
Since the polymerase chain reaction (PCR) was first described in 1985, the technique and its applications have gone through many rounds of their own amplification. Clinical Applications of PCR is written as a guide to the many applications of PCR in clinical molecular medicine. The book begins with a general introduction to the principles of PCR that is clearly written and covers each step of the reaction as well as briefly touching on sensitivity, fidelity, and product analysis. There is a useful chapter on setting up a PCR laboratory, which is focused solely on the prevention, detection, and remediation of contamination. Concrete suggestions concerning the physical setup are given to avoid contamination under any circumstances but especially when diagnostic information is being generated.

A major portion of the book is dedicated to general methodology, including chapters on quantitative PCR, in situ amplification, long-range PCR, mutation screening by PCR single-strand conformational polymorphisms, artificial restriction fragment length polymorphism, and more. This section is useful not only on a practical level if a topic is relevant to the reader’s needs but also as a means for demonstrating the wide range of applications for which PCR is suitable. Detailed protocols are provided. Because each chapter is written by a different author, there is variability in the style and degree of detail given. The coverage is extensive but not exhaustive.

The most interesting and exciting section is the last, which gives detailed descriptions and protocols for 12 clinical applications of PCR. Single cell PCR is described in one chapter. Two other chapters describe non-invasive prenatal screening of fetal DNA in the maternal circulation. Another prenatal application is covered in the chapter on the diagnosis of chromosomal aneuploidies. Several chapters are dedicated to tumor cell detection as well as the detection of mixed chimerism after bone marrow transplantation. The breadth of both the book and the methodology are illustrated by additional chapters on the detection of hepatitis C virus and Mycobacterium tuberculosis. Although the titles of these chapters are exciting and offer great promise for the future, many of these applications are in their infancy and do not stand alone as diagnostic tests in the clinical laboratory.

The general methodology combined with specific clinical applications presented in The Clinical Applications of PCR provide a good overview of the impact that PCR has had across wide scientific disciplines and clinical specialties. It should be useful both as a reference and as a laboratory manual for a diverse group of readers.

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The Endocrine and Metabolic Testing Manual is in its third edition and has proven to be an extremely valuable resource for information concerning specialized testing in the area of endocrine and metabolic diseases.

Because endocrine disease often presents with subtle symptoms, the endocrinologist and internal medicine specialist usually rely on provocative testing to either suppress or stimulate the release of a particular hormone. Many different clinical protocols exist for provocative testing of the hypothalamic-pituitary-endocrine gland axis; this manual nicely lays out the different protocols used to identify an endocrine disorder and includes the recommended specimen collection procedure and CPT code for the individual tests. This newest edition contains information on over 50 new tests and testing protocols and has added a section on “Endocrine Diagnosis by Molecular Biologic Methods” and a section on “Endocrine Imaging” techniques. The manual has both an “interpretation” section and an “indications for test” section for each analyte, which should aid physicians in interpreting test results and will help physicians comply with the medical necessity rules currently being applied to laboratory testing. Although endocrine procedures and tests are the major focus of this manual, tests that relate to the cardiovascular system and test protocols for the gastroentero-pancreatic system are also included.

The manual also contains a useful index that provides practical information on specific sample requirements for certain tests and the formulas for the conversion of tests into SI units. Overall, this is a valuable and useful manual that laboratorians, clinical endocrinologists, and internists should have on their shelves. The information presented is timely, contains detailed procedural information for the many provocative endocrine protocols used in endocrinology, and should be of use to laboratorians and physicians alike as an excellent reference guide to endocrine testing.

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