FOCUS Pocket Guide: Focused Cardiac Ultrasound Study, 1st edition

This 18 × 12 cm handbook comes at an opportune time, when physicians from a variety of specialties are using ultrasound (US) at the bedside in the prehospital arena, emergency department, wards, and intensive care units. Although only 60 pages long, this new addition to the clinician's reference armamentarium has several advantages. Printed in handbook size at high resolution on glossy thick paper, it is water-resistant and slips easily into a coat pocket. Chapters are color-coded and easily reached through tabs on the book’s side. The text, tables, drawings, and US images are clear and easy to understand because of the high-quality print.

Besides a simple table of contents inside the front cover, and a glossary in the rear, the book is divided into eight chapters:

Examination protocol (overview and detailed)
Views
Left ventricular function/wall motion
Right ventricular function
Pericardial space and tamponade
Fluid status assessment
Hemodynamic measurements
Miscellaneous

The examination protocol chapter starts with a warning, to not rely on one's imaging for clinical management if one is not sure of his/her evaluation of the focused cardiac examination. This is an important reminder for this book, which is aimed at those with minimal-to-moderate bedside US experience.

On just one page, the author lists the views that need to be obtained (and at what depth), and the structures visualized to perform a detailed cardiac exam. Standard cardiac views are listed, as well as standard views for the inferior vena cava and aorta. Lung and pleural pathology are not covered. Diagrams throughout the book are very detailed: typically, one shows the probe direction when looking into the thorax (although these drawings are small), one is a normal US image typical of the view discussed, and one is a labeled drawing of the adjacent normal US image. As this is a book that focuses on cardiac US, techniques for viewing the inferior vena cava and aorta (including examples of abdominal aortic aneurysm) are shown on only four pages.

The next chapter covers global left ventricular systolic function, with a nice list of differential diagnoses for hyperdynamic left ventricular function. The diagrams for regional wall motion assessment are colorful and easy to understand. Finally, how to measure left ventricle dimensions are shown, along with a table of normal and abnormal measurements. The following chapter is similar, but covers right ventricular function and normal and enlarged right ventricle cavity dimensions.

In the following chapter, pericardial fluid is shown in US images and in labeled drawings on typical cardiac US views, and with varying amounts of fluid. The author reminds readers through multiple images of localized collections of pericardial fluid that not all pericardial fluid is circumferential.

The next chapter covers how to assess a patient’s fluid status while off a mechanical ventilator using 2D and M-mode imaging. For patients on mechanical ventilators, respiratory variation of Doppler-derived aortic blood flow (and its derivation equations) is discussed and shown through easy-to-understand labeled US images. Limitations of these techniques are also discussed.

In the next chapter, in just four pages, clear step-by-step instructions are given for measuring cardiac output (five steps) and pulmonary artery systolic pressure (four steps). Through the use of simple language and well-labeled images, these could guide even a novice learner with reasonable ease.

The final chapter covers a variety of topics: the use of color Doppler for assessing valvular regurgitation, differentiating a pericardial from pleural fluid collection, and performance of a ‘bubble study’ to rule out an intracardiac shunt.

Any shortcomings within this handbook’s 60 pages? Yes, I wish that some of the images had been slightly larger, and then trimmed to make the area of interest larger to the eye. But even as is, all images and drawings are very clear because of the excellent high-resolution print.

Overall, this is an excellent handbook for those learning cardiac US and is well worth the modest price. The pocket size enables to keep it close at hand, and even ultrasonographers with moderate experience will refer to the step-by-step procedures for obtaining hemodynamic measurements.

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