



BFS STUDY WEEK
19-22 June 2017

**Embryo Transfer/IUI
e-PROGRAMME**

This event is paperless
Please save or print your e-Programme

Millennium Gloucester Hotel, Kensington, London

www.bfsstudyweek.org.uk
@BritFertSoc @UKEmbryologists

FOREWORD

On behalf of the BFS I would like to welcome you all to *Study Week 2017*, which will be the largest one yet. Those of you who have been before will notice many changes. To accommodate our rapid growth, we have moved venue to the very pleasant Millennium Gloucester Hotel. To ensure that you have the latest up to date information and to make the event more 'green' and efficient we have gone 'paperless'.

We are delighted to have two new additional *Study Days* this year (*Fertility Nursing* and *PGD/PGS*) and there have been changes to some of the existing *Study Days* too, to ensure that you are getting the very best experience. I would like to thank the Speakers for taking time out of their busy schedules to come and teach at the event; as well as the sponsors who generously support our educational program.

I would particularly like to thank the delegates for coming, because you really make the event the success that it is. We hope that you all enjoy it and leave London with knowledge that will aid your personal development and the care of your patients. Please ask the speakers questions, we are here for you.

If you aren't already a BFS member, please consider joining and also, consider enrolling for the highly regarded *BFS Training Modules* that are linked to many of the *Study Days*. All the relevant details are on our website www.fertility.org.uk. Feel free to share your opinions on social media @BritFertSoc and @UKEmbryologists and do please complete the feedback form which will be sent to you after the event online, we want to know what you think.

Now, get ready, it's time to be educated!

All the very best wishes,



Kevin McEleny
Chair of Education and Training
British Fertility Society

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EMBRYO TRANSFER/IUI PROGRAMME

CROMWELL ROOM 1

08.00 Registration, welcome refreshments, exhibition

09.00 Chair's opening welcome *Isabel Traynor*

09.10 Structure of cervix, uterus and tubes *Yacoub Khalaf*

09.30 Controlled ovarian stimulation *Colin Duncan*

10.00 Assessment and preparation of sperm *Rachel Cutting*

10.30 Refreshments, exhibition and networking

11.00 Immunology and Preparation of the Endometrium *Harish Bhandari*

11.30 Optimising your embryo selection techniques *Rachel Gregoire*

12.00 Is there a role for IUI in the Future of Fertility Treatment? *Valentine Akande*

12.30 Lunch, exhibition and networking

13.30 Embryos transfer / IUI techniques *James Nicopoulos*

Afternoon Workshops

14.00 - 16:00 **Please check your registration envelope for your assigned group.*

	GROUP 1	ROOM	GROUP 2	ROOM	GROUP 3	ROOM
14.00	Ultrasound guided transfer <i>James Nicopoulos</i>	CROMWELL 1	Catheter loading, transfer practice <i>Simon Wood</i>	CROMWELL 5 (Exhibition area)	Sperm <i>Rachel Cutting</i>	HARRINGTON
14.30	Sperm <i>Rachel Cutting</i>	HARRINGTON	Ultrasound guided transfer <i>James Nicopoulos</i>	CROMWELL 1	Catheter loading, transfer practice <i>Simon Wood</i>	CROMWELL 5 (Exhibition area)

15.00 Refreshments, exhibition and networking

	GROUP 1	ROOM	GROUP 2	ROOM	GROUP 3	ROOM
15.30	Catheter loading, transfer practice <i>Simon Wood</i>	CROMWELL 5 (Exhibition area)	Sperm <i>Rachel Cutting</i>	HARRINGTON	Ultrasound guided transfer <i>James Nicopoulos</i>	CROMWELL 1

16.00 Close of day and Networking

EMBRYO TRANSFER/IUI ABSTRACTS AND BIOGRAPHIES

Structure of cervix, uterus and tubes

Yacoub Khalaf

Key Learning Points:

