

*A Patient's Guide*

Urinary Incontinence Control  
*using*  
External Urethral Compression  
Devices  
(Clamps)

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# **Urinary Incontinence Control using External Urethral Compression Devices (Clamps)**

## **Introduction**

The purpose of this publication is to help men experiencing urinary incontinence, whether temporary or long-term, to cope with this condition. Specifically the article deals with the use of external urethral compression devices, commonly called penile clamps, in the management of urinary incontinence. A brief general discussion of incontinence, its effects on the quality of life, and the options for managing and treating it, are presented, followed by detailed descriptions of the available clamps and their use. This information is presented to assist men in making an informed decision about choosing and using clamps.

## **Definition**

Urinary incontinence may be defined in various ways. Perhaps the most comprehensive definition is “a condition in which involuntary loss of urine is a social or hygienic problem and is objectively demonstrable” (the International Continence Society Standardization Committee). More succinct, and more relevant to every day living may be “involuntary loss of urine that is sufficient to be a problem” (Centers for Medicare and Medicaid Services). The “problem” is neither single nor simple and actually affects many aspects of life: medical, economic, psychological, and social.

## **Consequences of Incontinence**

Among the medical consequences are rashes, pressure sores, and skin and urinary tract infections due to prolonged contact with urine. Additionally, injuries may occur due to falls associated with trying to reach the bathroom in a hurry, especially at night. The economic costs include not only the cost of absorbent products, external control devices such as clamps or condom catheters, and /or medications, but the cost of skin care products, increased laundry, and replacement of ruined clothing or furniture. Also, patients may be unemployed, underemployed, or forced into early retirement due to their need to be near bathroom facilities and to use the facilities frequently. Psychologically, incontinence may lead to low-self esteem since in our society toilet training is accomplished at an early age, and from childhood we are taught that having an “accident” is shameful. Depression may occur, especially in older patients who may think that

becoming incontinent is a natural consequence of aging. It is not, though it may be an indication of worsening health. Anger, too, may result since loss of bladder control may cause a feeling of loss of control of other aspects of life; this is especially true of active persons forced to alter or curtail their usual activities. Adults who become incontinent may become socially withdrawn and isolated, as embarrassment and fear of having an accident, and the inconvenience of managing the condition leads to avoidance of social activities. Self-consciousness and anxiety about appearance and odor may also lead to social withdrawal.

## **Types of Incontinence**

Incontinence is not an isolated or rare problem; an estimated *twelve million* Americans suffer from this condition and the actual number is probably much greater. Of this number, about three million are men. People suffering from incontinence often feel embarrassed about their problem and cut themselves off from their friends and even their families. However, incontinence is not as simple as just being unable to control urine flow; it is a medical problem that should be discussed with a doctor. Avoiding discussion of the problem with a health care professional deprives incontinence sufferers of the opportunity to better manage their situation and greatly improve their quality of life.

There are varying degrees of incontinence ranging from mild (occasional loss of a few drops of urine), moderate (loss of small to moderate quantities of urine in certain situations or while undertaking certain activities) to severe (loss of moderate to large quantities of urine frequently, or daily). The best treatment or management program will differ based on the degree of incontinence and the type of incontinence, which is discussed below.

This section will discuss the types of incontinence; by understanding what type of incontinence an individual is experiencing a comprehensive management plan can be developed. Treatment and management of incontinence will be discussed in the next section.

Although there are various ways to classify incontinence, there are three basic types that will be discussed here: stress, urge, and overflow.

