Royal United Hospitals Bath
NHS Foundation Trust

Children's Continence

Current Awareness Bulletin

July 2025

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- **Bitesize searching databases for evidence: a quick guide to help you develop your literature searching skills**
  45 minutes. Learn how to transform a question into a search strategy, and how to find the best evidence in a database.
  Next sessions: 27th August @ 1pm, 25th September @ 9am & 3rd October @ 10am

- **Simple and painless evidence into practice (BMJ Best Practice and the LKS Hub)**
  30 minutes. Learn about quick and hassle-free ways to seamlessly incorporate evidence into your daily work.
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  30 minutes. Learn about the communication barriers patients may encounter, and ways to ensure they get the most from their care.
  Next sessions: 12th August @ 9am, 10th September @ 10am & 2nd October @ 11am

Book a session today at https://forms.office.com/e/HyiSXfDaYV (these sessions will be held on a monthly basis)

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1. **Low-volume transanal irrigation (TAI) in the treatment of functional faecal incontinence in children: a cohort study.**

Authors: Hougaard N.B.;Andersen R.F.;Kamperis K. and Jorgensen, C. S.

Publication Date: 2025

Journal: International Journal of Colorectal Disease

Abstract: Purpose: Functional faecal incontinence (FFI) is a stigmatising condition for a child and parents and can be a challenge to treat even in tertiary centres. Transanal irrigation (TAI) is an emerging treatment with great success in refractory cases. We performed TAI with a substantially decreased amount of water used (low-volume TAI), yet no previous evidence exists on this treatment in children. We conducted this study to evaluate the efficacy of low-volume TAI in reducing faecal incontinence (FI) episodes and to provide associated factors for response.
Method(s): Children with FFI trained in low-volume TAI in our outpatient incontinence clinic were identified. Baseline characteristics along with rectal ultrasound examination, information on weekly FI episodes and concomitant use of laxatives were noted. The continence status of patients was registered at the first outpatient clinic appointment after the commencement of TAI and after 6 months of treatment. During this period, information about side effects and changes in medication were captured.
Result(s): We identified 47 children (mean age 8.06 +/- 2.08 years, 27 males) treated with low-volume TAI. Thirty-five (74%) were diagnosed with functional constipation and FI, while 12 (26%) suffered from non-retentive faecal incontinence. Twenty (42%) children gained full faecal continence after 6.75 +/- 0.3 months. We found no differences between responders and non-responders in baseline characteristics.
Conclusion(s): Low-volume TAI appears safe and effective in the treatment of FFI refractory to first-line

treatment in children. Low-volume TAI could be a valuable tool for the management of these children as the treatment is less invasive, low in cost and well accepted.

2. **Outcomes and Complications of Chait Trapdoor Cecostomy in Pediatric Patients with Therapy-Resistant Constipation and Fecal Incontinence: A 14-Year Retrospective Study.**

Authors: Jonker C.A.L.;Koppen I.;Benninga M.A.;De Jong J.R. and Gorter, R.

Publication Date: 2025

Journal: European Journal of Pediatric Surgery

Abstract: Aim of the Study: To assess the incidence and types of complications and patient-reported outcomes in pediatric patients with therapy-resistant constipation or fecal incontinence (FI) without constipation who underwent Chait TrapdoorTM cecostomy (CTC). The findings contribute to the discussion on selecting the optimal antegrade continence (ACE) procedure for this population.
Material(s) and Method(s): A retrospective review was conducted on all pediatric patients with therapy-resistant constipation or FI without constipation who underwent a CTC procedure at our tertiary referral center between 2009 and 2023. Postoperative complications were classified using the Clavien-Madadi classification. At their most recent follow-up in 2023, patients reported satisfaction with their CTC.
Result(s): The study included 62 children (median age 12 years [IQR 8-14; range 1-17], 42% male), with a median follow-up of 4 years (IQR 2-8, range 0-14). Underlying diagnoses were functional constipation (n = 39, 63%), spina bifida (n = 11, 18%), and anorectal malformations (n = 5, 8%). A total of 49/62 patients (79%) experienced 89 CTC-related complications. Minor complications (Clavien-Madadi I-II) affected 29 patients (47%) and most commonly included granulation. Major complications (Clavien-Madadi III-IV) requiring surgery occurred in 32% of patients. Despite these complications, 40/62 (65%) patients reported satisfaction with their CTC, as determined by partial or complete symptom resolution.
Conclusion(s): Although complications were common, 65% of the patients reported satisfaction with their CTC. These findings emphasize the need for thorough patient selection, informed counseling on potential risks, and individualized management strategies to enhance outcomes.

