

Prostatitis and Male Chronic Pelvic Pain Syndrome

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What is the prostate?

The prostate is a small gland about the size and shape of a chestnut. It is just below the bladder and surrounds the urethra, the passage that carries urine from the bladder through the penis during urination. It lies just in front of the rectum and can be felt through the rectal wall. Women do not have a prostate.

The prostate gland consists of hundreds of tiny glands (acini) that secrete a fluid called prostatic fluid. This fluid is collected in larger ducts and then secreted into the urethra mixing with sperm during ejaculation. The fluid made by the prostate is important for sperm to be effective in reproduction (Figure 1).

What is prostatitis (pros-tuh-ty-tis)?

The simplest definition of prostatitis is like any word with “itis” on the end—inflammation of the prostate. Like “appendicitis” (inflammation of the appendix), “tonsillitis” (inflammation of the tonsils) or “arthritis” (inflammation of the joints), “prostatitis” was initially considered simply inflammation of the prostate gland.

At one time, it was believed that the inflammation of prostatitis was always caused by infection, usually with bacteria that causes bladder and kidney infections. However, this simple explanation proved to be, well too simple. Table 1 shows the categories that scientists use to classify the condition.

Everyone experiences prostatitis a bit differently. Table 1 gives researchers common ground to use when studying prostatitis, but unfortunately patients don't always fall neatly into one of these categories.

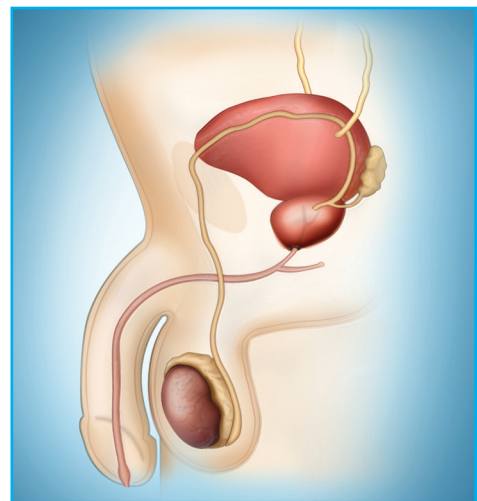


Figure 1. The prostate.

Table I. Categories of prostatitis

Category I:

Acute bacterial prostatitis (ABP)

Is an acute infection of the prostate proven to be caused by bacteria grown in the urine. ABP is painful and is often accompanied by fevers or chills, and voiding problems. It is treated with antibiotics.

Category II:

Chronic bacterial prostatitis (CBP)

Is a chronic bacterial infection where bacteria in lower amounts than ABP cause long term grumbling pain and urinary tract symptoms. It is also treated with antibiotics, but is more difficult to cure.

Category III:

Chronic prostatitis/chronic pelvic pain Syndrome (CP/CPPS)

More than 95% of patients are in this category. It is diagnosed when no bacteria can be found from the prostate in the urine or from prostate massage fluid despite pain and urinary tract symptoms. It is divided into two categories.

IIIa: Is the “inflammatory” subtype where white blood cells are found (immune cells that cause inflammation), but no bacteria can be found.

IIIb: Is the “non-inflammatory” subtype where no bacteria or inflammatory white blood cells can be found.

Category IV:

Asymptomatic Inflammatory Prostatitis

In this type, bacteria and white blood cells are found, but the patients have no symptoms of prostatitis.

Some patients are most bothered by muscle pain, others with nerve pain, while still others have inflammatory type pain. Many patients also have urination problems, psychological issues, and/or sexual problems because of their condition. From looking at Table 2, you can see that this disease can be complicated and treatments (we’ll discuss this later) are often tailored to each person.

It is important to know that prostatitis will not become a cancer, nor are you at a higher risk for cancer if you have prostatitis. It is also reassuring to know that you can’t infect others with prostatitis.

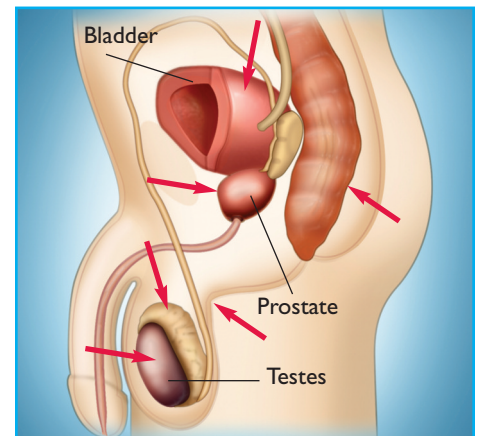


Figure 2. Where Can Prostatitis Pain Come from

How do you get prostatitis?

