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Voiding Cystourethrogram (VCU) in Young Children: A 14-Year, 286-Case Demonstration of Safety, Tolerability and High Diagnostic Yield

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Introduction and Objectives

We sought to overcome the reluctance to perform voiding cystourethrogram in young children by documenting its safety, acceptability and diagnostic yield.

Patients & Methods

A retrospective review of 286 VCUs (Aug 2010–Aug 2024) using below well-rehearsed techniques, as we previously published (Hong Kong J. Paediatr 2008; 13:120-124).
Indications, findings and complications were analyzed.

Pre-Procedural Counselling	Antibiotic Prophylaxis	ALARA Principles	Our Team
• **Thorough explanation to reduce anxiety** • **Align expectations with guideline** • **Clarify VCU's critical role**	• **Preventing post-procedure complications**	• **Reduce radiation risks** • **Improves parental acceptance**	• **Same urologist and radiologist for every procedure**

Results

286 patients (median age ≤2 years, 73.8%) went for their first-time VCU. Indications included UTI (63.3%), hydronephrosis (19.9%) and enuresis-liked urinary symptoms (14%). All examinations were completed smoothly without incident or any displeasure from the parents.

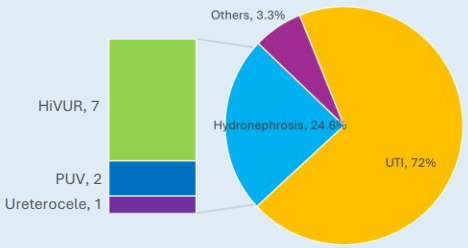


Fig.1. Hydronephrosis alone (n=52) disclosed 10 pathologies.

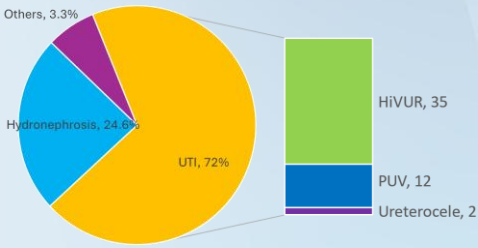


Fig.2. Among children ≤2 years (n=211) with documented febrile UTI (152/211, 72%), 44 (28.9%) revealed significant pathology, with children having multiple pathologies.

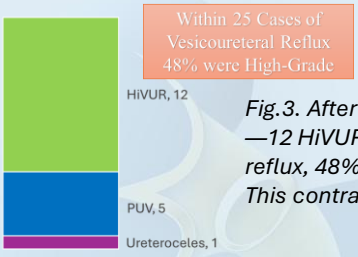
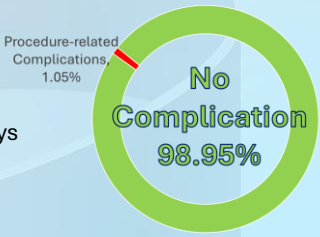


Fig.3. After a first febrile UTI (n = 104), 16.3% had significant findings —12 HiVUR and 5 PUV, 1 ureterocele; within cases of vesicoureteral reflux, 48% were HiVUR.
This contrasts with figures cited in current guidelines.

Complications

Even minor complications are rare.
Clavien–Dindo's Classification II UTI occurred in 3/286 (1.05 %) boys ≤2 years; all resolved with out-patient oral antibiotics.



Conclusion

When performed meticulously, VCU is safe, universally well-tolerated and reveals clinically critical pathology in one-quarter of young children. Evidence supports early selective use; the current push to replace it with ultrasound-VCU—hampered by inferior urethral imaging and grading limitations—is unwarranted.