



Effective Health Care Program

Non-surgical Treatments for Urinary Incontinence

A Review of the Research for Women



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Is This Information Right for Me?

Yes, if:

- You are a woman who is older than 18.
- You are having trouble holding your urine until you get to the bathroom, and you have a strong urge to urinate.
- You leak urine when exercising, sneezing, or coughing.
- Your doctor or nurse practitioner has told you that you have “urinary incontinence,” a condition that makes you feel you have to urinate right away, makes you unable to hold your urine, or makes you leak urine without warning.
- You are looking at treatments for this problem that do not involve having an operation.

What decision needs to be made?

Which type of treatment should I choose to make my incontinence become less or go away—exercises, devices, or medicine?

- If exercises, which ones should I do?
- If devices, which one should I use?
- If medicines, which one should I take?

What are the goals of treatment?

- “Continence” or the ability to hold your urine until you go to the bathroom.
- Having fewer times when you feel you have to go to the bathroom right away.
- Having fewer times when you leak urine by accident.

How can this summary help me decide?

The information in this summary is from a report that reviewed 905 studies between January 1990 and December 2011 on treatments without surgery for urinary incontinence. You can use the information from research to understand what is known about the possible benefits and side effects of each treatment option. This information will help you talk with your doctor about what option may be best for you.



Understanding Your Condition

What is urinary incontinence?

Urinary incontinence or UI is a condition where urine leaks by accident.

There are two types of UI that are common in women, depending on the symptoms:

- **Stress incontinence:** You are unable to “hold” urine when coughing, sneezing, exercising, or lifting something. The result is leaking or wetting.
- **Urgency incontinence:** You often have a strong urge to urinate and cannot make it to the bathroom before your urine leaks. A similar problem is called “overactive bladder,” when you have a sudden strong urge to urinate, or you have to urinate often. You are able to hold your urine, however, with overactive bladder.

Some women have both kinds of incontinence. Doctors call this “mixed incontinence.”





Why do I have this condition?

- Many things may have caused the muscles that you use to hold urine (called “pelvic floor muscles”) to get weak, or have caused you to lose control of these muscles. Some of these causes include:
 - Older age
 - Being overweight
 - Pregnancy
 - Hysterectomy
 - Frequent urinary tract infections
 - Having a C-section (an operation to deliver a baby)
- The small ring of muscles that hold the bladder closed (the “bladder sphincter”) has become weak and allows urine to leak out.
- If you have overactive bladder, it may be because the nerves that control the muscles of the bladder cause those muscles to spasm. Or, the bladder muscles cannot relax enough to allow the bladder to expand to hold more urine.
- Some medicines can increase the chance of having trouble controlling urination. These include the blood pressure medicines and antipsychotics (medicines used for mental health conditions).

Why treat UI?

For most women, having UI affects how they feel about themselves and limits their ability to enjoy work or their favorite activities. Untreated UI can lead to skin rashes and urinary tract infections. The good news is that many women are able to improve or completely end their incontinence with treatment.

Understanding Your Choices

How is UI treated?

There are several types of treatments for UI:

- Special exercises
- Medicines
- Bladder training
- Medical devices

The type of exercise, device, or medicine you use depends on whether you are treating stress, urgency, or mixed UI.

The goal of your treatment may be continence (when urinating is under your control) and/or reducing the amount of urgency or leaking.

Treatments for Urinary Incontinence

Stress Incontinence	
Exercises	<ul style="list-style-type: none"> ■ Pelvic floor muscle training (PFMT) ■ PFMT with biofeedback
Medical Devices	<ul style="list-style-type: none"> ■ Electric stimulation ■ Magnetic stimulation
Medicines	<ul style="list-style-type: none"> ■ Topical estrogen ■ Duloxetine (Cymbalta®)
Urgency Incontinence	
Bladder Training	<ul style="list-style-type: none"> ■ Scheduling urination
Medical Devices	<ul style="list-style-type: none"> ■ Percutaneous tibial nerve stimulation
Medicines	<ul style="list-style-type: none"> ■ Oxybutynin (Ditropan®) ■ Tolterodine (Detrol®) ■ Darifenacin (Enblex®) ■ Solifenacin (VESIcare®) ■ Fesoterodine (Toviaz®) ■ Trospium (Sanctura®)
Mixed Incontinence	
Treatments for stress and urgency incontinence are combined to treat mixed incontinence.	