Since there are many sub-types of prostatitis, there are many different sources that cause this complex disease. In the **bacterial categories (I and II)**, the common bugs are the ones found in the colon like *E. Coli*, *Enterococcus* and *Pseudomonas*. The bacteria get into the prostate by back-flow of infected urine into the ducts. Some things that put you at higher risk to get bacterial prostatitis are:

- Recent urinary catheter, or other instruments inserted into your urethra
- Recent prostate biopsy
- Recent bladder infection
- An abnormality of your urinary tract
- A previous sexually transmitted infection
- Compromised immune system from medication or specific diseases.

Prostatitis is not contagious. If you have a diagnosis of bacterial prostatitis, your sexual partner cannot catch this infection from you.

The **non-bacterial Chronic Prostatitis or Chronic Pelvic Pain Syndrome (CP/CPSS)** is suspected to be caused by many factors, such as anatomic differences, immune system malfunction, hormone changes, inflammatory reactions, inappropriate nerve stimulation and even genetics. These changes are inter-related and most likely there is no single cause of prostatitis, but many things come together to cause the problems. The pelvic pain syndrome may even be set-off by a bacterial infection initially, then changes into something different. In fact, in many cases of CP/CPSS, all or at least some of the pain comes from areas outside of the prostate gland itself. These other areas include muscles and nerves of the pelvic floor, the testicles, the bowel and the groin.

Some things can make your prostatitis symptoms worse:

- a) Some foods (spicy, pickled etc)
- b) Alcoholic or caffeinated drinks (wine, coffee, sodas)
- c) Stressful life events
- d) Some physical activities, such as cycling, weightlifting, running

Each person may have different triggers. Discuss possible triggers with your doctor to see what things to avoid.

Table 2. Symptoms of prostatitis

Acute bacterial prostatitis (ABP)

- Symptoms develop quickly
- Deep pain in the rectum
- Fevers and chills
- Difficult, painful voiding (you may not be able to empty your bladder and have a painful condition called acute urinary retention)
- Bacteria can be found in your urine and occasionally in the blood
- Rectal exam is very tender when the prostate is felt (this needs urgent diagnosis and treatment)

Chronic bacterial prostatitis (CBP)

- Recurring bladder infections (with bacteria found in the urine sample)
- Longstanding but fluctuating pain in the rectum, testicles, perineum (area between the anus and the scrotum) or lower back.
- Frequent urination with a burning sensation
- Wake up at night frequently to urinate
- Painful ejaculation
- Swollen and tender prostate during exam
- Often, to detect bacteria in the prostate, your physician will have to massage the prostate and then collect the urine specimen (or prostate secretions)

Chronic pelvic pain syndrome (CPPS)

- Most common type of prostatitis
- 95% of patients with prostatitis in this category
- Up to 1 in 5 men have experienced at least some symptoms of this type of prostatitis
- Similar to CBP, but symptoms are not caused by bacterial infection
- Disease-causing bacteria are never found in the urine or the prostatic secretions (sometimes normal bacteria that do not cause infection can be found and this can cause some confusion about the diagnosis).
- A dull, throbbing pain or a sensation of irritation or heaviness
- Pain or discomfort may be anywhere in the pelvic area (bladder, pubic bone, rectum, etc.) or in the genital area (penis, testicles etc)
- Most common pain is in the perineum (area between scrotum and anus) or occurs during or after ejaculation; the pain comes and goes for most people and varies in intensity (Figure 2).
- Urination symptoms include going more frequently, a weak urinary stream, a feeling like the bladder doesn't empty completely and/or waking up at night to empty your bladder
- Difficulty getting and maintaining an erection
- Some patients only have a few symptoms, while others have many of them

How is my condition diagnosed?

Your doctor will ask you questions about your symptoms to confirm the prostatitis diagnosis.

You need to tell your doctor where you have your pain and discomfort, how frequent it occurs, how severe it is and what brings it on or makes it better. Your doctor will also need to know about your urination habits, medical history, lifestyle, sex life, and, most importantly, how the symptoms affect your daily life.

