**Improving Male Fertility Part I:**

**Is having ‘normal’ sperm results good enough?**



You’ve probably seen the headlines - sperm counts are dropping and male fertility issues are on the rise. A recent [article on the male fertility in the Guardian](https://www.theguardian.com/lifeandstyle/2017/nov/18/tears-every-part-life-truth-male-infertility-ivf) explored the issues and highlighted the lack of proper diagnosis, support and treatment for men facing difficulties. So we know that there is a problem generally but what is less obvious is that the primary test for male fertility, semen analysis, is also misleading, with ‘normal’ results being as much as 5 times lower than the average for a fertile man. In this blog I’d like to explore this in more detail and in the next blog article in January take a look at some of the steps men can take to improve the quality of sperm, semen and their fertility.

**A normal sperm result means normal fertility, doesn’t it?**

Not at all. The latest semen analysis reference ranges, that are used to determine what is ‘normal’ and therefore who should be investigated and referred for treatment, were set by the World Health Organisation (WHO) in 2010. The researchers who collated and published the data themselves state "reference limits should not be over-interpreted to distinguish fertile from infertile men accurately.[[1]](#footnote-1)" A report, by an internationally acclaimed expert in male fertility, which looks in detail at how the WHO guidelines were drawn up, concludes “Because of the lowered threshold, countless couples are being misdiagnosed and therefore missing the opportunity to benefit from diagnosis and treatment.[[2]](#footnote-2)”

Bear with me while I go into the process and numbers with you as I think it is important and I don’t just want you to take my word for it. The semen parameters included in the WHO reference ranges are semen volume, sperm concentration, total sperm number per ejaculate, vitality (percentage of live sperm), motility (%), progression (% moving correctly) and morphology (% with normal shape). The study looked at men who had fathered children within a year of trying, so all were fertile, and drew a line above the bottom 5% of results. It was then inferred that men with results above the bottom 5% have normal fertility. This is very misleading as there is a wide overlap in the measurements between fertile and infertile men, so a proportion of men will fall below the reference ranges and be fertile, and a considerable number of others will fall above the reference ranges in the ‘normal’ zone and have impaired fertility. Understandably, when men get back their ‘normal’ result they believe their sperm is fine and the focus of attention moves to the woman.

‘Normal’ can still be well below the average levels of fertile men - anything above a sperm count of 15Million sperm per ml is considered normal, yet among the men that took part in the WHO guideline study the average was 79 Million per ml, which is over 5 times higher. Similarly the shape of the sperm (morphology), which has a big impact on their function, is considered normal if 4% are of normal shape, but the average in the WHO guideline study was almost 4 times higher at around 15%. Semen Analysis tests include a range of parameters in addition to those mentioned above, such as semen characteristics (viscosity, pH, colour) and the presence of anti-sperm antibodies. A man’s fertility is going to be affected by all of these factors in combination and more besides.

Where this 5 per cent line falls is also dependent on overall fertility levels and we know that male fertility is dropping steadily. So, 40 years ago this 5 percentile cut off would have been much higher than it is now. It appears to be a rather arbitrary benchmark that will fall with declining levels, rather than a level that represents good fertility. How these measurements all contribute to overall fertility is complex and of course, reducing things to statistics and numbers misses the core human element of it all.

**Are men missing an opportunity?**

The vast majority of the clients most practitioners see for fertility issues are women and, as well as addressing any other issues, part of the aim of acupuncture treatment is to support the quality of the eggs as they undergo the maturation process, which takes approximately 6 months. Women change their diets, stop drinking, exercise sensibly, take supplements and come for regular acupuncture to increase their chances of both natural conception and success through IVF. The majority of men do not get support to the same extent and are missing out on an opportunity to help their conception rate as a couple, by supporting the quality of their sperm.

As the Guardian article points out this is likely to be because help and advice for men is less readily available via conventional NHS routes than for women and the way around the problem often defaults to IVF and a procedure where a single sperm is selected and injected directly into the egg. This completely misses the point, especially with regard to sperm quality. You want it to be as healthy as possible. While you might be able to see what it looks like and how it moves you can’t tell how healthy it is. It is so important to take steps to support sperm quality as this will affect the embryo from fertilisation onwards, probably even the health of your child throughout their life.

I suspect many men do not seek actively seek out help because of the false confidence that a ‘normal’ result instils in their fertility, possibly compounded by confusing fertility with virility, and what might feel like an insult to their sense of masculinity. With so much at stake I urge men to put any reticence aside and do all they can to give their fertility a boost.

Sperm counts dropped by 60% between 1970 and 2011 and sperm quality has also been dropping. Environmental pollutants, some of which are unavoidable, are believed to play a major role in the decline, and more research is certainly needed, but other factors over which individuals have more control also contribute. Each step taken may just give the advantage that enables a couple to conceive more quickly without the need for IVF. IVF may be a route couples end up taking but one that few would choose over natural conception – it involves the woman taking multiple medications some of which are daily injections, a series of appointments to monitor and carry out the procedures, invasive surgery to extract the eggs, an emotional rollercoaster ride as you await the results of each stage and that is without looking at the cost as access to NHS treatment becomes increasingly restricted. While the emotional impact and strain of undergoing IVF affect both the man and the woman, the physical burden of IVF falls on the woman. The best support a man can give might be by doing all he can to improve the quality of his sperm and semen to increase the chances of natural conception. He will be supporting his own health and that of his future baby, too.

**So what can you do?**

Start with a healthy lifestyle – eating a healthy diet, taking dietary supplements, reducing exposure to toxins, exercising, stopping smoking, moderating alcohol and caffeine intake - and having acupuncture can help to boost sperm quality and function. Other factors like exposure to heat and some medication can also be detrimental. Together these factors can have a significant impact. Men produce sperm all the time and it takes approximately 90 days for the sperm to mature so these supportive measures need to be maintained over the course of 3 months. If you do end up having IVF and ICSI, you will have helped to increase your chance of success. You will be very relieved to know that the acupuncture points used are generally in the abdomen, arms and feet, never in the genitals!

The range of parameters tested varies from place to place with some being far more extensive than others. Fertility investigations and testing are usually not started until you have been trying for at least a year, six months if the woman is over 35. If you fall into this category or are concerned for any other reason then make an appointment with your GP. If you wish to be tested earlier or would like the benefit of more thorough tests and treatment, then I would recommend contacting Dr Sheryl Homa at Andrology Solutions, the only clinic in the UK licensed by the HFEA to focus purely on male fertility. They offer a fully comprehensive semen analysis, as well as other investigations where appropriate, and Dr Homa can advise on tests and discuss the results and next steps with you including referral to a consultant urologist if necessary.

With the festive season almost upon us it is not the most welcome time to start focusing on dietary changes and temperance so I’ll leave the details of all the things you can do to help until January. But you could ask Santa for some baggy boxers and avoid sitting with the laptop on your lap, cosy as that may be when it gets chilly. Rest assured there are many things you can do that have a beneficial effect and they will likely give your own health a boost, too. Look out for the next blog in January. Happy festivities!

1. Cooper TG, Noonan E, von Eckardstein S, Auger J, Baker HW, et al. (2010) World Health Organization reference values for human semen characteristics. Hum Reprod Update 16: 231-245. [↑](#footnote-ref-1)
2. Chiles KA, Schlegel PN (2015), What do semen Parameters Mean? How to define a Normal Semen Analysis, Andrology 4:136 [↑](#footnote-ref-2)