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VASOVASOSTOMY EXPLANATION / INSTRUCTIONS

INTRODUCTION

Microscopic vasovasostomy is a procedure performed to reconnect previously severed ends of the vas deferens, or to reconstruct a vas deferens that is partially blocked. The best candidates for this procedure are men who have had a vasectomy within 5 years of the desired reversal, or men whose blockage has been less than 5 years duration. Longer intervals are associated with diminishing levels of success. Within the 5-year time period success rates are in the range of 70%. Beyond 5 years the success rates average 50%.

Vasal reanastomosis has increased dramatically as a significant number of men who have had a vasectomy want to regain their fertility. Additionally, one complication of vasectomy, chronic testicular pain, may often be alleviated by reanastomosis.

The procedure may easily be performed in an office setting under local anesthesia with intravenous sedation. In the operating room the anesthetic may be spinal, general, or local with intravenous sedation. Local anesthesia allows you to express certain sensations as they occur and is our preferred choice.

Vasectomy reversal is NOT COVERED by many insurance carriers.

Any questions you or your wife have should be addressed and answered BEFORE the procedure. It is suggested that you come to the consultation / examination appointment and surgical appointment together.

I. Purpose of the operation

The intent of the procedure is to allow you to regain fertility and the ability to father children. Success is dependent on the quality and character of sperm cells. It may take as long as one year after the procedure to fully regain adequate sperm quality and quantity:

Other factors which prevent a successful result should be eliminated before the procedure is attempted. These include primary testicular failure as determined by an elevated FSH (follicle stimulating hormone) level, testicular atrophy, a history of male infertility before the vasectomy, and infertility of the female partner. The method of previous vasectomy and its location along the length of the vas deferens may help in planning the reversal.

II. Nature of the operation

The vas deferens is the tube that carries the sperm from the testicle. There is usually one tube from each testicle. Bilateral vasovasostomy means reconnecting or reconstructing these tubes. This is done through bilateral, high scrotal incisions; the no-scalpel technique might be used if the ends of the vas are easily located on examination. An operating microscope is necessary because the inside of the vas deferens is only 0.3mm in diameter, and accurate anastomosis is the only way to assure a successful reconnection.

It will be necessary to loosely secure the penis out of the operative field with a short piece of tape. The scrotum will be shaved and a warmed antiseptic solution applied to the entire scrotum. After the vas deferens has been located by examination, a local anesthetic is injected into the scrotum and the vas. You may feel a constricting sensation in the testicle at this time. The vasectomy site is identified and the scarred area removed.

The upper end of the vas is placed on a sterile tongue blade and cut until a normal opening is seen. Sterile saline is injected into the upper portion of the vas to determine if the full length of the tube is open. You may feel the need to urinate or ejaculate as the fluid enters the prostatic urethra. The lower end of the vas is also cut until fluid can be expressed. This fluid is collected on a sterile glass slide for microscopic examination.

The color and thickness of the fluid is noted. The fluid is then examined under a microscope to determine if sperm are present and assess the motility and shape of the cells. Surgery continues even if results for sperm are negative unless an epididymal obstruction exists. The presence of large amounts of cloudy, thin, creamy-yellow or water-soluble fluid usually indicates the presence of sperm cells. The presence of clear-watery fluid, thick white toothpaste-like fluid, or the absence of fluid are usually poor prognostic signs. The upper and lower ends are dilated.

The two portions of the vas are secured in an approximator clip with a sterile tongue blade placed underneath. The anastomosis is usually performed using 2-layers of nylon suture, one (10-0) inside the lumen and one (9-0) on the outer layer of the vas. The tissue will periodically be moistened with sterile saline. The skin of the scrotum may be closed with an absorbable suture. A small drain may also be placed in one or both incisions. Average surgery time is 3 hours.

III. Other options

When there are no sperm cells in the testicular fluid from the lower end of the vas, or if obstruction of the epididymis has been determined, a similar procedure, the epididymovasostomy may be performed. Epididymovasostomy is a procedure in which the vas deferens is anastomosed to a tubule of the epididymis that contains fluid with a likelihood of containing sperm cells. The epididymis is a worm-like structure, closely attached to the testis, made up of tubules which carry sperm cells and testicular fluid from the testis to the vas deferens.

