

# IAEA/ESNM Webinar Series on Paediatric NM

## Cortical (static) renal scintigraphy and radionuclide cystographies

### Suggested readings

1. Majd M, Nussbaum Blask AR, Markle BM, Shalaby-Rana E, Pohl Hg, Park JS, Chandra R, Rais-Barhami K, Pandiya N, Patel KM, Rushton HG: Acute pyelonephritis: comparison of diagnosis with <sup>99m</sup>Tc DMSA SPECT, spiral CT, MR imaging and power doppler US in an experimental pig model. *Radiology* 2001, 218(1):101- 8
2. Piepsz A, Colarinha P, Gordon I, Hahn K, Olivier P, Roca I, Sixt R, van Velzen J; [Guidelines for <sup>99m</sup>Tc-DMSA scintigraphy in children](#). *Eur J Nucl Med*. 2001 Mar;28(3):BP37-41. Revision 2010 on line
3. Farhat W, Traubici J, Sherman C, Williams T, Babyn P, McLlorie GA, Khoury AE, El Ghoneimi A: Reliability of contrast enhanced sonography with harmonic imaging for detecting early renal scarring in experimental pyelonephritis in a porcine model: preliminary results. *J Urol* 2002 sep, 168(3): 1114-17
4. Hoberman A, Charron M, Hickey RW, Baskin M, Kearney DH, Wald ER., Imaging studies after a first febrile urinary tract infection in young children. *N Engl J Med*. 2003 Jan 16;348(3):195-202.
5. Patzer L, Seeman T, Luck C, Wühl E, Janda J, Misselwitz J: Day- and night-time blood pressure elevation in children with higher grades of renal scarring *J Pediatr* 2003; 142(2):117-22
6. Hansson S, Dhamey M, Sigström O, Sixt R, Stockland E, Wennerström E, Jodal U: [Dimercapto-succinic acid scintigraphy instead of voiding cystourethrography for infants with urinary tract infection](#). *J Urol* 2004 sep, 172(83): 1071-74
7. [Unver T](#), [Alpay H](#), [Biyikli NK](#), [Ones T](#). Comparison of direct radionuclide cystography and voiding cystourethrography in detecting vesicoureteral reflux. [Pediatr Int](#). 2006 Jun;48(3):287-91.
8. NICE clinical guideline 54: Urinary tract infection in children: diagnosis, treatment and long-term management (2007). [www.nice.org.uk/CG054](http://www.nice.org.uk/CG054)
9. Garin EH, Olavarria F, Araya C, Broussain M, Barrera C, Young L: Diagnostic significance of clinical and laboratory findings to localize site of UTI. *Ped Nephrol*. 2007 Jul 22 (7):1002-1006
10. Sinha MD, Gibson P, Kane T, Lewis MA: [Accuracy of ultrasonic detection of renal scarring in different centres using DMSA as the gold standard](#). *Nephrol Dial Transplant*. Aug 2007, 22(8):2213- 6
11. Coulthard MG.: Is reflux nephropathy preventable and will the NICE childhood UTI guidelines help? *Arch Dis Child* 2008 Mar; 93(3): 196-9
12. Smith E.A.: Pyelonephritis, renal scarring and reflux nephropaty: a pediatric urologist's perspective. *Pediatr Radiol* 2008, 38 [suppl.1]:s76-82
13. Lim R.:Vesicoureteral Reflux and Urinary Tract Infection: Evolving Practices and Current Controversies in Pediatric Imaging. *AJR* 2009; 192:1197–1208.



