UNIVERSITY OF MICHIGAN HEALTH
MICHIGAN MEDICINE

Overactive Bladder Decision Aid

What is Overactive Bladder?

Overactive bladder is a group of symptoms related to bladder emptying, it is not a disease. People with overactive bladder may have:

- Frequent urination (emptying the bladder more than 8 times per day)
- Strong urges to empty their bladder and urine leakage due to strong urge to empty the bladder
    - Note: Urine leakage associated with coughing, sneezing, laughing or activity is not a sign of overactive bladder.
- Interrupted sleep from waking up at night to urinate

Symptoms of overactive bladder can come and go and can be short or long in duration. There is no **single** ideal treatment and available treatments require different amounts of time and effort to complete. There are also different harms and benefits which will be discussed later in this handout. Most of the treatments available for overactive bladder **improve**, but do not totally **resolve**, symptoms.

What are the treatments for overactive bladder?

Lifestyle changes

Several non-medication therapies are available to help improve symptoms. Changes in daily behaviors and routines can help decrease bladder symptoms. For example:

- Limiting fluids that irritate the bladder (caffeine, carbonated beverages)
- Weight loss
- Treating constipation
- Learning and exercising urge suppression techniques (behaviors to cut down the strong urges to empty your bladder)
- Bladder training (gradually increasing time between emptying bladder)
- Some men and women also have improvement in their symptoms with pelvic floor physical therapy (strengthening the muscles around the urethra with or without a therapist)

You should continue these changes even if you decide to try a medication or advanced therapy for overactive bladder.

Medications

Medications can also help reduce symptoms of overactive bladder. There are two classes of medications for overactive bladder. These block involuntary smooth muscle contractions:

1. Anticholinergics (examples include oxybutynin, fesoterodine, solifenacin, tolterodine, trospium.
2. Beta-3 Agonists (examples include mirabegron and vibegron).

These medications are usually pills taken 1-3 times per day by mouth. Anticholinergic medications can have the side effects of dry mouth, dry eyes, and constipation. There is also growing concern that these medications may lead to trouble with mental processing. Beta-3 Agonists can be associated with increases in blood pressure.

Advanced therapies

Three advanced options are available to help treat symptoms of overactive bladder:

1. **Posterior tibial nerve stimulation (PTNS):** An office-based procedure where a small acupuncture needle is placed in the ankle and stimulation is delivered through the needle (Figure 1). This works by stimulating nerves that run to the bladder. The procedure lasts 30 minutes and is usually delivered every week for 12 weeks. The effect may wear off over time, so we recommend that patients who find PTNS helpful return for a 30 minute session every month to control bladder symptoms. Harms include bleeding or pain at the needle site.

Figure 1

(Used with permission from Laborie patient information)

Sacral neuromodulation (SNM):

2. A surgical device that provides continuous therapy to stimulate nerves that run to the bladder (Figure 2). This implant is placed in a 1 or 2-stage surgery where a small wire is placed next to nerves near the tailbone. You may undergo a test period and if the therapy helps improve symptoms, then a small battery is placed under the skin above the buttocks and attached to the wire (Figure 3). People with a sacral neuromodulation device require yearly checkups to the device with their doctor and the battery requires changing at intervals of 3-15 years. Harms of implanting the device include bleeding, bruising, infection and fixing the device through another procedure.

Figure 2 & 3
(Used with permission from
Medtronic Patient Information)

3. **Bladder botulinum toxin injection (BTX):** An office procedure where a clinician places a small camera into the bladder (cystoscope) and uses a small needle to inject botulinum toxin (Botox) directly into the wall of the bladder to relax it (Figure 4).
View the full-size image here: https://patients.uroweb.org/treatments/botulinum-toxin/.

