GEORGIA UROLOGY

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Q: Who are the candidates for vasectomy reversals?

A: With few exceptions, nearly all vasectomised men are candidates for microscopic reversal procedures, either a vas-vas (vasovasostomy, ***VV***) or a vas-epididymis (epididymovasostomy, ***EV)*** connection may be performed. Couples with significant female fertility issues such as fallopian tube blockage or inadequate egg reserve should consider in vitro fertilization (IVF) since the restoration of normal sperm count may not overcome the co-existing female factor.

Q: What are the factors which determine pregnancy rate following vasectomy reversal?

A: Four major factors are considered in advising individuals regarding the pregnancy rate following vasectomy reversal:

1. ***Obstructive interval*** or number of years since vasectomy: as reported by the most authoritative study based on the results of 1469 men (***V***aso***V***asostomy ***S***tudy ***G***roup, 1991), the pregnancy rates are 76% for reversal performed within 3 years of vasectomy, 53% for 3 to 8 years, 44% for 9 to 14 years and 30% for 15 years or more.
2. ***Age*** of the ***female partner***: for those couple with the female partners 30 years or younger, this is not likely to be a issue. In a study of 115 couples (Fuch, 2001), the pregnancy rates were 49% with the female age at 31-35, 45% at age 36-40 and 20% at age 41-45. Delivery rates were proportionally lower in the older group as one would expect.

   Since the success rate is ***inverse proportional*** to the passage of time on both partners' part, the consensus is to proceed with vasectomy reversal sooner rather than later if the decision has been made.
3. The use of an ***operating microscope***: the disuse of an operating microscope in the performance of vasectomy reversal simply cannot be supported by the literature. The magnification required to achieve precise suture placement and accurate alignment cannot be provided by visual aids other than an operating microscope with sufficient magnifying power.
4. The ***surgeon***: carefully choosing your physician simply makes sense; whereas some physicians prefer to emphasize the volume of their practice, my recommendation is to consider fellowship trained male infertility specialists who are well versed in all aspects of micro-surgery and fertility related issues. Please see **Choosing your Doctor**.

Q: How involved is the surgery and what's the recovery like?

A: For routine reversal or ***VV***, two one-inch incisions are made high in the scrotum. The amount of dissection is limited and you can almost equate the reversal to a "super-sized" vasectomy. The operative time is 2 to 3 hours. For more complicated reversal or ***EV***, the incisions are longer in order to deliver the testes onto the operative field. A fair amount of tissue swelling is expected post-op. The operative time is 3 to 5 hours since epididymal exploration may be time consuming.

Recovery varies according to the procedure, routine ***VV*** is well tolerated with minimal narcotic requirement and one may return to a desk job in 3-5 days. ***EV*** is a bit more taxing, one should be prepared to rest for 7 days or more.

Q: What is sperm aspiration?

A: Sperm aspiration in conjunction with in vitro fertilization and sperm injection, IVF/ICSI, is an invaluable tool in the management of the infertile couples. Sperm aspiration is done under local anesthesia with a butterfly needle to obtain viable sperm and is inexpensive; however, IVF/ICSI is not. Aspirated sperm are few in number and immature in function, fertilization requires these sperm

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be individually injected into each egg in the laboratory. Pregnancy is then established following successful fertilization and embryo transfer to the uterus. Direct insemination is not possible with these sperm and has no role in the management of the vasectomised men prior to reversal.

Q: Reversal or IVF and what's the bottom line?

A: Academic argument for either approach notwithstanding, one needs to compare the direct cost for each approach. To a significant degree, the medical discipline being consulted, whether it is the urologist performing the reversal or the reproductive endocrinologist overseeing the IVF will influence the couple's decision.

On average, an IVF attempt with sperm aspiration costs $12,000-15,000 with a pregnancy rate of 25-50%. In contrast, a reversal costs $6,000-8,000 with a pregnancy rate at least that of an IVF.

Numerous cost-effectiveness studies have been performed to examine the difference between reversal and IVF. The average ***out of pocket*** cost ***per delivery*** following vasectomy reversal is $15,000 to $31,000 factoring into various prognostic factors and the procedure performed (***VV*** or ***EV).*** In contrast, out of pocket cost per delivery for IVF, at a very reasonable ***35%*** delivery rate per cycle, is at least $35,000; this figure does not include the third party obstetric and perinatal expenses associated with multiple gestations. A Cornell study (Schlegel, 1997) placed the ***overall*** cost per delivery at $25,475 for reversal vs. $72,521 for IVF.

It is fair to state that vasectomy reversal is at least as effective, if not more than IVF in most couples at half the cost.

One may argue that IVF obviates the need of a surgical procedure with the attendant risks. The fact is IVF is an intense and time-consuming process lasting weeks with repeated office visits and in-home shot administrations, it then culminates with egg retrieval under anesthesia and subsequent embryo transfer. In contrast, vasectomy reversal is straightforward with minimal morbidity and short recovery; furthermore, since patients are young and healthy, it has extremely low incidence of complications.

