

- 08.00 Registration, refreshment and exhibition
- 08.55 Welcome, *Kevin McEleny, Consultant Urologist, Newcastle Fertility Centre*
- 09.00 The male reproductive tract and male sexual function, *Marc Lucky, Consultant Urologist and Andrological Surgeon, Aintree University Teaching Hospital, Liverpool*
- 09.45 Male reproductive physiology, *Allan Pacey, Professor of Andrology, University of Sheffield*
- 10.30 Refreshment and exhibition
- 11.00 Male history and examination, *Kevin McEleny, Consultant Urologist, Newcastle Fertility Centre*
- 11.30 Testicular causes of male infertility, *Marc Lucky, Consultant Urologist and Andrological Surgeon, Aintree University Teaching Hospital, Liverpool*
- 12.00 Q&A for Urologists: Basic assessment & management of infertile female, *Uma Gordon, Consultant Gynaecologist and Sub-specialist in Reproductive Medicine and Surgery, University of Bristol*
- 12.30 Lunch and exhibition
- 13.30 Pre-testicular problems, *Richard Quinton, Consultant and Senior Lecturer in Endocrinology, Newcastle-upon-Tyne Hospitals & University*
- 14.00 Tests of semen quality, *Bryan Woodward, Scientific Director, X&Y Fertility*
- 14.30 The Genetics of severe male infertility, *Joris Veltman, Newcastle University*
- 15.00 Post testicular causes of male fertility and reconstructive surgery, *Majed Shabbir, Consultant Urologist, Clinical Lead for Andrology, Male Infertility and Genito-urethral Reconstruction, Guy's Hospital London*
- 15.30 Refreshment and exhibition
- 16.00 Surgical sperm retrieval, *Kevin McEleny, Consultant Urologist, Newcastle Fertility Centre*
- 16.30 Varicoceles and male fertility, *Majed Shabbir, Consultant Urologist, Clinical Lead for Andrology, Male Infertility and Genito-urethral Reconstruction, Guy's Hospital London*
- 17.00 Case studies, *Kevin McEleny, Consultant Urologist, Newcastle Fertility Centre and Majed Shabbir, Consultant Urologist, Clinical Lead for Andrology, Male Infertility and Genito-urethral Reconstruction, Guy's Hospital London*
- 17.30 Close



Marc Lucky, Consultant Urologist and Andrological Surgeon, Aintree University Teaching Hospital, Liverpool

Mr Lucky is a fellowship trained Urologist and Andrological surgeon with particular experience in andrology, male infertility, erectile dysfunction and genital reconstruction. A graduate of the University of Liverpool and Fellow of the Royal College of Surgeons in Edinburgh, Mr Lucky brings with him a number of years of experience in the field. Having completed urological training in the North West, Mr Lucky underwent a fellowship in andrology, genital oncology, genital reconstructive surgery and male infertility at University College Hospital, London.

Mr Lucky has contributed to multiple publications in the field of urology and andrology and has presented on the same subjects internationally. He continues to give back to his chosen field by teaching at the Royal College of Surgeons of England Urology courses and is seen by his peers as a leading surgeon in his field. One of Mr Lucky's main drivers is through education and has qualified from the University of Dundee in medical education. A member of the British Association of Urology Andrology Executive committee and British Society of Sexual Medicine committee, Mr Lucky's area of expertise include management of: male factor infertility (specifically microTESE operation), Peyronie's disease, erectile dysfunction, penis implant procedures, complex circumcision, sexual dysfunction, hypogonadism, UROLIFT surgery. He also specialises in functional urological conditions and urological cancers. He has published numerous consensus statements in leading urological literature and is the lead author of BAUS consensus statement on management of testicular trauma in the UK.

Male reproductive tract and Male Sexual function

Key Learning Points:

1. Overview of male sexual dysfunction
2. Correct assessment of men with erectile dysfunction
3. Treatment options alongside traditional assisted conception techniques

Male infertility may correspond with increasing sexual dysfunction especially in ageing men. It is important to understand the common clinical features of men suffering from sexual dysfunction and to address the problem directly during consultations. Appropriate assessment and testing will allow focused treatment to improve function whilst optimising fertility status for these men. Finally, recognising complex sexual and functional issues will allow involvement of appropriate experts.

