that the plasma half-life is about 17 hours for this group of drugs when it may range from about 4.5 hours for hexobarbitone to near 40 hours for a single dose of butobarbitone.

In the Chapter on Cannabis, the only definition given is that of the B.P.C. 1949, although the drug is rarely used as a therapeutic agent and the cannabinoid content (not known in 1949) of the various illicit forms of the drug vary greatly. If this chapter has been retained because of the widespread non-medical and illegal use of the drug, then it might have been better if the distinction between the pharmaceutical and legal definitions of the drug had been made and the many factors that affect the cannabinoid content mentioned. Some of the confusion and controversy surrounding cannabis is undoubtedly due to claims made in respect of the effects of inadequately defined doses of the drug—surely a familiar problem to pharmacists with memories of many of the now outmoded natural products of decades past.

To have selected more than a few Chapters of the text for critical assessment would have been impossible and naturally I have examined in detail the monographs relating to drugs and ancillary substances of which I have particular knowledge. Inevitably faults can be found with some of the 'small print' but this should not detract from the advantages of having such a wealth of factual information in one convenient and well designed volume. It is a real pleasure to report on the general excellence and careful preparation of the book. Apart from the limitations necessarily imposed by the various selection processes, the 27th edition of Martindale: The Extra Pharmacopoeia is a superb compendium, indispensable as a source of information on drugs, and excellent value.