Exercises

- **Pelvic floor muscle training (PFMT), also called Kegel exercises.**
 - These exercises involve squeezing and releasing the muscles that you use to stop urinating.
 - Your doctor can tell you how many times you should squeeze and release and how long you will need to keep doing these exercises.
 - PFMT is sometimes done with biofeedback to help women learn how to do the exercises. Biofeedback uses electronic recorders or other instruments, and sometimes written diaries, to record contractions of your pelvic floor muscles or bladder muscles.

Bladder training

- This method involves building up the ability to hold your urine for longer and longer periods by following a schedule.
- The goal is to have a schedule that has you go only once every 3 or 4 hours.
- Even if you don't feel the need to urinate, you empty your bladder on the planned schedule.
- Every time you feel the urge to urinate outside of that schedule, you try and hold it for more and more minutes each time until you can keep to your schedule.
- Your doctor can help you set a schedule based on your own body.

Medical devices

■ Electric stimulation

- A soft, silicone rubber tube about the size of a tampon is inserted into the vagina. It is attached to a battery-operated unit that sends a small amount of electricity into the tube and the muscles surrounding it.
- This therapy can be done at home after a therapist or nurse explains how to use the device and sets a level that tightens the muscles but is still comfortable.

■ Magnetic stimulation

- The patient sits down on a chair that has magnetic coils in the seat or under the seat. An electric current is sent into the coil, creating a magnetic field that tenses and relaxes the muscles of the pelvis.
- This therapy must be done in a doctor's office or clinic. The patient can remain clothed during therapy.

■ Percutaneous tibial nerve stimulation (PTNS)

- PTNS uses a fine needle that is inserted near the ankle.
- Pulses of electricity are sent into the needle to travel through the tibial nerve, a nerve that runs up your leg and connects to nerves that control your bladder muscles.
- This therapy must be done in a doctor's office or clinic.

Medicine

Doctors can use several different kinds of medicines to help improve UI, depending on the kind of UI you have.

Medicines for stress incontinence

- **Estrogen.** Estrogen is a female hormone. Your body makes less of this hormone as you age. Topical estrogen is used as skin patches or as a cream, tablet, or ring that you place in your vagina. Topical estrogen is sold under many different brand names.

- **Duloxetine (Cymbalta®)**. This medicine helps people with depression, anxiety, and fibromyalgia (chronic muscle pain and tiredness), but some doctors may use it for stress incontinence as well.

Medicines for urgency incontinence

- All the medicines used to treat urgency incontinence were made for that purpose. All the medicines studied improved urgency incontinence, for example, by reducing the number of times leakage occurred or by reducing the amount of leakage. Some medicines helped women to completely prevent leakage.
- Because mixed incontinence means a woman has both stress and urgency incontinence, these medicines can also be used for mixed incontinence.

What does the research say about treatments for UI?

How do I make sense of this information?

This chart shows the research on how likely a treatment for stress or urgency incontinence may work to improve symptoms or make someone continent. The women in green will have the benefit, the women in red are the ones who will have the side effect, and the women in blue are those who will not have either a benefit or a side effect. For example:



5 out of 10 women means that the chances are about 50/50 that you will see the same result.



1 out of 10 women means that you have a smaller chance to see the same result.

The higher the number of women out of 10 that saw a result, the more likely you are to see the same result.

These are general estimates of how likely a treatment may work or cause a side effect. Every person may respond differently. You may need to try several treatments before finding what works for you.

Non-medicine Options for Treating Stress Incontinence

Non-drug Treatments: Exercises

Pelvic floor muscle training (PFMT)

Benefits

3 out of 10 women became continent using this treatment.



4 out of 10 women improved their symptoms using this treatment.



Side Effects

Not known, but most researchers think there are few if any.

PFMT with biofeedback

Benefits

4 to 5 out of 10 women became continent using this treatment but more research could change this finding.



4 out of 10 women improved their symptoms using this treatment.



Side Effects

Not known, but most researchers think there are few if any.

Non-drug Treatments: Medical Devices

Electric stimulation

Benefits

2 out of 10 women became continent using this treatment.



2 out of 10 women improved their symptoms using this treatment.



Side Effects

Not known, but most researchers think there are few if any.

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Non-medicine Options for Treating Stress Incontinence *(Continued)*

Non-drug Treatments: Medical Devices

Magnetic stimulation

Benefits

Did not help women become continent, but more research could change this finding.

3 out of 10 women improved their symptoms using this treatment, but research is limited.



