

**CARDIOVASCULAR
PROCEDURES**
*Diagnostic Techniques and
Therapeutic Procedures*

Tilkian, A.G. & Daily, E.K.

CARDIOVASCULAR PROCEDURES

Diagnostic Techniques and Therapeutic Procedures

ARA G. TILKIAN, M.D., F.A.C.C.

Assistant Clinical Professor of Medicine
University of California, Los Angeles;
Codirector of Cardiology, Holy Cross Hospital
Mission Hills, California

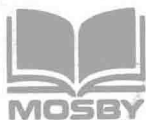
ELAINE KIESS DAILY, R.N., B.S., R.C.V.T.

Clinical Cardiac Research Nurse
Department of Cardiology at the
University of California—San Diego Medical Center;
Consultant and Lecturer, San Diego, California

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Contributors

DAVID S. CANNOM, M.D.

Director of Cardiology, The Hospital of the Good Samaritan;
Clinical Professor of Medicine, UCLA School of Medicine
Los Angeles, California

EDWARD L. CONOVER, B.S.E.E.

Clinical Consultant on Electrical Safety;
Manager, Electronic Design Automation Department
Missile Systems Group, Hughes Aircraft,
Canoga Park, California

MARY CONOVER, R.N., B.S.

Instructor and Education Consultant
West Hills Hospital, Canoga Park, California;
Santa Teresita Hospital, Duarte, California

JACK A. PATTERSON, M.D., F.A.C.C.

Director, Department of Cardiology
Valley Presbyterian Hospital
Van Nuys, California

HARRY W. REIN, M.D.

Director, Department of Neurology
Valley Presbyterian Hospital
Van Nuys, California

ISAAC WIENER, M.D., F.A.C.C., F.A.C.P.

Associate Director, Department of Cardiology
Valley Presbyterian Hospital;
Assistant Clinical Professor of Medicine
University of California
Los Angeles, California

ROGER A. WINKLE, M.D., F.A.C.C.

Director, Center for Cardiac Surveillance Unit;
Director, Electrophysiology Laboratory, Sequoia Hospital,
Redwood City, California

Consultants

EDWIN L. ALDERMAN, M.D., F.A.C.C.

Professor of Medicine (Cardiology);
Director, Cardiac Catheterization Laboratory
Stanford University Medical Center
Stanford, California

MARGARET E. BILLINGHAM, M.B., B.S., F.A.C.C.

Associate Professor of Pathology;
Director, Department of Cardiac Pathology
Stanford University Medical Center
Stanford, California

DAVID S. CANNOM, M.D.

Director, Department of Cardiology
The Hospital of the Good Samaritan;
Clinical Professor of Medicine
UCLA School of Medicine
Los Angeles, California

J. MICHAEL CRILEY, M.D.

Chief of Cardiology
Harbor-UCLA Medical Center
Torrance, California

KEVIN K. DRAKE, M.D.

Director, Department of Radiology
Holy Cross Hospital
Mission Hills, California

DONNA EARLEY, M.S.

Director, Department of Radiation and Environmental Safety
Cedars-Sinai Medical Center,
Los Angeles, California

JAMES S. FORRESTER, M.D.

Professor of Medicine, UCLA School of Medicine;
Associate Director, Department of Cardiology
Cedars-Sinai Medical Center,
Los Angeles, California

WILLIAM J. FRENCH, M.D.

Associate Professor of Medicine, UCLA School of Medicine
Los Angeles, California;
Director, Cardiac Catheterization Laboratory
Harbor-UCLA Medical Center
Torrance, California

JULIUS H. GROLLMAN, Jr., M.D.

Clinical Professor of Radiology, UCLA School of Medicine
Los Angeles, California;
Chief, Cardiovascular Radiology
Little Company of Mary Hospital
Torrance, California

PETER M. GUZY, M.D., Ph.D., F.A.C.C.

Associate Professor of Medicine;
Director, Pacemaker Clinic
UCLA Medical Center
Los Angeles, California

E. WILLIAM HANCOCK, M.D.

Professor of Medicine
Division of Cardiology
Stanford University Medical Center
Stanford, California

STEVEN R. HIRSCHTICK, Esq.

Former Professor of Law, Loyola Law School
Los Angeles, California;
Partner in the Law Firm of Hirschtick, Chenen,
Lemon, and Curtis
Los Angeles, California

RICHARD E. KERBER, M.D.

Professor of Medicine
Cardiovascular Division
The University of Iowa
Iowa City, Iowa

JAY W. MASON, M.D.

Professor of Medicine and Chief of Cardiology
University of Utah Medical Center
Salt Lake City, Utah

JAMES T. NIEMANN, M.D.

Director of Emergency Services
Harbor-UCLA Medical Center
Torrance, California

STEPHEN OESTERLE, M.D.

Assistant Professor of Medicine;
Director, Unit for Coronary Interventions
Stanford University Medical Center,
Stanford, California

SUSAN J. QUAAL, R.N., C.V.S., M.S., C.C.R.N.

Cardiovascular Clinical Specialist
Veterans Administration Medical Center;
Adjunct Associate Clinical Professor University of Utah
Salt Lake City, Utah

STERLING SCOTT REESE, M.D.

