

## Bladder/bowel dysfunction in pre-school children following febrile urinary tract infection in infancy.

Pediatric Nephrology. 2021 Jun;36(6):1489-97.

**Background & Objectives:** An association between bladder-bowel dysfunction (BBD) and urinary tract infection (UTI) is well-known. However, a question less explored is whether children with UTI early in life also have increased prevalence of BBD after they are toilet-trained. In this study, consecutively selected children with pyelonephritis during their first year of life were assessed for BBD at pre-school age.

**Methods:** Ninety-two children (51 boys) hospitalized due to pyelonephritis during their first year of life were assessed for BBD at median age 5.4 years. A validated BBD questionnaire, along with urine flow and residual volume measurements, was used for diagnosing BBD. During follow-up, the group was well-characterized regarding renal status, vesicoureteral reflux (VUR), and recurrent UTI.

# ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



## Febrile UTI in infancy :

### Does it cause bladder-bowel dysfunction in pre-school children?

#### Results:

- **Bladder-bowel dysfunction** was diagnosed in 35/92 (38%), of which the majority was sub-diagnosed with dysfunctional voiding (DV).
- There was a strong association between BBD and recurrent UTI during follow-up ( $p < 0.0001$ ), but only a slight association with VUR status at presentation.
- Nevertheless, in the group with both BBD and VUR, recurrent UTI was four times higher (12/13, 92%) than in children who had neither VUR nor BBD (23%), ( $p = 0.0008$ ). BBD was also associated with kidney damage ( $p = 0.017$ ).

**Conclusion:** In children with pyelonephritis during the first year of life, 38% had bladder-bowel dysfunction at pre-school age, regardless of whether they had VUR or not. The study shows an important association between bladder-bowel dysfunction and recurrent UTI, so an assessment of bladder-bowel dysfunction is therefore recommended for pre-school children with UTI, especially when they have history of pyelonephritis during infancy.

**Key message:** It is recommended that toilet-trained, young children with febrile UTI should be investigated for bladder-bowel dysfunction, especially when they also have recurrent UTIs and/or VUR.

### EXPERT COMMENT

"This study showed that BBD was associated with a high risk of recurrent UTI. Children with bladder-bowel dysfunction and any grade of VUR had the highest risk of recurrent UTI. In view of this it is very important to look for symptoms of bowel bladder dysfunction in any child reporting with UTI. "



**DR ASHISH SIMALTI**

M.D (Pediatrics), FNB ( Pediatric Intensive Care)  
HOD Pediatrics and NICU  
Military Hospital Dehradun

With warm regards,

**DR MANINDER S  
DHALIWAL**

**DR. PIYUSH GUPTA**  
IAP NATIONAL  
PRESIDENT 2021

**DR REMESH KUMAR R.**  
IAP PRESIDENT  
2022

**DR BAKUL JAYANT  
PAREKH**  
IAP PRESIDENT  
2020

**DR G.V.  
BASAVARAJA**  
HON. SECRETARY  
GEN. 2021 - 22

#### Reference

Sjöström S, Sillén U, Bachelard M, Johansson E, Brandström P, Hellström AL, Abrahamsson K. Bladder/bowel dysfunction in pre-school children following febrile urinary tract infection in infancy. Pediatric Nephrology. 2021 Jun;36(6):1489-97.