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IAP Textbook of Vaccines
First Edition: 2014
Printed at
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This endeavor of the Academy is dedicated to:

“The children of this great country—The future of our nation”
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Foreword

Diseases preventable by vaccination are disappearing all over the world as vaccine coverage increases. Certain infectious diseases have been essentially eliminated from the Americas, and although Europe is lagging behind in some respects, even there, epidemics of diseases, for which we have vaccines are unusual. That is not to say that the picture is completely rosy. Failure to vaccinate is a problem in isolated populations and some of our vaccines do not give high efficacy, owing to poor immune responses in particular patient groups or incomplete knowledge about the correlates of protection.

India and neighboring countries have presented special problems. Until recently, governmental interest in the introduction of new vaccines has been limited, perhaps because of a focus on polio eradication. In addition, the vast number of potential vaccinees does not make either routine or campaign distribution easy. Fortunately, the situation is changing for several reasons: the growing interest of physicians, the manifest importance of Asian vaccine manufacturers, and a greater understanding by governments that vaccination carries economic as well as health benefits.

Like politics, all vaccination must be local. Although the sixth edition of an international vaccine textbook, which I had the honor to edit, was published last year (Vaccines, Elsevier), disease epidemiology, vaccine schedules, medical practice, and vaccine administration differ according to local practices. Thus, a book that focuses on vaccination in Asia, where the majority of the world’s population lives will serve an important purpose, and I hope it will be read widely throughout this huge geographical area. Moreover, Asian physicians and scientists should contribute even more to the body of knowledge concerning vaccination in all its aspects, from basic immunology to vaccine development and clinical trials. In that way, vaccine science will grow and benefit people in all corners of the world.

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Indian Academy of Pediatrics (IAP) has always accorded a very high priority to the various issues related to pediatric immunization in the country—be it framing recommendations for practicing fraternity or issuing guidelines on the need of inclusion of a particular vaccine in the national immunization schedule or training of program managers involved with delivery of vaccines in the field. The Academy has also played a proactive role in taking on misinformation campaign against vaccines in media. We, as an academic body, have contributed a lot in the success of Global Polio Eradication Initiative in the country, and now giving technical support to the ongoing Measles and Rubella Elimination Initiative. In fact, the Academy has never shrugged off its responsibility of a serious civil society organization, committed to the wellbeing of the children of this country. The amount of significance accorded to immunization can be gauged by the fact that a separate subcommittee of the Academy, now rechristened as Advisory Committee of Vaccines and Immunization Practices (ACVIP), has been purposely constituted to deal with all the issues related to the practice of immunization in the country for last many years.

The Academy is regularly publishing its recommendations on licensed vaccines and other aspects related to the pediatric immunization in the form of a compact booklet, *IAP Guidebook on Immunization*. This book is one of the most sought after publications of the Academy. Not only the practicing pediatricians, but even the vaccine manufacturers and policy makers cite the recommendations contained in the book. However, the need of a comprehensive book on the contemporary Indian scenario of vaccine-preventable diseases, vaccines, and practice of vaccination was felt for quite some time. As Chair of the ACVIP, and also as President of the Academy in this Golden Jubilee year, I think this book is a perfect gift by the committee to all the stakeholders involved in the field of immunization in the country and abroad. I am pretty sure that this venture shall fulfill the great void in our understanding of vaccine sciences and would serve as a reference material to all concerned. In the last, I congratulate all the contributors from the country and abroad, and the editors who have worked very hard to bring out this precious publication.

**CP Bansal**

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There seems no exaggeration in William Foege's words when he uttered, "Vaccines are the tugboats of preventive health". Apart from sanitation and safe water, no other intervention seems as powerful as vaccination in providing insulation to humankind from dreadful diseases. Vaccination has been so effective in taking on some of the formidable diseases that people became complacent about vaccine-preventable diseases (VPDs) in many developed countries. It is kind of "out-of-sight, out-of-mind" situation for many VPDs owing to effective vaccination as quite eloquently described by David Neumann. Yet, this phrase is applicable only for the children residing in less than half of the globe. For majority living in far more hostile and challenging conditions of the third world, the VPDs are still very much on the horizon. In fact, the children of the less developed countries need the umbrella of modern vaccination much more than their counterparts of developed world. The full potential of modern-day vaccines in making humankind disease-free, cannot be exploited until they are employed in the regions of the globe where their needs are felt the most.

The need of the vaccines is felt the most in India, which accounts for 20% of the world's child population, and responsible for 24% of all under-five deaths globally. India has been using vaccines since late 70s in its National Immunization Program (NIP) and currently running one of the largest mass immunization programs in the world. However, the performance of the overall program in many fields is still far from satisfactory. Coverage of many traditional vaccines remains disconcertingly low and many new vaccines that protect against today's some of the greatest threats to children, including pneumococcal disease and rotavirus have yet to be introduced into NIP. There are many barriers to achieve desired results; paucity of trained health professionals and workers in the field of vaccination is one of them. Furthermore, there is scarcity of good quality training and reliable resources in the field of vaccinology in the country.

Resistance to vaccination is almost as old as Jenner's smallpox vaccine. Misinformation campaigns against vaccine's safety may be detrimental to a well-established vaccination program of any nation. However, it may prove to be fatal to a developing country's ongoing vaccination initiatives as experienced in India in recent times. This phenomenon is growing worldwide and needs to be tackled with deft risk communication. One must not forget James Shannon's words, “The only safe vaccine is a vaccine that is never used.”

The Indian Academy of Pediatrics has been at the forefront of advocacy and training pertaining to vaccination, particularly in the private sector of the country. It has been periodically issuing its recommendations for both public and private health care sectors in the form of bundled guidelines contained in a 'Guidebook of Immunization'. However, the need of a publication containing detailed region-specific information on the epidemiology of VPDs and vaccines has been felt for quite long. This endeavor of the Academy in the form of a comprehensive textbook on vaccines must be viewed as an attempt to fill this void.

The first edition of the book is in your hands for your perusal. It covers almost all the aspects related to modern vaccinology including currently available licensed vaccines and general aspects of immunization. Sections are also devoted to vaccines in the pipeline along with newer vaccine techniques. A separate section of the book deals with issues related to vaccine policies, trials, ethics and regulatory needs.

The book shall provide in-depth information to the professionals working in the field of vaccination in India and neighboring South-Central and South-Eastern Asian countries. Special emphasis is provided to disease epidemiology and vaccine needs of India and neighboring countries. This publication should also serve as a reference material for international health agencies, government health establishments, vaccine developers, immunization program managers, and vaccine funding agencies. At the same time, the book should also be of great utility to postgraduate students, faculty members of medical institutions, and practicing pediatricians of the country.
A galaxy of national and international experts in the field of immunization has contributed enthusiastically to this project. We are grateful to all of them for sparing their invaluable time for the book and sharing their vast expertise in the respective fields of immunization. We apologize for irksome requests and ultimatums, if any in order to meet the deadline. We do sincerely hope this edition will be considered as a useful resource in the field for all those who recognize the need and the value of vaccines in the arena of child health.

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