Expert Witness

***Fertility Road's* Expert Witness for this issue is Dr Philip Werthman, the award-winning US male infertility surgeon, most widely recognised for his vasectomy reversal surgery, but also an authority on all other aspects of fertility.**

Over the past 15 years, Dr Werthman has performed over 2,000 vasectomy reversals, with a 98 per cent rate of success. That's an average of 150 new babies every year, born to fathers who had been certain that they couldn't have more children.

Here, he takes time to answer questions posed by readers of *Fertility Road*.

Would it be practical to just choose a surgeon who was close to me?

It really makes no difference. The main requirement should be that you choose someone who you trust and like. For instance, I see patients from all over the world – the UK, France, Italy, Russia, the Middle East, South America, China, to name just a few. It's funny because someone may live in Southern California, maybe 20 minutes' drive away, who will say 'oh you're too far away!', when later today I have someone from Saudi Arabia coming in!

Can I have a vasectomy reversed and conceive a child straight away?

The answer is it's possible but unlikely. Usually after a vasectomy reversal it takes a while to then conceive. That's because it requires time for the connection to open again, and for the sperm to get better.

The average time to conceive after a vasectomy reversal roughly is about a year. Of course, many people get pregnant quicker, though some may find it takes longer. I do have patients – for example I got a call from someone only this week – where we did their reversal and within a couple of months the couple were pregnant, but I think it's more the exception than the rule.

Having pioneered the mini-incision microsurgical vasectomy reversal would you consider a vasectomy to be a reversible type of male contraception?

In truth it is a reversible type of male contraception but in America we still, by law, have to tell patients it's not reversible. At the end of the day, while most reversals work, not all of them do, so I think when we discuss the procedure we want to make sure the patient understands this is a big decision they are making. I tell patients even though I can reverse it, and most of the time it works, there's no guarantee that it works so I don't like to do vasectomies on patients who are sitting on the fence about wanting permanent contraception - that's why I believe the state of California makes us sign this piece of paper.

Also, you can't come in to discuss a vasectomy with me and have it done the next day - you need to wait, usually for a month. The whole rationale is for patients to be able to process information before they make a decision, and I agree with that policy.

Should I be worried about complications involved with vasectomy reversal?

Well luckily my complication rate is very low. I don't know what it is for other surgeons but I'm very meticulous when I do this operation and I've done many thousands, so I'm not particularly worried from a statistical standpoint because with my patients it's exceptionally rare - less than 1 per cent. But in a global sense I worry about complications. I wrote a chapter on male infertility for a book on urology surgery that sought to teach other doctors how to avoid complications with these types of surgeries.

I'm suffering from varicocele – should I consider surgery to improve my male infertility?

Varicocele is the most common phenomenon associated with male fertility, the most common pathologic phenomenon, and essentially varicocele can cause testicular dysfunction, meaning they don't work very well. And that dysfunction is exhibited in two different ways. Firstly, the sperm could be abnormal or their count could be low, but also their hormones distributing testosterone could be low. So I believe that men who have varicocele, who are symptomatically suffering from infertility, with poor sperm, hormonal issues or pain, should have their varicocele repaired because there is a very high likelihood that this will correct their problem.

Might male infertility be the result of hormonal imbalances?

Absolutely. Hormone balance is very, very important for fertility, for both men and women. And in some men there's an imbalance, be it low testosterone or something else. So in terms of varicocele, for instance, there are certain situations where the pituitary doesn't function properly, and the hormones from the brain aren't sent out on a high enough signal to stimulate the testicles to make sperm. I just treated a patient like that - he had hemochromatosis, which caused a problem with his pituitary from the making of pituitary hormones. We replaced his hormones and hopefully within 3-6 months he'll be making sperm again.

I had a semen analysis and received my results. I then had a second semen analysis at a different clinic and the result was different. Why?

There are a couple of different things here that readers need to know. Number one is that sperm production is not constant; it changes from day

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to day, week to week, month to month. There is a very interesting graph I used in lecturing that shows a normal healthy man who has fathered children. He did a semen analysis twice a week for the course of two years, and when you look on the graph there are some points when his sperm count is 140 million, which is incredible, and some counts when it is zero.

If I were only looking at one semen analysis I would either think this man should be a sperm donor, or I would tell him he's completely infertile!

So we know that sperm counts fluctuate up and down. And they fluctuate significantly, depending on what's going on in life – if you have a cold or fever, for instance, your sperm count may be lower for two or three months afterwards. If you sit in the hot tub and it's very warm - over 102 degrees - that can knock your sperm count down. If you're exposed to chemicals or toxins in the environment, that could do it. So even seasonally, wildly different sperm counts might occur.

The second point is the labs that analyse the semen are variable as well – remember you have a test technologist who assesses the semen analysis and does a count. That person is human and it's perception - they count things up and tell you how many there are.

And of course, it's possible to make errors in counting. If there are lots of sperm it's hard sometimes to be completely accurate, especially if they're swimming really fast. Then clearly when analysing the sperm somebody has to score these and, depending on how proficient this person is, the score you get may be normal or abnormal especially when the patient is borderline.

So semen analysis is variable, both because of the physiology of male reproduction and the human error that goes into the semen analysis. So I tell people the semen analysis is important, but it's not the be all and end all of fertility – it's a screening test, it's important information for getting a general idea of what's going on, but it really doesn't tell us if someone is fertile or infertile.

So if somebody has only tried to conceive for a few months and is coming in with slightly abnormal semen analysis, I might not be as concerned as if someone has been trying for two or three years. In the vast majority of cases semen analysis is an important tool but shouldn't be something we rely on - we need to place the greater context on the patient's history.

Why did you choose to specialize in male fertility, such a competitive field?

I get this question a lot. I think for me I wanted to be a surgeon because that's someone who takes a very active role in taking care of the patient, and when I looked at all the different types of surgery I really wanted to be involved in something that could have an impact on somebody's life, and something that was creative, too.

So in terms of looking, 25 years ago this was the most creative portion of medicine – either this or plastic surgery, as that's something else that creates new images for people.

So urology was something that really called to me because of the spiritual aspect of being a partner and helping in creation... to be able to put more people on the planet, and give people who are having difficulties the hope and the opportunity of what really is the greatest gift. Microsurgery is very technically challenging and it was something that I enjoyed learning.

I've gone on to pioneer my own surgery – mini-incision. I don't really know how many other doctors are doing it; I published the technique in a journal and I've received calls from doctors who had questions. It's been seen as one of the top 10 important advances in male fertility medicine in recent times. Am I happy with what I've done? Of course; but there's always so much more to do.

Dr Werthman is the editor of a textbook on male infertility for the series *Infertility and Reproductive Medicine Clinics of North America*, published by WB Saunders, and is co-author of *The Sperm Goes in the Egg; A Guy's Guide for Surviving Couples Infertility*.