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The first edition of Practical Algorithms in Pediatric Endocrinology was compiled in 1998 and published in 1999. In the 8 years between its publication and this second edition, molecular endocrinology has changed our clinical practices to a level unimaginable only a decade ago. The colossal pace of discovery in both basic and clinical endocrinology has changed not only our understanding, but also our daily engagement with patients and parents.

The first edition has sold over 3,000 copies. It is a tribute to the 12 contributors to the first edition in that it has become a leading bedside source for general practitioners, pediatricians and pediatric endocrine fellows. The same contributors responded willingly to revise each of the 50 algorithms. Naturally, we have additional younger contributors who have grown to be among the new leadership in pediatric endocrinology worldwide.

The basic outline remains unchanged. Algorithms are practical tools to help us address diagnostic and therapeutic problems in a logical, efficient and cost-effective fashion. The enormous success and sell-out of the first edition confirmed that this approach was useful for clinicians caring for children with endocrine disorders.

As with any approach that attempts to simplify complex problems, there will always be exceptions. Each algorithm must be used in the context of the individual findings of each patient under examination and in conjunction with the published literature. The clinician must always be aware that any individual patient’s presentation may be atypical enough, or confounded by concomitant disorders or complications, to render our approaches invalid. In addition, advances in diagnosis and management can render current approaches obsolete.

Several chapters include suggestions made by our readers and, as before, I invite comments to correct any mistakes which may have occurred or to make any improvements to the diagnostic algorithms we offer.

I hope you will find this book helpful in managing the children under your care.

Ze’ev Hochberg, MD, PhD
April 2007, Haifa

Introduction

Textbooks of medicine are oriented by body systems, by disease or by diagnoses. Yet, the practicing physician is encountered by a patient’s complaint, by a symptom, by a physical sign or by a laboratory abnormality, from which he is expected to proceed to diagnosis and to plan management. The traditional medical approach is through differential diagnosis by exclusion. Algorithms provide a direct approach to breaking down long list tables of differential diagnosis into smaller, more manageable lists, as often a whole group of diagnoses can be excluded by a single or a group of signs, blood tests or imaging.

Practical Algorithms in Pediatric Endocrinology is meant as a pragmatic text to be used at the patient’s bedside. It classifies common clinical symptoms, signs and laboratory abnormalities as they present to us in daily practice. The experienced practitioner applies step-by-step logical problem-solving for each patient individually. Decision trees prepared in advance have the disadvantage of unacquaintedness with the individual patient. Yet, for the physician who is less experienced with a given problem, a prepared algorithm would provide a logical, concise, cost-effective approach prepared by a specialist who is experienced with the given problem. It would also train a young practitioner in medical reasoning. This book is, therefore, aimed at an audience of general practitioners or pediatricians who are not exposed on a daily basis to pediatric endocrine problems. It would also aid trainees in pediatric endocrinology as they presume familiarity with clinical problem-solving to make rational choices in approaching a clinical dilemma.

Certainly, there is more than one way to approach a clinical problem, and this book presents one such way for each problem, prepared by skilled, experienced specialists in pediatric endocrinology. The algorithms were prepared through discussion and deliberation among the authors of this book. By no means should they be viewed dogmatically as the one and only approach. We paid special attention to simple passages, rejecting groups of diagnoses first by history and physical examination, then by simple laboratory tests common to any clinical setting, and only finally, in some cases, to more sophisticated laboratory means, which may require specialized proficiencies.

The term ‘algorithm’ is derived from the name of the ninth century Arabic mathematician Aljawismi, who also gave his name to ‘algebra’. His ‘algoritimus’ indicated a step-by-step logical approach to mathematical problem-solving. It is presented hereby to the medical practitioner in that same spirit.

Ze’ev Hochberg, MD, PhD
April 1999, Haifa