

Stress urinary incontinence

Stress [urinary incontinence](#) (SUI) is a leakage of urine during moments of physical activity that increases abdominal pressure, such as coughing, sneezing, laughing, or exercise. SUI is the most common type of urinary incontinence in women

Sun Y, Chen H, Bai Y, Zhang T, Bai W, Jiang B. [Ketogenic diet](#) may be a new approach to treatment stress urinary incontinence in obese elderly women: report of five cases. *BMC Womens Health.* 2022 Oct 4;22(1):402. doi: 10.1186/s12905-022-01987-5. PMID: 36195868.

2: Palacios JL, Juárez R, Mirto-Aguilar N, Munoz A, Damaser MS, Cruz Y. Time course for urethral neuromuscular reestablishment and its facilitated recovery by transcutaneous neuromodulation after simulated birth trauma in rats. *Sci Rep.* 2021 Nov 3;11(1):21591. doi: 10.1038/s41598-021-01200-x. PMID: 34732833; PMCID: PMC8566552.

3: Parikh NN, Spinner RJ, Tollefson MK, Linder BJ. An Unusual Complication of Retropubic Midurethral Sling Placement: Obturator Neuralgia. *Urology.* 2021 Oct;156:e96-e98. doi: 10.1016/j.urology.2021.06.020. Epub 2021 Jul 3. PMID: 34224776.

4: Ayık Ö, Kozanoğlu E, Önol Y, Durmaz H. Post-traumatic double crush pudendal nerve entrapment syndrome after fracture of the pelvis: A case report. *Acta Orthop Traumatol Turc.* 2021 May;55(3):277-280. doi: 10.5152/j.aott.2021.20208. PMID: 34100371.

5: Yan H, Wang L, Shi C, Wei Y, Wang F, Zhang Y, Huang X, Zheng B. Study on the improvement of female stress urinary incontinence by pelvic floor muscle functional exercise and psychological nursing intervention. *Minerva Med.* 2021 May 10. doi: 10.23736/S0026-4806.21.07419-X. Epub ahead of print. PMID: 33969959.

6: Wei MC, Chou YH, Yang YS, Cornelius E, Wang YH, Huang CN. Osteoporosis and Stress Urinary Incontinence in Women: A National Health Insurance Database Study. *Int J Environ Res Public Health.* 2020 Jun 21;17(12):4449. doi: 10.3390/ijerph17124449. PMID: 32575826; PMCID: PMC7344808.

7: Panicker JN, Selai C, Herve F, Rademakers K, Dmochowski R, Tarcan T, von Gontard A, Vrijens D. Psychological comorbidities and functional neurological disorders in women with idiopathic urinary retention: International Consultation on Incontinence Research Society (ICRS) 2019. *Neurourol Urodyn.* 2020 Jul;39 Suppl 3:S60-S69. doi: 10.1002/nau.24233. Epub 2019 Nov 29. PMID: 31782982.

8: Janssen K, Lin DL, Hanzlicek B, Deng K, Balog BM, van der Vaart CH, Damaser MS. Multiple doses of stem cells maintain urethral function in a model of neuromuscular injury resulting in stress urinary incontinence. *Am J Physiol Renal Physiol.* 2019 Oct 1;317(4):F1047-F1057. doi: 10.1152/ajprenal.00173.2019. Epub 2019 Aug 14. PMID: 31411077; PMCID: PMC6880197.

9: Hehemann M, Choe S, Kalmanek E, Harrington D, Stupp SI, McVary KT, Podlasek CA. Pelvic and hypogastric nerves are injured in a rat prostatectomy model, contributing to development of stress urinary incontinence. *Sci Rep.* 2018 Nov 6;8(1):16432. doi: 10.1038/s41598-018-33864-3. PMID: 30401879; PMCID: PMC6219523.

10: Baker M, Wilson M, Wallach S. Urogenital symptoms in women with Tarlov cysts. *J Obstet Gynaecol Res.* 2018 Sep;44(9):1817-1823. doi: 10.1111/jog.13711. Epub 2018 Jul 5. PMID: 29974579; PMCID: PMC6150833.