Side Effects

Not known, but most researchers think there are few if any.

Medicines for Treating Stress Incontinence

Topical estrogen

Benefits

There is not enough research to know if estrogen helped UI.

Side Effects

There is not enough research to know if estrogen taken for UI causes side effects.

Duloxetine (Cymbalta®)

Benefits

Less than 1 out of 10 women improved their symptoms using this medicine.



Side Effects

About 2 in 10 women had nausea using this medicine.



1 in 10 women had dry mouth using this medicine.



About 1/2 to 1 out of 10 women had constipation, extreme sleepiness, insomnia (inability to fall asleep or stay asleep), and dizziness using this medicine.



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Options for Treating Urgency Incontinence

Non-drug Treatments: Lifestyle Changes

Bladder training

Benefits

The number of women who became continent was not reported.
4 out of 10 women improved their symptoms using bladder-control exercises.



Combining PFMT with bladder training improved continence in women with urgency incontinence.

Side Effects

Not known, but most researchers think there are few if any.

Non-drug Treatments: Medical Devices

Percutaneous tibial nerve stimulation

Benefits

The number of women who became continent was not reported.
3 out of 10 women improved their symptoms using this device.



Side Effects

There were no differences in the number of women who reported side effects from using this device than those who reported side effects from using a “sham” treatment (no electrical pulse was given, but women were told they were getting the treatment).

Medicines for Treating Urgency Incontinence

Darifenacin (Enablex®)

Benefits

About 1 out of 10 women improved their symptoms using this medicine.



Side Effects

About 2 out of 10 women had dry mouth using this medicine.



About 1 out of 10 women had constipation using this medicine.



Less than 1 out of 10 women had an upset stomach using this medicine.



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Options for Treating Urgency Incontinence *(Continued)*

Medicines for Treating Urgency Incontinence

Fesoterodine (Toviaz®)

Benefits

About 1 out of 10 women became continent using this medicine.



About 1 out of 10 women improved their symptoms using this medicine.



Side Effects

About 2 out of 10 women had dry mouth using this medicine.



Less than 1 out of 10 women had constipation using this medicine.



Less than 1 out of 10 women had dry eyes using this medicine.



Oxybutynin (Ditropan®)

Benefits

About 1 out of 10 women became continent using this medicine.



About 2 out of 10 women improved their symptoms using this medicine.



Side Effects

About 3 to 4 out of 10 women had dry mouth using this medicine.



About 1 out of 10 women had an upset stomach using this medicine.



Constipation: No different from women taking a placebo (sugar pill).

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Options for Treating Urgency Incontinence *(Continued)*

Medicines for Treating Urgency Incontinence

Solifenacin (VESicare®)

Benefits

About 1 out of 10 women became continent using this medicine.



About 2 out of 10 women improved their symptoms using this medicine.



Side Effects

About 1 to 2 out of 10 women had dry mouth using this medicine.



About 1 out of 10 women had constipation using this medicine.



Less than 1 out of 10 women had blurred vision using this medicine.



Tolterodine (Detrol®)

Benefits

About 1 out of 10 women became continent using this medicine.



About 1 out of 10 women improved their symptoms using this medicine.



Side Effects

About 1 out of 10 women had dry mouth using this medicine.



Less than 1 out of 10 women had constipation using this medicine.



Less than 1 out of 10 women had upset stomach using this medicine.



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Options for Treating Urgency Incontinence *(Continued)*

Medicines for Treating Urgency Incontinence

Trospium (Sanctura®)

Benefits

About 1 out of 10 women became continent using this medicine.



Side Effects

About 1 out of 10 women had dry mouth using this medicine.



Less than 1 out 10 women had constipation using this medicine.



Less than 1 out of 10 women had dry eyes using this medicine.



Warning: Doctors and patients have also reported some serious side effects that can occur with these medicines. Although they do not happen very often, they are more dangerous than the common side effects listed above. These side effects include rapid irregular heart rate, hallucinations, problems with thinking, and rarely death. The chance of having a serious side effect is greater for elderly patients, for patients who take many different medicines at the same time, and for patients who take some antihistamines (allergy medicines) and antibiotics along with these UI medicines. Ask your doctor about these more serious side effects.



How do UI medicines compare with one another?

