

Preface

Three-dimensional (3D) transesophageal echocardiography (TEE) is a potent visual medium which can be used by the novice or experienced echocardiographer, cardiologist, and cardiac surgeon. It can achieve a better understanding and assessment of normal and pathological cardiac function and anatomy. This new technology complements traditional 2D imaging and permits visualization of any cardiac structure of interest from multiple perspectives. 3D technology challenges the echocardiographer to acquire a different skill set for image acquisition and manipulation.

This handbook is created in response to a need for a succinct illustrative synopsis on 3D technology and image acquisition. We have aimed to provide a simple step-by-step guide to the practical fundamentals of this technology, altered knobology, and how to acquire and manipulate image datasets. The chapters encompass normal and common cardiac pathology. As with all written echocardiography texts, still 3D images do not do justice to the cardiac activity seen in a live video clip. Hence, we advise readers to refer to other video sources including the TEE Perioperative Interactive Education (PIE) Web site, <http://pie.med.utoronto.ca/TEE>, which provides a wealth of free on-line video material.

This handbook is a compilation of echocardiography information and perioperative TEE images performed at Toronto General Hospital (TGH), Toronto, Ontario, Canada. The images are unaltered except for cropping to fit the size of the book. All 3D TEE images were acquired using an Ie33 machine and X7-2t 3D TEE probe (Philips Medical System, Andover, Massachusetts, USA). None of the authors have received any financial support from the industry during this project. At the time of writing, this monograph represents the current technology in this field based predominantly on this single vendor. Growth in this field continues as evidenced by technological advances and an increasing number of publications.

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