PRACTICAL ECHOCARDIOGRAPHY IN THE ADULT
with Doppler and color-Doppler flow imaging

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by

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Foreword

Since the introduction of ultrasound in cardiology in the mid fifties, echocardiography has continued to grow and has finally become, in particular after the introduction of Doppler modalities, the working horse of the cardiologist.

Although many books have been written on this subject Dr. Hamer's book is a very valuable contribution, as it provides, in particular information for practicing clinicians and technicians. Clearly written and nicely illustrated, this book is a must for those interested in this field.

C.A. Visser
Professor of Echocardiology

Preface

Trans-thoracic echocardiography is a patient friendly technique without pain or discomfort. It is harmless and the patient can relax during the examination. With these advantages in mind there is hardly any technique in cardiology that can provide so much valuable information about the function of the heart.

If Doppler and color Doppler, also painless techniques, are added to echocardiography additional information about blood flow velocities, insufficiency and stenosis of valves, detection of shunts etc. is obtainable.

Less patient friendly but – if selectively used – very informative, is transesophageal (color Doppler) echocardiography.

Echocardiography is a sophisticated technique giving the investigator a great responsibility. If used properly, the result of the investigation nearly always has clinical implications. Therefore the role of the technician in the treatment of the patient may also be important. The aim of the technique is not only to obtain measurements from some standard positions since conclusions often have to be drawn without the support of measurements. The observed motion patterns of the heart and valves can sometimes be more important for the evaluation of the severity of an abnormality than a certain number of millimeters. It is the investigators responsibility to make correct measurements and to express the visual impressions in order to make an accurate report which adequately describes the severity of the disorder.

The aim of this book is to explain echocardiography and Doppler, and to answer questions concerning their use. This has been achieved by supplementing the text with drawings, photographs and Doppler illustrations.

The principles of echocardiography, Doppler, color Doppler and transesophageal echocardiography are discussed with standard transducer positions and the technically optimal methods for making recordings. Special attention has been paid to anticipating and answering the most common questions. In addition, phonocardiography and pulse recording are discussed briefly.

For specific abnormalities, obligatory investigations with echocardiography, Doppler and/or pulse recordings can be found in the sections entitled 'to be investigated in . . .'. When necessary, a brief differential diagnosis is given in the sections entitled 'to be excluded'.

A diagnosis can be made from two points of view: from specific recordings, or from the point of view of a specific heart disease. This book handles the problems from both perspectives. The anatomy, nomenclature and function of the normal heart are described separately as background information for the technician. Also, the echo- and Doppler findings in specific heart diseases are preceded by a short description of the disease.

Several books could be filled with all the possible measurements from the echo- and phonocardiogram. For practical reasons, only those measurements which are practically and clinically useful and which are used by the majority of institutions, are presented here.

It may be that all the techniques (echo, echo-Doppler and color Doppler, trans-esophageal echocardiography, phonocardiography and pulse recording) are useful in the diagnosis and estimation of the severity of cardiac disorders. The clinical applications of each modality are mentioned for various cardiac disorders with the most important transducer positions. The most important rules are mentioned, as are the exceptions and the pitfalls.

It is not possible in a book of this format to cover all the details of cardiac disease. Very rare cardiac or extracardiac disorders are not discussed: for this, several excellent works are available. The short and deliberately practical approach which is presented here, should cover most situations and any limitations are due to the selection that had to be made.

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