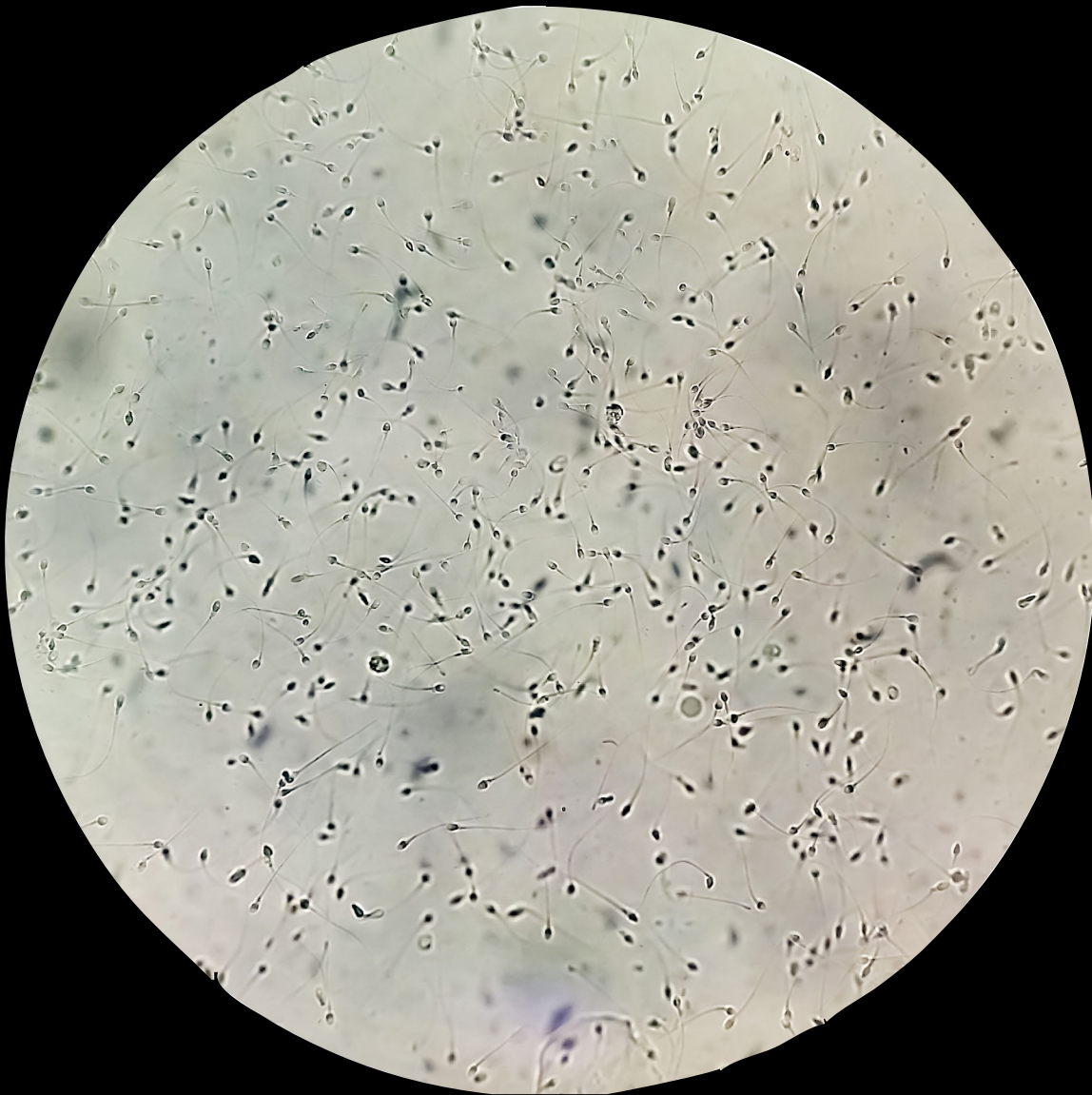


seeds of doubt

Why understanding male fertility is a powerful move for fatherhood

Fertility treatments are adapting to declining sperm quality but does this mean other important aspects of men's health are being overlooked? It's

Words by Marian Scaife



Liquid gold’ is the term Karen Pooley uses to describe the value of donor sperm. A tank hisses as Pooley, 50, unscrews the top of the freezer allowing a mist of liquid nitrogen to escape. Inside are metal cans encasing thin plastic straws filled with sperm each worth approximately £1,500 on the commercial fertility market.

