Good Clinical Practice in Assisted Reproduction

This practical, user-friendly book comprehensively covers all aspects of the investigation and treatment of infertility, from clinical assessment of the male and female to the latest assisted technology. Chapters deal with IVF, intracytoplasmic sperm injection (ICSI), techniques of sperm retrieval and clinical aspects of pre-implantation genetic diagnosis (PGD). Guidance is given on how to set up and run a successful IVF programme. With its clinical focus, this book will be invaluable to doctors, embryologists and nurses working in the field of reproductive medicine, whether they are established specialists or in training.
Good Clinical Practice in Assisted Reproduction

Edited by

Paul Serhal
University College London Hospitals

and

Caroline Overton
St. Michael's Hospital and the
Bristol Royal Infirmary
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Contributors

Professor R. John Aitken
ARC Centre of Excellence in Biotechnology and Development
Discipline of Biological Sciences
University of Newcastle
Newcastle Drive
Callaghan
NSW 2308
Australia

Mr Adam Balen
Department of Reproductive Medicine
Leeds General Infirmary
Leeds LS2 9NS
UK

Professor Chris Barratt
Assisted Conception Unit
Birmingham Women's Hospital
Edgbaston
Birmingham B15 2TG
UK

Mrs Kathy Boon
The Assisted Conception Unit
University College London Hospitals
25 Grafton Way
London WC1E 6DB
UK

Mr Peter Brinsden
Bourn Hall Clinic
Bourn
Cambs CB3 7TR
UK

Dr Tim Child
Women's Centre
John Radcliffe Hospital
Headington
Oxford OX3 9DU
UK

Mrs Jennifer Clifford
10 Alwyne Place
London N1 2NL
UK

Professor Ian Craft
London Gynaecology and Fertility Centre
Cozens House
112a Harley Street
London WC1G 7JH
UK

Dr Melanie Davies
Reproductive Medicine Unit
Elizabeth Garrett Anderson and Obstetric Hospital
University College Hospital
Huntley Street
London WC1E 6AU
UK
List of contributors

Mr Colm Davis
Department of Gynaecology
St Barts and the London Hospitals
W Smithfields
London EC1A 7BE
UK

Professor Joy Delhanty
Department of Obstetrics and Gynaecology
University College London
86–96 Chenies Mews
London WC1E 6HX
UK

Alpesh Doshi
Assisted Conception Unit
University College London Hospitals
25 Grafton Way
London WC1E 6DB
UK

Ms Elizabeth Fleming
The Assisted Conception Unit
University College London Hospitals
25 Grafton Way
London WC1E 6DB
UK

Dr Natalie Greenwold
Department of Obstetrics and Gynaecology
University College London
86–96 Chenies Mews
London WC1E 6HX
UK

Dr Joyce Harper
Department of Obstetrics and Gynaecology
University College London
86–96 Chenies Mews
London WC1E 6HX
UK

Dr Roger Hart
UWA School of Women's and Infant's Health
University of Western Australia
King Edward Memorial Hospital
374 Bagot Road
Subiaco
WA 6008
Australia

Professor Eric Jauniaux
Department of Obstetrics and Gynaecology
University College London
86–96 Chenies Mews
London WC1E 6HX
UK

Ehab Kelada
London Gynaecology and Fertility Centre
Cozens House
112a Harley Street
London WC1G 7JH
UK

Mr Suks Minhas
Department of Uro-andrology
Middlesex Hospital
Mortimer Street
London WIT 3AA
UK

Professor Mary George Nawar
Department of Obstetrics and Gynaecology
University of South Alabama College of Medicine
Mobile
Alabama 36688
USA
List of contributors

Miss Leigh Oliphant
The Assisted Conception Unit
University College London Hospitals
25 Grafton Way
London WC1E 6DB
UK

Dr Caroline Overton
St. Michael's Hospital and the Bristol Royal Infirmary
Southwell Street
Bristol BS2 8EG
UK