- 11: Li D, Xu Y, Nie Q, Li Y, Mao G. Predictors of urinary incontinence between abdominal obesity and non-obese male adults. *Postgrad Med.* 2017 Sep;129(7):747-755. doi: 10.1080/00325481.2017.1357419. Epub 2017 Aug 4. PMID: 28724322.
- 12: Kaptan H, Kulaksızoğlu H, Kasımcıan Ö, Seçkin B. The Association between Urinary Incontinence and Low Back Pain and Radiculopathy in Women. *Open Access Maced J Med Sci.* 2016 Dec 15;4(4):665-669. doi: 10.3889/oamjms.2016.129. Epub 2016 Nov 30. PMID: 28028410; PMCID: PMC5175518.
- 13: Phé V, Chartier-Kastler E, Panicker JN. Management of neurogenic bladder in patients with multiple sclerosis. *Nat Rev Urol.* 2016 May;13(5):275-88. doi: 10.1038/nrurol.2016.53. Epub 2016 Mar 31. PMID: 27030526.
- 14: Panicker JN, Seth JH, Khan S, Gonzales G, Haslam C, Kessler TM, Fowler CJ. Open-label study evaluating outpatient urethral sphincter injections of onabotulinumtoxinA to treat women with urinary retention due to a primary disorder of sphincter relaxation (Fowler's syndrome). *BJU Int.* 2016 May;117(5):809-13. doi: 10.1111/bju.13342. Epub 2015 Nov 8. PMID: 26435296.
- 15: Granada C, Loveless M, Justice T, Moriarty T, Mutchnick I, Dietrich JE, LaJoie AS, Hertweck P. Tethered Cord Syndrome in the Pediatric-Adolescent Gynecologic Patient. *J Pediatr Adolesc Gynecol.* 2015 Oct;28(5):309-12. doi: 10.1016/j.jpag.2014.09.005. Epub 2014 Sep 23. PMID: 26092705.
- 16: Song QX, Balog BM, Lin DL, Jiang HH, Gurel V, Spaulding J, Tobacyk J, McMichael J, Damaser MS. Combination histamine and serotonin treatment after simulated childbirth injury improves stress urinary incontinence. *Neurourol Urodyn.* 2016 Aug;35(6):703-10. doi: 10.1002/nau.22793. Epub 2015 Jun 17. PMID: 26088829.
- 17: Chinier E, Egon G, Hamel O, Lemée JM, Perrouin-Verbe B. Predictive factors of stress incontinence after posterior sacral rhizotomy. *Neurourol Urodyn.* 2016 Feb;35(2):206-11. doi: 10.1002/nau.22693. Epub 2014 Nov 12. PMID: 25392969.
- 18: Tsai PY, Wang CP, Hsieh CY, Tsai YA, Yeh SC, Chuang TY. Long-term sacral magnetic stimulation for refractory stress urinary incontinence. *Arch Phys Med Rehabil.* 2014 Dec;95(12):2231-8. doi: 10.1016/j.apmr.2014.07.010. Epub 2014 Jul 27. PMID: 25073008.
- 19: Kuijpers KA, Heesakkers JP, Schalken JA. Alterations of the myovesical plexus of the human overactive detrusor. *Biomed Res Int.* 2014;2014:754596. doi: 10.1155/2014/754596. Epub 2014 Apr 15. PMID: 24829917; PMCID: PMC4009145.
- 20: Campos-Juanatey F, Gutiérrez-Baños JL, Portillo-Martín JA, Zubillaga-Guerrero S. Assessment of the urodynamic diagnosis in patients with urinary incontinence associated with normal pressure hydrocephalus. *Neurourol Urodyn.* 2015 Jun;34(5):465-8. doi: 10.1002/nau.22600. Epub 2014 Apr 12. PMID: 24729303.
- 21: Possover M. The LION procedure to the pelvic nerves for treatment of urinary and faecal disorders. *Surg Technol Int.* 2014 Mar;24:225-30. PMID: 24700226.
- 22: Song QX, Balog BM, Kerns J, Lin DL, Sun Y, Damaser MS, Jiang HH. Long-term effects of simulated childbirth injury on function and innervation of the urethra. *Neurourol Urodyn.* 2015 Apr;34(4):381-6. doi: 10.1002/nau.22561. Epub 2014 Feb 5. PMID: 24501018; PMCID: PMC4751578.
- 23: Lunn MP, Hughes RA, Wiffen PJ. Duloxetine for treating painful neuropathy, chronic pain or fibromyalgia. *Cochrane Database Syst Rev.* 2014 Jan 3;(1):CD007115. doi:

