the book, which consists of nine sections. Topics include macro- and micro-nutrients; nutrition-related disorders; food groups; food toxicity and safety; nutritional assessment; nutrition at different life stages including requirements for athletes; clinical and public health aspects of nutrition; nutritional immunology; and enteral and parenteral support. The reader is able to grasp the essentials of all these topics. While each field is not covered in great depth, the basic information is well presented and the reader is provided with a good list of references to explore topics of interest further.

The section on energy and macronutrients covers carbohydrates, lipids, protein, energy, and alcohol in a systematic manner. The diagrams and tables are clear. In the section about energy, tables of how metabolic energy can be measured and calculated are very helpful to the reader. The chapter on alcohol contains up-to-date information regarding recent epidemiological studies on alcohol intake and coronary heart disease. A very useful table lists the quantities and types of alcoholic beverages that contain 10 g of alcohol. The section on organic and inorganic essential nutrients includes a brief description of the history of the discovery of the vitamins, as well as tables listing the vitamin content of foods and the recommended daily vitamin intakes. These are useful reference data.

Included in the third section on nutrition-related disorders are overweight and obesity, protein-energy malnutrition, cardiovascular diseases, diet and cancer, diabetes mellitus, and eating disorders such as anorexia and bulimia. In the chapter on the treatment of obesity, dexfenfluramine is described as drug therapy, although it has since been withdrawn from the market after the use of this group of drugs was associated with valvular heart damage. This chapter could be updated in future editions. The epidemiology of diet and coronary heart disease is summarised very well in the chapter on cardiovascular diseases. The Appendix contains an excellent table of guidelines for lipid-lowering diets. The chapters on food groups, food toxicity, and safety cover important topics that are not commonly discussed in textbooks of nutrition. The chapters also highlight the toxins—chemical or bacteriological—that may contaminate food.

The case studies are an interesting feature of this book. They describe population nutritional issues as a result of war in former Yugoslavia, the effort of the World Health Organization to eliminate iodine deficiency disorder, the effect of poverty on the nutritional status of populations, and the cultural influence on nutrition using Tonga as an example.

The section on enteral and parenteral nutritional support would have been more helpful if a list of recommended products were included. A description of the method of estimating nutrient requirements in the intensive care setting and what type and quantity to give in the form of case studies would also have been useful, as would have the mention of products for specific diseases such as renal, liver, or pulmonary disease.

In summary, this is a very readable reference source that covers all areas of human nutrition and will be useful to readers from a wide spectrum of health care disciplines.

Prof J Woo
Department of Medicine and Therapeutics
Prince of Wales Hospital
Shatin
Hong Kong

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# PCR, second edition

*By: Newton CR, Graham A*
*Springer-Verlag Hong Kong Ltd., 1702 Tower I, Enterprise Square, 9 Sheung Yuet Road, Kowloon Bay, Kowloon, Hong Kong*
*US$26.95, pp 192, ISBN 981 3083 34 4*

The polymerase chain reaction (PCR) was invented in 1985 to amplify specific DNA sequences. Because of the sensitivity, specificity, speed, and simplicity of the reaction, PCR has been used in a variety of applications in the past 10 years; such applications include characterising the structure and expression of genes; identifying of disease-causing genes and pathogens; diagnosing inherited disease prenatally; and DNA fingerprinting in forensics, agriculture, and archaeology.

Although there are several books on PCR already available, *PCR* by Newton and Graham is a welcome addition, particularly for beginners. This book consists of two parts. Part 1 (chapters 1-3) explains the principles of the PCR amplification of nucleic acids, the reagents, consumables, and instrumentation required, and the guidelines for setting up and optimising the PCR process. In Part 2, each chapter (chapters 4-13) details an application of PCR: cloning and modifying PCR products; isolating and constructing DNA clones; PCR mutagenesis; sequencing PCR products; DNA sequencing and genome mapping; fingerprinting; characterising unknown mutations; analysing known mutations; detecting pathogens; and quantitative PCR. The principles of each application are well illustrated with simple diagrams—even some rather complex concepts are made readily comprehensible. However, some beginners may be disappointed to find that there are no suggested protocols for specialised applications. The original articles that are listed at the end of each chapter will need to be consulted.

