

Urologic Surgical Associates of Delaware

Specializing in Robotic Surgery

Scrotal Pain, Varicoceles and Hydroceles

Pain in the scrotum or orchalgia is almost always a noncancerous or benign problem. Scrotal pain can be very common especially among young men. It is extremely common for men to experience intermittent and minor pressure in the scrotum due to a transmission problem of abdominal pressure through the inguinal canal down onto the testicle. The spermatic cord and blood vessels to the testicle derive from deep in the abdomen and pelvis and pass through the cavity through the inguinal canal. The inguinal canal is located where the thigh meets the abdomen and is just lateral to the pubic bone above the genitals. The canal is a special space that allows for the passage of the sperm carrying tube, the vas deferens, and blood vessels to the testicle out of the abdominal pelvic cavity and into the scrotum. To pass out of the abdominal cavity and pelvis and into the scrotum these structures must go through tough, thick walled fascia that helps keep the abdominal contents in the abdomen and helps maintain high pressures in the abdomen. The fascia is made of three sheets of tough fascia and the vas deferens and the gonadal vessels pass between the sheets through a tunnel called the inguinal canal into the scrotum. This inguinal canal or tunnel is an area of weakness in the abdominal fascia. This tunnel separates the high pressure intra-abdominal contents from the low-pressure scrotal sac. An inguinal hernia is a physical and palpable bulging in this area that can be responsible for the passage of abdominal contents, especially bowel, into the scrotal sac. This can create a surgical emergency or intermittent pain that is generally repaired by a general surgeon by hernia repair. However, there can be scrotal pain in the absence of a physical or palpable bulging or weakness in this fascia area. The anatomy on this fascial area or inguinal canal allows for some transmission of pressure down onto the testicle that can result in pain or discomfort even in the absence of hernia..

Most men will experience some transient pain or discomfort in the testicle due to transmission of pressure from the abdomen down into the scrotum from time to time. For most men these brief episodes of scrotal pain are mild enough and infrequent enough that they do not bring them to the attention of a healthcare provider. There is no known treatment to prevent or the correct these brief, transient events. Some men, however have severe scrotal pain that is long-lasting and quite problematic for them and so they do bring it to the attention of a healthcare provider. In many cases these pain episodes will be evaluated with physical exam and ultrasonography and no abnormalities will be found. It is possible that these episodes are due simply to the increase pressure transmission from the abdomen down into the scrotum. This condition is called benign orchalgia which simply means pain in the scrotum for unknown causes. There are no known effective ways to cure this problem. There are some management options that might improve your ability to decrease the pain associated with benign orchalgia but there is no way to treat benign orchalgia to stop it altogether. In many cases benign orchalgia resolves spontaneously over time regardless of the treatment protocol. Some of the conservative management options include avoiding strenuous activity which may aggravate the scrotal pain, using ibuprofen or

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Motrin intermittently for the pain, using long hot baths for the pain, and using scrotal support to relieve some of the pressure on the scrotum. As a note of caution, one should not take daily doses of ibuprofen for long periods of time but it can be used sparingly and intermittently. There is no known surgical treatment connecting your benign orchalgia. Some urologists do practice neurolysis or nerve stripping of the spermatic cord for this problem. This procedure involves making an incision over the inguinal canal and stripping any possible nerve tissue around the spermatic cord to treat pain. Some urologists will offer removal of the testicle altogether for this problem. If a patient in our practice is interested in these treatment modalities we can refer the patient outside the practice to seek such treatments.

Sometimes during the evaluation of scrotal pain a varicocele is identified. A varicocele is a dilated gonadal vein (the vein that drains the testicle) above the testicle in the scrotum. Most varicoceles are small and insignificant. Some varicoceles are large enough to be able to be palpated easily on exam. Palpation of a very large varicocele can be described as similar to palpating a bag of worms above the testicle. Most varicoceles occur on the left side. The left gonadal vein drains into the renal vein and the right gonadal vein drains directly into the largest vein in the body, the vena cava. This difference in drainage and pattern plays a factor in causing the majority of varicoceles to occur on the left rather than the right. Veins have valves to help them keep the blood moving toward the heart. The valves are one-way valves that allow the blood to move upward toward the heart but not to fall downward away from the heart. When these valves become incompetent the veins can become dilated varicosities. This is, in part, how varicose veins on the legs and hemorrhoids and varicoceles occur. Varicosities, including varicoceles, can be painful. The combination of scrotal pain and varicocele does not clearly indicate that the varicocele is the cause of scrotal pain in every case. In most cases scrotal pain and a varicocele are probably a combination of an asymptomatic varicocele and benign orchalgia. However, in some cases large varicoceles are responsible for scrotal pain.

Varicoceles can be managed with the same conservative measures mentioned above for benign orchalgia. Large painful varicoceles can also be surgically treated. Varicocelectomy is the surgical ligation of a varicocele. Varicocelectomy is accomplished by surgically clipping or tying off the varicocele and then cutting between the surgical clips or ties; this is ligation. Ligation of the varicocele can be accomplished in the scrotum or the inguinal canal or the abdomen. The inguinal or scrotal approach often involves identifying many or multiple veins in those areas under microscopic examination to ligate each and every vein. These two approaches involve making an incision in the scrotum or inguinal area. Laparoscopic varicocelectomy (a preferred method at USA Delaware) involves placing three small ports the size of your pinky nail through the belly button and abdomen to place a camera and instrument into the abdomen to identify the gonadal vein inside the abdomen. Inside the abdomen the gonadal vein is a single vein rather than multiple veins. With the laparoscopic approach the gonadal vein is identified in the abdomen where there is only one vein to be ligated rather than multiple veins. With varicocelectomy there is some small risk of loss of the testicle due to vascular injury. The main gonadal artery that supplies the testicle runs with the gonadal vein. There are two smaller arteries that join the spermatic cord in the inguinal canal that can also supply the testicle with blood. An injury to the gonadal artery or all three of these arteries during varicocelectomy could result in a vascular injury to the testicle and functional loss of the testicle. Some literature reports the risk of testicular loss during varicocelectomy as a less than 2% risk but some literature rates the risk