14. Coulthard MG, Verber I, Jani JC, Lawson GR, Stuart CA, Sharma V, Lamb VH, Keir MJ: Can prompt treatment of childhood UTI prevent scarring? *Pediatr Nephrol* 2009; 24(10): 2059
15. Lee R, Thomas KE, Connolly BL, Falkiner M, Gordon CL: Effective dose estimation for pediatric voiding cystourethrography using an anthropomorphic phantom set and metal oxide semiconductor field-effect transistor (MOSFET) technology. *Pediatr.Radiol* 2009, Jun 39(6): 608-15.
16. Herz D, Merguerian P, McQuiston L, Danielson C, Gheen M, Brenfleck L: 5-years prospective results of DMSA imaging in children with febrile urinary tract infections: proof that the top-down approach works. *J Urol* 2010 184, Part 2:1703-09
17. [Shaikh N](#), [Ewing AL](#), [Bhatnagar S](#), [Hoberman A](#). Risk of Renal Scarring in Children With a First Urinary Tract Infection: A Systematic Review. *Pediatrics*, 2010, nov 8
18. Brandström P, Nevéus T, Sixt R, Stokland E, Jodal U, Hansson S. [The Swedish reflux trial in children: IV. Renal damage.](#) *J Urol*. 2010 Jul;184(1):292-7.
19. Brandström P, Esbjörner E, Herthelius M, Swerkersson S, Jodal U, Hansson S. [The Swedish reflux trial in children: III. Urinary tract infection pattern.](#) *J Urol*. 2010 Jul;184(1):286-91.
20. Sillén U, Brandström P, Jodal U, Holmdahl G, Sandin A, Sjöberg I, Hansson S. [The Swedish reflux trial in children: v. Bladder dysfunction.](#) *J Urol*. 2010 Jul;184(1):298-304..
21. Holmdahl G, Brandström P, Läckgren G, Sillén U, Stokland E, Jodal U, Hansson S. [The Swedish reflux trial in children: II. Vesicoureteral reflux outcome.](#) *J Urol*. 2010 Jul;184(1):280-5.
22. Preda I, Jodal U, Sixt R, Stokland E, Hansson S: Imaging strategy for infants with urinary tract infection: a new algorithm. *J Urol* 2011 mar, 185 (3): 1046-52.
23. AMERICAN ACADEMY OF PEDIATRICS, Steering Committee on Quality Improvement, Subcommittee on Urinary Tract Infection: Practice Parameter: Urinary Tract Infection: Clinical Practice Guideline for the Diagnosis and Management of the Initial UTI in Febrile Infants and Children 2 to 24 Months. *PEDIATRICS* 2011; 128 (3):591-610.
24. Ording Müller LS: Imaging in urinary tract infection: top-down or down-up? *Pediatr Radiol* (2011) 41 (Suppl 1):S96–S98
25. La Scola C, De Mutiis C, Hewitt IK, Puccio G, et al.. Different guidelines for imaging after first UTI in febrile infants: yield, cost, and radiation. *Pediatrics*. 2013 Mar;131(3):e665-71.
26. RIVUR Trial Investigators, Hoberman A, Greenfield SP, Mattoo TK, Keren R, Mathews R, Pohl HG, Kropp BP, Skoog SJ, Nelson CP, Moxey-Mims M, Chesney RW, Carpenter MA. Antimicrobial prophylaxis for children with vesicoureteral reflux. *N Engl J Med*. 2014 Jun 19;370(25):2367-76
27. Comments in “correspondence”, *NEJM* 2014: 371(11), 1070:
28. Hari P, Bagga A. Antimicrobial prophylaxis for children with vesicoureteral reflux. *N Engl J Med*. 2014 Sep 11;371(11):1071-2.
29. Hewitt I, Dall'Amico R, Montini G. Antimicrobial prophylaxis for children with vesicoureteral reflux. *N Engl J Med*. 2014 Sep 11;371(11):1071.
30. Roberts KB; AAP Subcommittee on Urinary Tract Infection. Antimicrobial prophylaxis for children with vesicoureteral reflux. *N Engl J Med*. 2014 Sep 11;371(11):1071.
31. Craig JC, Williams GJ, Hodson EM. Antimicrobial prophylaxis for children with vesicoureteral reflux. *N Engl J Med*. 2014 Sep 11;371(11):1070.
32. Mattoo TK, Chesney RW, Greenfield SP, Hoberman A, Keren R, Mathews R, Gravens-Mueller L, Ivanova A, Carpenter MA, Moxey-Mims M, Majd M, Ziessman HA; RIVUR Trial

- Investigators. Renal Scarring in the Randomized Intervention for Children with Vesico-ureteral Reflux (RIVUR) Trial. Clin J Am Soc Nephrol. 2015 Nov 10.
33. Mathews R, Mattoo TK. The role of antimicrobial prophylaxis in the management of children with vesicoureteral reflux--the RIVUR study outcomes. Adv Chronic Kidney Dis. 2015 Jul;22(4):325-30.
  34. Narchi H, Marah M, Khan AA, Al-Amri A, Al-Shibli A. Renal tract abnormalities missed in a historical cohort of young children with UTI if the NICE and AAP imaging guidelines were applied. J Pediatr Urol. 2015 Oct;11(5):252.e1-7.
  35. Kurtz MP, Chow JS, Johnson EK, Rosoklija I, Logvinenko T, Nelson CP. Imaging after urinary tract infection in older children and adolescents. J Urol. 2015 May;193(5 Suppl):1778-82.
  36. [de Bessa J Jr](#), [de Carvalho Mrad FC](#), [Mendes EF](#), [Bessa MC](#), [Paschoalin VP](#), [Tiraboschi RB](#), [Sammour ZM](#), [Gomes CM](#), [Braga LH](#), [Bastos Netto JM](#). Antibiotic prophylaxis for prevention of febrile urinary tract infections in children with vesicoureteral reflux: a meta-analysis of randomized, controlled trials comparing dilated to nondilated vesicoureteral reflux. J Urol. 2015 May;193(5 Suppl):1772-7.
  37. Wang HH, Gbadegesin RA, Foreman JW, Nagaraj SK, Wigfall DR, Wiener JS, Routh JC. Efficacy of antibiotic prophylaxis in children with vesicoureteral reflux: systematic review and meta-analysis. J Urol. 2015 Mar;193(3):963-9.
  38. Morello W, La Scola C, Alberici I, Montini G. Acute pyelonephritis in children. Pediatr Nephrol. 2015 Aug 4.
  39. Ayazi P, Mahyar A, Noroozian E, Esmailzadehha N, Barikani A. [Comparison of renal ultrasonography and dimercaptosuccinic acid renal scintigraphy in febrile urinary tract infection](#). Infez Med. 2015 Dec 1;23(4):323-9
  40. Bush NC, Keays M, Adams C, Mizener K, Pritzker K, Smith W, Traylor J, Villanueva C, Snodgrass WT. [Renal damage detected by DMSA, despite normal renal ultrasound, in children with febrile UTI](#). J Pediatr Urol. 2015 Jun;11(3):126.
  41. Shaikh N, Hoberman A, Keren R, Gotman N, Docimo SG, Mathews R, Bhatnagar S, Ivanova A, Mattoo TK, Moxey-Mims M, Carpenter MA, Pohl HG, Greenfield S. Recurrent Urinary Tract Infections in Children With Bladder and Bowel Dysfunction. Pediatrics. 2016 Jan;137(1):1-7.