The description of the basic principles and optimisation of PCR in the first three chapters is quite adequate, with minor exceptions. The section on the choice of polymerases in particular (2.2), is useful reading even for seasoned practitioners. In the section on primer design (2.4) the authors should have advised readers to check their primer sequences against those in a DNA sequence database to make sure that the primers do not exhibit extensive homology to other sequences. The authors also do not mention that the newer models of thermal cycler allow a temperature gradient to be set across the reaction block such that the optimum annealing temperature can be experimentally determined in a single PCR run.

In part 2, some of the special applications of PCR receive much attention. However, a few areas such as differential display (5.6) and quantitative reverse transcriptase–PCR (13.2) are dealt with in a few sentences. It is understandable that some of the more restricted applications of PCR such as in vivo footprinting of protein binding sites on DNA are omitted, but the more useful applications such as the serial analysis of gene expression (SAGE) should have been included.

Despite minor deficiencies, this book would be useful for those who are contemplating to use PCR in their research for the first time. A good understanding of the fundamentals of PCR described in the first three chapters will enable readers to tackle most problems that would be encountered when using PCR. Even for the more experienced molecular biologist, the survey of various applications of the PCR in this book should enrich his or her repertoire of research techniques.

Dr S Chung
Institute of Molecular Biology
The University of Hong Kong
1/F Dexter HC Man Building
8 Sassoon Road
Pokfulam
Hong Kong

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# Comprehensive postanesthesia care

*By: Brown M, Brown EM*
*Lippincott Williams & Wilkins Asia Ltd., Rm 808, Metroplaza Tower II, 223 Hing Fong Road, New Territories, Hong Kong*
*US$92.00, pp 573, ISBN 0 683 01116 2*

Modern anesthesiology has evolved to provide care to patients not just in the operating room. Preoperative assessment, and intra-operative and postoperative management are all integral parts of modern anaesthesiology—the anaesthesiologist has taken up the role of a 'perioperative physician'.

In their book *Comprehensive Postanesthesia Care*, Prof M Brown and Prof EM Brown have concentrated on an extremely important yet relatively overlooked topic of anaesthesiology. The early recovery period is especially critical, as up to 30% of patients will experience some form of complication during this period.[1] However, there are hardly any anaesthetic books that are dedicated solely to postanaesthesia care. This book will definitely fill this niche and will be welcomed by most practising anaesthesiologists.

The book is divided into three parts and has 35 contributors from more than 20 institutions in the United States. The first part covers general considerations in the postanaesthesia care unit (PACU); the

Polymerase chain reaction ( PCR) , a technique used to make numerous copies of a specific segment of DNA quickly and accurately. The polymerase chain reaction enables investigators to obtain the large quantities of DNA that are required for various experiments and procedures in molecular biology , forensic analysis , evolutionary biology, and medical diagnostics.Â  Save 50% off a Britannica Premium subscription and gain access to exclusive content. Subscribe today. The polymerase chain reaction (PCR) is an in vitro method for the enzymatic synthesis of specific pieces of (target) DNA. It is a rapid and simple means of producing (up to) mg amounts of DNA from minute quantities of target (â€œDNA amplification by PCRâ€).Â  In the laboratory, â€œcolony PCRâ€ is often done: the reaction mixture is set-up using intact bacteria picked from a colony on an agar plate, rather than purified template DNA. The first denaturing step results in release of the DNA from the (lysed) bacteria. A real-time polymerase chain reaction (real-time PCR), also known as quantitative Polymerase Chain Reaction (qPCR), is a laboratory technique of molecular biology based on the polymerase chain reaction (PCR). It monitors the amplification of a targeted DNA molecule during the PCR (i.e., in real time), not at its end, as in conventional PCR. Real-time PCR can be used quantitatively (quantitative real-time PCR) and semi-quantitatively (i.e., above/below a certain amount of DNA molecules)