Your doctor will examine your lower abdomen and your genital area. Next, your prostate gland by inserting a lubricated, gloved finger into the rectum. Because the prostate lies just in front of the rectum, it is easily checked. Your doctor will see if your prostate feels enlarged or swollen and if there are other signs of infection, such as tenderness and heat. The doctor will also check the muscles around the rectum to see if there is any tenderness in the pelvic floor. Although this can be uncomfortable, especially if you have prostatitis, it will not cause any permanent damage. Sometimes it is important to test secretions from the prostate gland to determine if there are bacteria living in the gland. This is done by a short prostatic massage to push the fluids out of the prostate and into the urethra. The secretions can be tested alone or after the massage the urine can be tested for bacteria or inflammatory cells (Figure 3).

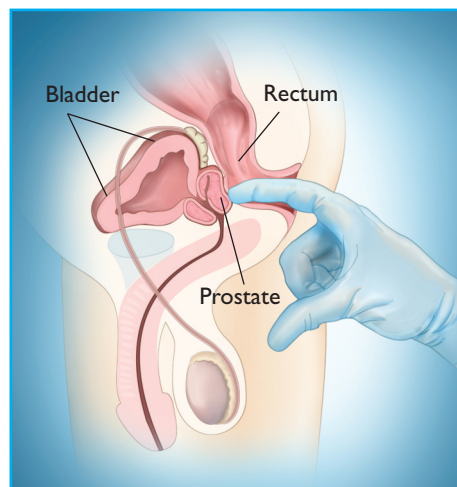


Figure 3. Prostate Examination

Depending on what your doctor finds, you may need other specialized tests, such as ultrasound of the prostate, or a cystoscopy procedure, in which a small camera is passed into the bladder to see the urethra, prostate and bladder. Your doctor may check the force of your urinary stream and the amount of urine left in your bladder after you void. These tests are not done in every case and are reserved for special situations.

How should my prostatitis be treated?

Although acute bacterial prostatitis is the most dangerous type, if caught in time, it is curable with antibiotics. It does not typically come back unless the triggering factor is repeated.

Unfortunately, there is no absolute “cure” for most patients. Because there are so many different causes of the condition and no two patients are exactly the same, there likely will never be a single “cure.” However, the good news is that we have many ways of tackling the problem, and although many patients may never be totally symptom-free, most can improve when given the right combination of therapies. For many patients, the condition “burns out” over time. The most important thing is to have realistic expectations.

Fill out this worksheet before you visit your doctor. It will help him or her understand your symptoms better.