Dr Imran Pirwany
McGill Reproductive Centre
Royal Victoria Hospital
67 Pine Avenue West
Montreal
Quebec H3A 1A1
Canada

Dr Paul Serhal
The Assisted Conception Unit
University College London Hospitals
25 Grafton Way
London WC1E 6DB
UK

Dr Françoise Shenfield
Reproductive Medicine Unit
Elizabeth Garrett Anderson and Obstetric Hospital
University College Hospital
Huntley Street
London WC1E 6AU
UK

Professor Seang Lin Tan
McGill Reproductive Centre
Royal Victoria Hospital
67 Pine Avenue West
Montreal
Quebec H3A 1A1
Canada

Mr David Ralph
Department of Uro-andrology
Middlesex Hospital
Mortimer Street
London W1T 3AA
UK

Dr Domenico Ranieri
The Assisted Conception Unit
University College London Hospitals
25 Grafton Way
London WC1E 6DB
UK

Professor Botros Rizk
Department of Obstetrics and Gynecology
University of South Alabama College of Medicine
Mobile
Alabama 36688
USA

Dr Mathew Tomlinson
Assisted Conception Unit
Birmingham Women's Hospital Edgbaston
Birmingham B15 2TG
UK

Mr René van den Berg
Infertility Database Systems Ltd
Omnibus Business Centre
39–41 North Road
Islington
London N7 9DP
UK
Assisted human reproduction continues its worldwide spread as increasing numbers of patients are treated annually, and more clinicians and scientists enter the field each year. Demand for new knowledge remains insatiable whether on the web, in conferences or textbooks. Demand comes from so many quarters, from medical and scientific professionals, teachers, nurses, counsellors, patients and students, each needing information for their own particular ends. Comprehensive texts covering this wide demand are rare, new books mostly being highly specialised to a particular topic or technique.

*Good Clinical Practice in Assisted Reproduction* offers this comprehensive approach to the clinical aspects of assisted reproduction. It is unusual among the many books covering this field of biomedicine. Setting out to make data available using a simple form of presentation enabling easy searching, data are presented in 20 straightforward but detailed chapters, each debating topics essential to this form of treatment. Stressing clinical care rather than the scientific aspects of human embryology and their application, successive chapters have a simple and attractive style grouping data under sub-headings at regular intervals. Browsing is made easy without any need for constant recourse to indices or other textbooks. Tables are well laid out and direct, diagrams redrawn to a single style giving a highly attractive layout to the book. References are numerous and complete, present full details to chosen articles and offer advanced knowledge to provide data to more advanced readers in the field. Such simple and direct means of projecting its contents make this book attractive to a wide readership searching for an easy-to-read and easily accessible yet responsible text.

Standards are also high because the editors chose the right authors for each successive chapter: they must have issued clear instructions to authors to present data in a compelling and comprehensive manner. The uncomplicated nature of the texts throughout the book make it even more likely to appeal to wide and diverse readers. Contents of individual chapters begin with the clinical assessment and practice of IVF in women and men, presented by Ranieri, and by Minhas and Ralph.
Its excellent contents reveal the width of current approaches, culminating in the collection of testicular spermatozoa for ICSI. Two further chapters, by Aitken, and by Tomlinson and Barratt, cover laboratory assessments of infertile men and donor insemination. These are more scientific, traversing the field from beginning analyses of sperm quality, through various tests of sperm function and the endocrinology of spermatogenesis to the effects of oxidative stress, including DNA damage to spermatozoa. Donor recruitment, their screening, preparing and cryopreserving spermatozoa are described in turn. Five successive chapters then deal with IVF practice, presenting data essential to the daily routine in IVF clinics. Superovulation, practical techniques, ovarian stimulation and complications of early pregnancy are presented by Hart and Davis, Balen, Child et al., Rizk and Nawar, and Jauniaux and Greenwald. Particular topics are well presented and in sufficient detail, for example options for IVF before it is undertaken – including controlled ovulation and IUI – and regimens involving LHRH agonists and antagonists combined with HMG or recombinant gonadotrophins. Aspects of oocyte retrieval, in vitro insemination, GIFT and embryo transfer are discussed. Risks of hyperstimulation, its prevention and management, and aspects of early pregnancy loss, miscarriage, ultrasound detection of anomalies and fetal reduction complete this section of the book.

