# Erectile Dysfunction (ED) or Impotence

## Introduction

Impotence is a consistent inability to sustain an erection sufficient for sexual intercourse. Medical professionals often use the term "erectile dysfunction" to describe this disorder and to differentiate it from other problems that interfere with sexual intercourse, such as lack of sexual desire and problems with ejaculation and orgasm. This fact sheet focuses on impotence defined as erectile dysfunction.

Impotence can be a total inability to achieve erection, an inconsistent ability to do so, or a tendency to sustain only brief erections. These variations make defining impotence and estimating its incidence difficult. Experts believe impotence affects between 10 and 15 million American men. In 1985, the National Ambulatory Medical Care Survey counted 525,000 doctor-office visits for erectile dysfunction.

Impotence usually has a physical cause, such as disease, injury, or drug side effects. Any disorder that impairs blood flow through the penis has the potential to cause impotence. Incidence rises with age: about five percent of men at the age of 40 and between 15 and 25 percent of men at the age of 65 experience impotence. Yet, it is not an inevitable part of aging.

Impotence is treatable in many age groups, and awareness of this fact has been growing. More men have been seeking help and returning to near-normal sexual activity because of improved, successful treatments for impotence. Urologists, who specialize in problems of the urinary tract, have traditionally treated impotence-especially complications of impotence.

## How Does an Erection Occur?

The penis contains two chambers, called the corpora cavernosa, which run the length of the organ. A spongy tissue fills the chambers of the corpora cavernosa. The corpora cavernosa are surrounded by a membrane, called the tunica albuginea. The spongy tissue contains smooth muscles, fibrous tissues, spaces, veins, and arteries. The urethra, which is the channel for urine and ejaculate, runs along the underside of the corpora cavernosa.

An erection begins with sensory and mental stimulation. Impulses from the brain and local nerves cause the muscles of the penile arteries and the muscles of the spongy corpora cavernosa to relax, allowing blood to flow in and fill the open spaces in the spongy tissue. The blood creates pressure in the corpora cavernosa, making the penis expand. The tunica albuginea helps to trap the blood in the corpora cavernosa, thereby sustaining erection. The erection could be compared to the action of air in a bicycle tire. Air is forced into the inner tube under pressure. The inner tube (corpora cavernosa) presses against the outer tube (tunica albuginea) creating firmness. The blood is trapped in the corpora cavernosa sustaining the erection similar to the air trapped in the tire's inner tube.

An erection is reversed when muscles in the penis contract, stopping the inflow of blood and opening outflow channels and allowing the blood to return to the body's circulatory system.

If you are interested in a very technical description of the events, read the following. With sexual stimulation, the parasympathetic nerves transmit impulses through the pelvic plexus to the arterioles of the corpora cavernosa, causing the release of nitric oxide. Nitric oxide activates an enzyme called

guanylate cyclase, which results in increased levels of cyclic guanosine monophosphate or cGMP. It is cGMP that causes the relaxation of the smooth muscles of the blood vessels in the corpora cavernosa. The increased arteriole inflow combined with an occlusion of the venous outflow by dilation of the spongy tissue of the corpora results in an erection. The erection is reversed when the cGMP is degraded or broken down by another enzyme called phosphdiesterase type 5 (PDE5). The smooth muscles contract, reducing the arterial inflow and allow better venous drainage.

### What Causes Impotence?

Since an erection requires a sequence of events, impotence can occur when any of the events is disrupted. The sequence includes nerve impulses in the brain, spinal column, and area of the penis, and response in muscles, fibrous tissues, veins, and arteries in and near the corpora cavernosa.

Damage to arteries, smooth muscles, and fibrous tissues, often as a result of disease, is the most common cause of impotence. Diseases-including diabetes, kidney disease, chronic alcoholism, multiple sclerosis, atherosclerosis, and vascular disease-account for about 70 percent of cases of impotence. Between 35 and 50 percent of men with diabetes experience impotence.

Surgery (for example, prostate surgery) can injure nerves and arteries near the penis, causing impotence. Injury to the penis, spinal cord, prostate, bladder, and pelvis can lead to impotence by harming nerves, smooth muscles, arteries, and fibrous tissues of the corpora cavernosa.

