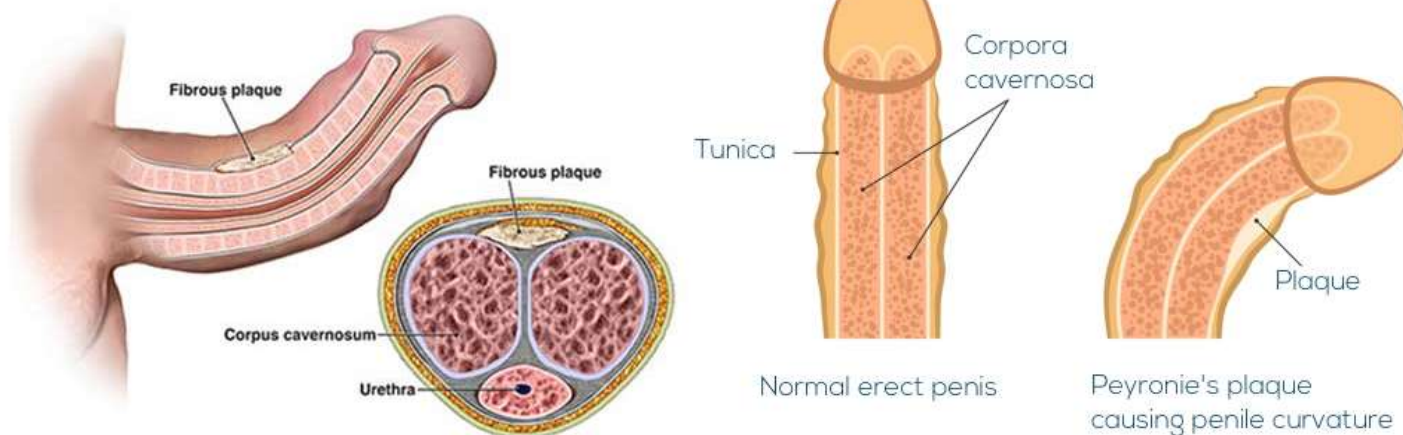


Peyronie's Disease: Stable Phase Treatment Options

This handout explains the treatment options for men with Peyronie's disease that are in the stable phase. **For an electronic copy of this brochure and more information on Peyronie's, we encourage you to visit our website at www.indymenshealth.com/services/peyronies-disease/.** There we have several educational resources including video content and other handouts. If you ever have any questions or concerns, please feel free to call the Men's Health Center at (317) 564-5104.

Peyronie's Disease



What treatments are available for stable phase Peyronie's?

Peyronie's disease is considered to have transitioned from the active phase to the stable phase once the curvature associated with the Peyronie's scar tissue is no longer changing. This change typically occurs about 6-12 months after most men first notice their curve. During this time, many men will report that the discomfort associated with their Peyronie's scar tissue has diminished (although some discomfort may persist in others).

As we've mentioned in other handouts, Peyronie's disease is an anatomic problem that often requires an anatomic solution. Men who have reached this stable phase of Peyronie's disease are eligible for definitive anatomic treatment. The anatomic treatments for Peyronie's disease fall into 3 main categories: 1) Traction Therapy 2) Injection Therapy and 3) Procedures.

What is traction therapy?

As we've mentioned in some of our other handouts, traction therapy is essentially physical therapy for the penis. The scar tissue that causes penile shortening and angulation in Peyronie's can be softened and partially released in most men with daily stretching exercises.

Ideally, these are accomplished with the assistance of a traction device like RestoreX, but they can also be performed by hand. Traction therapy is unique in that it can be used in almost all types of Peyronie's disease, including men in both the active and stable phases of Peyronie's.

Men with stable phase Peyronie's disease who used the RestoreX device daily for 3 months reported an average improvement in penile curvature of 28% and an improvement in penile length of 11%. Traction therapy is also an important component of injection therapy and rehabilitation following some of the straightening procedures mentioned later in this handout. To learn more about traction therapy, including how to perform traction exercises by hand without the assistance of a traction device, visit our website at www.indymenshealth.com/services/peyronies-disease/ and download our handout on traction therapy there.

