Surgical Sperm Retrieval

1 in 6 couples experience difficulty conceiving and might require assistance to achieve their dream of a family. It is advisable to have tried to conceive for at least 12 months before seeking our help, except if one of the partners is known to have a condition that is known to delay/prevent conception.

One of these conditions is where the male partner is known to have a problem that prevents him from consummating the union and/or producing sperm. These problems include:

Impotence
Impotence means the inability to achieve erection of the penis and it can occur as an isolated problem in any relationship or as a symptom of an unhappy relationship. It could occur all the time (total or primary) or only under certain situations (selective or secondary). Most cases of impotence (9 out of 10) are of the secondary type. Secondary impotence tends to occur in a specific situation during sex with a particular partner. The man may be able to achieve erection in other situations including during sleep, on waking up, sexual fantasising, during masturbation, or with different sexual partners.

What causes impotence?
Primary impotence may be due to a lack of male hormones (hypogonadism) or underlying diseases that cause nerve damage (such as diabetes) or reduced blood flow to the penis. Anaemia, tuberculosis and cancer may also cause primary impotence. Secondary impotence is largely due to psychological factors. Other factors that can contribute include tiredness, alcohol and/or drug abuse, and the use of certain medicines (such as some high blood pressure and anti-psychotic medicines).

'ageing on its own does not cause impotence in men'

Problems of impotence
Problems that arise from impotence include sexual frustration, relationship difficulties and infertility. It can contribute to a feeling of low self-esteem and inadequacy in the male partner.

Treatment of impotence
Impotence is best treated in a clinic with appropriate specialists who have experience of these matters. Primary impotence will usually respond following treatment of the underlying disease. Psychotherapy and counselling can help secondary impotence by helping the individual resolve the psychological reasons behind the impotence. Impotence that occurs in an otherwise good relationship will need examination and can be helped by some modification of the couple's sexual techniques.

The steps of a typical programme of modification involve:
- encouraging the couple to practise foreplay and non-penetrative sexual arousal
- allowing vaginal penetration (but not thrusting) when the male partner's confidence is restored that he can produce and maintain an erection
- allowing gentle controlled thrusting interrupted by periods of rest when the penis can be maintained in the vagina for a few minutes without losing its firmness

Medicines
The treatment of male impotence has been revolutionised in recent times by the use of medicines such as Viagra. Viagra works by improving the blood flow pattern of the penis such that it does not only improve the flow but also helps retain the blood in the penis (a necessity for adequate erection). It is successful for both primary and secondary impotence, with more than 3 in 4 men treated achieving erection successfully. Use of Viagra must be supervised as it can cause side effects and may not be suitable for people with certain diseases (especially of the heart and lungs).

Surgery
See surgical sperm retrieval below.

Ejaculation problems
Ejaculation is the process whereby semen (sperm) is released from the penis at the time of the male orgasm. It is brought about by a combination of mental and physical stimulation. These cause rhythmic contractions of the muscles of the penis that close off the internal opening into the bladder leading to release of semen to the outside. The two common ejaculation problems are premature and retrograde ejaculation.
- *Premature ejaculation* - is the achievement of orgasm and release of semen well before the couple wish this to happen during the act of intercourse. This could be during foreplay before penetration takes place, at or soon after penetration, or in the early stages of intercourse earlier than the couple wish.
- *Retrograde ejaculation* - is the passage of released semen (often at the appropriate time) backwards rather than forward along the urethra to end up in the bladder.

What causes ejaculation problems?
Premature ejaculation can be due to stress, nervousness and tension. Some men may become accustomed to quick ejaculation because they have been used to hurried masturbation or intercourse due to fear of

discovery. Psychological problems in the relationship may contribute to the problem, for instance if the male has some fear of the female partner. The male partner may come to fear that he will always ejaculate prematurely, ensuring he will. Retrograde ejaculation can occur in any situation where the internal end or sphincter of the urethra (the urine tract in the penis) is damaged. This causes the urethra to lose the ability to close off at the time of ejaculation. It can be caused by birth defects of the penis, surgery to the urethra including removal of the prostate gland (prostatectomy), and disorders of the nerves supplying the area as can occur in multiple sclerosis and diabetes.

Problems of premature ejaculation

Problems of premature ejaculation are two folds:

- ejaculation is not delayed long enough for the female partner to have adequate sexual fulfilment and orgasm
- infertility (difficulty with conceiving) if it occurs before penetration

Premature ejaculation can thus cause a great deal of frustration and be a source of sexual and relationship difficulties, as well as childlessness. Furthermore, if premature ejaculation continues for a prolonged period it could result in male impotence.

