

NOVEL VACCINATION STRATEGIES

Edited by Stefan H.E. Kaufmann. 628 pp., illustrated. Weinheim, Germany, Wiley-VCH, 2004. \$210. ISBN 3-527-30523-8.

THE WORLD OF VACCINES TRADITIONALLY has been considered to consist of a very limited number of tools for immunizing humans and animals. In recent years, however, advances in immunology and molecular genetics have permitted the development of innovative ways of inducing protective immunity. Centuries after Jenner's experiment with cowpox, vaccines have become extremely sophisticated weapons against infectious diseases. This book thoroughly reviews our understanding of the immunologic response to infectious diseases and the many recent advances in the development of vaccines. A number of experimental vaccines are discussed, and future strategies that may change the way in which infectious and other diseases will be prevented are also presented. Stefan Kaufmann, who is the founding director of the Max Planck Institute for Infection Biology in Berlin, has brought together a group of experts in various fields of vaccinology from Europe, the United States, and Australia for this challenging project.

Immunologists, developers of vaccines, clinical-trial specialists, and molecular biologists will find this book to be of interest. It begins with an engaging presentation about the challenges involved in the development of vaccines, including the search for serologic correlates of protection and the difficulty of developing vaccines for the many pathogens that are not associated with such serologic markers. Another section illustrates in detail the immunologic response to vaccines, beginning with the body's recognition of pathogens and ending with the mechanisms of immunologic memory. An outstanding section of the book is dedicated to adjuvants and vaccine vectors. An example is the use of the virus vector as a sort of Trojan horse, which can be engineered specifically for carrying the vaccine into the living organism.

I recommend this book to microbiologists, epidemiologists, and practitioners who administer vaccines. Indeed, reading the chapters that compare the traditional way of preparing and delivering vaccines with new techniques that are likely to be implemented in the near future is fascinating for all specialists. Of particular interest is the discussion of DNA vaccines, which may be used to prevent cer-

tain congenital or neonatal infections, such as infection with the herpes simplex virus or the human immunodeficiency virus (HIV). Also intriguing is the discussion of efforts to engineer types of living plants that would carry molecules capable of inducing an immune response. The possibility of producing large quantities of vaccine by this means would revolutionize preventive strategies, especially in developing countries. The book also covers the efforts to tailor vaccines to eradicate the world's major infectious killers, namely malaria, tuberculosis, and HIV. Advances in the development of vaccines against *Helicobacter pylori* and bioterror agents are also covered in this comprehensive book.

The final section on the safety and economic impact of vaccines is somewhat disappointing; this is a topic that merits a book in itself. Nonetheless, this section serves to remind us of the high priority that should be given to the safety of vaccines, of the need to provide accurate information to the public, and of the importance of vaccines in preventing disease and improving the health of the general population.

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CORRECTIONS

Case 28-2004: Newborn Twins with Thrombocytopenia, Coagulation Defects, and Hepatosplenomegaly (September 9, 2004;351:1120-30). On page 1123, line 16 in the right-hand column should begin with "hypertriglyceridemia," rather than "hypotriglyceridemia," as printed.

Diagnosing Genocide — The Case of Darfur (August 19, 2004; 351:735-8). On page 736, in the third full paragraph in the right-hand column, lines 1 through 5 should have read, "The 1948 Convention on the Prevention and Punishment of the Crime of Genocide . . . has been signed and ratified by 135 countries. Sudan acceded to it (the legal equivalent of ratifying it) on October 13, 2003," rather than "Sudan has not signed it," as printed.

Clostridium Infections Associated with Musculoskeletal-Tissue Allografts (June 17, 2004;350:2564-71). On page 2566, under Results, the first line should have read, "Between January 1998 and March 2002," rather than "March 2003," as printed. On page 2569, in Table 3, the last two rows in the second column (under Positive Standard Blood-Culture Bottles) should have read, "0/3 (0)," rather than "0/0," as printed. And on page 2571, reference 1 should have read, "Organ transplants and grafts, 1990 to 2001," rather than "1990 to 2000," as printed.