Also, many common medications produce impotence as a side effect. These include high blood pressure drugs, antihistamines, antidepressants, tranquilizers, appetite suppressants, and cimetidine (an ulcer drug).

Experts believe that psychological factors cause 10 to 20 percent of cases of impotence. These factors include stress, anxiety, guilt, depression, low self-esteem, and fear of sexual failure. Such factors are broadly associated with more than 80 percent of cases of impotence, usually as secondary reactions to underlying physical causes.

Other possible causes of impotence are smoking, which affects blood flow in veins and arteries, and hormonal abnormalities, such as insufficient testosterone.

## How is Impotence Diagnosed?

### Patient History

Medical and sexual histories help define the degree and nature of impotence. A medical history can disclose diseases that lead to impotence. A simple recounting of sexual activity might distinguish among problems with erection, ejaculation, orgasm, or sexual desire.

A history of using certain drugs can suggest a chemical cause. Drug effects account for 25 percent of cases of impotence. Cutting back on or substituting certain medications often can alleviate the problem.

### Physical Examination

A physical examination can give clues for systemic problems. Careful attention must be paid to the circulatory and neurological systems (blood vessels and nerves) and, of course, the genitals (penis and testicles). Unusual characteristics of the penis itself could suggest the root of the impotence-for example, bending of the penis during erection could be the result of Peyronie's disease.

### Laboratory Tests

Several laboratory tests can help diagnose impotence. For cases of low sexual desire, measurement of testosterone in the blood and other hormones made in the brain that control the levels of testosterone can yield information about problems with the endocrine system. These may include luetenizing hormone (LH), follicle stimulating hormone (FSH) and prolactin. Tests for systemic diseases may include thyroid hormone levels, blood counts, urinalysis, lipid profile, and measurements of kidney and liver function.

### Other Tests

Monitoring erections that occur during sleep (nocturnal penile tumescence or NPT) can help rule out certain psychological causes of impotence. Healthy men have involuntary erections during sleep. If nocturnal erections do not occur, then the cause of impotence is likely to be physical rather than psychological.

### Psychosocial Examination

In some cases, a psychosocial examination, using an interview and questionnaire, reveals psychological factors. The man's sexual partner may also be interviewed to determine expectations and perceptions encountered during sexual intercourse. These interveiws may be performed by a special sex therapist, psychologist, psychiatrist, or any health provider with an interest in the psychological aspects of sexual problems.

## What to Do?

### Medical Treatment

Medical treatments for impotence include counseling when a psychological problem is discovered. Working with couples and reducing tension, improving communications, and trying to obtain realistic expectations are areas where counseling can help. In some patients where psychologic causes are not the originating problem, but have become a significant factor, it may be necessary to go through counseling during the difficult rehabilitation period.

Lifestyle modifications including changes in exercise, stress levels, diet, alcohol, smoking, and illicit drug use may be beneficial if felt to be a major contributing factor.

### Viagra

The newest and most exciting development is in pill form. The drug called sildenafil (or Viagra) has been studied in England and seems to improve erections in men who have no known cause for difficulty with erections. Studies on men with known causes, such as surgery or diabetes, have not been completed, but early data are promising. Viagra works by increasing blood flow to the penis. The drug is available now. Early studies show very few side effects. The drug does not directly cause

erections, but enhance erections caused by sexual stimulation. It works by partially blocking an enzyme in the penis that is responsible for normally reversing erections. Some studies have shown 60-80% effectiveness in selected patients with difficulty maintaining erections. About 1 in 25 men discontinued therapy from side effects, which included headache, indigestion, visual disturbances, and flushing. Viagra comes in three different dosages, and onset of action begins within 20-60 minutes. The effect lasts for four hours. Only one dose per day is recommended. Diabetics and men who have had radical prostate or bladder surgery have a lower success rate with Viagra.