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3. **The impact of robot-assisted treadmill therapy on urinary incontinence rates in a child with lower limb paresis - a single case study.**

Authors: Jung M.W. and Schon, V.

Publication Date: 2025

Journal: Physiotherapy Quarterly

Abstract: Introduction. Bladder incontinence is a daily challenge for spinal cord injury patients. An initial single case study showed the positive effects of robot-assisted gait training in an adult with this issue. The current study aimed to evaluate possible correlations between LokomatPro treatment and incontinence in a seven-year-old boy with incomplete paraplegia at T10 caused by meningoencephalitis. Methods. The study used an A-B-A-B-A-E design and observed the patient over a 17-week period. The intervention involved two 4-week blocks with the LokomatPro interspersed by a wash-out phase of 3 weeks, with a final 5-week wash-out phase. Follow-up analysis included the Janda muscle function test, the 10-meter walk test (in crawling), surface sensitivity assessment, and the Patient Specific Functional Scale (PSFS) combined with the Canadian Occupational Performance Measure (COPMa-kids) at each measurement time point. The patient also received 60 min of standardised gait training daily. Results. The results show a positive relationship between therapy and muscle function, with an impressive increase in bladder maximum filling volume. Furthermore, nocturnal diaper wetting disappeared under therapy, with the patient able to sleep through the night without the need for a diaper change. In addition, stool consistency returned to normal during

treatment. Conclusions. The therapy proved an effective treatment by reducing incontinence and positively influencing muscles. Subsequent studies, with more cases, should aim to confirm these effects.

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4. **Critical Appraisal of Guidelines for Daytime Urinary Incontinence in Children: Evaluation of Quality and Recommendations on Diagnostics.**

Authors: Linde J.M.;Hofmeester I.;Steffens M.G.;KloostermanEijgenraam F.J.;Nijman R.J.M. and Blanker, M. H.

Publication Date: 2025

Journal: Neurourology and Urodynamics

Abstract: Aims: This study aimed to evaluate the quality of currently available guidelines on non-neurogenic daytime urinary incontinence (DUI) in children and compare their content regarding the assessment of a child with DUI.
Method(s): We conducted a systematic search for guidelines on non-neurogenic DUI in children. A multidisciplinary team assessed the quality using the Appraisal of Guidelines for Research and Evaluation II (AGREE) instrument, which contains 23 items organized into six domains. Besides, each member evaluated if they would recommend using the guidelines. We extracted diagnostic recommendations from all guidelines for a descriptive comparison.
Result(s): Eight guidelines were included. Overall quality scores ranged from 2.6 to 5.8 on a 7-point scale, (1 for lowest and 7 for highest quality). Three guidelines were rated as good, four as moderate, and one as low quality. The AGREE-II domain Clarity and Presentation received high scores across all guidelines, while Rigour of Development and Applicability received the lowest scores. Recommendations for diagnostics were generally similar, with variations observed in guidelines targeting primary and secondary healthcare.
Conclusion(s): This study is the first to assess the quality of guidelines on non-neurogenic DUI in children. The quality varies, only two out of eight guidelines were recommended by the review team without adjustments. Guideline developers could improve the quality of their guidelines by using tools like AGREE II. Clinicians should consider the findings of our study when selecting a guideline to use in their daily practice. Clinical Trial Registration: As this is a review, no clinical trial registration was conducted. The review protocol has been registered in PROSPERO (CRD42021149059).