What is injection therapy?

Injection therapy is when medication is delivered directly into scar tissue to help soften it and increase the efficacy of traction therapy. This medicine is delivered using a small needle that ensures it is distributed where it is most needed. This is done in the clinic in the outpatient setting.

The 'gold-standard' for injection therapy is a medication known as Xiaflex. Xiaflex is the only medication approved by the FDA for the treatment of Peyronie's disease. When combined with manual modeling (traction therapy without the use of a device), men observed a 30% improvement in curvature on average. When combined with the use of the RestoreX device, men saw an improvement in curvature of almost 50%.

Xiaflex is administered through a series of outpatient injections that are performed in 'cycles.' To learn more about Xiaflex treatment, visit our website at www.indymenshealth.com/services/peyronies-disease/ and download our handout on Xiaflex there.

For certain men who don't meet the criteria necessary for Xiaflex, treatment with another 'off-label' injectable medication known as verapamil may also be an option.

What procedures are used to treat Peyronie's disease?

There are several procedures that can be used to straighten the penis and they each share a singular goal: make the penis functionally straight while simultaneously preserving or restoring

erectile function. Functional straightness is defined as an erection that, although it may possess a slight curve, is straight enough to be used for sex without problem. Although our goal with any procedure is to make the penis as straight as possible, most men have a slight curve at baseline and 'perfect straightness' is actually quite uncommon.

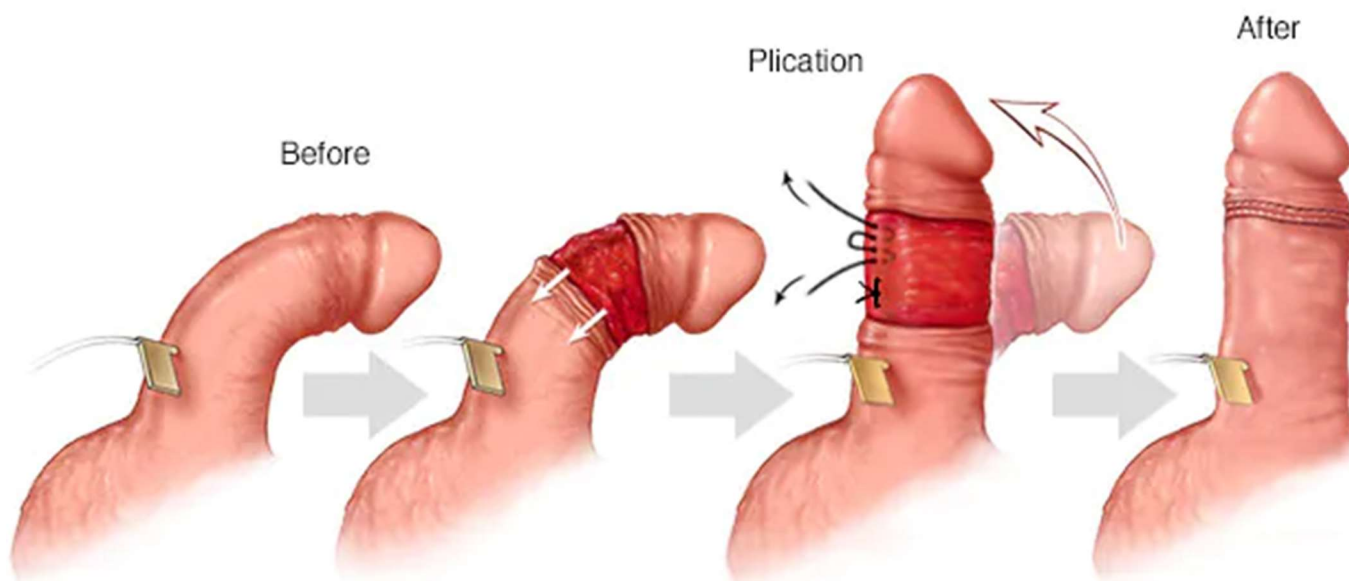
What separates these procedures are their approaches to achieving straightness. The curve that results from Peyronie's disease exists because scar tissue has shortened one side of the penis compared to the other. It makes sense then, that the penis can be straightened by 'making the long side short' or by 'making the short side long.' This is achieved through one of 3 key procedures:

