

Book Review

Mosby's Perioperative Nursing Series: Cardiac Surgery

Patricia C. Seifert, RN, MSN, CRNFA, CNOR
 Mosby Year-Book, Inc.
 11830 Westline Industrial Drive
 St. Louis, Missouri 63146
 (800) 426-4545

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 496 Pages
 22 Chapters
 503 Illustrations

Cardiac Surgery in Mosby's Perioperative Nursing Series provides an overview of the many aspects of cardiac surgery and the multidisciplinary approach to the care of the cardiac surgery patient. This book provides a great deal of information by way of photographs, drawings, tables and charts.

Section One is divided into ten chapters addressing the foundations of cardiac surgical nursing. Chapter 1 is a thorough, but not technically detailed, review of the history of cardiac surgery from the early crucial developments that laid the groundwork: from the development of EKG and x-rays, coronary arteriography, blood typing, the discovery of heparin and protamine, to thoracic anesthesia and blood vessel surgery. The history of cardiopulmonary bypass (CPB) and extracorporeal circulation (ECC) including cross-circulation, inflow occlusion, and total body hypothermia to the early surgical procedures that were performed are discussed in an interesting and easy-to-read manner.

Chapter 2, The Cardiac Nurse, reviews the five stages of proficiency to describe the progression from novice to expert. This chapter is written about nurses, but is very applicable to perfusionists as well.

Chapter 3, The Cardiac Team, provides an overview of the duties of each of the members of the cardiac team: cardiac surgeon, anesthesiologist and/or nurse anesthetist, perfusionist, and nurses. There is also a section on stress and stress reduction relating to the work environment, equipment and material resources, patient factors, and staff dynamics.

Chapter 4, Anatomy and Physiology, contains detailed pictorial information about each component of the heart chambers, valves, arteries, veins, and the conduction system. The physiology of the cardiac cycle, circulatory system, and fetal circulation are also discussed.

Chapter 5, Environment, Instrumentation, and Equipment,

discusses the material resources of a cardiac operating room, including the operating suite, instruments, supplies, and prosthetic implants. Four pages are devoted to autotransfusion, pump, oxygenator, and cardiac assist devices. This is a good introductory chapter for students who have not previously been in the operating room.

Chapter 6, Preoperative Assessment, provides an overview of the diagnostic procedures commonly used to evaluate patients who will be undergoing heart surgery. This is an important chapter for students learning to work-up patients for surgery.

Chapters 7-8 pertain to elements of the nursing process and outcome standards and consist of generic care plans that can be applied to cardiac surgery patients.

Chapter 9, Peri-operative Nursing Care, reviews common physiologic monitoring devices found in the operating room and medications commonly used in adult cardiac surgery, positioning, skin preparation and draping the patient, transfusion therapy and blood conservation, hemostasis, temporary pacing, and chest tube insertion.

Chapter 10 addresses the quality assurance aspect of cardiac surgery nursing and includes sections on patient care management, human resource management, and fiscal/material resource management.

Section Two consists of eleven chapters describing different surgical interventions. The first chapter of this section (11) is entitled Generic Procedures and describes procedures used to expose the heart and other thoracic structures. Each technique is characterized in detail and includes indications, proper positioning, special needs and complications associated with each process. Also included in this chapter is a description of procedures including hypothermia, heparinization with protamine reversal, bypass circuit components, tubing, and priming solutions. The adverse effects of CPB are discussed as well as safety considerations. Cannulation procedures and myocardial protection practices are briefly described. A concise explanation of emergency percutaneous CPB and extracorporeal membrane oxygenation is also included.

Chapter 12, Surgery for Coronary Artery Disease, reviews the pathophysiology of the disease process, discusses current palliative treatment options and carefully describes myocardial revascularization procedures.

Chapters 13-15 are devoted to valvular heart disease. Each chapter follows the same format in which the author gives an overview of the anatomy and physiology of cardiac valves, the etiology and pathology of valvular disease, and the current trends in treatment of the diseases. These chapters are very detailed in regards to reparative techniques and procedural considerations.

Chapter 16, Surgery on the Thoracic Aorta, begins again

with a brief discussion of anatomy and pathophysiology associated with aortic aneurysms and dissections. Diagnostic procedures, signs, symptoms and classifications of each is discussed. Perfusion considerations are briefly mentioned, and there is a very detailed section pertaining to the operative procedures necessary for the different repairs. Each repair is also described with either drawings or actual photographs.

Chapter 17, Ventricular and Other Assist Devices, is a very detailed chapter beginning with a short history of ventricular assist and current technologic advances in this area. The author gives a good overview of heart failure and cardiogenic shock and presents a comprehensive discussion of causes, sequence of events, and compensatory measures related to each. With the aid of charts, tables, drawings, and photographs, this section is very informative with respect to devices available, procedural considerations, patient selection criteria and complications. Ethical considerations of ventricular assist devices are mentioned at the conclusion of this chapter.

Chapter 18, Transplantation for Heart and Lung Disease, highlights general considerations regarding heart, lung, and heart-lung transplants, Operative procedures for each are outlined.

Chapter 19, Surgery for Cardiac Dysrhythmias, reassesses basic physiology regarding the electrical activity of the heart. The diagnosis and classification of dysrhythmias are discussed. Surgical and pharmacologic therapies are reviewed. There is ample information relating to pacemaker/inflammable cardiac defibrillator technology. Direct surgical corrections for Wolff-Parkinson-White syndrome, atrial fibrillation, and ventricular dysrhythmias are also addressed.

Chapter 20, Surgery for Adult Congenital Heart Disease, gives general information regarding diagnostic evaluation of congenital defects. The defects discussed include patent ductus, atrial septal defects and coarctation of the aorta. The operative procedure for each repair is outlined. A short explanation of other selected cardiac lesions is also provided in table format.

Chapter 21, Cardiac Trauma and Emergency Surgery, follows the same format as previous chapters in this section. Mechanisms of injury are described and the treatment for each is summarized.

Chapter 22, Miscellaneous Procedures, deals with cardiac tumors and pericardial disease. Clinical presentation, diagnosis and treatment of each is included.

We have found this book to be extremely informative for the beginning perfusion student and a valuable educational tool when the student is making the transition from the classroom to a clinical setting. The focus and purpose of this book is the nursing role in cardiac surgery. The limited information regarding perfusion technology precludes its use as a reference manual for the practicing perfusionist.

Mindy M. Blackwell, BS, MT(HEW)
Jodie M. Ecklund, BS, CCP
Medical University of South Carolina