10.1002/14651858.CD007115.pub3. PMID: 24385423.

24: Hong SH, Piao S, Kim IG, Lee JY, Cho HJ, Kim SW, Hwang TK, Lee JY. Comparison of three types of stress urinary incontinence rat models: electrocauterization, pudendal denervation, and vaginal distension. *Urology*. 2013 Feb;81(2):465.e1-6. doi: 10.1016/j.urology.2012.10.029. PMID: 23374842.

25: Kulwin CG, Patel NB, Ackerman LL, Smith JL, Boaz JC, Fulkerson DH. Radiographic and clinical outcome of syringomyelia in patients treated for tethered cord syndrome without other significant imaging abnormalities. *J Neurosurg Pediatr*. 2013 Mar;11(3):307-12. doi: 10.3171/2012.11.PEDS12251. Epub 2012 Dec 21. PMID: 23259548.

26: Gill BC, Balog BM, Dissaranan C, Jiang HH, Steward JB, Lin DL, Damaser MS. Neurotrophin therapy improves recovery of the neuromuscular continence mechanism following simulated birth injury in rats. *Neurourol Urodyn*. 2013 Jan;32(1):82-7. doi: 10.1002/nau.22264. Epub 2012 May 11. PMID: 22581583; PMCID: PMC3419785.

27: Parnell BA, Johnson EA, Zolnoun DA. Genitofemoral and perineal neuralgia after transobturator midurethral sling. *Obstet Gynecol*. 2012 Feb;119(2 Pt 2):428-431. doi: 10.1097/AOG.0b013e31822c96cb. PMID: 22270427; PMCID: PMC4869916.

28: Kim IG, Piao S, Hong SH, Kim SW, Hwang TK, Oh SH, Lee JH, Lee JY. The effect of a bioactive tissue-engineered sling in a rat of stress incontinence model. *J Biomed Mater Res A*. 2012 Feb;100(2):286-92. doi: 10.1002/jbm.a.33259. Epub 2011 Nov 1. PMID: 22045624.

29: Watanabe T, Maruyama S, Yamamoto T, Kamo I, Yasuda K, Saka Y, Ozaki T, Yuzawa Y, Matsuo S, Gotoh M. Increased urethral resistance by periurethral injection of low serum cultured adipose-derived mesenchymal stromal cells in rats. *Int J Urol*. 2011 Sep;18(9):659-66. doi: 10.1111/j.1442-2042.2011.02795.x. Epub 2011 Jun 26. PMID: 21707765.

30: Pan HQ, Lin DL, Strauch C, Butler RS, Monnier VM, Daneshgari F, Damaser MS. Pudendal nerve injury reduces urethral outlet resistance in diabetic rats. *Am J Physiol Renal Physiol*. 2010 Dec;299(6):F1443-50. doi: 10.1152/ajpregnancy.00341.2009. Epub 2010 Sep 29. PMID: 20881033; PMCID: PMC3006305.

31: Lunn MP, Hughes RA, Wiffen PJ. Duloxetine for treating painful neuropathy or chronic pain. *Cochrane Database Syst Rev*. 2009 Oct 7;(4):CD007115. doi: 10.1002/14651858.CD007115.pub2. Update in: *Cochrane Database Syst Rev*. 2014;1:CD007115. PMID: 19821395.

