

**BOOK REVIEW**

**RADIOPHARMACEUTICALS USING RADIOACTIVE COMPOUNDS IN PHARMACEUTICS AND MEDICINE**

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There are fifteen contributors to this text which is divided into three parts. The first Part consisting of 5 contributions relating to selected areas of the development of radiopharmaceuticals. The second Part has 6 contributions describing the current practice of radiopharmacy and the final Part 3 has two contributions relating to safety and legal aspects of radiopharmacy.

Chapter 1 (Babich) provides an extensive review of radionuclide generators with the principal focus on technetium generators. It would have been useful to have included a table summarising the kits commercially available for organ imaging based on technetium. Cardiac imaging with various radiopharmaceuticals is described in Chapter 2 (Maltby). Quantitative structure-distribution relationships (QSDR) are admirably discussed in Chapter 3 (Nowotnik) exemplified by discussions of the newly described brain imaging agents based on propylene amine oximes as well as the areas of hepatobiliary renal and myocardial imaging agents. The importance of relating distribution to species is noted.

The ability to use radiopharmaceuticals to study the effects of drugs in relation to organ imaging is covered in Chapter 4 (Hardy). In Chapter 5 (Danpure and Osman) cell labelling reagents are reviewed, including leukocyte and platelet labelling based mainly on the radionuclides indium-111 and technetium-99m.

The important aspects of quality assurance in radiopharmaceuticals is well covered in Chapter 6 (Millar), while in Chapter 7 (Frier) points out that with radiopharmaceuticals tests for pyrogens and sterility are principally a means to test for the control of quality in production (manufacture). Control of the environment in which radiopharmaceuticals are prepared and used is an important aspect and included in this Chapter 8 (Sampson) is

also a short discussion of aseptic enclosures. Although computers are widely used in the storage of organ imaging data, the use of computers in the overall design and operation of a hospital radiopharmacy is perhaps only slowly developing. This topic is covered in Chapter 9 (Mather). As with any *in vivo* medication, adverse and unusual events may occur which are not necessarily related to the patient's condition. Even with very low incidence of such events in uses of radiopharmaceuticals, it is important to identify causes such that their safety and diagnostic accuracy can be improved. Such is the topic of Chapter 10 (Sampson and Hesslewood) which includes also an interesting and useful review of adverse reactions to and drug incompatibilities with radiopharmaceuticals with an APPENDIX to the Chapter summarising in tabular form some published and potential drug/radiopharmaceutical interactions. In working towards a European standard for radiopharmacy operations Chapter 11 (Cox) provides this European perspective. Although radiopharmaceuticals are probably amongst the most highly regulated of *in vivo* products, by virtue of being both medicines and radioactive, a text on radiopharmaceuticals would not be complete without a review of safety legislation as covered in Chapter 12 (Turner and Gill) with appropriate references to the various Codes of Practice. The final Chapter 13 (Ott) reviews the risks and dose measurements necessary in handling unsealed radioactive sources.

Each Chapter has an appropriate listing of up-to-date references and the text has a comprehensive subject index.

In summary an excellent readable text and the Editor is to be congratulated on bringing together a useful balance of modern aspects relating to radiopharmaceuticals. The text will be especially useful reading for anyone new to the practice of radiopharmacy.

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