In most couples, the decision is easy; typically, the man had a vasectomy 6 or 7 years ago and is now remarried to a lady in her late 20s or early 30s with no fertility problem. Vasectomy reversal makes sense. On the other hand, if the vasectomy was performed 20 plus years ago and the wife is only 25 in whom IVF may achieve a 50% birth rate, then it is perfectly reasonable to consider IVF if one is willing to accept the higher cost.

Q: Nevertheless, we are really interested in IVF/ICSI and are considering several IVF centers, where can we find out more about IVF and these centers?

A: By law, assisted reproductive outcome nationwide is tallied and reported each year. The annual report typically takes 2-3 year to comprise. Furthermore, each IVF center's result is also available as part of this comprehensive report. To view the National Summary and Fertility Clinic Reports, go to www.cdc.gov/nccdphp/drh/art.htm.

Q: Will vasectomy reversal work considering my wife is 38 years old?

A: Provided that no major obstacle exists in the female, vasectomy reversal continues to be the preferred approach. Fuch et al in 2001 reviewed the results in 115 men who underwent reversal ***15 years or more*** after vasectomy and reported the pregnancy and delivery rate based on the partners' age. The results are as followed (female age: pregnancy & delivery rate): <25: 57-57%, 26-30: 58-46%, 31-35: 49-49%, 36-40: 45-32%, 41-45: 20-13% and >45: 0-0%.

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Kolettis in 2003 noted a pregnancy rate of 34% in 38 couples with female age 35 or older (mean age 37) after reversal. One should note that only 8% (1 in 13) of females older than 40 gave birth. The corresponding delivery rate for IVF in women age 41 to 42 is comparable at 10% (1999 SARS data).

In another study by Deck in 2000, 23 couples with older female partners (mean 39, range 38-48), vasectomy reversal achieved a pregnancy rate of 22% and delivery rate of 17% with an average cost of $ 28,530 per birth. Even at an optimistic delivery rate of 20% with IVF in these older women, the cost per birth easily doubles that of reversal.

I believe it is reasonable to suggest 30 to 40% pregnancy rate in couple with a female partner in her late 30s following reversal. My approach is this group is individually based. For example, if the vasectomy was within 10 years with a partner of proven fertility, reversal is favored; if the vasectomy was 15 years or more in whom ***EV*** will be needed which may be associated with delayed sperm appearance of up to one year post-op, IVF may be more expedient to take advantage of female's "window of opportunity" prior to her 40th birthday.

Q: Is it worthwhile to even consider a re-do? Does it ever work?

A: Repeat vasectomy reversal should be considered not only in those who demonstrated zero sperm count post op but also in those with low sperm count and low motility due to partial blockage of the system. The success rate is lower when compared with "virgin" reversal but is still very reasonable with 75% patency rate and 43% pregnancy rate (***VVSG***, 1991).

It is difficult to convince one to undergo yet another attempt at reversal but let's examine the alternative: Donovan in 1998 reported in 18 men who undergone repeat reversal 2.3 years following the initial attempt, cost ***per delivery*** was $14,892 for repeat reversal vs. $35,570 for IVF; again, a significant difference.

The caveat is that up to three-quarters of the re-dos require ***EV*** on at least one side (Hernandez, 1999), a procedure requiring micro-surgical expertise. Choose your physician carefully for your re-do, or for that matter, your "virgin" reversal.

Q: My wife's gynecologist does not think vasectomy reversal works well, especially if it is 10 years out, is that true?

A: The wife's gynecologist is often the first point of contact when reversal is being contemplated; while most of our gynecology colleagues are well informed, some are not.

It is not unusual to see couples approaching reversal with a "Hail Mary" mindset thinking it is the minority who are successful in having the vasectomy reversed. Many others simply bypass the option of reversal completely and proceed directly with IVF. The urology community further contributes to this problem by having unskilled surgeons performing technically inferior procedures with sub optimal outcome.

The data presented should convince you the answer to this particular question is a resounding "No", provided you choose your physician carefully.

Q: IVF bypasses the presence of "anti-sperm antibody" so I should go with IVF?

A: Most of men develop anti-sperm antibody after vasectomy by testing their blood or semen; however, only the antibody that is sperm-bound is of any potential consequence. Even so, only a few men may have an antibody issue following technically successful reversal. In most men, it is a ***non-issue***. Having antibody in the blood or semen does not predict the presence of sperm-bound antibody and vice versa. In other words, whether or not antibody is detected in blood or semen prior to reversal has

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no prognostic value and does not affect the management of the individual patient. Interestingly enough, anti-sperm antibody seems to get much more attention than it deserves from the gynecologists than those of us who deal with men directly.

IVF does bypass cases of proven sperm-directed anti-sperm antibody infertility. As stated earlier, such cases are rare. It is now apparent that partial obstruction following reversal contributes to the formation of antibody. Repeat reversal eliminates the formation of antibody and normalize sperm count. My contention is that we should concentrate on performing technically sound reversal rather than worrying about the antibody.

Q: Will my insurance pay for this procedure? If not, can you tell them that the reason for reversal is because of chronic pain to justify coverage?

A: We do not participate in managed care for all male infertility related procedures including vasectomy reversals and will not accept insurance payment schedule. Payment must be made in full prior to scheduling the procedure.