In easy-to-use Fast Facts format, this pocket-sized reference provides clear and precise access to basic EKG information and EKG recognition guidelines that nurses use daily. The guide provides clear explanations of basic cardiac anatomy and electrical conduction pathways along with a step-by-step approach for evaluating EKG rhythm strips. A unique feature is the identification of clinical causes and implications of each rhythm. Real-life cardiac case scenarios coupled with the generous use of practice rhythm strips will help students master the challenging task of identifying EKG rhythms clearly and accurately.

The book’s “Fast Facts in a Nutshell” feature provides bullet-point lists that highlight core concepts. Illustrations and easy-to-understand terminology throughout help to clearly present important information. Written for nursing students and new nurses, this resource is also a helpful tutorial for seasoned nurses needing a quick refresher in basic EKG recognition.

Key Features:
- Provides information all nursing students and new nurses need to know for EKG rhythm identification
- Offers a consistently organized, succinct, pocket-size guide for daily use
- Includes numerous examples of EKG strips to reinforce understanding
- Links clinical scenarios to each rhythm
- Facilitates interpretation of challenging heart blocks, and pacing and bundle branch blocks
FAST FACTS ABOUT EKGs FOR NURSES
Michele Angell Landrum, ADN, RN, CCRN, is a clinical nurse educator with the Staff Development Department at Springhill Medical Center in Mobile, Alabama, where she teaches the RN EKG training program and AHA ACLS and PALS courses. She also assisted in the development of EKG courses for monitor technicians who have no prior medical/cardiac training. Michele received her associate degree in nursing from the University of Mobile in 1998 and is actively pursuing her bachelor’s degree in nursing at Jacksonville University. She has worked in various facilities throughout the United States, such as North Shore University Hospital–LIJ in Manhasset, New York, and Cedars-Sinai Hospital in Los Angeles. Her specialties include the cardiac care unit, cardiovascular intensive care unit, surgical intensive care unit, emergency room, cardiac catheterization lab, and electrophysiology lab. She has authored two books for Springer Publishing Company: Fast Facts for the Travel Nurse (2010) and Fast Facts for the Critical Care Nurse (2012).
FAST FACTS ABOUT EKGs FOR NURSES

The Rules of Identifying EKGs in a Nutshell

Michele Angell Landrum, ADN, RN, CCRN
This book is dedicated to my sons, Carter and Cody, for it is their love that makes every day a blessing.

—M.A.L.
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Nursing is a complex and challenging career. The joy and pain encountered in this fascinating, dynamic profession are rewarding and constant. Learning is not finished when one graduates from a university, but continues throughout one’s lifetime. The reasons for continued learning are varied, ranging from changes in technology and the health care system to a change in practice venue.

Understanding the electrical function of the human heart and the ability to identify EKG rhythm strips are valuable skills to both new and senior nurses. This knowledge is paramount when caring for patients in medical facilities and is also important when reviewing charts for court, case management, and/or quality control. Nurses practicing in clinics, on ambulances, and in various locations within the armed services will also benefit from these skills. Being able to identify EKG rhythms with confidence is an excellent attribute for anyone in the nursing field.

Fast Facts About EKGs for Nurses provides the foundation for understanding the electrical function of the heart. The simplest terms are used and a “box” diagram is the basis for describing the electrical conduction system. After just the first few chapters, a crystal-clear comprehension of this system and its components dawns.
Once the functional foundation is laid, a detailed step-by-step approach to deciphering the actual EKG rhythm strip and its components is explained. This method has been taught multiple times to nurses practicing in and out of the hospital setting with varying experience levels—from new graduate to 20-plus-year veterans—and the outcome is always the same. They get it! Frequent comments upon course completion include “I wish I had taken this class sooner!” and “I really didn’t understand EKG strips at all and now I feel great about them.” The technique is simple and easy to follow.

After the mastery of rhythm strip complexes and identification techniques, the most widely documented EKG rhythms are discussed in detail. There are actual EKG strip examples of each rhythm. Practice strips and scenarios are included in this manual.

This book can serve as a self-learning experience, a refresher course, and/or the basis for an EKG class. It is an incredible tool for new and experienced nurses alike.

Please keep in mind that this manual was developed using numerous resources combined with multiple years of cardiac nursing experience. The techniques and scenarios detailed are useful and very real. However, it is important to follow American Heart Association and facility protocols along with physician’s orders. Personal and patient safety is always of primary concern.

*Michele Angell Landrum, ADN, RN, CCRN*
Thank you to all the wonderful nurses and staff with whom I have had the joy to work and teach the last few years. It is through education, preceptorship, training, and teamwork that I was able to develop the skills required for EKG identification and the ability to share the technique with others. I have learned so much from my students and appreciate their efforts to master this difficult subject.

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Understanding the Basics of EKGs
Prior to the evaluation of an EKG strip, the cardiac anatomy, the mechanical function of the heart, and the heart's electrical conduction must be understood. This chapter explains cardiac anatomy in its simplest terms. Do not let the anatomy of the heart be intimidating. It will be demystified in the following pages. Electrical conduction is discussed in Chapter 2.

In this chapter, you will learn:

1. Basic cardiac anatomy
2. Basic cardiac mechanical function

KEY CARDIAC FACTS

Every nurse knows the heart. Key facts serve as a reminder of cardiac function, location, and importance. The terms are simple and easy to understand.
FAST FACTS in a NUTSHELL

1. The heart is a hollow muscular organ that pumps blood through the body.
2. The heart is about the size of the human fist.
3. The heart weighs approximately 10.5 ounces.
4. The heart pumps 4 to 8 liters of blood per minute.
5. The heart of an average adult beats 70 times per minute.
6. The heart is located posterior to the sternum and anterior to the spine, resting between the lungs, superior to the diaphragm.
7. The heart is composed of three layers: the epicardium, the myocardium, and the endocardium, the innermost layer.
8. The heart has four chambers: two atria and two ventricles.
9. The heart has four one-way valves: tricuspid, mitral, pulmonic, and aortic.
10. The heart has a septum that divides it into a right and left side.
11. Coronary arteries are located on the epicardium and supply the myocardium with blood.

BASIC CARDIAC ANATOMY

The heart can be explained in several ways with numerous descriptions and “characterizations.” However, the simplest way is to picture it as a box. This particular box has four divisions inside and a few tubes coming out. See Figure 1.1.

The divisions can be labeled with the common cardiac terms: right atrium, left atrium, right ventricle, and left ventricle. The tubes can be labeled with the terms: superior vena cava, pulmonary artery, pulmonary veins, and aorta. See Figure 1.2, which depicts the “box” with its corresponding labels.
**FIGURE 1.1** The heart.

**FIGURE 1.2** The heart as a “box.”

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**FAST FACTS in a NUTSHELL**

The heart can easily be depicted as a “box” that has multiple functions.

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CARDIAC MECHANICAL FUNCTION

The heart’s job is to circulate blood. This is accomplished with muscular contractions creating “mechanical” function. Unoxygenated blood flows into the right atrium via the superior vena cava and then flows into the right ventricle. It is then pushed into the lungs to receive oxygen. The oxygenated blood flows into the left atrium via the pulmonary veins. The blood then travels down to the left ventricle, which pumps the oxygen-rich blood to the body.

The sequence occurs with every heartbeat, leading to an average of 6 liters of blood pumped per minute. This muscular contraction is caused by the heart’s electrical conduction system.