*IMPORTANT NOTE: Patients who take or need nitroglycerin or nitrates for heart disease cannot use this drug. A number of heart attacks, some causing death, have been reported since the introduction of Viagra. These appear to be due to the exertion of sexual intercourse or to the use of nitroglycerin with Viagra against doctor's orders. Patients with significant heart disease, whether using nitroglycrin or not, should be counseled about the risk of heart attack.*

**Hormone Therapy**

Hormone treatments, namely testosterone, can be used in men whose production of male hormones is low. Testosterone injections do not really help men who have high levels, and these can be measured by the physician at the initial evaluation. Testosterone injections are not without their problems, however, as the use of the drug can stimulate the growth of prostate tissue. Testosterone cannot be used in patients with known or suspected prostate cancer as the cancer could grow more rapidly. Other less common side effects of testosterone use include liver injury and increased blood pressure. Men who take testosterone regularly usually stop sperm production, and permanent infertility could result if testosterone is used long enough.

**Yohimbine**

Yohimbine is a medication made from the bark of a tree that grows in India and Africa. Yohimbine acts on the nervous system and may also have some affect on increasing the male libido. It is considered homeopathic by medical doctors, that is, no definite uses are proven. The drug is very safe with uncommon side effects such as mild dizziness, nervousness, irritability, headaches and nausea rarely occurring. Some studies have suggested 10-20% of men will respond to the treatment with yohimbine, and it is necessary to take the medication for a full two months before knowing whether it will work or not. However, a task force of specialists sponsored by the American Urological Association has recently determined that Yohimbine is no more effective than a placebo.

**Trazodone**

Trazodone is an antidepressant drug that was found to induce prolonged erections in some men. This side effect was unwanted and the prolonged erections caused problems in many of the patients. However, in lower dosages, (usually 100 mg at bedtime) it can promote normal erections. Trazodone can cause drowsiness, nausea and difficulty urinating.

**Self-Injection Therapy**

What is self-injection therapy? This involves the patient or his partner giving an injection of medication directly into the side of the penis to create an erection. The erection created is a natural one and usually begins 5 to 15 minutes after the injection. Not all patients respond to this type of treatment,

but those who do should develop an erection that lasts anywhere from 30 to 120 minutes. About 70% of men find that their erections are satisfactory with self-injection therapy. The injections are given with a tiny needle and use very small amounts of medicine. The injections are relatively painless and are easily taught to the patient in one or two visits with the doctor.

The drugs used today include: prostaglandin (PGE-1 or Prostin or Alpoprostadil or Caverject), Papaverine hydrochloride and phentolamine (Regitine). All of these drugs have been approved by the FDA for uses other than impotence treatment. Only Prostaglandin has been approved by the FDA for treating impotence. Papaverine and phentolamine have not yet been approved by the FDA for this specific purpose, although these two drugs were the initial ones used for self-injection therapy. However, urologists have obtained considerable experience over the past decade and all three drugs mentioned above are usually considered safe for self-injection therapy.

**Disadvantages of Self-Injection Treatment**

Self-injection treatment does require the patient or his partner to learn to give injections directly into the penis. The patient does need to return to the doctor for follow-up visits, particularly in the early phases of treatment. The patient cannot use the injections too often for fear of developing scarring and the self-injection treatment should be limited to once every four to seven days (range depends on medication type and initial response).

The injections are relatively costly and average costs depend on what combinations of medications are used. An injection may cost up to $8 to $10 per injection.

Not all patients are candidates for self- injection therapy. A percentage of patients will not develop good erections, and another set of patients might develop erections that do not go away, making them poor candidates for continued use of this drug.

**Advantages of Self-Injection Therapy**

The major advantage of self-injection therapy is the fact that the erection created is similar to the body's own spontaneous erections. The erection usually lasts 30 to 120 minutes, which is an adequate duration for successful and pleasing intercourse. Self- injection therapy does not impede the development of an orgasm or ejaculation. Self-injection therapy is less costly than surgical implantation. Self-injection therapy can be used by the patient at his own discretion and at anytime with a minimum amount of preparation. Treatment does not involve surgery and is minimally painful in most patients.

**Summary of Self-Injection Therapy**

If you decide to start the self-injection program, we will have you back to the office for test doses to see which drug and dosage are most appropriate and effective for you. After we have established the drug dose, we will then teach you how to draw medication from a vial, and also how to inject it safely into the penis. You may want to bring a partner to watch, although a partner is not absolutely necessary if you have good dexterity and eyesight. We will have you read, understand and sign a consent form. The form will mention the various risks of the medications and injections. We will go over all of these risks and conditions for you in detail at the time of the educational program. If you have any questions about self-injection therapy, please don't hesitate to ask us.