32: Khan S, Panicker J, Roosen A, Gonzales G, Elneil S, Dasgupta P, Fowler CJ, Kessler TM. Complete continence after botulinum neurotoxin type A injections for refractory idiopathic detrusor overactivity incontinence: patient-reported outcome at 4 weeks. *Eur Urol*. 2010 May;57(5):891-6. doi: 10.1016/j.eururo.2009.04.020. Epub 2009 Apr 21. PMID: 19394133.

33: Kessler TM, Khan S, Panicker J, Roosen A, Elneil S, Fowler CJ. Clean intermittent self-catheterization after botulinum neurotoxin type A injections: short-term effect on quality of life. *Obstet Gynecol*. 2009 May;113(5):1046-1051. doi: 10.1097/AOG.0b013e3181a1f5ea. PMID: 19384119.

34: Pan HQ, Kerns JM, Lin DL, Sypert D, Steward J, Hoover CR, Zaszczurynski P, Butler RS, Damaser MS. Dual simulated childbirth injury delays anatomic recovery. *Am J Physiol Renal Physiol*. 2009 Feb;296(2):F277-83. doi: 10.1152/ajpregnancy.90602.2008. Epub 2008 Dec 17. PMID: 19091786; PMCID: PMC2643865.

- 35: Jiang HH, Pan HQ, Gustilo-Ashby MA, Gill B, Glaab J, Zaszczurynski P, Damaser M. Dual simulated childbirth injuries result in slowed recovery of pudendal nerve and urethral function. *Neurourol Urodyn.* 2009;28(3):229-35. doi: 10.1002/nau.20632. PMID: 18973146; PMCID: PMC2661359.
- 36: Damaser MS, Samplaski MK, Parikh M, Lin DL, Rao S, Kerns JM. Time course of neuroanatomical and functional recovery after bilateral pudendal nerve injury in female rats. *Am J Physiol Renal Physiol.* 2007 Nov;293(5):F1614-21. doi: 10.1152/ajprenal.00176.2007. Epub 2007 Aug 29. PMID: 17728381; PMCID: PMC2528278.
- 37: Takahashi S, Chen Q, Ogushi T, Fujimura T, Kumagai J, Matsumoto S, Hijikata S, Tabata Y, Kitamura T. Periurethral injection of sustained release basic fibroblast growth factor improves sphincteric contractility of the rat urethra denervated by botulinum-a toxin. *J Urol.* 2006 Aug;176(2):819-23. doi: 10.1016/j.juro.2006.03.070. PMID: 16813954.
- 38: Peng CW, Chen JJ, Chang HY, de Groat WC, Cheng CL. External urethral sphincter activity in a rat model of pudendal nerve injury. *Neurourol Urodyn.* 2006;25(4):388-96. doi: 10.1002/nau.20229. PMID: 16637068.
- 39: Fowler CJ. Integrated control of lower urinary tract-clinical perspective. *Br J Pharmacol.* 2006 Feb;147 Suppl 2(Suppl 2):S14-24. doi: 10.1038/sj.bjp.0706629. PMID: 16465178; PMCID: PMC1751494.
- 40: Pal D, Timothy J, Marks P. Penetrating spinal injury with wooden fragments causing cauda equina syndrome: case report and literature review. *Eur Spine J.* 2006 Oct;15 Suppl 5(Suppl 5):574-7. doi: 10.1007/s00586-005-0026-3. Epub 2005 Dec 8. PMID: 16341555; PMCID: PMC1602184.
- 41: Hefti M, Landolt H. Presacral mass consisting of a meningocele and a Tarlov cyst: successful surgical treatment based on pathogenic hypothesis. *Acta Neurochir (Wien).* 2006 Apr;148(4):479-83. doi: 10.1007/s00701-005-0684-2. Epub 2005 Dec 1. PMID: 16322904.
- 42: Cannon TW, Sweeney DD, Conway DA, Kamo I, Yoshimura N, Sacks M, Chancellor MB. A tissue-engineered suburethral sling in an animal model of stress urinary incontinence. *BJU Int.* 2005 Sep;96(4):664-9. doi: 10.1111/j.1464-410X.2005.05702.x. PMID: 16104928.
- 43: Wein AJ. Transvaginal electrical stimulation in the treatment of urinary incontinence. *J Urol.* 2005 Sep;174(3):1007. doi: 10.1097/01.ju.0000173945.31485.a6. PMID: 16094024.
- 44: Yamada S, Won DJ, Yamada SM. Pathophysiology of tethered cord syndrome: correlation with symptomatology. *Neurosurg Focus.* 2004 Feb 15;16(2):E6. doi: 10.3171/foc.2004.16.2.7. PMID: 15209489.
- 45: Kamo I, Cannon TW, Conway DA, Torimoto K, Chancellor MB, de Groat WC, Yoshimura N. The role of bladder-to-urethral reflexes in urinary continence mechanisms in rats. *Am J Physiol Renal Physiol.* 2004 Sep;287(3):F434-41. doi: 10.1152/ajprenal.00038.2004. Epub 2004 Apr 27. PMID: 15113743.
- 46: Kane DD, Kerns JM, Lin DL, Damaser MS. Early structural effects of oestrogen on pudendal nerve regeneration in the rat. *BJU Int.* 2004 Apr;93(6):870-8. doi: 10.1111/j.1464-410X.2003.04792.x. PMID: 15050008.
- 47: Busacchi P, Perri T, Paradisi R, Oliverio C, Santini D, Guerrini S, Barbara G, Stanghellini V, Corinaldesi R, De Giorgio R. Abnormalities of somatic peptide-containing nerves supplying the pelvic floor of women with genitourinary prolapse and stress urinary incontinence. *Urology.* 2004 Mar;63(3):591-5. doi: 10.1016/j.urology.2003.09.017. PMID: 15028474.