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5. **Critical Appraisal of Guidelines for Daytime Urinary Incontinence in Children: Comparison of Recommendations on Treatment.**

Authors: Linde J.M.;Hofmeester I.;Steffens M.G.;KloostermanEijgenraam F.J.;Nijman R.J.M. and Blanker, M. H.

Publication Date: 2025b

Journal: Neurourology and Urodynamics

Abstract: Aims: This study aimed to compare the recommendations on therapy from currently available guidelines on non-neurogenic daytime urinary incontinence (DUI) in children.
Method(s): We conducted a systematic search for guidelines on non-neurogenic DUI in children. We extracted the therapy recommendations from all the guidelines for a descriptive comparison.
Result(s): Eight guidelines were included. All guidelines advise urotherapy as the first step of treatment in children with DUI. They all agree on the importance of addressing co-existing bowel dysfunction and urinary tract infections. Neuromodulation was recommended as an early treatment modality in three guidelines, while the others reserve it for special cases (n = 2) or do not mention it at all (n = 3).

Pharmacotherapy with anticholinergics is often recommended, sometimes when urotherapy is insufficient, and by some guidelines simultaneously. The use of newer beta-3-agonists was only mentioned by recently (2019 and 2021) published guidelines. Only half of the guidelines mentioned the level of evidence with their recommendations, and when mentioned, the quality of the evidence is generally low.
Conclusion(s): Overall, the recommendations for treating non-neurogenic DUI in children are generally consistent, with all the guidelines endorsing urotherapy as the initial treatment. However, differences exist regarding additional treatments such as neuromodulation and pharmacotherapy, both areas of active research with evolving insights. The observed differences can be explained by the publication date of the guidelines and the target audience. The evidence supporting the recommendations is generally of low quality, indicating a need for further research in the field of DUI in children. Trial Registration: As this is a review, no clinical trial registration was conducted. The review protocol has been registered in PROSPERO (CRD42021149059).

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6. **Characteristics of Children Successfully Treated for Daytime Urinary Incontinence.**

Authors: Morizawa Y.;Mieda K.;Tachibana A.;Tomizawa M.;Onishi K.;Hori S.;Gotoh D.;Nakai Y.;Miyake M.;Torimoto K.;Aoki K. and Fujimoto, K.

Publication Date: 2025

Journal: International Journal of Urology

Abstract: Objective: A stepwise approach is recommended for the treatment of daytime urinary incontinence, with standard urotherapy as the first-line treatment, followed by pharmacological treatment when standard urotherapy is unsuccessful. This study was aimed at characterizing and comparing children with an overactive bladder and daytime urinary incontinence who became continent solely on standard urotherapy and those who achieved continence on a combination of standard urotherapy and pharmacological treatment.
Method(s): This retrospective study included 221 patients with complete continence during the day.
Result(s): Of these patients, 104 (47%) were successfully treated with standard urotherapy, and 117 (53%) required pharmacological treatment. Children who achieved continence on a combination of standard urotherapy and pharmacological treatment had significantly more baseline incontinence episodes during the daytime ($p = 0.001$) and lower voided volumes (voided volume/estimated bladder capacity: 37 and 42 mL respectively, $p = 0.0085$) compared with children who were treated with standard urotherapy only. Half the patients underwent an initial screening, including the use of a bladder diary, without the need for time-consuming and complex urotherapy.
Conclusion(s): Most children achieved daytime continence solely through standard urotherapy. Additionally, half of the patients achieved continence at the initial screening, including the use of the bladder diary. Children requiring additional pharmacological treatment to achieve continence have more severely overactive bladders.

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7. **Sensory processing in children with functional daytime urinary incontinence: A comparative study with autism spectrum disorder.**

Authors: NieuwhofLeppink A.J.;Maria van de Wetering E.H.;Bernard Rietman A.;Reindersvan Zwam A. and Schappin, R.

Publication Date: 2025

Journal: Journal of Pediatric Urology

Abstract: Background: Functional daytime urinary incontinence (DUI) is a frequently occurring condition among children. The etiology of DUI is multifactorial, involving genetic, biological, and

psychosocial factors. Autism Spectrum Disorder (ASD) seems related to DUI, as children with ASD have a higher risk of developing DUI. Sensory processing issues are prevalent in children with ASD and may contribute to DUI.