This procedure is performed by exposing the epididymis, and opening the covering over the epididymis to expose the underlying tubules. A tubule that appears distended with fluid is cut and anastomosed to the vas deferens. This is one of the most demanding procedures in microsurgery and may take as long as 5-6 hours to perform. Patency rates range from 60-85%, and pregnancy rates are from 35-50%. It can be as long as one year however, before sperm cells appear in the ejaculate.

The epididymis is subject to the formation of obstructing scar tissue because of trauma and infection. Obstruction may follow vasectomy. If a vasectomy has been performed in a way that obstructs the vas, pressure may build up in the epididymis causing rupture of the epididymal tubules and obstruction of the site. Sperm granuloma formation occurs because of leakage of sperm cells and testicular fluid from the end of the severed vas, and is named this because of its appearance under the microscope. The formation of a sperm granuloma relieves the pressure in the vas and epididymis thus preventing epididymal rupture. This prevents the most important cause of unsuccessful vas reversal. Obstruction of the epididymis may also be congenital due to absence of the vas deferens.

EPIDIDYMAL SPERM ASPIRATION

Aspiration of sperm from the epididymis is a procedure that is performed with an operating microscope to locate any tubules distended with testicular fluid and sperm cells. Following injection of the local anesthetic into the scrotum, the larger of the two testes and its epididymis are exposed through a high vertical scrotal incision. The larger testis will be the most likely to contain quality sperm cells. The covering over the epididymis is incised after microscopic examination reveals a tubule or tubules that appear to contain testicular fluid and sperm cells. The tubular incision is closed with 10-0 nylon suture. The scrotum is closed with absorbable suture. Exploration and aspiration of the other side may be performed if adequate sperm cells have not been obtained from the first side.

Microscopic epididymal sperm aspiration (MESA) requires the availability of an in-vitro fertilization team, so the aspirated sperm may be immediately processed and used for the selected in-vitro technique, or frozen for later use. After aspiration, the fluid is given to the in-vitro team to process the sperm cells. Processing involves washing the cells, retrieving the most active cells from the sample, and removing any red blood cells, if possible. This is critical since red cells significantly interfere with sperm cell function. If adequate numbers of sperm cells cannot be obtained from one testis, the other side may be aspirated to add to the sperm bank. It may be necessary to aspirate sperm cells from the rete testis, tubules between the testicles and the epididymal head that carry cells to the head of the epididymis, if sperm cells are not found in tubules closer to the vas deferens.

The sperm cells retrieved may be used for intracytoplasmic injection into the partner's egg (ICSI), the most successful of the in-vitro techniques available. This technique is not as dependent on the quality of the sperm as earlier techniques of in-vitro fertilization. The procedure must be timed according to the partner's cycle of ovulation. Ova are aspirated as an office procedure just before the MESA is performed. Using sperm cells

from the epididymis and intracytoplasmic injection techniques, pregnancy rates may approach 50%. It may be possible to retrieve sperm cells by aspiration of the testis, but the numbers of sperm cells retrieved by this technique are not as high as with MESA.

IV. After the operation

Complications that can occur postoperatively include:

Hemorrhage:

Uncontrolled bleeding that does not stop with pressure and ice application may require opening the incision to find the bleeding vessel and cauterize or tie it.

Hematoma:

(hematocele)

A collection of blood in the scrotal sac may cause the scrotum to become swollen and darkly discolored. This may require opening the incision to remove blood clots.

Infection:

Pus may form within the scrotum and require opening the incision in order to be drained. This may be present if swelling persists after 2 weeks; the scrotum becomes reddened, warm or hot to the touch; the scrotum becomes hard or feels solid; pain develops in the groin; a fever that is not easily resolved with Tylenol occurs.

Postoperative occlusion of the anastomosis:

This is suspected when no sperm cells are present in ejaculate that has previously contained sperm cells.

Granuloma formation:

Persistent tender swelling beneath the skin incision above the testicle is commonly due to leakage of spermatic fluid into the scrotal sac. This should resolve in a short time but can affect the success of the procedure.

Swelling:

Localized swelling of the scrotal tissues usually occurs following any surgical procedure in this area. The process may be reduced with the use of a cloth-covered ice bag applied to the area for 24-48 hours.