Allan Pacey, Professor of Andrology, University of Sheffield

Allan is Professor of Andrology at the University of Sheffield School of Medicine. He is currently the chairman of the Steering Group for the UK National External Quality Assurance Scheme for Andrology and the Editor in Chief of the BFS journal Human Fertility. He was until January 2015 the Chairman of the British Fertility Society and served as BFS Secretary between 2005 -2010. In the 2016 New Year's Honors list, he was awarded an MBE for Services to Reproductive Medicine.

Male reproductive physiology

Learning points:

- Identify the components of the male reproductive system and how they work;
- Understand the endocrine regulation of male reproductive system;
- Highlight factors which influence the efficiency of spermatogenesis and ejaculate quality.



The embryological development of the male urogenital system is critical to the fertility of adult males and the six months either side of birth is thought to be the time at which the maximum sperm output of the adult testis is established. After puberty, the production of sperm is regulated by the secretion of FSH and LH from the hypothalamic pituitary axis, as well as paracrine factors from the testis itself. In comparison to many other mammals the production of sperm in the human is quite slow, taking just over 70 days followed by further maturation steps in the epididymis. The number and quality of sperm ejaculated depends on many factors including the abstinence period and the level of arousal as well as the quality of spermatogenesis itself. Spermatogenesis is affected by some lifestyle factors such as temperature (e.g. tight underwear), recreational drug use (e.g. cannabis) and occupation (e.g. exposure to glycol ethers). Finally, clinicians should be aware that sperm makes up only a minor part of the ejaculate (approximately 5% by volume), with secretions from accessory glands such as the prostate and seminal vesicles, among others.

Kevin McEleny, Consultant Urologist, Newcastle Fertility Centre

Kevin McEleny, the Male Fertility Study Day Lead is a Consultant Urologist at Newcastle Fertility Centre and has set up a supra-regional specialist Male Fertility Service. His research interests include Psychosocial aspects of male Infertility and Male Infertility Genetics. He is on the BFS Executive Committee.

Male history and examination

Introduction History taking is a key aspect of the management of couples with a male fertility issue and whilst the patients are generally young and may not have any other relevant medical problems, pertinent factors can quickly be identified by appropriate questioning. Similarly, it is important that men with fertility problem are examined as it is not unusual to identify clinically relevant findings, which would contribute to the overall management of the patient as well as to identify other important conditions. The presentation will cover the appropriate history to be taken from infertile men as well as what should be examined and why.

Key learning objectives This presentation will support the accompanying training module points 2i (Conduct a clinical consultation with infertile couples). 2ii (Take a medical history from infertile males) and 2iii (Perform a physical examination on infertile men including: Examination of testes, epididymides, vasa deferens and evaluation for the presence of varicoceles). The teaching will be in accordance with international guidelines

Marc Lucky, Consultant Urologist and Andrological Surgeon, Aintree University Teaching Hospital, Liverpool

Biography as above

Testicular causes of male infertility

1. Assessment of the male patient with abnormal semen parameters
2. Testicular causes of Male Factor Infertility
3. Treatment of males with fertility issues

This talk will focus on the male partner in the fertility journey with particular attention to the underlying testicular anatomical and pathological causes of male factor infertility. This will also cover the assessment of the male partner in clinic through to medical and surgical treatment options.



Uma Gordon, Consultant Gynaecologist and Sub-specialist in Reproductive Medicine and Surgery, University of Bristol

Mrs Uma Gordon is a Consultant Gynaecologist and Subspecialist in Reproductive Medicine and Surgery.

She is Clinical Senior Lecturer with the University of Bristol and Clinical Director of the Bristol Fertility Clinic. She has led the Assisted Conception services and Surgical Sperm Recovery services in Bristol over the last two decades. She has been the RCOG Supervisor for the Subspecialist Program in Reproductive Medicine in Bristol and holds many National roles. She is the Andrology representative of the British Fertility Society, and the Clinical Representative of the NQAAP semen analysis quality control scheme. She is the module leader for the internationally reputed MSc program in Reproduction and Early Development. She is the organiser of the Royal College & British Fertility Society professional development meetings and is also the National Women's Chair of BAPIO, British Association of Physicians of Indian Origin.

Q&A for Urologists: Basic assessment & management of infertile female,

- Understand basic concepts of female infertility
- Utilise key points in history taking, and awareness of investigations required
- Understand female fertility management, limitations and implications

Infertility, unlike many medical problems, is often an issue affecting both the male and female partners of a relationship. It is therefore necessary to have an assessment of both partners before diagnosing or treating the condition.

