

## Textbook of Gene Therapy

by K. K. Jain

Hogrefe & Huber, \$69, 420 pp.  
ISBN: 0889371903, 1998

REVIEWED BY INDER M. VERMA

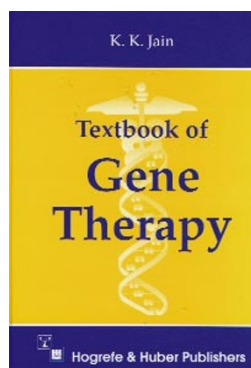
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Just over 15 years ago, the first viral vectors, based mainly on retroviruses, appeared on the scene. Few fields of biology have captured the imagination of the public, clinicians, biotechnology and big pharmaceutical companies as

much as the promise of gene therapy. Mercifully for those of us practicing the science of gene therapy—or more accurately, gene delivery—'functional genomics' has become the new 'darling' and has removed some of the unwanted attention that was forced on us.

Therefore I was excited, though a bit surprised, to discover this *Textbook of Gene Therapy*. Unfortunately, this is not a textbook in the classical sense of a scholarly textbook of biochemistry or organic chemistry. Professor K.K. Jain has put together a series of monographs written for industrial readers and embellished them with superficial information on almost every disease or delivery system mentioned in



connection with gene therapy. The book has nearly 400 pages and 29 chapters ranging from 2 pages on gene therapy of liver disorders to 50 pages for gene therapy of neurological disorders! I am puzzled as to the intended audience of this book. It is too thin in content for undergraduate, graduate students, or post-doctoral fellows, and too

broad and uncritical for practicing physicians. Nor does it have enough information to guide a venture capitalist investing in gene therapy companies. *Textbook of Gene Therapy* is 'a mile wide and a millimeter deep' and should have been entitled *Soundbites on Gene Therapy* or, better yet, *Smorgasbord of Gene Therapy*.

## Opioids in Pain Control

BASIC AND CLINICAL ASPECTS

Edited by Christoph Stein

Cambridge University Press, \$95.00, 359 pp.  
ISBN: 0521622697, 1999

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In November 1989, Jean Marie Besson and I organized a Dahlem Conference meeting in Berlin, "Towards a New Pharmacotherapy of Pain: Beyond Morphine." However, after a week of discussion, we were forced to drop "Beyond Morphine" from the book that ensued. Although the supposedly immovable Berlin Wall came down during the meeting, morphine's domination of the field of pain control remains. It is still the drug of choice for severe pain. Thus, Christoph Stein's book *Opioids in Pain Control: Basic and Clinical Aspects*, which provides up-to-date reviews of the basic science and clinical use of opioids for pain control, is still needed and welcome.

The first eight chapters address the basic mechanisms through which opioids regulate pain. In addition to the traditional discussions of peripheral, spinal and supraspinal circuits through which opioids

operate, there are interesting reviews of topics that are covered less extensively in other books. The book includes reviews of the molecular biology of opioid receptors, enkephalin-degrading enzymes (with some heavy going chemistry), anti-opioid substances, basic mechanisms of opioid tolerance and the use of transplants (such as endorphin-secreting adrenal chromaffin cells) for the treatment of pain. The chapters are generally well-written; however, cross-referencing by the editor would have helped to integrate issues across chapters. For example, discussion of anti-opioid peptides (such as cholecystokinin) appears in several chapters, but apparently oblivious to one another.

The rest of the book consists of ten chapters on the clinical use of opioids to treat pain. Several chapters address the 'what, where and how much to inject' questions, for acute pain, non-malignant pain, intra-operative pain, and so on. These chapters will be of interest to all clinicians who treat pain. Two chapters stand out as being particularly well-written—these discuss the clinical pharmacology and adverse effects of opioids and the use of patient-controlled analgesia. By and large, all the clinical chapters are for clinicians; only two of them (on pre-emptive analgesia and visceral pain) refer heavily to basic science issues.

Although this book is mostly very comprehensive and up-to-date, some things are

missing. To understand how opioids regulate the transmission of 'pain' messages, one must first understand how pain is generated. Where do opioid receptors fit into the pain transmission circuitry? Instead of beginning the book with what is an excellent review of

the molecular biology of opioid receptors, I would have begun with a review of the anatomy, physiology and pharmacology of pain mechanisms, something to which individual chapters could then refer. Also, the segregation of basic science and clinical issues, although understandable, is not ideal. At times I wished that certain clinical issues were better integrated into the basic science discussion—particularly the

discussion of spinal opioids, a major topic that, surprisingly, did not get its own chapter. Instead, spinal opioids are treated in several of the clinical chapters, most extensively in the concluding chapter on the use of opioids in obstetrics.

I also would have preferred a more comprehensive discussion of the opioid resistance of neuropathic pain, a question that is of great interest to basic scientists and clinicians. Further, the excellent chapter on mechanisms of opioid tolerance is not matched by an appropriate discussion of the clinical problem. How prevalent is tolerance to the analgesic effects of opioids in patients, and is tolerance more problematic when opioids are used for cancer pain than for non-