<u>NIH-Chronic Prostatitis Symptom</u>	<u>Index (NIH-CPSI)</u>
<u>Pain or Discomfort</u>	
<p>1. In the last week, have you experienced any pain or discomfort in the following areas?</p> <p style="text-align: right;">Yes No</p> <p>a. Area between rectum and testicles (perineum) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>b. Testicles <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>c. Tip of the penis (not related to urination) <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>d. Below your waist, in your pubic or bladder area <input type="checkbox"/> 1 <input type="checkbox"/> 0</p>	<p>6. How often have you had to urinate again less than two hours after you finished urinating, over the last week?</p> <p><input type="checkbox"/> 0 Not at all</p> <p><input type="checkbox"/> 1 Less than 1 time in 5</p> <p><input type="checkbox"/> 2 Less than half the time</p> <p><input type="checkbox"/> 3 About half the time</p> <p><input type="checkbox"/> 4 More than half the time</p> <p><input type="checkbox"/> 5 Almost always</p>
<p>2. In the last week, have you experienced:</p> <p style="text-align: right;">Yes No</p> <p>a. Pain or burning during urination? <input type="checkbox"/> 1 <input type="checkbox"/> 0</p> <p>b. Pain or discomfort during or after sexual climax (ejaculation)? <input type="checkbox"/> 1 <input type="checkbox"/> 0</p>	<p><u>Impact of Symptoms</u></p> <p>7. How much have your symptoms kept you from doing the kinds of things you would usually do, over the last week?</p> <p><input type="checkbox"/> 0 None</p> <p><input type="checkbox"/> 1 Only a little</p> <p><input type="checkbox"/> 2 Some</p> <p><input type="checkbox"/> 3 A lot</p>
<p>3. How often have you had pain or discomfort in any of these areas over the last week?</p> <p><input type="checkbox"/> 0 Never</p> <p><input type="checkbox"/> 1 Rarely</p> <p><input type="checkbox"/> 2 Sometimes</p> <p><input type="checkbox"/> 3 Often</p> <p><input type="checkbox"/> 4 Usually</p> <p><input type="checkbox"/> 5 Always</p>	<p>8. How much did you think about your symptoms, over the last week?</p> <p><input type="checkbox"/> 0 None</p> <p><input type="checkbox"/> 1 Only a little</p> <p><input type="checkbox"/> 2 Some</p> <p><input type="checkbox"/> 3 A lot</p>
<p>4. Which number best describes your AVERAGE pain or discomfort on the days that you had it, over the last week?</p> <p><input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10</p> <p>NO PAIN AS PAIN AS PAIN BAD AS YOU CAN IMAGINE</p>	<p><u>Quality of Life</u></p> <p>9. If you were to spend the rest of your life with your symptoms just the way they have been during the last week, how would you feel about that?</p> <p><input type="checkbox"/> 0 Delighted</p> <p><input type="checkbox"/> 1 Pleased</p> <p><input type="checkbox"/> 2 Mostly satisfied</p> <p><input type="checkbox"/> 3 Mixed (about equally satisfied and dissatisfied)</p> <p><input type="checkbox"/> 4 Mostly dissatisfied</p> <p><input type="checkbox"/> 5 Unhappy</p> <p><input type="checkbox"/> 6 Terrible</p>
<p><u>Urination</u></p> <p>5. How often have you had a sensation of not emptying your bladder completely after you finished urinating, over the last week?</p> <p><input type="checkbox"/> 0 Not at all</p> <p><input type="checkbox"/> 1 Less than 1 time in 5</p> <p><input type="checkbox"/> 2 Less than half the time</p> <p><input type="checkbox"/> 3 About half the time</p> <p><input type="checkbox"/> 4 More than half the time</p> <p><input type="checkbox"/> 5 Almost always</p>	<p><u>Scoring the NIH-Chronic Prostatitis Symptom Index Domains</u></p> <p><i>Pain:</i> Total of items 1a, 1b, 1c, 1d, 2a, 2b, 3, and 4 = _____</p> <p><i>Urinary Symptoms:</i> Total of items 5 and 6 = _____</p> <p><i>Quality of Life Impact:</i> Total of items 7, 8, and 9 = _____</p>

Figure 4.

If you have **bacterial prostatitis** (category I or II), you will be treated with antibiotics and pain medication. The most effective antibiotics for you will be based on the lab tests of your urine or prostate secretions. If you have **acute bacterial prostatitis**, you may need to be hospitalized for intravenous antibiotics and you may need to have a temporary small plastic or rubber tube (called a catheter) inserted into your bladder to drain the urine. Once you are better, you will be sent home on two to four weeks of oral antibiotics. If you have **chronic bacterial prostatitis**, you will need to take antibiotics for four to 12 weeks.

If you have chronic **prostatitis/chronic pelvic pain syndrome**, your treatment will be more difficult. The first step is to try to identify what things trigger a flare in your symptoms. Here is a list of common triggers:

- Alcohol
- Acidic foods
- Spicy foods
- Bicycle riding
- Horseback riding
- Impact sports
- Stress
- Anxiety
- Depression

Every patient is different. You will likely find the right trigger by testing and eliminating foods, activities and situations. Some things you can do to improve your symptoms are:

- Regular exercise
- Hot sitz baths
- Donut cushions
- Relaxation techniques
- Trigger point massage
- Pelvic floor massage
- Low impact exercises (swimming, walking)
- Yoga
- Acupuncture
- Prostate massage
- Cognitive (psychological) therapy (positive thinking)

Again, you should figure out what works for you; not all of these suggestions work for everyone. Also, you will often know better than your doctor what works for you, and if you get relief from something other than the things listed above, let your doctor know and continue doing it.

Medications are the next thing your doctor may try. There are currently six categories of medications that your doctor might prescribe.