- 1) Plication – 'Make the long side short'
- 2) Partial plaque excision and grafting – 'Make the short side long'
- 3) Penile implant placement – 'Make the short side long AND restore erections'

When learning about these procedures, it's important to remember that none of them are 'better' than the other. They are different approaches designed for different patients and not all men may be considered candidates for every procedure.

What is penile plication?

Tunica albuginea plication, more commonly known as penile or Nesbit plication, is a procedure by which the penis is straightened through a series of stitches placed on the 'long side.' By doing this the penis is pulled straight and a functional erection is restored.



Penile plication is a one-time, outpatient procedure that straightens the penis without compromising erectile function. It is a great option for men with curves less than 60 degrees, mild erectile dysfunction, and adequate penile length. Plication is often a great option for men who desire further penile straightening after Xiaflex treatment. However, it is not a good option for men with significant erectile dysfunction, curves greater than 60 degrees, or men with short penises. Also, men with certain deformities that are known to accompany curves, such as significant waisting or narrowing, may not be candidates for plication.

Most men return to work shortly after surgery and can resume sex 6 weeks following their procedure. It is important to note that traction therapy still plays a large role in optimizing outcomes following penile plication. Men are encouraged to resume using their traction device or their hand exercises starting 4 weeks after surgery. This helps minimize length loss while continually improving long term penile stretch following plication.

One of the drawbacks associated with plication is the issue of penile shortening. Because plication achieves straightness by 'making the long side short,' the final erection will always be shorter than the penis was prior to developing Peyronie's disease. The amount of shortening is directly related to how much curvature needs to be corrected with the plication. It is also worth noting that, although we work very hard to minimize this, some men may be able to feel the stitches that are used to straighten the penis and find them bothersome. However, because the erectile bodies themselves are never compromised, plication does not negatively affect erections.

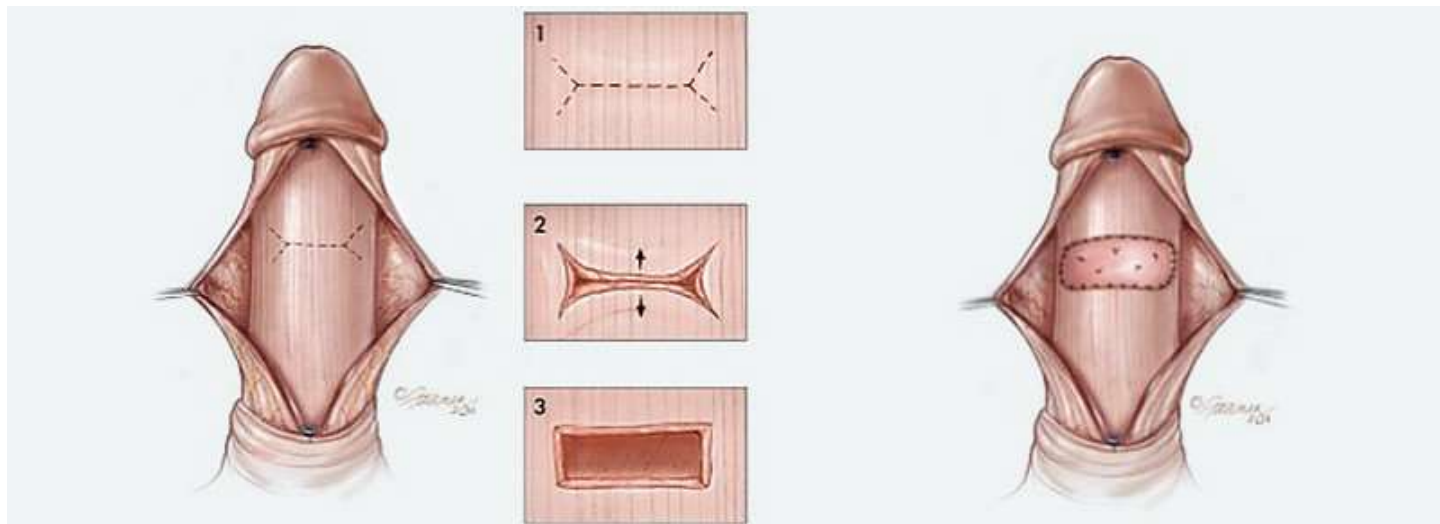
Although most Peyronie's curves are upward or to the left or right, men with downward curves should be aware that plication may require moving the nerves that supply sensation to the head of the penis out of the way. This carries a small, but still present, risk of temporary or lasting penile sensory changes.

