

RESOURCE REVIEW

The physics and technology of diagnostic ultrasound: A practitioners guide 2nd Edition, By Dr Robert Gill

High Frequency Publishing, 2020, ISBN 97809872 92186 (pbk). Includes Study Guide, ISBN 97809872 92193 (pbk), Available in paperback or e-book sonographer, Monash Health

I thoroughly enjoyed this book!

And yes, it is physics.

The enormous appeal and success of this book is in just how easy it is to read, despite the topic. Dr Robert Gill's comfort and confidence with the material is passed onto the reader.

His writing style is a main contributor—relaxed and relatable; he has the ability to convey complex material with remarkable simplicity.

The entire book lends itself to the ease of learning.

The layout is clever, guiding your attention. Major principles are highlighted, and equations are separated within the body of the text. And my favorite, the diagrams. Easily found in the large margins, they are clear, simple, and clever. Punctuating the text, they visually display key concepts and become a familiar and reliable resource.

Ever wondered why the liver appears smoother through one window than another, or Why 60° is best for Doppler? What is the machine “thinking”? How does the qualified sonographer just know? What can the color baseline solve? What can I control? What does the machine control?

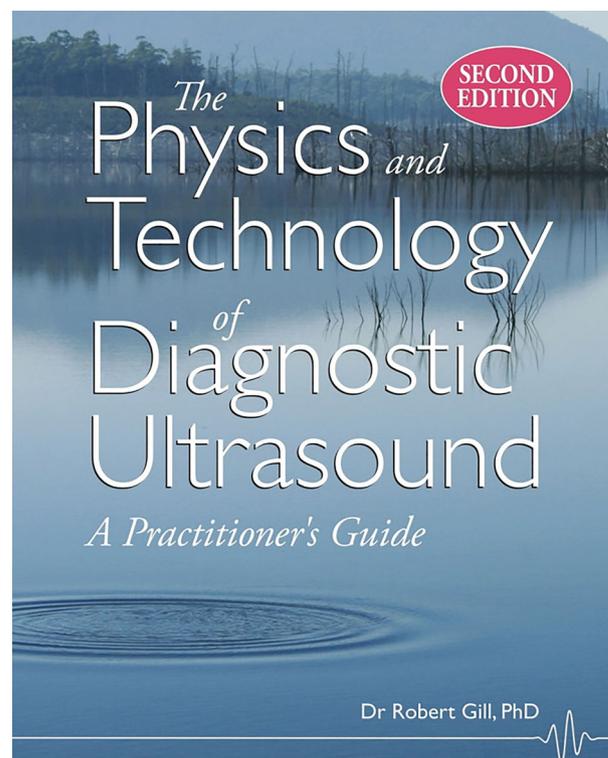
Read this book.

Designed to be read in order, and designed to be read in total, the book is targeted to the formal or informal ultrasound student.

Learning is supported throughout by interactive activities, inviting the reader to both experience and test the books claims. This application of theory develops confidence in the author, the physics, and the student themselves. My curiosity piqued; I tried many of these—they are hugely satisfying.

The second edition retains Dr Gill's belief that to be a skilled and competent user, one should have a solid understanding of the underlying principles and technology of diagnostic ultrasound. It also retains its reputation of successfully demystifying this historically abstract and challenging area.

It does this by beginning simply, deliberately, and carefully providing a framework on which to build the more complex physics and technologies. It contains the necessary topics to become a skilled user. Initially, I wondered if the content were too simplistic. But by chapter 4, my opinion changed as the detail increased and I realized Dr Gill was cleverly guiding the reader to navigate the more challenging ideas.



Each chapter is increasingly dependent on the previous one.

The clear progression and integration of ideas is logical and manageable, so that the reader is well prepared, and previously perceived complex areas are now less overwhelming.

As the aim is to be approachable, and the target audience is new students, the emphasis is on concepts and principles. Some transducer frequencies and biosafety indices may vary between practices. The chapter on additional modes is limited to glossary style descriptions and individual availability of these will vary. The math is appropriate, though it may not be enough for some.

With an accomplished engineering and ultrasound career, Dr Gill has been a leader in research, patents, and publications.

With vast experience in education, he brings excellent knowledge and the ability to teach it. Compiled largely from these reassuring qualifications, the book is suited to many learning styles, with verbal descriptions, visual aids, and interactive activities.

The additional study guide begins with a short list of additional resources, then has relevant chapter questions with helpful well-modeled answers supplied.

There is very little not to like, and I would most definitely recommend this text. I found myself referring to and using it often. I believe you will be surprised how much you enjoy and learn.

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