Full and comprehensive history of both partners is necessary, along with general advice on lifestyle factors that can impact fertility. If the woman has regular periods, it can be assumed that she is ovulating most cycles. Basic blood tests like FSH, LH and E2, taken in the early follicular phase to confirm normal ovarian function/reserve, have been surpassed by more recent tests such as Anti-Mullerian Hormone (AMH) or Antral Follicle Count (AFC) which can be measured at any stage of the cycle. The requirement for determining tubal patency by an invasive operative method such as laparoscopy is not always necessary. A diagnostic pelvic ultrasound scan can reassure the clinician of the normality of the uterus and endometrial lining, along with ovarian assessment. Meant for Urology delegates, this Q & A session hopes to address aspects of basic assessment and management of female infertility.

Richard Quinton, Consultant and Senior Lecturer in Endocrinology, Newcastle-upon-Tyne Hospitals & University

Richard Quinton is an internationally-recognised expert in the field of hypogonadotropic hypogonadism (HH) and, over the past 25 years, has contributed to significant advances in our understanding of both genetic and phenotypic aspects

of this condition. He has achieved around 30 healthy live births using combined FSH+hCG treatment regimes that he has contributed to refining, wherein FSH- rather than classical hCG- pretreatment appears to offer improved outcomes for men with severe disease.

He has also published widely in the field of male and female sex hormone replacement therapy, including trans-gender and works closely with colleagues in Reproductive Medicine, Andrology, Paediatrics and Gender Dysphoria.



Pre-Testicular Problems

Key Learning Points:

Men with hypogonadotropic hypogonadism (HH) have a hormonally-treatable form of infertility.

hCG-monotherapy only works in men with acquired disease, eg. post-pituitary surgery.

Combined FSH+hCG therapy, aiming for physiological testosterone, E2, FSH & HB levels, is required for men with congenital HH, of whom those with small testes & history of bilateral cryptorchidism have the worst prognosis.

Adult-onset HH is easily misdiagnosed in normal men (a) through non-fasted, or afternoon venepuncture, (b) by failing to realise when men are abusing androgens and (c) in chronic disease states, such as obesity, where there is physiological non-gonadal illness, or SHBG levels are really low, such that free testosterone may be normal, when when total seems to be low

Men with hypogonadotropic hypogonadism (HH) have a hormonally-treatable form of infertility. Acquired HH, eg. following treatment of pituitary tumours, has the best prognosis and fertility can often be restored with hCG-monotherapy, titrated to achieve normal of Hb, testosterone & E2 levels. FSH is added later on should monotherapy be unsuccessful. Men with congenital HH (CHH) have a less good prognosis and even prolonged hCG-monotherapy cannot achieve normal sperm counts, but combined hCG+FSH treatment or GnRH pump results in around 75-80% developing sperm in the ejaculate.

Key factors affecting fertility outcomes in CHH include testicular volume (TV) and history of cryptorchidism. Men with larger TV (>4mL) are good responders and typically develop sperm within 6-months of starting treatment. The most severe cases (TV \leq 4 mL and history of bilateral cryptorchidism) have the poorest outcomes, but results of sequential treatment protocols with FSH pre-treatment offer hope for these men.

Bryan Woodward, Scientific Director, X&Y Fertility

Bryan Woodward (PhD, FRCPath) is a free-lance reproductive scientist who specializes in trouble-shooting fertility clinics to improve andrology and embryology services. He has helped set up numerous IVF laboratories and offers hands-on andrology and embryology training as required. In the UK, he is the Person Responsible at X&Y Fertility and the European Sperm Bank.

Tests of semen quality

Key Learning Points:

To understand the parameters of traditional tests of semen quality

To learn how to check whether the test results are reliable?

To be aware of more detailed tests of semen quality.

Tests of semen quality are usually undertaken as an initial investigation into male fertility. Traditional tests are often performed in a pathology laboratory, where basic macroscopic and microscopic assessments are undertaken. These include sperm count, morphology and motility, as all have been reported to be predictive of pregnancy. Beyond the basic repertoire, more detailed tests are available in a few specialist labs to provide further information about semen quality. For example, sperm can be processed, as it would for assisted conception treatments, to see if the quality can be improved. Further tests can then be performed immediately prior to insemination to help to select the best quality sperm. Detailed diagnostic tests are also available, such as sperm DNA integrity, immunohistochemistry, and karyotyping, which may also offer useful information. This talk will provide an overview of tests of semen quality that are available in the diagnosis of male fertility.