- 1) Antibiotics
- 2) Anti-inflammatories
- 3) Alpha-blockers (for urination symptoms)
- 4) Muscle relaxants
- 5) Neuromodulators (for nerve pain)
- 6) Phytotherapies (herbals)

1. Antibiotics

If your bacterial prostatitis is confirmed, antibiotics help a lot. The best antibiotics are the fluorquinolones (ciprofloxacin [Cipro], ofloxacin [Floxin], levofloxacin [Levaquin]), but others can be tried as well (trimethoprim with or without a sulphamethoxazole combination, a tetracycline such as doxycycline or a macrolide such as clarithromycin). If you are not successful with a certain antibiotic, then it's likely that you don't have an infection. Repeated antibiotics without a confirmation of bacteria in the urine or prostate secretions will not help and can be harmful. Other therapies and medications should be considered in this case.

2. Anti-inflammatories

Medications, such as celecoxib (Celebrex), naproxen (Aleve), ibuprofen (Advil) and acetaminophen (Tylenol) can give you some relief during a flare. Some of these medications can be dangerous if taken for a long time, so it's important to only use them when your symptoms flare up.

3. Alpha-blockers

These medications work in the part of the urethra that goes through the prostate. They help relax the prostate to make urination easier. Examples of such medications are terazosin (Hytrin), doxazosin (Cardura), tamsulosin (Flomax), alfuzosin (Xatral) and silodosin (Rapaflo). If one of the issues you have with prostatitis is difficult or painful urination (or ejaculation), one of these drugs may help. Alpha-blockers need time to be effective and they are most useful if taken for at least 6 weeks.

4. Muscle relaxants

Men with pelvic floor muscle spasms and pain in the muscles around the prostate may have some improvement from muscle relaxants, such as diazepam (Valium). No scientists have formally tested this idea, but some patients have success with muscle relaxants.

5. Neuromodulators

If your pain is related to your nervous system (burning/shooting pain), these medications, such as amitriptyline (Elavil) and gabapentin or pregabalin (Lyrica) can help. If you have constant burning pain, severe shooting pain that burns or if the pain feels like a "shock," then these types of medications may be helpful.

6. Phytotherapies

Some herbal medicines show promise for pain relief; these include a plant extract called quercetin, a pollen extract, and saw palmetto.

Surgery

Different surgeries, such as microwave therapy, injections and even radical removal of the prostate, have been tried on patients with prostatitis. Unfortunately, these surgeries don't help in most cases.

The only surgery that should be considered would be surgery to treat another disease that was contributing to your prostatitis symptoms. This includes surgery for urethral narrowing and occasionally for an enlarged prostate.

When looking at the available medications, it's plain to see there is no single medication that will "cure" prostatitis. Each of the medications can improve certain features of the disease; often, a combination of a few different medications, plus lifestyle, exercise and diet modification, is the best recipe for success. The combination will be different for each patient and a close examination of your symptoms and what works for you should be done before trying therapies.

How will prostatitis affect me?

Keep in mind:

1. Correct diagnosis is the key to the management of your prostatitis.
2. Prostatitis cannot always be cured but can be managed.
3. Treatment should be followed even if your symptoms have improved.
4. Patients with prostatitis are not at higher risk of developing prostate cancer.
5. There is no reason to discontinue normal sexual relations unless they are uncomfortable for you.
6. You can live a reasonably normal life with prostatitis.

Glossary

Word	Definition
Acute	Having a sudden onset and usually a short, severe course
Antibiotic	A drug that kills bacteria or prevents them from multiplying
Benign	Not malignant or cancerous
Catheter	A soft, lubricated tube inserted through the urethra to drain the bladder
Chronic	Persisting over a long period of time
Digital rectal examination (or DRE)	Insertion of a gloved, lubricated finger into the rectum to feel the prostate
Ejaculation	Release of semen from the penis during sexual climax
Infection	Condition resulting from the presence of bacteria or other microorganisms
Inflammation	Swelling and pain resulting from irritation or infection
Massaging (prostate)	Applying pressure on the prostate during a digital rectal examination to get its secretion
Perineum	The area between the anus and scrotum
Prostatitis	Inflammation of the prostate
Semen	Fluid containing sperm and secretions from glands of the male reproductive tract
Urethra	The tube that carries urine from the bladder and semen from the prostate and other sex glands out through the tip of the penis
Urologist	A doctor who specializes in diseases of the urinary tract and the male reproductive system