**Risks of Self-Injection Therapy**

As mentioned, these medications have not been approved by the FDA and so technically need to be considered experimental. All medications have some potential risks, and side effects and risks do exist with all of these drugs and the injections. These may include the possibility of bleeding or bruising from the injection, and a small chance of infection. One of the more common risks includes the development of a prolonged erection or priapism (more than four hours). An episode of priapism might require a trip back to the physician or to the emergency room to receive other medications to counteract the self-injection medications and relieve the prolonged erection. Priapism happens in only a few percent of the patients. The patient does need to be aware that any erection lasting more than four hours needs to be dealt with by a physician. Another complication is the development of permanent scarring within the penis. The medications can be irritating to the penile tissues, and scarring is most often seen in patients who abuse the drug by using it too often. Scarring could create difficulty in obtaining erections even with additional medication. If the scarring were severe, placement of a penile prosthesis, if that other option was chosen at a later time, might be difficult. Even more rare is the development of other medical problems. Papaverine has been known to cause changes in liver function tests, which go away if the drug is stopped. Some men complain of dizziness, heart palpitations and/or a flushed feeling with these medications.

**Urethral Suppositories**

MUSE is the name of a drug treatment and represents a unique approach for the treatment of erectile dysfunction. It is based on the discovery that the urethra (the tube in the penis for urine to pass from the bladder to the outside of the body) can absorb certain medications into the surrounding erectile tissues thereby creating an erection. The MUSE system uses prostaglandin E1, the same medication used in the self-injection therapy, and has been approved by the FDA for the treatment of impotence.

An erection should begin within 5-10 minutes after administering MUSE. The duration of effect is approximately 30-60 minutes. However, the actual duration will vary from patient to patient.

The most common side effects that have been reported using MUSE are aching in the penis, testicles, and legs and in the area between the scrotum and the rectum, warmth or burning sensation in the urethra, redness of the penis due to increased blood flow, and minor urethral bleeding or spotting due to improper administration.

MUSE was released in early 1997 and more experience will be gained over the first few years that it is available to the public through their physicians. It is likely that MUSE will not be as effective as the self-injection therapy because of the variability of absorption of the medication and will most definitely be more expensive. The absence of needles, however, makes this form of therapy very attractive for those men for whom the treatment works.

**Vacuum Devices**

The vacuum erection device is a simple mechanical tool, which allows the man to develop an erection which is suitable for sexual intercourse.

**Why do Vacuum Erection Devices Work?**

Erections are created when blood is trapped in the penis much like air is trapped in an inflated tire. The more air that is placed into the tire, the firmer the tire becomes. Likewise, the more blood trapped temporarily in the penis, the firmer the erection. The vacuum erection device works by bringing more blood into the penis and then trapping it.

**How Do Vacuum Erection Devices Work?**

The penis is inserted into a hollow plastic tube, which is pressed against the body, creating a seal. A vacuum is then created in the tube by use of a small hand pump. This in turn draws blood into the penis causing engorgement, enlargement and rigidity. After one to three minutes of vacuum, an adequate erection is created and a soft rubber O-ring is then placed around the base of the penis in order to trap the blood and maintain the erection. The vacuum tube is removed and sexual intercourse is then possible. The rubber O-ring will maintain the erection until removed, and in most circumstances this can be left in place for 25 to 30 minutes.

**Who are the Best Candidates for Vacuum Erection Devices?**

Vacuum erection devices work best in patients who are able to achieve a partial erection on their own. After having adequate foreplay, which creates a mild erection, the partner can be of help in applying and using the vacuum device. In any type of sex therapy, the partner's full acceptance of whatever technique used is always helpful.

**Advantages**

One of the major advantages of vacuum erection devices is safety. There is no surgery, nor are there internal injections or significant side effects. The vacuum erection device will work for almost any type of erectile problem. The cost of the vacuum erection device is less than surgery or the continued use of self-injection treatments. The vacuum device can be used at the patient's convenience and at any time. Most of the major companies that manufacture vacuum erection devices provide a refund policy if the vacuum erection device is not successful. The vacuum erection devices range in cost from $300 to $500 and require a prescription. Some insurance companies will reimburse all or part of the costs.