Majed Shabbir, Consultant Urologist, Guy's & St. Thomas' Hospital, London

Majed Shabbir is a Consultant Urologist at Guy's & St. Thomas' Hospital, where he is the Clinical Lead for Andrology, Male Infertility & Genito-urethral reconstruction. He is the Secretary of the BAUS Section of Andrology and GU Reconstruction national executive committee. He is the course tutor for male factor infertility for the RCS (England), RCOG and ESHRE training courses.

Post Testicular causes of Infertility

Learning Points:

To be able to identify obstruction as the cause of the problem
2. to be able to pinpoint the location of the obstruction.
3. to be aware of the options, and the pros and cons of treatment options dependent on the nature of the underlying problem

Male infertility is a sign of an underlying problem, either with testicular function and spermatogenesis, or with delivery of sperm. Wherever possible any reversible cause for male infertility should be sought and corrected, to ideally allow a return to normal function. In this lecture we will explore causes of functional and structural obstruction of the sperm pathway, and understand how to pinpoint the level and nature of the underlying issue. The lecture will also cover the different treatment options and their outcomes.

Prof Joris Veltman, Newcastle University

Prof. Veltman worked in Nijmegen, The Netherlands from 2000 until 2017, when he was appointed Director of the Institute of Genetic Medicine at Newcastle University. Prof. Veltman contributed significantly to unravelling the genetic causes of rare disease, to our understanding of mutational mechanisms underlying genetic disorders and to the implementation of genomics approaches in medicine. His research using both exome and genome sequencing revealed the genetic cause for more than 50 clinical syndromes and provided strong experimental evidence for a de novo paradigm in severe early-onset disorders. He now studies the role of de novo mutations in severe male infertility.

The Genetics of severe male infertility

1. Genomics is enormously powerful in disease gene identification and patient diagnostics
2. The field of male infertility genetics is underdeveloped, most genes reported do not have sufficient evidence to be called a male infertility gene
3. De novo germline mutations are a major cause of diseases with an effect on fitness, which makes it important to study them in male infertility.

Genetics research has advanced dramatically in recent years, but unfortunately, advances in male infertility are not as advanced as that in many other research fields. Consequently, most patients remain without a molecular diagnosis. In this presentation, I will discuss the current state of the art of genetics research and diagnostics in male infertility (see Oud et al. Human Reproduction 2019). In addition, I will show the first results of exome sequencing studies in patient-parent trios, aiming to identify the role of de novo as well as inherited genetic variation in severe male infertility.

Kevin McEleny, Consultant Urologist, Newcastle Fertility Centre

Biography as above

Surgical sperm retrieval

Introduction Surgical sperm retrieval can be used to recover sperms directly from the testicles in situations where there is no sperm present in the ejaculate that is suitable for ICSI, and in nearly all cases, this means azoospermia. Developments in recent years have enabled sperm to be recovered in situations where previously, the couples would have been offered donor sperm treatment only. Patient selection is extremely important in this situation.

MALE FERTILITY ABSTRACTS AND BIOGRAPHIES



DAY 1

Monday 03 June

Abstract We will discuss the procedures used to recover sperm from men with obstructive and non-obstructive azoospermia, with outcomes.

Key learning objectives The trainees will understand the indications for surgical sperm retrieval and the techniques available (with indications). The presentation will accompany learning objectives 7i (trainee to observe surgical sperm retrieval for obstructive azoospermia and 7ii (Trainee to observe surgical sperm retrieval for non-obstructive azoospermia)

Majed Shabbir, Consultant Urologist, Guy's & St. Thomas' Hospital, London

Biography as above

Varicoceles and male infertility

Learning points

1. to understand the controversy surrounding varicoceles 2. to review the current literature, evidence and guidelines on management. 3. to assess different forms of treatment

Varicoceles remain an area of controversy in male infertility. In this lecture we will explore the available evidence and literature on varicoceles, including an assessment of the different treatment modalities and updates to guidelines, to provide a more evidence based rationale to treatment.