

NEPHROLOGY - II

APPROACH TO VOIDING DYSFUNCTION AND ENURESIS

***Kanav Anand**
***Pruthi PK**
****Pari Palanivelan**

Abstract: *Voiding dysfunction is a comprehensive term that includes various urinary symptoms resulting from abnormal urinary patterns. While generally benign, it is crucial to differentiate it from serious conditions such as neurogenic bladder and urinary tract obstruction. Voiding dysfunction can lead to urinary tract infections, adversely impacting renal function and may significantly lower a child's self-esteem and quality of life. Given the interrelationship between bladder and bowel function, addressing constipation is vital for effective management. Initial treatment strategies include urotherapy and constipation management, with pharmacotherapy considered when necessary.*

Keywords: *Voiding dysfunction, Enuresis, Urotherapy, Urodynamics.*

Points to Remember

- *Children with voiding dysfunction have either abnormalities of filling or emptying of bladder or both.*
- *Incontinence refers to involuntary passage of urine, which can be continuous or intermittent.*
- *Enuresis is intermittent night time incontinence (while asleep), with or without daytime symptoms.*
- *Overactive bladder is the most common cause of daytime incontinence.*
- *Voiding diary is the single most important tool for work-up and follow-up of a child with voiding dysfunction.*
- *Formula for expected bladder capacity is (Age in years + 1) x 30 expressed in ml.*
- *Constipation needs to be addressed for adequate management of voiding dysfunction since bladder and bowel dysfunction are interrelated.*

References

1. Austin PF, Bauer SB, Bower W, Chase J, Franco I, Hoebeke P, et al. The standardization of terminology of lower urinary tract function in children and adolescents: Update report from the standardization committee of the International Children's Continence Society. *Neurourol Urodyn.* 2016; 35(4):471-81.
2. Nevéus T, von Gontard A, Hoebeke P, Hjälmås K, Bauer S, Bower W, et al. The standardization of terminology of lower urinary tract function in children and adolescents: report from the Standardisation Committee of the International Children's Continence Society. *J Urol.* 2006; 176(1):314-24.
3. Nevéus T, Sillén U. Lower urinary tract function in childhood; Normal development and common functional disturbances. *Acta Physiol.* 2013; 207(1):85-92.
4. Neveus T, Eggert P, Evans J, Macedo A, Rittig S, Tekgül S, et al. International Children's Continence Society. Evaluation of and treatment for monosymptomatic enuresis: a standardization document

* Senior Consultant,
 email : dr_kanav_anand@yahoo.co.uk

** FNB Pediatric Nephrology Trainee,
 Division of Pediatric Nephrology and
 Renal Transplantation,
 Institute of Child Health,
 Sir Ganga Ram Hospital,
 New Delhi.

- from the International Children's Continence Society. *J Urol*. 2010; 183(2):441-7.
5. Hoebeke P, Bower W, Combs A, De Jong T, Yang S. Diagnostic evaluation of children with daytime incontinence. *J Urol*. 2010; 183(2):699-703.
 6. Lopes I, Veiga ML, Braga AA, Brasil CA, Hoffmann A, Barroso U Jr. A two-day bladder diary for children: Is it enough? *J Pediatr Urol*. 2015; 11(6):348.e1-4.
 7. Burgers RE, Mugie SM, Chase J, Cooper CS, von Gontard A, Rittig CS, et al. Management of functional constipation in children with lower urinary tract symptoms: report from the Standardization Committee of the International Children's Continence Society. *J Urol*. 2013; 190(1):29-36.
 8. Schäfer W, Abrams P, Liao L, Mattiasson A, Pesce F, Spangberg A, et al. International Continence Society. Good urodynamic practices: uroflowmetry, filling cystometry and pressure-flow studies. *Neurourol Urodyn*. 2002; 21(3):261-74.
 9. Bauer SB, Nijman RJ, Drzewiecki BA, Sillen U, Hoebeke P; International Children's Continence Society Standardization Subcommittee. International Children's Continence Society standardization report on urodynamic studies of the lower urinary tract in children. *Neurourol Urodyn*. 2015; 34(7):640-7.
 10. Schäfer SK, Niemczyk J, von Gontard A, Pospeschill M, Becker N, Equit M. Standard urotherapy as first-line intervention for daytime incontinence: a meta-analysis. *Eur Child Adolesc Psychiatry*. 2018; 27(8):949-964.
 11. Nieuwhof-Leppink AJ, Hussong J, Chase J, Larsson J, Renson C, Hoebeke P, et al. Definitions, indications and practice of urotherapy in children and adolescents: - A standardization document of the International Children's Continence Society (ICCS). *J Pediatr Urol*. 2021; 17(2):172-181.
 12. De Paepe H, Renson C, Hoebeke P, Raes A, Van Laecke E, Vande Walle J. The role of pelvic-floor therapy in the treatment of lower urinary tract dysfunctions in children. *Scand J Urol Nephrol*. 2002; 36(4):260-7.
 13. Andersson KE, Appell R, Cardozo LD, Chapple C, Drutz HP, Finkbeiner AE, et al. The pharmacological treatment of urinary incontinence. *BJU Int*. 1999; 84(9): 923-47.
 14. Austin PF, Homsy YL, Masel JL, Cain MP, Casale AJ, Rink RC. alpha-Adrenergic blockade in children with neuropathic and nonneuropathic voiding dysfunction. *J Urol*. 1999; 162(3 Pt 2):1064-7.
 15. Chase J, Austin P, Hoebeke P, McKenna P; International Children's Continence Society. The management of dysfunctional voiding in children: a report from the Standardisation Committee of the International Children's Continence Society. *J Urol*. 2010; 183(4): 1296-302.
 16. Austin PF, Bauer SB. Medical management of the neurogenic bladder. *Pediatric incontinence: Evaluation and clinical management*. Chichester: John Wiley and Sons, Ltd; 2015. <https://doi.org/10.1002/9781118814789.ch27>.