Objective(s): This study aims to elucidate the role of sensory processing issues in children with functional daytime urinary incontinence in relation to ASD.
Method(s): A cross-sectional study was conducted, including parents of children aged 6-12 years old, categorized into four groups: healthy children, children with DUI-only, children with ASD-only, and children with both DUI and ASD. Parents completed the Dutch version of the Short Sensory Profile (SSP-NL) to compare sensory processing between groups.
Result(s): A total of 225 eligible children participated in this study, with 75 otherwise healthy children, 58 children with DUI-only, 49 with ASD-only, and 43 children with DUI and ASD. Children with DUI-only scored significantly lower compared to their healthy peers in the SSP-NL domains of 'Low energy/weak' and the quadrant 'Low registration', indicating sensory under-responsivity and potential limitations in multisensory processing. Children diagnosed with ASD had the most sensory processing issues, independent of their DUI status.
Conclusion(s): Our study suggests that children with DUI may experience more sensory processing issues than their healthy peers. A better understanding of these issues associated with incontinence may improve urotherapy by taking into account children's sensory challenges and by teaching them adaptive behavior.

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8. **Significance of retrograde flow with antegrade continence enemas in children with fecal incontinence and constipation.**

Authors: Pearlstein H.;Wang L.;Thompson B.P.;Wood R.J.;Levitt M.A.;Bali N.;Vaz K.;Yacob D.;Di Lorenzo C. and Lu, P. L.

Publication Date: 2025

Journal: Journal of Pediatric Gastroenterology and Nutrition

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9. **A Review of the Long-term Outcomes of Incontinent Diversion in the Pediatric Neurogenic Bladder.**

Authors: Stout M.;Adams M.C. and Clayton, D. B.

Publication Date: 2025

Journal: Current Urology Reports

Abstract: Purpose: This review offers an evaluation of the limited literature detailing the outcomes of incontinent urinary diversion in the pediatric neurogenic bladder patient. We will discuss the indications for incontinent urinary diversion, procedural options, surgical techniques, postoperative complications, and overall patient impact. Recent Findings: Incontinent urinary diversions remain a valuable treatment option for patients with neurogenic bladder especially the highly selected patient with few other options. Irrespective of the diversion chosen, postoperative complications do arise, and long-term follow-up is imperative.
Summary: Ensuring the longevity and effectiveness of the diversion is critical, especially in a pediatric patient cohort with multiple long term risks including obesity- a factor that can directly impact reconstructive function. The dearth of available data highlights the need for more longitudinal studies of pediatric patient cohorts to determine true impact and risk related to incontinent urinary diversion.

10. **Giggle incontinence and facial emotion recognition deficits: a rare condition with a new insight into management**

Authors: Zhang, Yiyuan;Lu, Fang;Mao, Ruitao and Jin, Lihua

Publication Date: 2025

Journal: Neurocase

Abstract: Giggling incontinence(GI), although uncommon, can have a profound effect on a patient's quality of life, especially in adolescent females. A case study involving a 4-year-old girl who developed urinary incontinence symptoms following a traumatic brain injury from a motor vehicle accident and subsequent loss of her parents highlights the challenges in managing this condition after 4 months. Despite conventional treatments such as pelvic floor exercises and cognitive therapy, the patient's symptoms persisted. Unexpectedly, during facial expression recognition training, the guardian reported a notable improvement in the patient's symptoms. Following 45 days of specialized training in facial expression recognition, the patient experienced a complete resolution of GI symptoms. The initial objective of the intervention was to mitigate impairments in facial expression recognition, a social deficit that can have deleterious effects on development. However, the observed correlation between GI symptoms and regulation of brain areas was evident, compounded by the patient's concomitant frontoparietal brain injury and parental loss, which may have contributed to both GI symptoms and facial expression recognition impairments. This case report provides new insights into the intervention of GI symptoms and common emotional expression recognition disorders in the mental health field.

Sources Used:

A number of different databases and websites are used in the creation of this bulletin.

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