The arrangement of tanks and pipes seems mundane compared to the immense potential and diversity of life these frozen sperm have to offer. Pooley is the lead andrologist at NUH Life, a fertility centre and sperm donor bank based at Nottingham’s Queen’s Medical Centre where she has worked since 1997. As a doctor who specialises in the treatment of men’s reproductive and urological conditions, Pooley is full of respect for the sperm donors (around 42) that currently donate to the unit.

One in six people globally will experience infertility in their lifetime according to the World Health Organization. Around half of all cases will be attributed to male fertility, or male factor as it is called in medical circles.

“There’s the misconception that it’s a female problem or it can’t happen to them. Or, it will solve itself” says Jonathan Luwagga, 35, an ambassador for the charity Fertility Alliance. Luwagga became an advocate for male fertility awareness after his own experience of being diagnosed with non-obstructive azoospermia (NOA), a condition where no sperm is found in the ejaculate.

Luwagga wishes there had been more support for him when receiving his infertility diagnosis. “When I went through it, I didn’t really know where to turn to, or who to turn to” he says.

Factors affecting fertility

Male fertility is on a spectrum. At one end there are cases such as Luwagga’s which are categorised as severe and then there are those whose fertility is borderline normal.

Causes of male fertility are varied. They can include environmental factors such as heat stress, air pollution and exposure to chemicals including pesticides, heavy metals, and phthalates.

Other issues can be medical such as infections to the urinary and reproductive tracts including STIs. Testicular damage from injury, undescended testicles or treatments for testicular and prostate cancers can also affect sperm quality.

And then there is age. “We’ve got a body clock as well” says Luwagga. While men remain fertile for all their lives, hence the rare event of an ageing rock star fathering a child, the quality of sperm declines from 35 onwards.

The older the father at the time of conception the greater the risk of passing on neurological conditions such as autism, bi-polar disorder, epilepsy along with the increase risk of miscarriage.

So what about lifestyle factors? Standard advice such as stopping smoking, losing of weight and cutting down on alcohol is applicable. There is scientific evidence that smoking and excessive drinking decreases sperm motility. Being overweight can reduce testosterone, a necessity for sperm production.

But what about those concealed lifestyle effects?

Be aware of “sources of heat stress in the testes” says Pooley who typically sees long distance lorry drivers, men who work in hot places such as kitchens and factories or those who are sitting a lot and their testes are above normal operating temperature. It’s worth remembering that keeping the laptop off your lap and switching from briefs to boxer shorts is beneficial to sperm quality.

As for lifestyle controllables “keep it moderate and keep it sensible” advises Ian Stones 47, co-founder and co-director of Testhim, an organisation that empowers and educates men on all matters fertility.

When it comes to exercise, Stones says, “If you are doing a bit of conditioning and a little bit of weights, a little bit of cardio, and then you’ve gone to play football in the evening for an hour then that’s okay”. Exercise becomes problematic “if you’re in the gym every single day and exercising to exhaustion or if you’re doing extreme weights that’s putting the body under a lot of stress” he says.

And for endurance sports “you can create quite a high level of oxidative stress within the body. Oxidative stress is detrimental to sperm health” says Stones. Unfortunately cycling has a bad reputation when it



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comes to male fertility. Cycling shorts increase the temperature of the testes and there is potential for microtraumas to the testicles due to saddles. From looking at scientific literature Stones estimates that around five hours in the saddle a week is just about tolerable in fertility terms.

The good news is sometimes infertility resulting from lifestyle factors can be reversible. A cycle of spermatogenesis takes about three months so any improvements to sperm quality can be seen from three to six months.

