

# Clinical evidence of Peristeen® in reducing urinary tract infections in neurogenic bowel dysfunction

## Introduction

**Chronic constipation (CC)** is a plausible contributor to the development of urinary tract infections (UTIs) in some patients, due to distending rectal pressure (often in the case of faecal impaction) on the bladder wall, which causes obstruction of urine flow and bladder detrusor function impairment<sup>1</sup>.

**Fecal incontinence (FI)** is hypothesized to cause UTIs through multiple mechanisms: bacteria can pass from the faeces to the urinary tract, the microbiota profile of the bowel could influence that of the urinary tract, alterations in gut microbiota could influence urinary homeostasis and cleanliness problems in the area could lead to hand contamination that then causes bacterial infection through, for example, when handling of urinary catheters. It has been shown that patients suffering from FI have three times as many UTIs compared to the general population<sup>1,2</sup>.

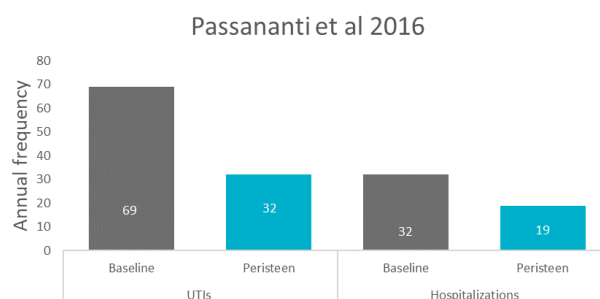
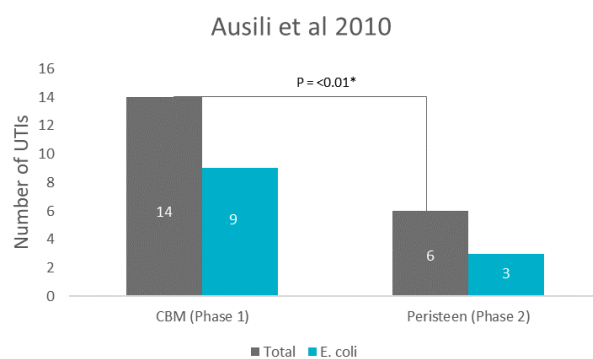
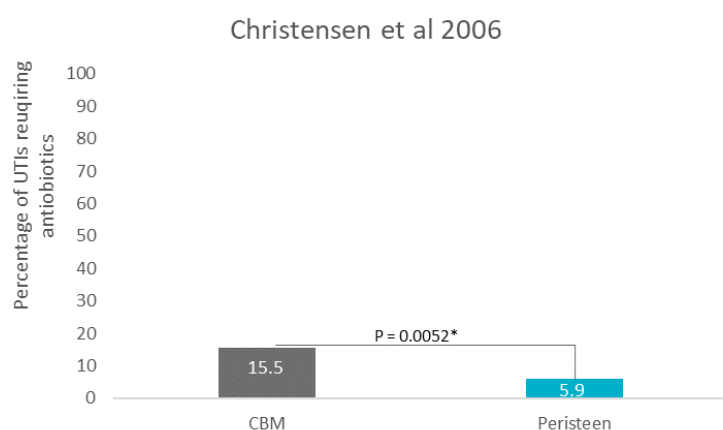
Three clinical studies have observed a reduction in UTIs with transanal irrigation (TAI) therapy with Peristeen.

## Clinical studies overview

Study name	Christensen et al 2006 <sup>3</sup>	Ausili et al 2010 <sup>4</sup>	Passananti et al 2016 <sup>5</sup>
Study design	Randomized controlled trial	Prospective comparative longitudinal	Prospective interventional
Comparator	Conservative bowel management (CBM) vs TAI	CBM vs TAI	Baseline vs after TAI
Pathology	Spinal cord injury	Myelomeningocele	Multiple sclerosis
Study size	87 (45 CBM vs 42 TAI) adults	60 pediatrics	49 adults
Intervention timeline	2.5 months	6 months	40 months mean follow-up
Primary endpoint	Cleveland Clinic constipation scoring system and St Mark's fecal incontinence grading system	Neurogenic Bowel Dysfunction score	EuroQoL-5D and Neurogenic Bowel Dysfunction score
UTI endpoints	UTIs requiring prescribed antibiotics	Number of urinary infections during 3 months of CBM (Phase 1) vs 3 months on Peristeen (Phase 2)	Annual number of treated UTIs at baseline and last follow-up
Result/Conclusion	The frequency of UTIs with prescribed antibiotics was significantly lower in the Peristeen group (5.9%) compared with the CBM group (15.5%)	A significant reduction in UTIs was observed, including UTIs caused by <i>E. coli</i> . It can be proposed that transanal irrigation reduces the risk of bladder contamination with <i>E. coli</i> by improving bowel habit and washing of the colorectal tract	Peristeen reduced the use of other health care services especially the amount of hospitalizations and number of treated UTIs

## Results from UTI endpoints

Conservative bowel management is an umbrella term encompassing the first line of treatment for CC and FI. It commonly includes: lifestyle alterations, laxatives, constipating drugs, suppositories, biofeedback and digital stimulation<sup>3</sup>.



## Conclusion

In two out of three studies treatment with TAI (**Peristeen, Coloplast**) led to a significant reduction in UTIs in patients with neurogenic bowel dysfunction. However, the exact causal relationship by which bowel and bladder interactions affect UTIs needs to be further investigated.

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- Lara, L., Troop, P. & Beadleson-Baird, M. The Risk of Urinary Tract Infection in Bowel Incontinent Men. *J. Gerontol. Nurs.* 16, (1990).
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- Ausili, E. et al. Transanal irrigation in myelomeningocele children: An alternative, safe and valid approach for neurogenic constipation. *Spinal Cord* 48, 560–565 (2010).
- Passananti, V., Wilton, A., Preziosi, G., Storrie, J. B. & Emmanuel, A. Long-term efficacy and safety of transanal irrigation in multiple sclerosis. *Neurogastroenterol. Motil.* (2016). doi:10.1111/nmo.12833