1. To appreciate the anatomical variation of the cervix, uterus and fallopian tubes and their impact on the embryo transfer procedure
2. To discuss the factors that affects the outcome of the procedure
3. To highlight some resourceful approaches to overcoming difficulties in embryo transfers

The embryo transfer procedure is probably the most important step of IVF treatment. The procedure can be generally technically easy however in some circumstances it can be difficult to a variable extent. Awareness of the anatomy of the cervix and the uterus is crucial to overcoming any difficult encounters. The lecture will cover anatomy in relation to the performance of the procedure and the expected variation in some cases. It will also be an opportunity to highlight the pathological conditions that affect the procedure and their impact on the overall outcome of treatment.

Further reading *Ultrasound versus 'clinical touch' for catheter guidance during embryo transfer in women* Brown J, Buckingham K, Buckett W, Abou-Setta AM, Cochrane Database Syst Rev. 2016 Mar 17;3:CD006107. doi: 10.1002/14651858.CD006107.pub4. Review. Schoolcraft WB *Practice of embryo transfer: recommendations during and after* Tiras B, Cenksoy PO. Semin Reprod Med. 2014 Jul;32(4):291-6. doi: 10.1055/s-0034-1375181. Epub 2014 Jun 11.

Yacoub Khalaf is a Consultant/Senior Lecturer and subspecialist in Reproductive Medicine & Surgery, Guy's & St. Thomas' Hospital and King's College, London

- Head of Fertility Services and Director of Assisted Conception Unit & Centre for Pre-implantation Genetic Diagnosis
- Member of the Human Fertilisation & Embryology Authority (HFEA) Board.
- Executive Officer of the British Fertility Society
- Chair of the Scientific and Clinical Advances Committee of the HFEA
- Chair of the RCOG National Clinical Study group in Reproductive Medicine & Surgery
- Member of the RCOG Research Committee
- Expert advisor to the National Institute for Health Care & Clinical Excellence (NICE)
- Associate Editor of the RBM online Journal
- Grant Reviewer for the National Institute for Health Research in the UK
- Director of the International Exchange Programme in ART and Fertility Imaging courses at Guy's and St Thomas' Hospital Foundation Trust
- Principal Investigators/clinical adviser of several NIHR funded research grants
- Supervisor and examiner of Masters, MD and PhD candidates for various UK universities
- Published widely on different aspects of Assisted Conception, Reproductive Medicine & Surgery
- Lectured on ART at most national and international conferences

Controlled ovarian stimulation

Colin Duncan

Key Learning Points:

1. Awareness of the national guidelines regarding IUI
2. Understanding of ovarian physiology
3. Protocols for and Management of Ovarian stimulation

This talk will review the guidelines for the use of IUI in infertility practice. It is crucial to understand the physiology of the human ovary in order to manipulate it for ovulation induction and controlled ovarian stimulation. This presentation will cover basic ovarian physiology in detail and how this knowledge informs manipulation strategies. It will then cover the evidence base for different gonadotrophin regimens and adjuvant treatments and their monitoring. The final elements of the presentation are a discussion of practical protocols, more difficult cases and the evidence around the timing of insemination.

Colin Duncan is a Professor of Reproductive Medicine and Science at the University of Edinburgh and honorary Consultant in the Royal Infirmary of Edinburgh. He completed his training and subspeciality training in Reproductive Medicine and Surgery in Edinburgh. His research interests include: 1) the molecular and paracrine regulation of human ovarian tissue and vascular remodelling and steroidogenic cell function and 2) prenatal programming and ovine models of PCOS. He is responsible for the ovulation induction programme in the Edinburgh Fertility and Reproductive Endocrine Centre.