**Disadvantages**

One of the disadvantages of the vacuum erection device is the mechanical aspect of obtaining an adequate erection. This might have a negative influence on the patient and his partner. The device takes 5 to 10 minutes to set up, which technically interferes with foreplay. Some patients' body build makes it difficult to apply the vacuum erection device. Once the rubber O-ring is applied, there is not an erection between the rubber band and the body, making the penis somewhat floppy.

The O-ring inhibits the normal flow or ejaculation after orgasm in some patients. This is not harmful and the semen will pass once the rubber band is removed. Some patients complain of a sense of coldness and/or numbness of the penis after the O-ring has been placed. The O-ring should be removed after 25 to 30 minutes because of restricted blood flow. The erection will soften when the O-ring is removed. Vacuum erection devices might be harmful to patients who have blood clotting problems or use blood thinners, because of bleeding into the tissue.

**Summary**

If you have any questions about vacuum erection devices, please don't hesitate to ask us. We have videotapes available for further information about vacuum erection devices, and you need only to borrow a tape or come into the office to view it.

**Penile Prostheses**

Implantation of a penile prosthesis is one of several options available for the treatment of impotence. The penis consists of three hollow tubes running along the length of the shaft. One of these, the urethra, runs along the bottom of the penis and brings urine from the bladder out through the end of the penis. The other two matched tubes running side by side on the top of the penis are constructed much like an automobile tire with an outer tube and an inner tube. The erection is created by the two inner tubes filling and pushing against the outer tubes much like a tire that is inflated with air.

One of the treatment options for erectile dysfunction is the placement of prosthetic inner tubes within the penis to mimic the inflation process and create an erection. Penile implants were first used in the 1950s, and as time went on further advances occurred. Different types of prostheses were developed and hundreds of thousands of men throughout the world have been successfully treated with a penile implant.

Today there are three types of penile prostheses. These include the semi-rigid implant, the inflatable implant and a self-contained inflatable implant.

**Semi-Rigid Prostheses**

Semi-rigid implants are paired, silicone-covered, malleable or bendable metal rods. The semi-rigid prosthesis allows the penis to be rigid enough for penetration, but the malleable rods allow it to be flexible enough to allow concealment in a curved position. It is the simplest of all prostheses and has the least chance of mechanical failure. It is also the simplest to place.

The major limitations include the fact that the penis is always semi-erect. Even with the bendability, concealment is a potential problem when wearing some types of clothing. Another disadvantage is that the prosthesis does not inflate so the erection achieved is only from the size and rigidity of the prosthesis.

**Inflatable Penile Prostheses**

Inflatable prostheses are the most natural of the implants. These are soft, paired inner tubes made of silicone or bioflex, which are inert plastics. The inner tubes are literally filled with a solution that comes from a small reservoir placed under the muscles of the abdomen. A pump is used to transfer the fluid from the reservoir to the penile cylinders or inner tubes. The more fluid that is pumped into the inner tubes, the firmer and larger the erection. When the erection is no longer desired, the fluid returns to the reservoir, leaving the penis soft and pliable.

The major advantage of an inflatable penile implant is a more natural erection with total patient control, both in the amount of fluid that is put into the penis, as well as the time the erection is desired. The erection will last indefinitely until the patient transfers the fluid back into the reservoir. One major disadvantage is that the surgical implantation is a little more complicated than a simple semi-rigid implant. Also, with the multiple parts there is a higher chance of mechanical failure, which

might require revision or repair. Many of the companies do have insurance policies to cover part or all of the costs of the prosthesis replacement but not the surgical or hospital fees.)

**Self-Contained Inflatable Prostheses**

Self-contained inflatable implants are paired, silicone cylinders which have a pump at the very tip of the prosthesis, along with a reservoir within the shaft that transfers fluid in such a way that the cylinder becomes firm.

The advantage of this type of prosthesis is that the surgery is somewhat simpler than the multi-component prosthesis.

The major disadvantage is that the inflatable portion of it does not really increase the girth of the penis significantly. It is also not as soft or concealable as the multi-component implant when deflated.

