

# PREFACE

---

*Principles of Molecular Pathology* provides a comprehensive, but concise introduction to this rapidly growing subject. It will be useful to a wide readership including residents and fellows in laboratory medicine and pathology, practicing pathologists who have not had a formal exposure to this relatively new field, and our medical and scientific colleagues in related laboratory and clinical disciplines.

Only a few years ago, experts debated whether molecular pathology was a bona fide academic discipline, or merely the application of new laboratory techniques that would find their roles in existing areas of the clinical laboratories. Now it is clear that this field is far more than just a set of novel techniques. Molecular pathology has a grand theme, and that theme is the study of genetic mutations, both inherited and acquired, and their effects on the structure and function of the cell. Within this theme, molecular pathology brings together concepts from molecular biology, genetics, and traditional pathology to provide new insights into human diseases, new ways of classifying certain types of diseases, and the technologies to provide new diagnostic and prognostic information. There is no doubt that the practice of laboratory medicine and pathology will be significantly altered by the principles and laboratory methods of molecular pathology.

The topics in *Principles of Molecular Pathology* were chosen to provide a broad overview of the field. Basic concepts of human molecular biology and genetics are followed by a description of the most commonly used analytical methods. This background is followed by a discussion of the acquired genetic abnormalities that underlie human malignancies. Chapters on pharmacogenetics and identity testing emphasize the growing importance of these areas in clinical practice. The application of molecular methods to the detection of microbial pathogens has assumed an essential role in clinical laboratory practice, and this important area is illustrated using common viral infections as examples.

I hope that *Principles of Molecular Pathology* will stimulate interest in this exciting field. I welcome comments from readers at [akilleen@akilleen.com](mailto:akilleen@akilleen.com).

## Acknowledgments

First and foremost, I thank my wife, Randee, for her love and support, and for her patience during the course of my writing this book. It would never have been completed without the time she afforded me to write. Our children, Olivia and Trevor, were a constant source of energy and enthusiasm during this project.

I acknowledge with gratitude the excellent support of my colleagues at the University of Minnesota and my former colleagues at the University of Michi-

gan. Several have read and commented on chapters, including Matt Bower, Charlotte Brown, Michelle Dolan, Betsy Hirsch, Mark Linder, Elizabeth Petty, and Rima Tinawi-Aljundi. I thank them sincerely for their suggestions.

*Anthony A. Killeen*



<http://www.springer.com/978-1-58829-085-4>

Principles of Molecular Pathology

Killeen, A.

2004, IX, 333 p., Hardcover

ISBN: 978-1-58829-085-4

A product of Humana Press