Assessment and preparation of sperm

Rachel Cutting

Key Learning Points:

1. To understand the importance of accurate sperm assessment and the use of standardised World Health Organisation methodology
2. To understand how reference values for semen quality have been defined and how they relate to spontaneous conception and ART outcome
3. To understand the range of sperm preparation method available and what they are designed to achieve (e.g. removal of non-sperm cells from semen)

Sperm assessment has a long history and has the aim of trying to identify 'good sperm' and make a prediction of how likely conception is to happen. The World Health Organisation has produced guidelines for sperm assessment since 1980 and the 5th Edition of this manual was published in 2010. Using these guidelines, there is a positive relationship between semen quality and the probability of conception. However, there is significant uncertainty where the probability of conception is 'indeterminate'. Data shows significant variation in the performance of sperm assessment between laboratories and proper internal and external quality assurance is essential to try and minimise such errors. Sperm preparation is essential prior to IUI or IVF (\pm ICSI) in order to remove sperm from seminal plasma and any non-sperm components of semen. There are three main sperm preparation methods in use in UK laboratories: (i) Density centrifugation; (ii) Swim-up; and (iii) wash and centrifugation. Although Density centrifugation is the most common, large randomised controls are lacking and a recent Cochraine review suggests there was insufficient evidence to suggest one method above another. Current research is being undertaken to assess and prepare sperm using: (i) microfluidic chambers; (ii) electrophoresis; (iii) high magnification optics (IMSI); and (iv) sperm binding to hyaluronic acid.

Rachel Cutting graduated from the University of Nottingham in 1995 and completed the ACE post graduate diploma in 1998. In 2001 she gained the position of Principal Embryologist at Jessop Fertility and holds the position of Person Responsible. Rachel was chair of ACE from 2011-2014 and is an assessor for the ACS and NSHCS. She is involved in writing the national curriculum for training embryologists and has written national guidelines for oocyte freezing and elective single embryos transfer. She was awarded an MBE in 2015 for services to infertility.

Immunology and Preparation of the Endometrium

Harish Bhandari

Key Learning Points:

1. To learn about the endometrial preparation for implantation and the markers predictive of pregnancy outcome
2. To understand the role of endometrial decidualization in implantation
3. To discuss the immunological determinants of implantation success

A successful implantation and pregnancy depends on complex, but well-designed interaction between good quality embryo and receptive endometrium. Ovarian steroids induce endometrial decidualization irrespective of pregnancy which is paramount for endometrial receptivity, embryo selection and subsequent placenta formation. Failure to express adequate decidual phenotype results in reproductive complications. Prospective assessment of decidualization is an important tool for predicting the likelihood of successful implantation and pregnancy. Endometrial leucocytes are thought to play a key role in establishing fetoplacental unit and subsequent immunological maintenance of pregnancy.

In this presentation, various markers of endometrial preparation for embryo implantation are discussed, and the clinical implications of impaired decidualisation and altered immune cells are addressed.

Mr Harish Bhandari is a Consultant Gynaecologist and Sub-specialist Reproductive Medicine at Leeds Fertility, Leeds. He graduated (MBBS) from India and completed his Specialty Training in Obstetrics and Gynaecology and Sub-specialty Training in Reproductive Medicine in the UK. He is a member of Royal College of Obstetricians and Gynaecologists (MRCOG) and was awarded Doctorate of Medicine (MD) by University of Warwick for his research

Optimising your embryo selection techniques

Rachel Gregoire

Key Learning points:

1. Overview of embryo selection techniques
2. Pre-implantation genetic screening
3. Time-lapse imaging technology
4. Morphokinetics
5. Embryo selection algorithms
6. Drawbacks and benefits of embryo selection technologies

Embryo selection for embryo transfer is the single, most influential factor affecting IVF outcome. The accurate selection of one or more viable embryos for transfer is therefore central to IVF success and improving live birth rates.

The risks of multiple pregnancy has lead to an increase in elective single embryo transfer (eSET) from 7% to 38% in 18-34 year old women over the last five years in the UK, whilst maintaining IVF success rates. The growth of eSET adds further pressure on the scientist to select 'the' single embryo with the highest potential of implanting and ultimately resulting in a healthy live birth.