More unusual aspects of IVF are then introduced. These open with oocyte donation, its indications, screening participants, their hormonal regulation and embryo replacement in cyclic recipients. The chances of implantation and pregnancy are presented. The complexities of surrogacy require detailed assessment and counselling of hosts and genetic mothers, monitoring pregnancies, and complicated counselling associated with this complex form of treatments, yet it offers reasonable pregnancy rates. Clinical aspects of preimplantation diagnosis include detailed counselling and cover laboratory methods, embryo biopsy and diagnosing single gene disorders or chromosomal anomalies in embryos with modern molecular and cytological techniques. Controversies arise in the application of surgical methods designed to improve assisted conception, identify uterine anomalies, manage the ovary and its precious reserve of oocytes, and ensure a well-developed endometrium. Alternatives to IVF are considered in some detail, including GIFT and ZIFT and their respective values. Again, distinguished authors include Serhal, Brinsden, Harper and Delhanty, Overton and Davis, and Kaleda and Craft.

The final six chapters move beyond operating theatres and laboratories to cover essential related matters. Diverse skills include counselling as a fundamental aspect of treatment, described by Clifford. She deals with its various forms and definitions, and demands on counsellor and those counselled. Nursing receives responsible attention from Boon et al., describing the specialist nurse; coordination and planning; the background of couples attending for treatment; and wider relations with counsellors, physicians and others involved in the treatment. Planning, costing,
financing, and the nature of the clinical and laboratory set-ups including layout, equipment and practice including quality control are well discussed by Doshi and Overton. The impact of information technology, assessed by van den Berg, presents details of data processing, statistical methods and necessary software. How to treat older women patients, the problems of declining follicle numbers and oocyte donation in post-menopausal patients is well discussed by Serhal, who covers available treatments, improving embryo quality and pregnancy complications. Last, but far from least, Shenfield deals with the unrelenting ethics of the field, including gamete donation, whether offspring should be told, how preimplantation genetic diagnosis raises the ethics of designer babies, and lastly physicians’ rights to decline treatment to patients.

The progress of this textbook should prove highly interesting. Its comprehensive contents, and highly competent and distinguished authors, have presented few errors or mishaps in its 20 chapters. Who will be the primary buyers? Advanced professionals perhaps, yet it should appeal to newcomers to the field, those searching for answers to their own disorders and others with a duty of care in treating them. Such a wide appeal should prove successful and rewarding to editors and authors for their dedication and cooperation.

R. G. Edwards
Chief Editor, Reproductive BioMedicine Online
Preface

The last decade has witnessed striking progress in assisted reproductive technology (ART) and over the past few years the success rate of ART has increased significantly due to the introduction of novel technologies and improved embryo culture systems. Along with this rapid pace of development comes the need for clinicians to keep abreast.

This book brings fresh insights into the pathophysiology of human reproduction, providing up-to-date and practical information on the clinical and laboratory management of subfertility. Particular emphasis is placed on the clinical appraisal of the current and potential strategies to improve the management of the subfertile couple, as well as the various therapeutic options available for the management of subfertility.

The preparation of this book was driven by a desire to provide a hands-on, practical guide to assisted reproduction that would be accessible to those practising in the field of Assisted Reproduction, those working on the establishment and day-to-day running of an IVF clinic, and those with a more general interest in assisted reproduction. The contributing authors include internationally renowned clinicians and scientists actively involved in the field of reproductive medicine and those who are acknowledged in their own fields.

We are most grateful to all who have made the publication of this book possible.