In summary, penile plication is an excellent option to straighten the penis in a single, straightforward procedure for men who meet appropriate criteria.

What about partial plaque excision and grafting?

Partial plaque excision and grafting is a procedure during which a portion of the Peyronie's scar tissue is removed and the gap is 'patched' with graft material. It essentially 'makes the short side long' to help achieve a straight erection. Because scar tissue is being removed, partial plaque excision and grafting can be used to treat men with deformities like significant waisting

or narrowing. These are men who typically would not achieve the same sort of results with plication.



It is important to remember that the scar tissue being removed does not lay 'on top of' or 'underneath' the tissue that makes up the erectile cylinder. Rather, the scar has completely replaced that normal tissue. As a result, removing this scarred material is like cutting a hole in the hull of a boat and then patching it. Unfortunately, this patch is never quite as 'water-tight' as the tissue was originally. This means that the ability of the penis to 'trap' blood and hold it inside the erectile cylinders to maintain a rigid erection is decreased.

So, although partial plaque excision and grafting can treat a wider range of deformities and results in a longer erection compared to plication, it carries the real risk of significant erectile dysfunction. For context, this degree of erectile dysfunction typically does not respond to oral medications like sildenafil (Viagra) or tadalafil (Cialis) and instead requires injectable medication (like Bimix or Trimix) with a constriction band or penile implant placement. This risk is estimated to potentially affect up to 5-25% of men undergoing partial plaque excision and grafting.

Also, almost all men undergoing partial plaque excision and grafting will require elevation of the nerves that supply sensation to the head of the penis. This carries a small, but still present, risk of temporary or lasting penile sensory changes. As a result, partial plaque excision and grafting is typically reserved for men with excellent erections and curves greater than 60 degrees or significant waisting or narrowing.

