
Preface to the Fifth Edition

It has been 17 years since the release of the last edition—an inordinately long interval in view of the dizzying pace of discovery in the biomedical sciences. That lengthy interval presented certain challenges in deciding whether and how to embark on the production of a new edition. An immediate reality was that a new volume had to be comprehensive enough to retain the durable parts of the increasingly obsolete earlier edition while capturing the myriad new advances. That significantly greater breadth and depth would require an expanded editorial team. We were fortunate that the three of us together were sufficiently familiar with current experts across our exciting and rapidly evolving field to recruit a stellar group of authorities in their respective specialties. Most auspiciously, although we had not worked so closely together before, we all brought our experience with the previous edition and a commitment to the high standards that Al Evans imparted to everyone involved in the four earlier editions of the text.

The time elapsed since the earlier edition also meant that many chapters and the roster of authors had to be entirely replaced or substantially modified by a largely new group of contributors since relatively few of those involved in the earlier chapters remained available. In the end, dozens of new authors were engaged.

Perhaps the most difficult decision had to be made primarily by Springer. Despite the fact that the publishing world was undergoing a revolutionary transformation to digital media, a determination had to be made on whether a printed book could still be both relevant to the discipline and financially viable. In that regard, during the several years since the first conversations about the new edition with William Tucker, Khristine Queja, and others at Springer, they have steadfastly supported the project even in such an uncertain environment surrounding print publications. To vindicate their judgment as well as our own leadership on the venture, we aspired to a product that would greatly surpass a typical new edition; we hope readers conclude that it meets that test by any reasonable measure.

The text now contains four sections. The first covers principles and methodology, including new chapters on methods of detection and modeling and a largely new perspective on surveillance and biomarker epidemiology. Astonishing technologic progress is reflected in the chapters discussing the proliferation of virologic and immunologic assay platforms, routine applications of RT-PCR, and more recent incorporation of nucleic acid sequencing into research and even clinical diagnostic identification. Some chapters also cite early dividends from the expanding disciplines of bioinformatics and computational biology. The chapter on disease surveillance systems and techniques highlights sophisticated approaches to data gathering, with ever faster reporting aided not only by conventional electronic transmission capability but also increasingly by the hardware and software on portable devices that power social media. Although surveillance still depends heavily on seroepidemiology, biomarker studies of viral infections in large populations now increasingly involve collection and storage of samples other than serum, opening further opportunities to study host-agent interactions at the cellular and molecular level. A new chapter on modeling focuses on the more theoretical aspects of transmission, particularly person-to-person transmission; on the other hand, reference to decision models on projected future numbers of cases, clinical utility of a diagnostic assay, or cost-effectiveness of interventions to combat particular infections appear in the chapters addressing those agents.

The remaining sections categorize viruses and the infections they cause into three groups: those involved primarily in acute disease, those involved primarily in chronic disease including malignancy, and those involved in both. Of the 47 chapters—13 more than in the previous edition—each has been substantially revised or written entirely anew. Where an earlier single chapter may have covered multiple viruses related to each other either clinically (e.g., hepatitis, gastroenteritis) or epidemiologically (e.g., vector-borne diseases), they are now treated more expansively. Four separate chapters cover hepatic diseases (hepatitis A, hepatitis B and D, hepatitis C, and hepatocellular carcinoma); three cover gastroenteritis due to a number of enteric viruses (noroviruses, sapoviruses, astroviruses, rotaviruses, enteroviruses, and hepatitis E virus); and six separate chapters cover countless viruses transmitted by arthropods or small mammal vectors. Although prion-associated spongiform encephalopathies are not viral diseases, the chapter on these conditions reflects recognition that many of their clinical and epidemiologic features resemble those of chronic viral infections closely enough to be instructive in this context.

Viral Infections in Humans has now been in print for more than 40 years. Many dozens of basic, clinical, and population scientists have contributed to one or more editions. And each successive edition has built on the solid foundations laid by colleagues who have preceded us. Of the 90-odd authors connected with this fifth edition, we three editors are among only 9 who also contributed to the fourth. Many who participated earlier are no longer alive, and we thought it was fitting at least to honor those listed below who have passed away during the years since the previous edition, including Caroline Breese Hall, who shared in preparing the chapter on HHV-6 included in this volume.

Abram S. Benenson	2003
Francis L. Black	2007
Floyd W. Denny	2001
Alfred S. Evans	1996
Clarence J. Gibbs Jr.	2001
Eli Gold	2011
Caroline B. Hall	2012
Joseph L. Melnick	2001
Robert E. Shope	2004
Thomas H. Weller	2008

We remember all of them here in gratitude and admiration. Each made noteworthy—some even monumental—contributions to our field, and each unquestionably enhanced the value of this latest edition.

Finally, we owe special thanks to our wives—Leanne, Elizabeth, and Maryellen—who have patiently endured the many annoying diversions of our attention.

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 New York, NY, USA
 Galveston, TX, USA

Richard A. Kaslow
 Lawrence R. Stanberry
 James W. Le Duc

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