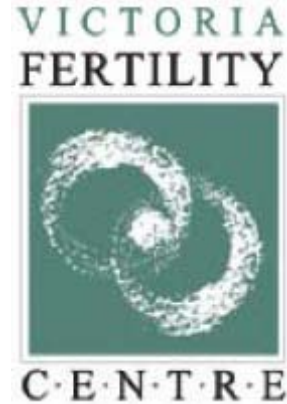


## VASECTOMY AND VASECTOMY REVERSAL

Vasectomy is an effective method of permanent contraception and has gained significant popularity in many countries during the last 10 to 20 years. It has been estimated that more than 30 million couples throughout the world use this as a form of birth control. In the United States and Canada approximately 13% of married couples use vasectomy for contraception. Approximately 500,000 men per year in North America undergo this procedure.



However, the divorce rate in North America has remained high and stable at approximately 50%. This high divorce rate is probably the major factor contributing to the fact that between 4 and 6% of vasectomized men consider a vasectomy reversal. Approximately 60% of men consider vasectomy reversal because of divorce or remarriage. Other reasons however, include such factors as the death of a spouse or child, change in religious belief, change of opinion regarding family size and the desire to regain masculinity or fertility for the future. Another rare indication for vasectomy reversal is the treatment of post Vasectomy Pain Syndrome, which has been reported to occur in between 3 and 30% of patients after vasectomy. It is indeed quite incredulous that there is such a wide range of reporting for this post Vasectomy Pain Syndrome. The cause for pain after vasectomy remains poorly understood. Although some studies have reported relief of the pain in up to 80% of patients after vasectomy reversal, the whole surgical management of this particular problem remains quite controversial.

Although vasectomy reversal can have a good degree of success, the vasectomy procedure itself should always be considered as a permanent form of contraception. It is therefore very important that individuals requesting vasectomy be appropriately counselled. Men who are more likely to seek reversal often are younger than 30 years at the time of initial vasectomy, have few or no children, have a religion that condemns sterilization, or display some form of interest in sperm banking at the time of their initial procedure.

Vasectomy reversal involves reconstruction of the male reproductive tract to bypass the area of obstruction initially created during the vasectomy. This may be accomplished with a microsurgical vasovasostomy (joining the 2 ends of the interrupted vas together) or may require a vasoepididymostomy (joining the epididymis to the vas).

### **WHAT FACTORS MAY PREDICT A SUCCESSFUL VASECTOMY REVERSAL?**

The time interval between the initial vasectomy and the reversal seems to be very important. The shorter the time interval – the higher the chances of successful patency and pregnancy rate. If the obstructive interval is less than 3 years, the chances for patency are almost 97%. Pregnancy rates in this instance are close to 75%. However, the

longer the interval the lower the chances. When reconstruction is performed more than 15 years after vasectomy, the patency rate is still fairly high at 71%, however the chances of pregnancy are significantly lower at around 30%.

Another problem for men who have had a vasectomy is the issue of antisperm antibodies. Approximately 50% of patients who have had a vasectomy develop antisperm antibodies. These antisperm antibodies bind onto the sperm, cause the sperm to clump together and may affect the ability to fertilize an egg (please see our information sheet on antisperm antibodies).

The experience of the surgeon performing the vasectomy reversal is very important. Obviously the more experienced the surgeon, the better the results.

### **IN VITRO FERTILIZATION WITH ICSI**

An alternative to vasectomy reversal would be in vitro fertilization and intracytoplasmic sperm injection. This would involve surgically aspirating some sperm from the epididymis or testis (please see information on our website titled *Surgical Retrieval of Sperm*) and then performing in vitro fertilization. In vitro fertilization involves harvesting eggs from the ovaries, and then fertilizing those eggs in the laboratory. Under normal circumstances each egg requires close to 100,000 good quality sperm for fertilization. When sperm are retrieved from the testis or epididymis, intracytoplasmic sperm injection (ICSI) is required for fertilization. This involves choosing and injecting a single sperm into each egg. (Please see information on IVF and ICSI on our website)

Alternatives to vasectomy reversal:

1. The first alternative to vasectomy reversal would be therapeutic donor insemination. This would involve choosing and purchasing sperm from a sperm donor – and then inseminating this sperm into the cervix or uterus at the time of ovulation. Once again, there is much information about donor insemination on our website.
2. In vitro fertilization. When considering in vitro fertilization or vasectomy reversal – there are a number of factors which have to be carefully evaluated. Financial costs, the age of the woman, and the accepted time interval to pregnancy are all extremely important.

There are obviously other significant factors which can affect the chances for pregnancy. A woman's fertility is significantly affected by her age, past reproductive history, weight, and uterine and tubal status. All of these should be carefully evaluated before making a final decision.

For example, if a woman is in her early 30's and in otherwise excellent health, with no sense of urgency until conception – the much preferred option would be a vasectomy

reversal. After vasectomy reversal – if she is not successfully pregnant after 2 or 3 years, she still has plenty of time to consider other alternatives such as in vitro fertilization.

On the other hand, for a woman in her late 30's or early 40's, the circumstances would be very different. Such a person may wish to become pregnant soon – and from a social perspective may not wish to wait 2 or 3 years before her first child. Furthermore, if she was not to become pregnant after 2 or 3 years, her age would now be having a significantly adverse affect on the chances of ever becoming pregnant with either repeat vasectomy reversal or in vitro fertilization.

### **CONCLUSION**

It is very important that the whole picture is carefully evaluated before making a decision about donor sperm insemination, vasectomy reversal or in vitro fertilization. I would encourage you to gather as much information as possible, talk through the problem carefully with each other and with your physician, and then make an appropriate decision that works for you.