Pooley cites one man who would soak in a hot bath for an hour after work. Switching to showers meant that within 12 weeks “he’d gone from pretty much having no sperm to having a normal sperm count. So it can be just as simple as that” she says.

But sometimes it is not simple. The negative impacts of anabolic steroids and exogenous testosterone in the form of patches, gels and tablets on male fertility is dependent on how long the body has been subjected to those substances. “You tend to find that the longer somebody’s been exposing themselves to steroids, the less reversible the impact is” says Pooley.

Anabolic steroids and exogenous testosterone interfere with the brain’s pituitary gland switching off of the body’s natural production of testosterone in the testes.

Similarly, prolonged use of marijuana has the same effect along with causing the testes to shrink.

Male fertility attention

Given that male fertility is affects 50% of couples struggling to conceive why isn’t it given more attention in the fertility sector?

The success rates of IVF and the advent of ICSI (Intra-Cytoplasmic Sperm Injection), where a single sperm is required to be injected into an egg before the embryo is transferred into the mother, have diverted money away from research into male fertility.

It is a source of frustration for andrologists and organisations such as Testhim who want to tackle the underlying causes of male infertility. “It’s important for men to know, even if we can’t solve their

male fertility

infertility for them, psychologically it's important for them to understand what the problem is," says Pooley.

Of fertility clinics Stones says "They won't necessarily always look at the man and treating the man. And this is what we want. Let's not rely solely on technology. It's got its place and it's absolutely fantastic in many, many cases. But at the moment, we're missing this huge step."

Thinking ahead

Preconception is often overlooked. "We need to get men thinking about this stuff a lot sooner" says Stones. "We've just got married. We've just bought a house. We'll probably try for kids in six months'time. That is your time to be working on your lifestyle, your diet, getting all your tests done". This sentiment is echoed by Pooley, she encourages people "not to leave it too long" before seeking help.

Sperm donors

For some couples using a sperm donor maybe an option. In Pooley's experience "It's really difficult for men to come to terms with. Some men are very matter-of-fact about it. They see sperm donation as a solution to a problem they've got. They see that it's going to be their child. They're having a child with their partner.

You get the complete opposite end of the spectrum where some men just cannot accept it and they have this massive fear of when they see their partner pregnant with another man's child."

Pooley takes pride in matchmaking donors to recipients. It is an opportunity for a couple to have some control over a process that up until now they haven't.

Pooley's clinic, NUH Life, is established and fortunate to be able to supply recipients from its own sperm bank. Other fertility clinics are not so lucky, often having to use overseas donor sperm. "Over 50% of the sperm that is used in UK treatment centres is now being imported mainly from Scandinavia and the USA," says Pooley.

She feels strongly about this because of the ramifications for a family's future. "I think it's in a couple's best interest, in a child's best interest to be able to have a connection with the donor that they're using and overseas donors brings a whole layer of complexity."



It is for this reason Pooley is keen to recruit UK men to become sperm donors. There are numerous barriers to this including the perception of masturbation to produce a sample as a sexual act and 'seedy'.

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A significant drop in donor numbers came from a change in the law in 2005 removing the permanent anonymity for donors in the interest of the 'child's right-to-know' their genetic origins.

A child born as a result of a donor can apply to the UK regulatory fertility body, the HEFA at 16 for a general description of their donor and from 18 identifying details can be requested including the donor's name and last known address.

However, as genealogy databases become more extensive it is possible to track donors through other blood relatives who have shared their genetic fingerprint with a database. "It caught us all on the hop a little bit. We had no inkling that this was going to become so easily accessible" says Pooley who is open with donors about not being able to guarantee their anonymity until a child reaches 18.

In Pooley's view this law change has resulted in donors donating for the right reasons, often for altruistic purposes. She finds some men wish to donate having witnessed their partner struggle with fertility and have a had a child using donor eggs.

It is a humbling thought. It now leaves us to champion those men who have pushed the stigma of sperm donation aside and/or have reconciled with themselves there are other ways to create a family and become a father. ●

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