VASOVASOSTOMY DOES NOT CHANGE YOUR ABILITY TO FUNCTION SEXUALLY

V. Fees

Vasovasostomy and epididymovasostomy are NOT COVERED by many insurance carriers. You should investigate with your own insurance company before deciding to proceed. There will be a surgeon's fee and an anesthesiologist's fee. The fees are requested in advance for those who are self-pay, in the form of cash or a bank check .

If you have any questions do not hesitate to contact our office.

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VASOVASOSTOMY

PREOPERATIVE INSTRUCTIONS

1. DO NOT use aspirin or ibuprofen for one week before and 3 days after the procedure.
2. Bring a scrotal supporter or jockey underwear for postoperative support.
3. We do NOT recommend that you do your own shave. Any nicks in the scrotal skin increase the risk of infection and may require us to cancel your surgery until they have healed.
4. Do NOT drive yourself. You will have had quite a bit of sedation and will be quite sleepy postoperatively.
5. Have ice and an ice bag, 2 frozen gel packs, or 2 bags of frozen peas/corn available for your postoperative recovery.

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VASOVASOSTOMY

POSTOPERATIVE INSTRUCTIONS

DO NOT DRIVE YOURSELF TO OR FROM APPOINTMENT

CALL THE OFFICE IF YOU EXPERIENCE ANY OF THE SYMPTOMS MENTIONED UNDER COMPLICATIONS

1. You may eat and drink what you like but start with clear liquids and progress your diet as tolerated. DO NOT drink alcohol while on prescribed medications.
2. Drink at least 4oz of water or fruit juice every 6 hours for 48 hours.
3. Keep the incisions clean and dry. DO NOT apply antibiotic ointment to the area for at least 1 week, until the incisions have begun to heal.
4. You may shower the day after surgery, but do not rub the area. Wash gently and pat dry. DO NOT soak in a bath tub, jacuzzi, hot tub, sauna, whirlpool, etc. for at least 2 weeks.
5. Dressings may be necessary for as long as 1 week. Some bruising, swelling, tenderness, discoloration, and oozing is normal. The edges of the incision may separate and heal slowly. A suture knot may be present for several weeks until this absorbs-it will feel like a hard tiny pea.
6. WEAR A SCROTAL SUPPORT FOR 4 WEEKS.
7. APPLY ICE to the scrotal region for 48 hours. This will provide additional comfort, decrease bleeding, and reduce swelling. Frozen gel packs or bags of frozen peas or corn may be used. These may be more comfortable and often conform better to the body. The pressure of the ice bag on top of the scrotum may be hard to tolerate.
8. Prescribed medications for pain should NOT be taken on an empty stomach. DO NOT take aspirin, ibuprofen (Bufferin, Advil, Motrin, Alleve) for 5 days. If our pain medication is a narcotic, or contains codeine, you may become constipated. Take an over the counter stool softener (Colace, Senokot) or prune juice daily.
9. Take prescribed antibiotics until they are gone. Call if you develop an allergic response (muscle aches, rash, itching, difficulty breathing)

10. REST for the first 24 hours and take it easy for 48 to 72 hours. You may walk for brief periods of time the day of surgery. The sedation and pain medication may cause dizziness. We recommend you consider taking 5 to 7 days off of work, depending on your occupation, until the majority of your discomfort is gone.
11. You may resume sexual activity in 2 weeks IF PAIN FREE.
12. AVOID STRENUOUS ACTIVITY FOR 4 WEEKS.
13. Discomfort, minor swelling, discoloration, and tenderness is normal for 2 to 3 weeks. FEVER OR INCREASED WARMTH/REDNESS OF SCROTUM IS NOT NORMAL – CALL THE OFFICE.
14. Return in 1 week for your first postoperative exam.
15. Your first semen analysis will be performed microscopically in 6 weeks. Do not be alarmed if there are no sperm seen immediately. It can take as long as 1 year for healthy sperm to develop. Call before bringing the sample in to the office to be sure we will be there to examine it.
KEEP THE SEMEN SAMPLE WARM – INFORM THE OFFICE PERSONNEL THAT YOU HAVE A SAMPLE THAT NEEDS TO BE PLACED IN THE INCUBATOR.