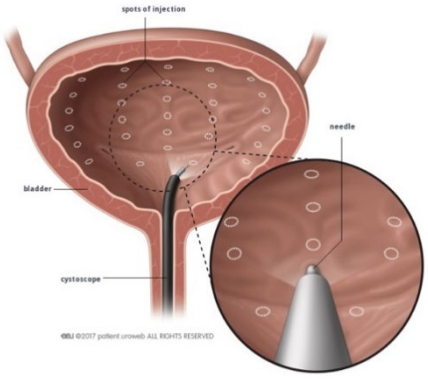


Figure 4
(Used with permission from
EAU Patient Information, patients.uroweb.org)

This decreases the frequency of urination and the sudden urge to urinate. Harms include blood in urine, bladder infection, and inability to empty bladder completely requiring catheter use.

Advanced therapy for overactive bladder decision aid

1. Clarify your choice

This decision aid is designed to help adults choose between advanced therapies for overactive bladder. To help you decide, answer the questions below and read through the information provided in the comparison tables on page 9.

What therapies have you tried for your bladder symptoms?
(Select all that apply)

- ☐ Diet changes
- ☐ Urge suppression or bladder training
- ☐ Physical therapy
- ☐ Medication
- ☐ Posterior Tibial Nerve Stimulation (PTNS)
- ☐ Sacral Neuromodulation Implant (SNM)
- ☐ Bladder botulinum toxin (BTX) Injection

How far along are you with making a treatment choice for your overactive bladder symptoms?

- ☐ Not thought about it
- ☐ Thinking about it
- ☐ Close to choosing
- ☐ Made a choice

2. Explore your decision

Turn to page 9 and read through the comparison table to learn about the benefits and harms of options. After reading, answer the following questions:

Which benefit or harms matter most to you?

- ☐ How well it decreases leakage of urine when I have a strong urge to urinate
- ☐ How well it decreases the number of times I urinate
- ☐ How convenient the treatment is for me
- ☐ Cost of treatment
- ☐ Potential side effects of treatment
- ☐ Other _____

Which option do you prefer?

(Select all that apply)

- ☐ Posterior Tibial Nerve Stimulation (PTNS)
- ☐ Sacral Neuromodulation (SNM)
- ☐ Bladder botulinum toxin (BTX)

Who else is involved in your decision?

_____

What role do you prefer in making your choice?

- ☐ Share the decision with my doctor or practitioner
- ☐ Decide myself after hearing the views of my doctor or practitioner
- ☐ Someone else decides for me

3. Identify your decision-making needs

Do you know the benefits and harms of each option?	☐ Yes	☐ No
Are you clear about which benefits and harms matter most to you?	☐ Yes	☐ No
Do you have enough support and advice to make a choice?	☐ Yes	☐ No
Do you feel sure about the best choice for you?	☐ Yes	☐ No

If you answer 'no' to any question, you can work through the steps above, focusing on your needs. People who answer "No" to 1 or more of these questions are more likely to delay their decision, change their mind, feel regret about their choice or blame others for bad outcomes.

4. Plan the next steps based on your needs

Are you ready to decide a next step?

- ☐ Yes
- ☐ No

If you answered yes, which option do you prefer?

- ☐ None of these
- ☐ Posterior Tibial Nerve Stimulation
- ☐ Sacral Neuromodulation
- ☐ Bladder botulinum toxin

If you answered no, consider these next steps:

If you feel you do not have enough facts, you can:

- ☐ List your questions for your doctor or healthcare provider
- ☐ Read more information about treatment options at the following websites:
  More information about overactive bladder:
    - Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction (SUFU): https://tinyurl.com/32aexxpe
    - Urology Care Foundation: https://tinyurl.com/3kcevbd5
    - Voices for Pelvic Floor Disorders: https://tinyurl.com/mrx43xec
    - My Confident Bladder: myconfidentbladder.com
  - More information about sacral neuromodulation: https://tinyurl.com/2p8tj8ck
  - More information about Bladder Botulinum toxin: https://tinyurl.com/bdd8fxhf

Values: If you are not sure which benefits and risks matter most to you, you can:

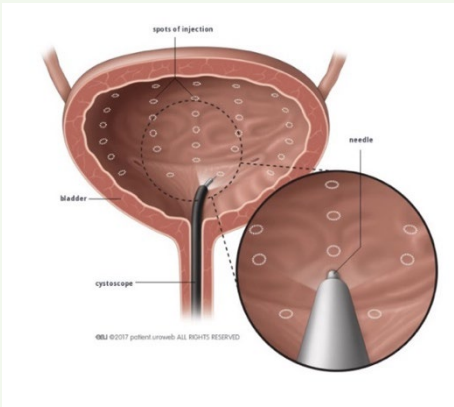
- ☐ Review the steps above to see what matters most to you.
- ☐ Find people who know what it is like to experience the benefits and harms
- ☐ Talk to others who have made the decision
- ☐ Read stories about what mattered most to others
- ☐ Discuss with others what matters most to you

Support: If you feel you do not have enough support

- ☐ Discuss options with a trusted person (for example: healthcare provider, friend, counselor, family)
- ☐ Find help to support your choice (for example: funds, transportation, childcare)

Certainty: if you feel unsure about the best choice for you.

- ☐ Work through steps above focusing on your needs

General information	Posterior Tibial Nerve Stimulation (PTNS)	Sacral neuromodulation (SNM)	Bladder botulinum toxin (BTX)
How is it done?	An acupuncture needle is placed on the ankle and electrical stimulation is delivered to a nerve that runs to the bladder. This helps change the urge to urinate.  (Used with permission from Laborie Patient Information)	A small wire is surgically placed near the tailbone and a small battery is placed under the skin above the buttocks. The wire delivers electrical stimulation to bladder nerves and helps change the urge to urinate.  (Used with permission from Medtronic Patient Information)	A camera (cystoscope) is placed into the bladder and the medication is injected into the bladder wall. The medication relaxes the bladder muscle and decreases the frequency and urgency of urination.  (Used with permission from EAU Patient Information, patients.uroweb.org)
Where is it done?	Medical office	Operating Room	Medical office or Operating Room
How often is it done?	Treatment is twelve (12) visits that occur once per week and last 30 minutes. Some people continue 30-minute sessions once per month.	**One or two surgical procedures** are needed to place the device. People with the device learn to control turning it on or off. Yearly visits with doctors are recommended. Surgery to replace the battery is needed after 15 years.	Injections wear off and must be repeated **every 3-12 months**. In general, it is repeated when the effect wears off. The exact schedule of repeating the procedure may be different for each person.

	Posterior Tibial Nerve Stimulation (PTNS)	Sacral neuromodulation (SNM)	Bladder botulinum toxin (BTX)
How much recovery time is needed?	This is a clinic-based procedure, and no recovery time is expected. You can resume regular activity the same day.	This is an operating room procedure. There may be a 2-week trial period between procedures where reduced activity is recommended. You cannot drive or work the day of the procedures but can resume light activity the following day.	If done in the clinic, no recovery time is expected. You can resume regular activity the same day. If done in the operating room with anesthesia, you cannot drive or work the day of the procedure but can usually return to regular activity the following day.
Who can't have this procedure?	People with: • Pacemakers or defibrillators • Current or planned pregnancy during treatment • History of excessive bleeding	People with: • Current pregnancy • Plans to undergo diathermy ("deep heating") Talk to your clinician if you are planning to undergo pregnancy, participate in deep sea diving, or have cardiac devices.	People with: • Myasthenia gravis • Current or planned pregnancy • Urinary tract infection • Allergy to botulinum toxin • Inability or unwillingness to be catheterized • Inability to empty bladder Talk to your clinician if you are receiving botulinum toxin for other reasons.
How much does it cost?	All three treatments can be covered by some insurances. Insurance coverage is different between plans. There may be out of pocket costs, the amount of money paid out of pocket may be different for each person. Also consider the costs for transportation to the appointment and time away from other responsibilities.		