1. *Stress incontinence*—Urine leakage that occurs with increased pressure on the bladder due to coughing, straining, lifting, or other activity is termed stress incontinence. The activity need not be strenuous; leakage may occur due to the “stress” of gravity, such as when standing up from a seated position. In men, damage to the valve muscle (sphincter)

of the bladder during prostate surgery is the most common cause of stress incontinence. During prostatectomy (removal of the prostate) the urethra (the tube which carries urine out of the body) is cut since it passes through the middle of the prostate and the prostate is very tightly attached to it. The surgeon then reconnects the urethra to the bottom (neck) of the bladder. A catheter is inserted to permit urine flow while the urethra heals. After the urethra is healed, which takes two to three weeks, the catheter is removed. It is important for men to realize that they will not know immediately after surgery if the valve muscle has been damaged. In fact, more than 95 percent of men who have had surgery are incontinent at this point and may remain so for two or more months after the catheter is removed. Brachytherapy, a form of radiation treatment, may result in injury and scarring of the sphincter (valve) muscles at the neck of the bladder; up to seven percent of brachytherapy patients may experience long-term incontinence.

2. *Urge incontinence*—Urine leakage that occurs when a person feels a strong need to urinate and cannot reach a bathroom in time is called urge incontinence. The urge to urinate is due to contractions of the bladder muscle; these contractions will begin when the bladder is less than half full of urine and are normally voluntarily suppressed until the person decides to void. With urge incontinence, the contractions cannot be suppressed, and urine will begin to leak. This type of incontinence is sometimes referred to as an “overactive” bladder. In men this may be caused by bladder irritants, such as caffeine or aspartame (nutrasweet, *Equal*<sup>®</sup>) or by an enlarged prostate blocking the flow of urine through the urethra. About 17 percent of men who have undergone a Trans Urethral Resection Procedure (TURP) to reduce the size of the prostate have been shown to experience incontinence due to the procedure. Urge incontinence may also be a side effect of radiation therapy, particularly external beam radiation therapy with a dose that exceeds 70 Gy (Gy stands for gray, a standard unit for measuring the absorbed dose of radiation.)
3. *Overflow incontinence*—Overflow incontinence is caused by a blockage in the urethra or by weakness in the bladder muscle. If the urethra is blocked, by an enlarged prostate for example, the bladder cannot empty normally and becomes too full. As the amount of urine in the bladder increases it eventually causes the sphincter (valve muscle) to stretch and allows a small amount of urine to dribble out. A weak bladder muscle cannot

contract strongly enough to force the urine out of the bladder and once the bladder becomes overly full small amounts of urine will leak past the sphincter. This type of incontinence is more common in men than in women and is frequently due to an enlarged prostate. Other causes of overflow incontinence are diabetes, heavy alcohol use, and other conditions that result in decreased nerve function such as multiple sclerosis, polio, or trauma to the pelvic region. .

Mixed incontinence is a combination of stress and urge incontinence, i.e. the sphincter (valve) muscles are weak, *and* there are uncontrollable urges to urinate.

Clearly, the major cause of urinary incontinence in men is treatment of prostate cancer. Radical prostatectomy is responsible for the majority of cases of incontinence, but radiation therapies and cryotherapy also carry some risk of causing incontinence. Nearly a quarter of a million men (about 220,000) are diagnosed with prostate cancer yearly, and about 70 percent (about 108,000) of these men will opt for surgery as treatment. Of this group, 50 percent (up to 87,500 men) will have some degree of incontinence three months after surgery, 20 percent at six months, 10 percent one year later, and five to eight percent, about 12,000 men, will remain incontinent two years or longer after surgery. Even for men who eventually regain continence, use of a clamp during the incontinent period can significantly improve their attitude and activity level..

## **Treatments / Management**

Urinary incontinence may be treated and managed by a number of methods; in many cases a combination of these may result in the best outcome. This article focuses on the use of external urethral occlusion devices, commonly called clamps, to aid in the management of urinary incontinence in men.

The major ways to manage incontinence include medications, dietary management, physiotherapy techniques, surgical intervention, and supportive measures. Clamps are a supportive measure.

