
Book Review

Cardiopulmonary Bypass Principles and Management, Kenneth M. Taylor, editor; 1986, Chapman and Hall Ltd, Great Britain, (distributed in the United States by Williams and Wilkins, Baltimore); 449 pages, 45 tables, 97 figures, 28 photographs, references, index, \$58.95. Reviewed by Philip D. Beckley.

This hardbound book is a reasonably comprehensive review of issues involving the application and techniques of cardiopulmonary bypass (CPB). The contents are surprisingly current, which speaks well of the editor's ability to collect the chapters written by 22 contributing authors and quickly introduce a text to the profession.

The book has 21 chapters: 1) a history of CPB, 2) measurement and monitoring for CPB, 3) anesthesia for CPB in adults, 4) anesthetic techniques for CPB in children, 5) cannulation for CPB, 6) adequacy of perfusion — general review, 7) pulsatile perfusion, 8) perfusion techniques for pediatric cardiac surgery, 9) counterpulsation techniques, 10) oxygenation — general review, 11) bubble oxygenation, 12) membrane oxygenation, 13) extracorporeal membrane oxygenation, 14) choice of priming fluids, 15) blood cell trauma, 16) heparin, protamine and prostacyclin therapy during CPB, 17) blood conservation during CPB — autologous transfusion, cell saving and hemofiltration, 18) microemboli: gaseous and particulate, 19) micro-pore filtration during CPB, 20) myocardial protection—hypothermia and cardioplegia, 21) safety during CPB.

For the most part, each chapter has an easily followed blend of history, basic science, application, and future considerations. Chapters 15, 18, and 19 are most strongly written in terms of scientific presentation and analysis while chapters 2-5, 8, and 9 are more shallow and leave the reader disappointed and wanting more. Inclusion of infrequently discussed theories, applications, and techniques are welcomed (e.g., perfluorochemicals—chapter 14, prostacyclin—chapters 16 and 18, non-coronary collateral flow, retrograde cardioplegia infusion, and reperfusion injury—chapter 20).

Although the influence of the British authors is clearly evident, it poses little problem to the reader. One difficulty encountered in chapters 11 and 18 was the use of the Pa as a unit of pressure without associated mmHg conversions. All other chapters conveniently included mmHg conversions with Pa units. A second difficulty was the use of pence and pound as units of cost of solutions (chapter 14) and devices (chapter 17). Where applicable, there is frequent comparison of European and United States data.

Figures and tables are generous and for the most part appropriate for the text. Exceptions to this perhaps occur in four instances when either the figure used is overwhelming for the text material (chapter 9) or the figure does not do justice to the text point being made (chapters 7 and 16). Manuscript preparation errors are few and in no way detract from the flow of the text. References are generous in all chapters (except 5) and the inclusion of reference sources within the text is very much appreciated.

To conclude, I find this text to be a welcome addition to my library. Although some of the material will date quickly (particularly data related to devices), the book will remain a valuable resource for review and thought for years to come.

Philip D. Beckley, Ph.D., Division of Circulation Technology, School of Allied Health Professions, The Ohio State University, 1583 Perry Street, Columbus, OH 43210-1234