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as high as 10% risk of loss of the testicle. The risk is probably less than 2% over all of loss of the testicle during a Laparoscopic Varicocelectomy. There is a 5% risk that the varicocele will not resolve with Laparoscopic Varicocelectomy. There is 10% risk that the varicocele will return in time after Laparoscopic Varicocelectomy. There is 10% risk of the formation of a large hydrocele which is a benign fluid filled sac around the testicle. Hydroceles on occasion can cause discomfort due to their large size and sometimes require surgical drainage. There is small risk of infection from laparoscopic Varicocelectomy. If you have a large palpable varicocele with pain isolated to the side of the Varicocele there is at best a 50% chance of improving that pain significantly with a Laparoscopic Varicocelectomy. Laparoscopic Varicocelectomy is outpatient surgery. Laparoscopic Varicocelectomy is only appropriate if your pain is significant enough that it is worth taking all the above risks for a less than 50% chance of improving your pain. In addition, Laparoscopic Varicocelectomy is only appropriate if you meet the criteria of a large palpable varicocele with significant pain on the side of the varicocele.

Varicoceles are sometimes related to infertility. If you have a question about infertility you should review our patient information brief on infertility.

Hydroceles are fluid filled sacs surrounding the testicle. Most hydroceles cause no problems or symptoms. Large hydroceles can be uncomfortable like sitting on a water balloon. Symptomatic hydroceles can be surgically removed by an outpatient procedure utilizing a small scrotal incision. After hydrocelectomy, a hydrocele has a 10% chance of recurrence.

Pre-Operative Instructions for scrotal surgery (Hydrocelectomy, Varicocelectomy, Orchiopexy, or Orchiectomy):

You should thoroughly shave the scrotum the day prior to scrotal surgery. Refrain from taking any blood thinning agents for 10 days prior to the procedure. Tylenol is okay but do not use Motrin or Advil (Ibuprofen) or Aspirin products.

Post-Operative Instructions for scrotal surgery (Hydrocelectomy, Varicocelectomy, Orchiopexy, or Orchiectomy):

Because the scrotum is a low pressure sac that hangs loose from the abdomen it is more susceptible to bleeding from very small blood vessels than other surgical sites (surgery of the abdomen is less likely to bleed because there is more pressure on the incision compressing the blood vessels). Therefore it is very important that for the first three days after surgery while these small blood vessels are healing closed you engage in virtually no activities at all. These tiny blood vessels quickly seal themselves with vasospasm and a blood clot (the body's natural way of stopping bleeding) so that they are not actively bleeding during or immediately after surgery. But with no pressure to keep them closed these blood vessels are easily broken open with even minimal activity or straining. For three days after surgery don't pick up anything heavy or go walking. Hard work or straining (athletic pursuits or heavy lifting) is not recommended for two weeks. Most patients should wait to have intercourse for a week after the procedure (you should feel no discomfort with intercourse or ejaculation).

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Diet: You may return to your normal diet as soon as you arrive home.

Activity: Your physical activity should be very restricted the first seventy-two hours. During that time you should remain relatively inactive, moving about only when necessary. During the first 14 days following surgery you should avoid lifting any heavy objects (anything greater than fifteen pounds), and avoid strenuous exercise. You could work at a sedentary job during this time but not a physically demanding job. We will write a note to your employer if needed.

You should plan to wear a snug pair of jockey shorts or an athletic support for the first 4-5 days, even to sleep. This will keep the scrotum immobilized to some degree and keep the swelling down.

Ice packs or a bag of frozen peas should be placed over the scrotum for the first 48 hours, on and off. Frozen peas or frozen corn in a Ziploc bag can be frozen, used and re-frozen. Fifteen minutes on and 15 minutes off is a reasonable schedule. The ice is a good pain reliever and keeps the swelling down.

Wound: In most cases your incision will have absorbable sutures and the wound will seal closed in 1 or 2 days. Absorbable sutures will dissolve within the first 10-20 days. You can shower safely within 48 hours. You can swim and bathe in a tub after 7 days. If there is generalized redness, especially with increasing pain or swelling, let us know. The scrotum will possibly get "black and blue" as blood in the tissues spread. Sometimes the whole scrotum will turn colors. The black and blue is followed by a yellow and brown color. In time, all this coloration will go away.

Medication: You may take Tylenol (acetaminophen) for pain. It is the safest of all the pain relievers, in that it causes no bleeding. Aspirin, Advil and Motrin (ibuprofen) may prolong bleeding so Tylenol is the preferred pain medication choice. But ibuprofen can be used if Tylenol is not effective for your pain.

Problems you should report to us:

- a. Fever of 101.5 degrees Fahrenheit or higher
- b. Drug reactions such as:
 - Hives
 - Rashes
 - Nausea
 - Vomiting.

Follow-Up: You should have a wound check and post –op visit in the office in 2 weeks after the surgery.

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