

Cambridge University Press  
978-0-521-69520-6 - Fetal Echocardiography: A Practical Guide  
Lindsey D. Allan, Andrew C. Cook and Ian C. Huggon  
Frontmatter  
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## A Practical Guide

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By  
**Lindsey D. Allan**  
**Andrew C. Cook**  
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I would like to dedicate the book to my friend and co-editor, Ian Huggon, who sadly died during the preparation of this book. Despite that, his input was considerable. He contributed a great deal to my knowledge and understanding of cardiac malformations, not to mention the computer skills I learnt from him during the 6 years we worked together, especially in obtaining clips and stills from the stored ultrasound images. I sorely missed his constructive criticism of the work latterly, and am sure there would have been a better book had he survived. With his agreement, I decided to use his recent teaching DVD as an enclosure to support and complement the text, as the moving image is so important to understanding and recognizing the heart and its malformations.

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## Preface

The term “congenital heart disease” refers mainly to anatomical malformations of the heart, which, in general, arise during cardiac formation prior to 8 weeks’ post-conception. An accurate definition of any anatomical abnormality of the heart, to a large extent, predicts function and therefore postnatal symptomatology. An organized approach to defining the anatomy of the heart is therefore essential. The anatomy of the heart is evaluated in a sequential fashion, beginning below the diaphragm in the abdomen, and ending at the inlet of the thorax. In addition to the prediction of likely physiology, the anatomical definition allows any potential surgery or intervention to be planned, the results of which will correlate with the functional outcome for the child.

Fetal cardiac diagnosis depends first on the technical ability to obtain standard cardiac views. Technical skill is achieved both from understanding the relationships of the intrathoracic structures and from practice in obtaining cardiac views. Diagnosis depends second on the ability to distinguish normal from abnormal and third, on the ability to recognize and describe accurately the difference between the normal and the abnormal. Once the abnormality has been defined, giving it an accurate diagnostic label, and being able to predict the prognosis from the anatomical features of the diagnosis, are relatively easy steps. The book is aimed at anyone involved in fetal scanning who wants to learn each of these steps; how to obtain views, how to recognize the normal, how to distinguish and describe the abnormal and, from this last step, reach a diagnosis. The implications of a particular diagnosis are then described in the Outcome chapter.

There is no ideal way to construct a book on this topic. I have tried different approaches in previous books, but none is perfect. I have elected this time to concentrate on the standard views in separate chapters and how they may manifest abnormalities, but this means that the composite picture of a malformation,

which may show abnormal features in various views, is rather lost, which is a pity. I have also separated the material on the implications of a defect into the chapter on outcome, which has its advantages, but also its disadvantages. However, I would hope that this book can be kept in the scan room and used as a quick and handy reference guide, to answer questions such as “is what I see within normal?” or “I think I see such and such in this fetal heart, what are the possible diagnoses?” or “I think the diagnosis is x, what could that mean for the child’s future?”

We acquired a new machine near the end of the preparation of the book. This inevitably produced better images and new ways of illustrating the heart, which made it tempting to throw out all the old images and wait for another 10 years of new material. However, I resisted this temptation and have been able to distribute many of our new images throughout the text. It is just the way of things, of course, that one has lots of really good images of one type of malformation and none of another. I hope that the images of anatomy specimens prove helpful in understanding the echocardiography. I learnt so much from the anatomical dissections in my early years when correlative pathological specimens were readily obtained. It is a tragedy that this valuable teaching resource has been largely taken from us, but I hope the pathological images go some way towards reversing this loss.

I was not going to provide a bibliography at all initially, but decided in the end to include some of what I considered the most relevant ones, but grouped together in a separate chapter. I apologize if I have missed some important ones, but the ease of using resources such as PubMed, more or less make references obsolete in my opinion. Every statement can be checked or further explored in a minute, far more thoroughly than any reference list can do.

I have specialized in this subject for nearly 30 years now and have tried to communicate a distillate

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of that knowledge in this book. I make no apology for my individual approach, which is perhaps different from others, but has worked pretty well for me for a long time. I have illustrated examples of almost everything I have ever seen, and have been lucky in having had access to a huge volume of cases over the years.

I hope there is material here which will add to the understanding of the complete beginner, as well as to the knowledge of the fairly experienced practitioner, and that it is presented in a manner which is accessible for everyone.

## Acknowledgments

I would like to thank my current colleague, Vita Zidere for her support and help with the project, allowing me quiet time and space to complete it, as well as help with obtaining images. Also, I would like to thank Sven-Erik Sonesson for his help with the chapter on arrhythmias, which Ian had not been able to finish. Sven-Erik's images were much better than ours and he was generous in contributing them.