- Fesoterodine is better than tolterodine at decreasing the strength and number of urges to urinate, but it might also be more likely to cause negative side effects than tolterodine. Fesoterodine might also be better at completely stopping any leaking, but there wasn't enough research to know for sure.
- Oxybutynin was not better at preventing any leaking than tolterodine, but it might be more likely to cause negative side effects than tolterodine.
- There isn't enough research to say for sure how medicines that are taken together compare with medicines taken alone.
- More than half of all people taking medicines for UI stop taking them after 1 year of treatment, usually because of side effects.
- Oxybutynin (Ditropan®), trospium (Sanctura®), and darifenacin (Enblex®) work in women of all ages, including those 65 years of age and older.
- Trospium (Sanctura®) works in women who are obese (very overweight). There is not enough research to know how being very overweight affects other medicines.
- If you are taking seven or more medicines (of any kind) at the same time, you are more likely to have side effects from trospium (Sanctura®).
- Solifenacin (VESIcare®) is likely to work even if you have not had benefits from other medicines.
- Higher doses of medicine are effective for people who do not see results the first time they try a medicine except for solifenacin (VESIcare®), but higher doses also increase the chances for having side effects.



Comparing exercises with devices and medicines

No research studies compared the results of exercises with devices and with medicines. However, exercises and medical devices seem to have better results for improving UI symptoms and helping women become continent than do medicines, with fewer negative side effects.

Lifestyle changes

Some research that found women who are very overweight were able to improve their UI symptoms by losing weight and exercising.

Managing UI symptoms

While you are treating UI, you can manage incontinence by:

- Scheduling regular bathroom breaks.
- Requesting that you be allowed to work close to a bathroom.
- Wearing pads inside your underwear.

Making a Decision

What should I think about when deciding?

There are several things to consider when choosing a treatment for UI:

- Whether your incontinence is bothering you enough to seek treatment.
- Which treatment is best for your particular kind of UI.
- The trade-offs between the benefits and possible side effects for each treatment.
- Which treatment best fits your personal preferences and values.
- How many treatments you are willing to try until finding one that is best for you.

How long will I need to use the treatments?

You may need to use treatments even after your UI improves, and even if it goes away completely.

What are the costs of treatment?

The costs to you for treatment depends on a number of factors, including:

- Your health insurance plan. Some stimulation devices may not be covered by Medicare, Medicaid, or private insurance companies. Your medicine co-pay will also depend on your drug plan.
- Exercise and bladder training may not cost anything unless you work with a nurse or physical therapist.
- The length of time you need to use medical devices or medicine.
- The amount (dose) of medicine you need to take.
- Whether the medicine comes in a generic form. Most UI medicines do not come in generic form.

Wholesale prices of prescription UI medicines

Generic Name	Dose	Cost of 1-Month Supply*	Brand Name	Cost of 1-Month Supply*
Darifenacin	15 mg daily	N/A	Enablex®	\$170
Fesoterodine	4 mg daily	N/A	Toviaz®	\$151
Oxybutynin	10 mg daily	\$90	Ditropan®	\$152
Solifenacin	10 mg daily	N/A	VESIcare®	\$180
Tolterodine	2 mg twice daily	N/A	Detrol®	\$189
Trospium	20 mg twice daily	\$170	Sanctura®	\$193

* Wholesale prices are from *RED BOOK Online*®. Generic prices are the middle value in the range of prices listed from different manufacturers. The actual prices of the medicines may be higher or lower than the prices listed here, depending on the manufacturer used by your pharmacy.

N/A = not available

Ask your doctor

- What do you think about the research on different UI treatments?
- Given my UI symptoms, which of these options is most likely to work for me?
- How long will it take to see a difference, and when do I see you to try something different?
- How will I know if I am having a serious side effect from the medicine, and when should I call you?

Write the answers here:

Source

The information in this summary comes from the report *Nonsurgical Treatments for Urinary Incontinence in Adult Women: Diagnosis and Comparative Effectiveness*, April 2012.

The report was produced by the Minnesota Evidence-based Practice Center through funding by the Agency for Healthcare Research and Quality (AHRQ).

For a copy of the report or for more information about AHRQ and the Effective Health Care Program, go to www.effectivehealthcare.ahrq.gov/ui.cfm. Additional information came from the MedlinePlus® Web site, a service of the National Library of Medicine and the National Institutes of Health. This site is available at www.nlm.nih.gov/medlineplus.

This summary was prepared by the John M. Eisenberg Center for Clinical Decisions and Communications Science at Baylor College of Medicine, Houston, TX. Women with urinary incontinence reviewed this summary.