Assistant Professor of Medicine, UCLA School of Medicine
Los Angeles, California;
Chief of Cardiology
Olive View Medical Center
Sylmar, California

JOHN B. SIMPSON, M.D., Ph.D., F.A.C.C.

Attending Physician, Sequoia Hospital
Redwood City, California

C.F. STARMER, Ph.D.

Professor of Computer Science;
Associate Professor of Medicine
Duke University Medical Center
Durham, North Carolina

DAN TICH, B.S.E.E.

Group Product Marketing Manager
Cardiac Pacemakers, Inc.
St. Paul, Minnesota

Foreword

The rapid increase in and sophistication of invasive cardiovascular procedures and interventional cardiology during the past decade have resulted in a remarkable ability to diagnose and treat the cardiovascular patient. Older procedures such as pericardiocentesis and pacing have undergone rapid technologic changes, whereas procedures such as acute thrombolytic therapy and angioplasty for an acute myocardial infarction have been developed. During this time we have learned a great deal about the normal and pathophysiologic function of the cardiovascular system: hemodynamic and electrophysiologic monitoring are used routinely in treating seriously ill cardiovascular patients.

At the same time, our choices of access routes, catheters, and basic techniques to obtain cardiovascular information or to treat the cardiovascular patient continue to expand. *Cardiovascular Procedures* is remarkable in its scope and depth of coverage of a complicated and diverse subject. At the same time, the authors maintain a sense of organization, clarity, and brevity through liberal use of diagrams and tables.

In reading *Cardiovascular Procedures* one realizes the advantage of a one- or two-author book on cardiovascular techniques in contrast to the more common method, with each chapter written by a different author. The book is concise yet thorough in taking the reader through each procedure step by step. Different, commonly accepted approaches or techniques are presented with the advantages and disadvantages discussed.

Because of its scope this book is valuable for everyone responsible for the care of the cardiovascular patient. I strongly recommend it to the browser, the student, and the experienced cardiologist. Each will benefit in a different way, and the information is timely, accurate, and of utmost importance.

John S. Schroeder, M.D.

Professor of Medicine (Cardiology)
Stanford University Medical Center
Stanford, CA 94305

Preface

This is a book for physicians and nurses who perform cardiovascular procedures. There are areas of special interest to trainees in Cardiovascular Medicine, practicing Cardiologists, Cardiovascular Radiologists, and specialists in Critical Care, Emergency Medicine, and Cardiovascular Nursing. The text provides illustrated, in-depth coverage of commonly performed cardiovascular diagnostic and therapeutic procedures. The emphasis on procedural technique provides sufficient detail for the beginner and adequate depth for the experienced operator so that it is not only a useful text for training, but serves as a comprehensive resource in daily practice. Its use by the novice should be in conjunction with closely supervised teaching programs.

We have chosen to describe the procedures in great detail. The rationale for each procedure is fully discussed, including indications, contraindications, and risks. When more than one technique is used for a particular procedure, we describe the method with which we have had most success. When controversies or alternate methods exist, they are discussed and referenced. A very useful section of each chapter concerns how to avoid trouble or, if difficulties are encountered, how to resolve them. The personnel necessary to perform the procedure and their responsibilities are defined. Patient preparation, premedication, complications, management, and aftercare are covered in detail. Clinical interpretation and use of data obtained, or an in-depth discussion of the clinical aspects of procedures, are beyond the scope of this book. Sufficient detail is given to place the procedure in its clinical context and the reader is directed to the excellent texts on cardiovascular medicine.

The basics on the tools and techniques of vascular access, hemodynamic monitoring, and cardiac catheterization are covered in the first five chapters. This is fol-

lowed by an in-depth presentation on the diagnostic techniques of pulmonary angiography, endomyocardial biopsy, and electrophysiologic studies. Commonly performed therapeutic procedures that are described step by step include pericardiocentesis, intra-aortic balloon pumping, cardioversion, and use of pacemakers. The rapidly evolving techniques of coronary angioplasty, thrombolytic therapy, and use of the implanted automatic cardioverter/defibrillator are among the procedures covered in detail. A very useful chapter deals with the retrieval of catheter fragments and resolution of intracardiac catheter knots. The chapter on emergency resuscitation is on the cutting edge of new concepts in cardiopulmonary and cerebral resuscitation. Throughout this book, the emphasis is placed on how to perform a procedure safely. Thus, we complete the text with a discussion on how to avoid or minimize the risks related to the use of contrast media, radiation, and electrical current. Medicolegal considerations are briefly discussed. We have included several appendixes of material that we have found useful in our daily practice.

The information in this book has been kept up to date through current literature and input from nationally recognized authorities who reviewed chapters in their particular field of expertise. We solicited and welcomed this critical review from our panel of consultants, but do not hold them responsible for any deficiencies in this text. This responsibility lies solely with the authors. We believe it possible that someone, somewhere, has a better way of performing a procedure. We welcome comments from our readers who would like to share their techniques with us.

Ara G. Tilkian

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*Ara G. Tilkian
Elaine Kiess Daily*

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Ara G. Tilkian

Elaine Kiess Daily

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Part I

DIAGNOSTIC PROCEDURES