As a result of this, embryo evaluation techniques employed within the IVF laboratory have rapidly evolved to include advanced technologies such as time-lapse imaging; morphokinetic assessments with embryo selection algorithms, and pre-implantation genetic screening, before there is sufficient robust evidence of their safety, efficacy and cost-effectiveness.

This presentation aims to provide an overview of current embryo selection techniques and to evaluate the benefits and drawbacks of the new technologies now routinely applied in UK clinics.

Dr Rachel Gregoire, is Consultant Embryologist/HFEA Person Responsible at Glasgow Royal Infirmary.

Rachel has worked in the field of embryology for 18 years, starting her clinical training at Ninewells Hospital, Dundee where she completed a PhD in Developmental Medicine. In 2008 she moved to the Hewitt Fertility Centre Liverpool, one of the UK's largest assisted conception providers, as Senior and then Lead Clinical Embryologist, leading a team of 15 scientists. In 2014 she moved to Glasgow Royal Infirmary as Consultant Embryologist and Person Responsible and strives to lead the scientific service in delivering cutting edge techniques with a continuing improvement to success rates. Rachel is very much involved in clinical embryology as a profession, working closely with the Association of Clinical Embryologists and the Royal College of Pathologists in delivering the HSS training program for future Consultant Embryologists, and chairs the NEQAS Reproductive Science steering committee for embryology.

Is there a role for IUI in the Future of Fertility Treatment?

Valentine Akande

Valentine Akande MBBS PhD MRCOG, is the Lead Clinician and Person Responsible at the Bristol Centre for Reproductive Medicine (BCRM), Southmead Hospital. He was a clinical research fellow under the late Professor Michael Hull and later clinical lecturer in Reproductive Medicine at the University of Bristol & St Michael's Hospital, Bristol. His research interests have led to numerous publications. He is an elected member of the BFS executive committee and chairs the meetings and conferences Sub-Committee. He previously served on the subspecialty training committee of the RCOG and is also a medical performance assessor for the General Medical Council (GMC) and the RCOG.

Embryos transfer / IUI techniques

James Nicopoullos

Key Learning Points:

1. Need for ultrasound guidance
2. Correct embryo placement
3. Importance of patient information/communication

The embryo transfer remains one of the key components of a cycle of assisted reproduction. It remains an area under-represented in the literature and has seemingly changed little in comparison to the significant advances made in safer stimulation regimes and oocyte collection techniques over the last two decades.

This presentation will outline the evidence base behind recommendations for preparing for a transfer, the transfer procedure itself and recommendations post-transfer.

James Nicopoullos is a Consultant Gynaecologist and Subspecialist in Reproductive Medicine and Surgery practising at the Lister Fertility Clinic. He completed his O&G and sub specialty training in London, and completed an MD research thesis on the effect of Sperm aneuploidy and DNA fragmentation on ICSI outcome. He is also widely published in other areas of assisted reproduction such as management of viral positive couples, ovarian hyper stimulation and management of poor responders. When time allows he spends his free time chasing after his 11 and 9 year old sons, tennis balls and obsessively following Arsenal!

Workshops

Simon Wood

Simon Wood qualified in Liverpool in 1990, he completed his postgraduate training in Obstetrics & Gynaecology in Merseyside and Manchester gaining widespread experience in all medical and surgical aspects of Gynaecology, before becoming research Fellow in the largest NHS unit in the UK. He was then the first Gynaecologist to complete sub specialist reproductive medicine training in the North West. After completing five years of specialist training in fertility and reproductive endocrinology, including recurrent pregnancy loss and hormone treatment, Mr Wood was appointed as consultant at the Countess of Chester. He is the lead clinician and person responsible to HFEA for the Fertility Unit at the Countess of Chester. He was responsible for introducing a male infertility investigation and treatment service as well as ambulatory gynaecology and outpatient hysteroscopy. While he is still the lead for fertility at the Countess of Chester he is also clinical director of IVI Cheshire.

Rachel Cutting biography see page 5

James Nicopoullos biography see above