

Preface



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Guest Editors

The development of genomic medicine has ushered in a new era of pediatric practice. The practitioner is faced with an enormous body of new data that are changing the nature of diagnostics, preventative medicine, and therapeutics. A new vocabulary of quantitative trait loci, single nucleotide polymorphisms, polymerase chain reaction (PCR), microarrays, preimplantation genetic diagnosis, pharmacogenomics, proteomics, and functional genomics are now part of clinical practice.

The goal of these two issues of the *Pediatric Clinics* is to translate this new vocabulary into a meaningful framework for the pediatric practitioner. By providing new insights into many pathophysiological processes, genomic medicine has enriched the scientific foundations of pediatrics markedly and has created amazing new approaches to the diagnosis and care provided to patients. For example, instead of using tedious culture methods to identify various viral pathogens, most hospital clinical viral diagnostic laboratories use RNA/DNA-based PCR tests to detect the specific viral genome. These new tests are more specific and sensitive, but more importantly, they are rapid, allowing for a quick definitive diagnosis, shorter periods of unnecessary antibiotic therapy, and a short length of hospitalization.

In the current volume, a talented group of translational investigators initially reviews the methodologies that form the basis of this revolution in clinical practice, and then demonstrates how such scientific advances have improved understanding of disease mechanisms, and diagnostics and therapeutics in numerous common pediatric diseases.

We believe that understanding these new scientific foundations of clinical practice is essential for all pediatric care providers and that this

understanding will improve the bedside and ambulatory management and outcomes of pediatric patients.

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