- 48: Cannon TW, Lee JY, Somogyi G, Pruchnic R, Smith CP, Huard J, Chancellor MB. Improved sphincter contractility after allogenic muscle-derived progenitor cell injection into the denervated rat urethra. *Urology*. 2003 Nov;62(5):958-63. doi: 10.1016/s0090-4295(03)00679-4. PMID: 14624934.
- 49: Lee JY, Cannon TW, Pruchnic R, Fraser MO, Huard J, Chancellor MB. The effects of periurethral muscle-derived stem cell injection on leak point pressure in a rat model of stress urinary incontinence. *Int Urogynecol J Pelvic Floor Dysfunct*. 2003 Feb;14(1):31-7; discussion 37. doi: 10.1007/s00192-002-1004-5. PMID: 12601514.
- 50: Westney OL, Lee JT, McGuire EJ, Palmer JL, Cespedes RD, Amundsen CL. Long- term results of Ingelman-Sundberg denervation procedure for urge incontinence refractory to medical therapy. *J Urol*. 2002 Sep;168(3):1044-7. doi: 10.1097/01.ju.0000025438.77821.93. PMID: 12187219.
- 51: Buchner M, Schiltenwolf M. Cauda equina syndrome caused by intervertebral lumbar disk prolapse: mid-term results of 22 patients and literature review. *Orthopedics*. 2002 Jul;25(7):727-31. doi: 10.3928/0147-7447-20020701-12. PMID: 12138958.
- 52: Dolezel J, Cejpek P, Miklánek D. Sakrální deafferentace a neurostimulace predních korenů mísních v léčbě neuropatického mocového měchýře u pacientů s kompletní transverzální mísní lézí-první klinické zkusenosti [Sacral deafferentation and neurostimulation of anterior spinal roots in the treatment of neurogenic bladder in patients with complete transverse spinal lesions- initial clinical experience]. *Rozhl Chir*. 2002 Apr;81(4):203-9. Czech. PMID: 12030054.
- 53: Everaert K, Derie A, Van Laere M, Vandekerckhove T. Bilateral S3 nerve stimulation, a minimally invasive alternative treatment for postoperative stress incontinence after implantation of an anterior root stimulator with posterior rhizotomy: a preliminary observation. *Spinal Cord*. 2000 Apr;38(4):262-4. doi: 10.1038/sj.sc.3100984. PMID: 10822398.
- 54: Chancellor MB, Hong RD, Rivas DA, Watanabe T, Crewalk JA, Bourgeois I. Gracilis urethromyoplasty-an autologous urinary sphincter for neurologically impaired patients with stress incontinence. *Spinal Cord*. 1997 Aug;35(8):546-9. doi: 10.1038/sj.sc.3100444. PMID: 9267922.
- 55: Pandey M, Chaudhari MP. Primary hydatid cyst of sacral spinal canal: case report. *Neurosurgery*. 1997 Feb;40(2):407-9. doi: 10.1097/00006123-199702000-00040. PMID: 9007880.
- 56: Thind P, Bagi P, Mieszcak C, Lose G. Influence of pudendal nerve blockade on stress relaxation in the female urethra. *Neurourol Urodyn*. 1996;15(1):31-6. doi: 10.1002/(SICI)1520-6777(1996)15:1<31::AID-NAU3>3.0.CO;2-G. PMID: 8696354.
- 57: Thind P, Lose G. The effect of bilateral pudendal blockade on the adjunctive urethral closure forces in healthy females. *Scand J Urol Nephrol*. 1994 Sep;28(3):249-55. PMID: 7817167.
- 58: Beck RO, Betts CD, Fowler CJ. Genitourinary dysfunction in multiple system atrophy: clinical features and treatment in 62 cases. *J Urol*. 1994 May;151(5):1336-41. doi: 10.1016/s0022-5347(17)35246-1. PMID: 8158782.
- 59: Zivkovic F, Ralph G, Schied G, Auer-Grumbach M. Der frühe Einfluss der Kolporrhaphia anterior auf die Innervation des äusseren Sphinkters der Urethra [The early effect of anterior colporrhaphy on the innervation of the external sphincter of the urethra]. *Gynakol Geburtshilfliche Rundsch*. 1993;33 Suppl 1:74-5. German. doi: 10.1159/000272168. PMID: 8118366.
- 60: Fowler CJ, Betts CD, Christmas TJ, Swash M, Fowler CG. Botulinum toxin in the treatment of chronic urinary retention in women. *Br J Urol*. 1992 Oct;70(4):387-9. doi:

10.1111/j.1464-410x.1992.tb15793.x. PMID: 1450846.

61: Saito M, Gotoh M, Kondo A. [Case report: an unstable bladder with bilateral epididymitis, urge incontinence and unilateral reflux]. Hinyokika Kiyo. 1989 May;35(5):891-5. Japanese. PMID: 2801384.

62: Kindt J, Retzke U, Blau U. Die partielle Denervierung der Harnblase-Ultima ratio in der Behandlung des motorischen Urge-Syndroms [Partial denervation of the bladder-last resort in the treatment of motor urge incontinence]. Zentralbl Gynakol. 1986;108(14):845-50. German. PMID: 3765942.

63: Erlandson BE, Fall M, Carlsson CA, Linder LE. Mechanisms for closure of the human urethra during intravaginal electrical stimulation. Scand J Urol Nephrol Suppl. 1977;(44):49-54. PMID: 308692.

64: Gibbon NO. Nomenclature of neurogenic bladder. Urology. 1976 Nov;8(5):423-31. doi: 10.1016/0090-4295(76)90268-5. PMID: 790743.

65: Trontelj JV, Godec C, Janko M, Rakovec S. Mechanisms of urinary incontinence in peripheral neurogenic lesions. Urol Int. 1975;30(1):99. doi: 10.1159/000279967. PMID: 1091055.

66: Raz S. Adrenergic influence on the internal urinary sphincter. Isr J Med Sci. 1974 Jun;10(6):608-11. PMID: 4850442.

67: Bates CP. Continence and incontinence. A clinical study of the dynamics of voiding and of the sphincter mechanism. Ann R Coll Surg Engl. 1971 Jul;49(1):18-35. PMID: 5557776; PMCID: PMC2387980.

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