**Advantages of Implants**

Implants are effective in treating impotence due to almost every cause. There is a 90%+ success rate when both partners are informed of the nature and limitations of the prosthesis. Prostheses require no further treatment after implantation, and there is no external equipment that might have negative connotations to the partner. No medications or injections are needed and once the prosthesis is placed and functioning, there are no further costs. The newer prostheses are very reliable and the chance of mechanical failure is very low, in the range of two to four percent per year.

**Disadvantages of Implants**

Once an implant has been placed, natural erections usually no longer occur. If the prosthesis is removed, normal erections are unlikely to return. There is a small chance of infection, which would require removal of the prosthesis. Some patients can develop surgical complications or anesthetic complications. Occasionally patients will notice numbness at the head of their penis, and intercourse can be uncomfortable. Because the erection is not caused by increased blood flow to the penis, the head of the penis is not part of the erection, and this softness may be bothersome to some patients.

Recently the safety of silicone and silicone products such as silastic has been questioned. Breast prostheses using liquid or gel forms of silicone were removed from the market by the FDA. Concerns raised were the inflammatory responses to this type of silicone, which included pain, scarring and disfigurement. In addition, possible associations were raised among silicone and the development of immune disorders like rheumatoid arthritis and a possible association to an increased development of cancer. It is noteworthy that the solid silicone breast implants that are filled with water were not removed from usage. In May 1994, a class action suit was filed against the major manufacturer of penile prostheses, claiming many of these same issues. The penile prostheses are all of the solid variety and use water as a filling. Most observers feel the suit to be without basis, but of course, only time will tell, and more research and follow-up need to be done. Solid silicone products are used extensively in medicine and include cardiac pacemakers and brain shunts. Thousands and thousands of implants of all types have been used for years with very little and predictable risks and side effects.

**Costs**

Some insurance policies will cover the cost of prostheses and this can be established through our business office. Patients who are considering a prosthesis should be aware that other types of therapy might be available, including vacuum devices and self-injection therapy.

**Vascular Reconstructive Surgery**

A small percentage of patients may be candidates for some form of reconstruction of the penile blood flow. This includes patients with poor arterial blood supply and those also with venous leaking. The long-term results from this type of surgery have been generally disappointing with even the best of results showing only 1 out of 20 men being helped. Surgery is technically difficult, relatively expensive, and includes complications of nerve damage and scar tissue formation. Given the relatively low success rate, along with the technical difficulty and expense of this type of procedure, vascular reconstructive surgery has not been generally accepted widely.

**Sex Therapy**

For many years physicians believed almost all of the sexual dysfunctions to be caused by psychological reasons. As we have gotten a better understanding of the physiology of erections, it has become known that many of the problems with impotence are caused, in fact, by physiologic reasons that are uncontrollable by the patient. However, a significant number of men still develop erectile problems purely on the basis of psychological causes. In addition, men with an underlying physical disorder often develop psychological problems as well because of their lack of performance. Even if the physiologic, or as physicians often say, "organic" problem, is corrected, the man's self-image and confidence may be affected significantly enough that a return to normal functioning is difficult.

Among the problems in dealing with psychological problems is the fact that the topic is difficult to talk about or even bring up in front of a physician. Once the lack of confidence is deeply imbedded in the man's psyche, the subsequent lack of confidence becomes very difficult to remove from the man's thinking. Other emotions that may be felt include deep frustration, anger, depression and a sense of inadequacy.

Whether the cause of the difficulty with maintaining or achieving erections is purely psychological or secondary to another physiologic cause, the end result creates a lack of confidence, which results in a "self-fulfilling prophecy." The patient is so fearful of not obtaining an erection and the worry becomes so overwhelming that fears are born out -no erection or loss of erection.

Sex therapists are trained professionals who deal with sex problems uniquely, and are very goal oriented to provide techniques, advice and counseling on dealing with the sexual problem only. They may provide reading and videos for help in their training. Usually only a few visits will provide definite improvement, and it is usual not to require more than a few months of treatments before seeing some definite results. Addressing other causes of stress, obtaining adequate expectations from your partner and looking at relationships are also essential to effective sexual counseling. Some of the more specific treatments include exercises or treatment plans that are carried out in the privacy of one's home and does not require in-hospital or in-office treatments. The patient's partner is definitely brought into the technique training.