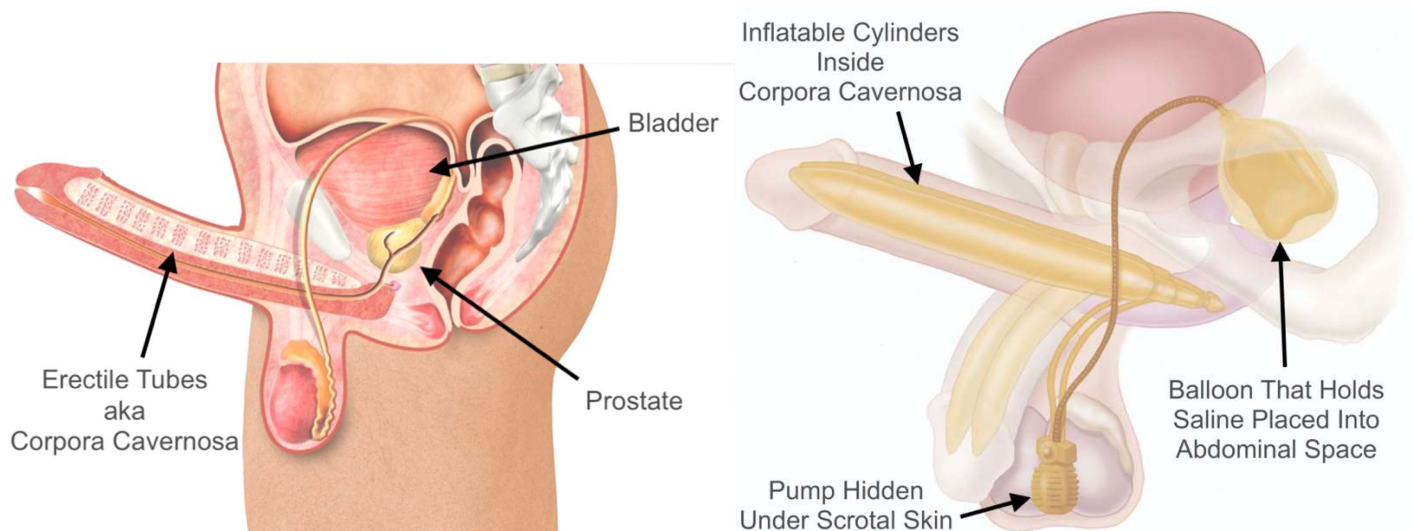
Partial plaque excision and grafting is an outpatient procedure like plication. Post-operative rehabilitation is critical for optimizing a man's final result. Much like plication, traction therapy should be initiated 4 weeks after surgery. Traction helps maximize penile length and straightness. Although traction therapy with a device is preferred, hand exercises are acceptable if device use is not an option. Also, a low dose of 5 mg tadalafil should be taken every day to maximize penile blood flow. Most men can return to work about a week after surgery and can resume sex 6 weeks following their procedure.

What is the penile implant?

The penile implant is a safe, invisible, and reliable cure for erectile dysfunction and Peyronie's disease that is placed during a minimally invasive outpatient procedure. To best understand the penile implant, it's good to review how erections are supposed to work.

The male erection is the result of two inflatable tubes that start in the pelvis and extend down the length of the penis. These tubes are known as the corpora cavernosa. When a man is aroused, an electrical signal travels from the brain, through the deep nerves of the pelvis, to the arteries that supply these inflatable tubes. These arteries then expand and allow the rush of blood that provides an erection. At its core, it's a simple hydraulic system.

Both erectile dysfunction and Peyronie's disease are represent failures of this system. Erectile dysfunction is a failure of blood flow while Peyronie's disease is a failure of these inflatable tubes' structure due to scarring. It's important to remember that many men with Peyronie's disease will also have erectile dysfunction and need both issues treated in order to regain full sexual function.



With the penile implant, a man's natural inflatable tubes (the corpora cavernosa) are reinforced by sliding new inflatable tubes inside of them. Then, instead of relying on a pill or a shot, he can squeeze a small pump that's hidden inside the scrotal skin. This action then fills these new inflatable tubes with saline just like as a man's natural inflatable tubes would normally fill with blood. This creates a firm, rigid and reliable erection that a man can achieve whenever he wants and maintain as long as he wants. When sex is complete, a small button press restores the penis to its resting, natural state. Placement of the device is performed through a small opening in the skin above the penis. Men go home the same day, and most are ready to start having sex again in just 3 weeks. This is about half the recovery time needed for both plication and partial plaque excision and grafting.

Patient satisfaction with the penile implant is 98%. It prevents the ongoing loss of penile size that many men experience with ED and Peyronie's while providing a firm, natural feeling erection on demand. It is completely invisible and does not change sensation, orgasm, or ejaculation. For this reason, it's considered to be the gold standard of treatment for men with Peyronie's and erectile dysfunction.

Because the penile implant provides an excellent erection that is stronger than what men can achieve on their own, it will often straighten many curves on their own. For men that need additional curve correction, other maneuvers can be performed during placement to ensure men achieve a straight, functional, penetrating erection.

If you want to learn more about Peyronie's disease, we encourage you to visit our website at our website at <https://indymenshealth.com/services/peyronies-disease/>. There we have several educational resources including video content and other handouts. Call us at (877) 362-2778 to make your appointment today!