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This important new volume in the series Cambridge Reviews in Human Reproduction provides a wide-ranging and authoritative account of the uterus and its physiological role in fertility, normal pregnancy and delivery. Acknowledged authorities from around the world provide a detailed and timely account of uterine physiology. The volume encompasses a wealth of material including cell and developmental biology, structure, function, anatomy and endocrinology, and then goes on to cover clinically important issues such as the cervix during pregnancy, measurement of uterine contractions and initiation of labour. It will prove of particular value to those involved in the management of women with pre-term labour, as well as those concerned with the development of new procedures for the prevention or amelioration of this condition.

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We are particularly sad to record the death of Elizabeth Ramsey just before this volume went to press. She was probably the most outstanding of our contributors in the range of her knowledge and her reputation for fundamental contributions to this particular topic. She will be sadly missed and we dedicate this volume to her.

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Editors' preface

The aim of this book is to provide a complete and up-to-date account of the anatomy, physiology and biochemistry of the uterus, with particular emphasis on the human, and on the relationship to clinical abnormalities of uterine function. The book begins with a historical perspective by Elizabeth Ramsey, a most fascinating account of some of the strange concepts of this organ which existed prior to the modern era. The second and third chapters are also contributed by Dr Ramsey: on the anatomy of the human uterus, and of its embryonic and fetal development. The latter is particularly relevant to some of the rare abnormalities found in children and adults. The structure and function of the uterine muscle are detailed by Garfield and Yallampalli, with particular emphasis on their own important contributions to our knowledge of gap junctions. Attention then turns to the endometrium, with a review of structure and ultrastructure by Warren and colleagues, and of biochemistry by John Aplin. Succeeding chapters deal with various functional aspects of the human myometrium. There is a full review of the electrophysiology by Kawarabayashi who has made many basic contributions to this topic. Biochemical aspects of control are then examined, with chapters on general hormonal control by Batra, on relaxin and oxytocin by Gillian Bryant-Greenwood and Tim Chard, and on the locally active agents such as neurotransmitters (Stjernquist and Sjöberg), and prostaglandins (Morrison and Smith). A thoughtful review by Schellenberg and Liggins summarizes the present rather unsatisfactory status of our knowledge about the onset of labour in the human, despite the obvious clinical importance of this topic. They particularly highlight the role of the cervix as, in a separate chapter, does Andrew Calder. The cervix may play as important a role in the process of delivery as the more obvious body of the uterus. Finally, chapters by Romanini and Arulkumaran summarize current procedures for the clinical and research measurement of uterine activity.

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