Working together to reduce anxiety and increase confidence, both partners can help each other to relieve some of the anxieties and reestablish normal sexual relationships.

Sex therapy is also helpful in patients who have premature ejaculation or difficulty in obtaining an ejaculation.

In some patients the problems are so deep-seated that the pure psychological techniques are not effective. In these cases the sex therapist might work with the physician in concert, using a technique such as a vacuum erection device or self-injection therapy to aid in the early achievement of erections. As the patient's self-confidence improves, these therapies might be discarded, although they can be used in the future as well. On occasion, medications or injections of hormones can be used to also help initiate or stimulate early sexual functioning. Sex therapy is usually not covered by insurance policies, but it is unlikely that the counseling will need to continue past six months or so, which should keep the costs within most people's budgets.

**External Supports**

Some men have had success using external support devices. The most popular of these is called Rejoyn. These devices are essentially a semi-rigid condom. They are placed over the penis and provide the necessary rigidity without the need of an erection. These can be purchased without a prescription at many pharmacies or by calling 1-800-297-9329 for more information.

**What Does Not Work**

At this point there is no evidence that nutritional supplements or vitamins have any significant bearing on sexual performance. The Food and Drug Administration has currently banned the sale or advertising of all nonprescription products for the treatment of male impotence because none had been scientifically shown to be effective. Nitroglycerin patches and minoxidil (the drug for baldness) have not been shown to be effective for impotence when used as penile patches.

**What's New**

Another new oral (taken by mouth) drug is apomorphine. This drug also seems to promote erections in men with psychogenic problems Apomorphine may also work in men having difficulty maintaining erections. Large studies are currently underway in the US to determine the safety and effectiveness of these drugs. As of this date this drug has not been approved by the FDA.

Yet another oral drug is Vasomax (phentolamine). This medicine is still being tested and does not seem to have the effectiveness of Viagra with a 40% response in men tested. At higher doses, a lowering of blood pressure may be problematic.

All of the oral drugs have different modes of action and if one does not work, the others may. Combinations of drugs and other techniques may also be possible.

In recent European studies, a new injectable drug called VIP is being tested. VIP stands for vasoactive intestinal peptide. When mixed with phentolomine (Regitine), an older injectable drug, 80% of men had successful erections, even if other injectables had failed. Studies are just beginning in the US.

Two other injectables being researched abroad are called moxislyte and forskolin. Initial success rates of 80% are being reported. No U.S. studies are yet completed.

North American studies of creams containing nitroglycerin that are applied to the penis have shown modest success in mild to moderate erectile dysfunction. There are plans to study this drug in the US. South American studies of creams containing prostaglandin (Alprox-TD) that are applied to the penis have shown modest success in mild to moderate erectile dysfunction. There are no plans to study this drug in the U.S. for now.

**Summary**

Impotence is a treatable problem, and is not the inevitable consequence of aging. Almost all patients with impotence can be treated. A thorough evaluation looking for the causes of impotence can be followed by the appropriate diagnostic testing, and then a multitude of treatment choices become available to assure that each patient has a successful outcome. In terms of determining which therapy is best for each individual, one must be informed of all the various possibilities, both about the cause of the impotence and the type of treatments that are available. None of the treatments will significantly affect the ability to have an orgasm. About 35-50% of men that start with self-injection therapy or vacuum devices will not be satisfied and will seek other treatments. Some men will, unfortunately, give up and not seek additional help from their urologist. Penile prostheses have an acceptance rate of 90% or more but require a procedure. MUSE suppositories are too new to give long-term follow-up.

If needed, psychological support and counseling by a professional sexual counselor should be considered in many patients, regardless of the cause of the impotence, to help with any adjustments. Sex therapy is often helpful and can be done by a qualified psychiatrist, psychologist, physician, or sex therapist with training and experience in this specialty area. In addition to counseling, exercises and reading to help increase sexual skills and reduce anxiety and improve communications can be very helpful.

**Points to Remember**

- Impotence is a consistent inability to sustain an erection sufficient for sexual intercourse.
- Impotence affects 10 to 15 million American men.
- Impotence usually has a physical cause.
- Impotence is treatable in all age groups.
- Treatments include psychotherapy, drug therapy, vacuum devices, and surgery.