- Medications used include drugs that act directly on the bladder muscle (musculotropic) to cause it to relax. Examples of these drugs, used to treat urge incontinence, are Detrol (tolterodine) and Ditropan (oxybutinin). The drug imipramine, an antidepressant sold under many trade names, is used to treat cases of both urge and stress incontinence, although how this drug works to control incontinence is not understood. Mild stress

incontinence may be controlled by over-the-counter decongestants, such as Sudafed (pseudoephedrine) and Entex (phenylephrine). *Always check with your doctor before using one of these over-the-counter medications since they may interact with other drugs you are taking or affect other health conditions.*

- Dietary considerations include avoiding bladder irritants, such as caffeine, aspartame, and acidic juices as well as managing fluid intake. Management does not mean restriction; in fact, it is important *not* to become dehydrated as among other things this may lead to constipation, which itself will worsen urge incontinence as the bowel will press against the bladder.
- Biofeedback, Kegel (pelvic floor) exercises, electrical stimulation, behavior modification and bladder training may be useful.
- Surgical treatments include periurethral (next to the urethra) injections of bulking agents, bulbourethral sling, or implantation of an artificial urinary sphincter.
- Supportive interventions include periodic catheterization, use of absorbent pads, condom-catheter collection systems, and external urethral compression devices or clamps.

This publication will deal exclusively with clamps.

## **External Urethral Compression Devices, or Clamps**

The external urethral compression device, or clamp, has existed in some form since the 18<sup>th</sup> century. A French medical journal in 1731 described a metal, hinged clamp, covered with velvet and using a ratchet device for attachment, that was similar in size and appearance to the Cunningham clamp in use today.

Despite this long history many men are apparently still unaware of these devices, according to the coordinator of the largest prostate cancer support group in New England (reported in 2000 in the Walter Reed Army Medical Center [WRAMC] *US TOO! Newsletter*). This may be due in part to the reluctance of some medical professionals to recommend using clamps, as incorrect use may be at the very least uncomfortable, and at worst cause damage to the penis and the rest of the urinary system. However, used correctly, a clamp may provide a substantial improvement in the quality of life for many men suffering from any degree of urinary incontinence for any length of time.

## How they work

Several different designs of clamps are currently available; they are relatively inexpensive, non-invasive, adjustable, and reusable for varying periods of time. All clamps work by compressing the urethra, the tube which carries urine out of the body and which is located along the underside of the penis. However, for a clamp to put pressure on the urethra, the entire circumference of the penis must be compressed to some extent. Thus, in addition to pressing on the urethra, a clamp also puts pressure on the arteries, veins, and nerves that nourish and provide sensation to the penis and which are located near the top of the penis. Many of the clamps are designed to minimize this; the correct design is the one that is most comfortable for the wearer.

## Usage Considerations, Instructions, and Precautions

### **PLEASE READ THIS SECTION CAREFULLY!**

Follow all instructions carefully to avoid injury or leakage.

- **Clamps must be released every 2–4 hours to empty the bladder.** Allowing urine to remain in the bladder for prolonged periods increases the risk of urinary tract infections.
- Do not use a clamp in conjunction with other incontinence devices (except absorbent pads), with indwelling catheters, or with implanted penile prostheses.
- Contact your doctor immediately if *any* swelling, bruising, discoloration (change in color), or sores develop on the penis while using any clamp. In many cases some simple adjustments and additional practice using the clamp will alleviate the problem.
- Do not use near open sores. After sores are completely healed, the clamp may be used again.
- Patients with altered mental status should not be allowed to wear a clamp.
- Do not hesitate to contact your physician if you have *any* concerns or questions about using a clamp.

If a clamp is not properly positioned, secured too tightly, or left on too long it can cause swelling, bruising, and ulceration (sores) on the penis. If these signs are ignored, deep tissue necrosis (destruction of the tissues inside the penis) may occur; this damage cannot be seen. Because of these potential complications, doctors and other health care professionals may be hesitant to recommend clamps to their patients. Not only are they concerned, and rightly so, a ...