

# Spinning Top Urethra on Voiding Cystourethrogram

Pankaj Gupta, Akshay Kumar Saxena, Kushaljit Singh Sodhi

**A** 10-year-old girl was referred for a voiding cystourethrogram (VCUG) with a history of recurrent urinary tract infections. Examination including neurological evaluation was unremarkable.

Ultrasonography of the kidneys and bladder was normal. Voiding phase of VCUG was subsequently performed. Bladder capacity and outline were normal (Figure 1). There was marked dilatation of posterior urethra (Figure 2) with smooth tapering towards distal end resembling a “spinning top”. No vesicoureteral reflux or post-void residual urine was noted. Spinning top urethra (STU) represents a widened posterior urethra seen mainly in girls. For a long time, it was considered a normal variation, due to contraction of transverse fibers of urethral sphincter located in the distal urethra.<sup>(1)</sup> Proponents of STU as a pathological entity have attributed it variably to meatal stenosis, urethral ring, distal sphincter dyssynergia, bladder instability and congenital wide bladder neck anomaly (CWBNA).<sup>(2)</sup> Former three mechanisms were refuted by studies showing high urine flow rates in subjects with STU. For the latter two mechanisms, controversy exists because majority of cases with instability and CWBNA do not show STU. Thus, one should consider STU a normal variant, sometimes occurring in children with instability or CWBNA. Differential diagnosis includes Lyon's (fibrous) ring in girls and urethral valves in males.<sup>(3)</sup>

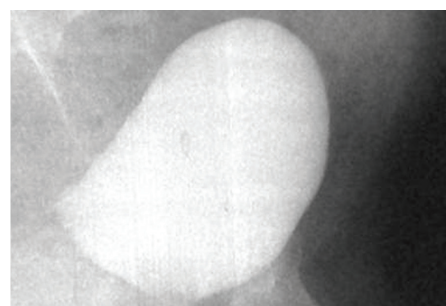
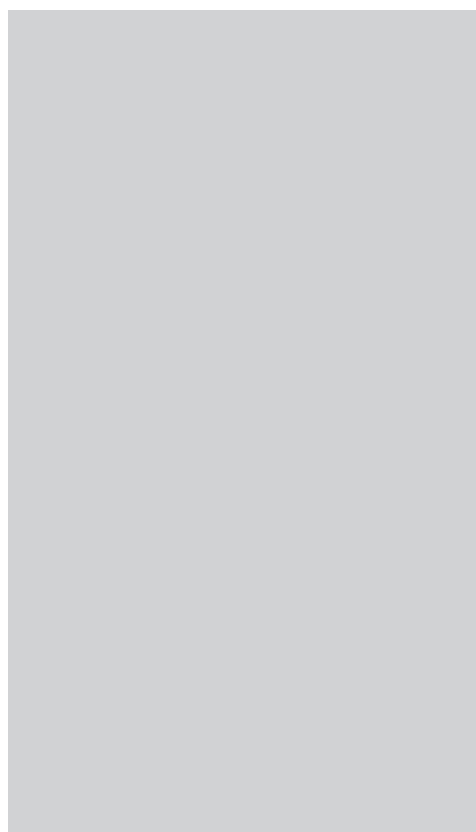
Department of Radiodiagnosis  
and Imaging, Post Graduate  
Institute of Medical Education  
and Research, Chandigarh  
160012, India.

Corresponding Author:

Akshay Kumar Saxena, MD  
Department of Radiodiagnosis and  
Imaging, Post Graduate Institute of  
Medical Education and Research,  
Chandigarh 160012, India.

Tel: +91 172 2756381  
E-mail: fatakshay@yahoo.com

Received March 2013  
Accepted June 2013



**Figure 1.** Voiding phase of voiding cystourethrogram demonstrates normal ladder capacity and outline.

**Figure 2.** Marked dilatation of posterior urethra with smooth tapering towards distal end resembling a “spinning top”.

## REFERENCES

1. Shopfner CE, Hutch JA. The normal urethrogram. *Radiol Clin North Am.* 1968;6:165-89.
2. Saxton HM, Borzyskowski M, Mundy AR, Vivian GC. Spinning top urethra: not a normal variant. *Radiology.* 1988;168:147-50.
3. Lyon RP, Tanagho EA. Distal urethral stenosis in little girls. *J Urol.* 1965;93:379-88.