Problems of retrograde ejaculation

Retrograde ejaculation may come to light because of a complaint of absence of semen after ejaculation or it may be picked up during investigations for infertility. The major problem that this causes is infertility because no semen is deposited in the female vagina. The problem is usually confirmed by showing the presence of sperm in a urine sample obtained after ejaculation.

Treatment of ejaculation problems

Psychosexual counselling has a big role to play in the treatment of premature ejaculation. The affected couple will be educated on the known facts about the sexual response cycle and guided towards pacing their sexual activity. We will teach couples how to practice masturbation of the male by the female to a point just before ejaculation. This will be repeated several times over in sessions to reinforce the art of controlling ejaculation in the male. Once this is achieved, penetrative sex may be resumed initially with some guidance. We can recover sperm from urine after an act of sexual intercourse to treat retrograde ejaculation. The sperm is washed in a special fluid before it is injected into the womb of the female partner (artificial or intra-uterine insemination) around the time of ovulation. We sometimes combine this with use of fertility drugs to improve ovulation. Up to 1 in 5 couples treated in this way may be able to achieve a pregnancy. Surgical sperm retrieval is indicated when these other treatments are unsuccessful.

Surgical sperm retrieval (SSR)

We undertake surgical sperm retrieval as a day case procedure to obtain sperm from men unable to produce sperm for any reason. The sperm is then utilised for assisted conception (IUI or IVF/ICSI). We offer two forms of surgical sperm retrieval:

- *Epididymal sperm aspiration (PESA)* **-** this procedure is used to get sperm from the bag around the testes of men who ordinarily do not produce sperm by themselves for use in IUI or IVF/ICSI.
- *Testicular sperm extraction (TESE)* **-** this procedure is used to get sperm from the testes of men who ordinarily do not produce sperm by themselves for use in IUI or IVF/ICSI.

Investigation of the couple

We undertake a comprehensive investigation of the male and female to fully understand their fertility needs before proceeding to surgical sperm retrieval. A detailed interview and examination of both partners is undertaken. We assess the female's ovarian function with blood tests and ultrasound; determine her tubal patency by an ultrasound based test called HyCoSy. We assess the male's hormone levels and perform an ultrasound of the pelvis. We undertake a virology screen for both partners checking for HIV, hepatitis B and hepatitis C.

Counselling

We recommend and provide counselling for couples going through this kind of fertility assessment and treatment in recognition of the stressful nature of this condition. Please ask us how we can help you with this.

How we perform SSR

We perform SSR as a day case procedure as follows:

- *Epididymal sperm aspiration (PESA)* **-** under local/general/sedation anaesthesia, we insert a needle into the bag of sperm around the testis and suck sperm out into the syringe. The sperm is assessed by our embryologist and either used immediately for treatment or frozen in straws for future use.
- *Testicular sperm extraction (TESE)* **-** under local/general/sedation anaesthesia, we make a small cut into and remove a small piece of tissue from the testis. The tissue is processed by our embryologist and sperm extracted from it and either used immediately for treatment or frozen in straws for future use.

What can go wrong?

Like every surgical procedure, SSR carries risks that prospective patients need to be aware of including:

- *Risks of anaesthesia* - these are thankfully uncommon and relate mostly to unexpected allergic reactions to the drugs used

- *Bleeding* - there is a small risk of bleeding during and after the procedure but this is fortunately not severe enough to warrant blood transfusion of to be life threatening.
- *Pain* - the procedure is associated with moderate pain and so we provide painkillers during the early recovery period.
- *Scrotal swelling* - this occurs sometimes and can be a cause for concern. It usually reflects tissue inflammation during the healing process.
- *Infection* - there is a small risk of infection in the testis afterwards; this usually responds well to antibiotics.
- *Failure* of procedure - we do not always succeed in retrieving sperm from the testis and will advice couples immediately of the success or otherwise of the retrieval attempt.

Useful contacts:

Donor Network
P.O. Box 265, Sheffield, S3 7XY
Tel. 0208 245 4369

British Infertility Counsellors Association (BICA)
69 Division Street, Sheffield, South Yorkshire
Tel. 01342 843 880

Human Fertilisation and Embryology Authority (HFEA)
30 Artillery Lane, London, E1 7LS
Tel. 0207 377 5077; www.hfea.gov.uk