Potential benefits	Posterior Tibial Nerve Stimulation	Sacral neuromodulation (SNM)	Bladder botulinum toxin (BTX)
How well does it work to reduce urine leakage due to a strong urge?	People who started with 3 urgency urine leakages per day may expect **1 fewer leakage episode per day.** Almost no one reported that urine leakage is completely gone after PTNS.	People who start with 6 urgency urine leakages per day may expect **3 fewer leakage episodes per day.** Almost no one reported that urine leakage is completely gone after SNM.	People who start with 4 urgency urine leakages per day **may expect 3 fewer leakage episodes per day** after 100 units of BTX People who start with 6 urgency urine leakages per day may expect **4 fewer leakage episodes per day** after 200 units of BTX. **2 out of 10** people report that urine leakage is completely gone after 100 or 200 units of BTX.
Will I urinate less often?	In people who urinate more than 8 times while awake, 1-2 fewer urinations are expected for all three therapies		
How many people say that bladder symptoms are better?	**5 out of 10** people report at least "moderately or markedly" improved symptoms.	**3 out of 10** people report at least 75% improvement in symptoms.	**5 out of 10** people report at least 75% improvement in symptoms after 100 or 200 units.
What are other benefits?	May help bowel problems, but it has not been well studied.	Can help decrease bowel accidents.	None

Potential Harms	Posterior Tibial Nerve Stimulation	Sacral neuromodulation (SNM)	Bladder botulinum toxin (BTX)
How many people have bleeding?	**Less than 1 out of 10** people experience bleeding or bruising		**Less than 1 out of 10** experience a blood in the urine after **100 units or 200 units.**
How many people have infection?	**Almost no people** have had urinary tract infection. **Almost no people** have had infection at the site of the needle placement.	**4 out of 10 people** experienced a UTI within 6 months of treatment. **Less than 1 out of 10 people** have infection of the device.	**Less than 1 out of 10** experience a UTI after **100 units.** **1 out of 10 people** experience a UTI within 6 months of treatment with after 200 units.
How many people need to empty their bladder with a catheter?	**Almost no people** need to use a catheter.		**Less than 1 out of 10** people needed to use a catheter to drain their bladder after treatment with 100 units of BTX. **2 out of 10 people** needed to use a catheter within 6 months of treatment with 200 units of BTX.
What are other harms?	• Pain at needle site • Bruising • Undesired stimulation • Tingling in leg	• Pain at implantation site • Movement of the lead wire • Infection • Technical or device problems • Undesired stimulation or feelings • Need for revision (less than 1 in 10 people)	• Bladder pain • Pain with urination • Spread of botulinum toxin to other sites of body causing weakness

Data sources:

Amundsen CL, Richter HE, Menefee SA, et al. OnabotulinumtoxinA vs Sacral Neuromodulation on Refractory Urgency Urinary Incontinence in Women: A Randomized Clinical Trial. JAMA [Internet]. 2016;316:1366–1374. Available from: http://dx.doi.org/10.1001/jama.2016.14617.

Sherif H, Khalil M, Omar R. Management of refractory idiopathic overactive bladder: intradetrusor injection of botulinum toxin type A versus posterior tibial nerve stimulation. Can J Urol [Internet]. 2017;24:8838–8846. Available from: https://www.ncbi.nlm.nih.gov/pubmed/28646940.

Abdelwahab O, Sherif H, Soliman T, et al. Efficacy of botulinum toxin type A 100 Units versus 200 units for treatment of refractory idiopathic overactive bladder. Int Braz J Urol [Internet]. 2015;41:1132–1140. Available from: http://dx.doi.org/10.1590/S1677-5538.IBJU.2014.0221.

Visco AG, Brubaker L, Richter HE, et al. Anticholinergic therapy vs. onabotulinumtoxina for urgency urinary incontinence. N Engl J Med [Internet]. 2012;367:1803–1813. Available from: http://dx.doi.org/10.1056/NEJMoa1208872.

Peters KM, Carrico DJ, Perez-Marrero RA, et al. Randomized trial of percutaneous tibial nerve stimulation versus Sham efficacy in the treatment of overactive bladder syndrome: results from the SUmiT trial. J Urol [Internet]. 2010;183:1438–1443. Available from: http://dx.doi.org/10.1016/j.juro.2009.12.036.