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## Foreword

For many years research on gonadal hormone replacement therapy has tended to concentrate on female hormones, particularly in terms of contraception and post-menopausal replacement. Testosterone replacement, when considered at all, was given to a small number of men in whom there was undoubted pituitary or testicular damage, and then most usually in terms of injectable testosterone esters which were relatively short-acting, and whose pharmacokinetics were highly unphysiological. However, the situation has changed dramatically over the last decade, as the forms of testosterone replacement have dramatically increased, and the indications for replacement have been greatly redefined. As clinicians, we are now in a situation where we can offer our patients a plethora of different types of replacement, and we customize their replacement according to their preferences, lifestyle and personal requirements. We can also more carefully define who may or may not benefit from replacement, and discuss the long-term consequences in terms of risks and benefits. It is therefore very fitting that Hugh Jones has put together an outstanding team of authors to guide clinicians through the confused minefield of testosterone replacement treatments, their respective advantages and disadvantages, and the changes in indications for their use. As one whose research is at the leading edge of novel indications for testosterone replacement, Professor Jones is well placed to survey this growing field. I believe this is a valuable addition to our series, and one which will be of immense value to practising clinicians of many types, particularly andrologists and all those whose practice brings them into contact with hypogonadal men.

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## Preface

There has been a considerable increase in the number of research publications related to different clinical aspects of testosterone deficiency in the male over recent years. However, male hypogonadism, the clinical syndrome of testosterone deficiency, still remains a poorly understood condition and clinically underrecognized by the medical profession. The aim of this book is to provide an update of current opinion on the management of hypogonadism based on recent advances from research studies as well as the clinical experience of the expert contributors.

Sir William Osler in 1892 wrote that: 'Medicine is a science of inconsistency and an art of probability.' This statement aptly portrays the challenges to the clinician in the diagnosis of hypogonadism, as the symptoms are non-specific, there are no clear cut-offs for the biochemical tests and some patients fail to respond to treatment. Recent publication of international guidelines on the diagnosis and management of hypogonadism and of late-onset hypogonadism has helped to raise awareness of the conditions and provide consensus views from groups of world experts.

To make the diagnosis of hypogonadism requires a good knowledge of the physiology of testosterone, clinical presentation and investigation, as well as the art of the clinician. The first part of this book aims to provide a clinical update on the current guidelines for the diagnosis and management of hypogonadism including advances in the biochemical assays for testosterone. It also addresses the potential clinical importance of differences in androgen receptor sensitivity as a result of genetic polymorphism. The clinical implication is that the testosterone replacement dose for an individual may be assessed using pharmacogenetic profiling. New modes of testosterone therapies, which allow physiological replacement, are addressed as well as issues regarding prostate safety.

Testosterone is not just a sex hormone but has important biological actions on many different tissues and organs. The second part of the book deals with recent

advances in the knowledge of how testosterone deficiency can affect these systems and evidence as to whether or not testosterone replacement therapy can have specific clinical benefits on them. These specific areas include osteoporosis, frailty, cardiovascular disease, diabetes and the metabolic syndrome, other chronic diseases, the brain and erectile dysfunction.

The contributors to this book are all key opinion leaders and have been involved in active research in this clinical field. I wish to sincerely thank them for their excellent chapters. I hope that the reader will find the book informative and clinically useful. This in turn I would hope leads to a better understanding and awareness of hypogonadism, which can then be translated into clinical benefits for our patients.

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