



Bladder & Bowel UK

Supporting people with bladder and bowel problems

part of Disabled Living

Paediatric Enuresis Excellence Group

PEE

Promoting quality in continence care

Enuresis Update Autumn Edition 2020



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How Our Enuresis Update Helps You

Welcome to the Autumn 2020 Enuresis Update.

'Enuresis Update' is a resource for clinicians involved with caring for children and young people with bedwetting problems. It aims to promote excellence in practice.

In this edition we have included reviews of recent research papers including, an evaluation of functional bladder capacity in children with enuresis; the therapeutic effects of desmopressin in primary monosymptomatic nocturnal enuresis treatment depending on the child's age; a study to compare the effectiveness of a bed mat (bell-and-pad) alarm compared to a body worn alarm in the treatment of monosymptomatic enuresis, and an overview of the recent Cochrane review of alarm interventions.

We hope you find them interesting and useful. We welcome ideas and comments, as well as suggestions about what you would like to see included in future editions.

We are also delighted to announce the relaunch of the Stopbedwetting web site at <http://stopbedwetting.org/> and that we have a winner for the Bladder & Bowel UK Enuresis Award 2020.

It has been a very difficult year for everyone, and we are aware that the pandemic has had an impact on a lot of services. For some it was an opportunity to look at different ways of working but for others it has had a huge negative impact on what they were able to provide. Dr Nikki Cotterill, associate professor of continence care, is leading a study that is aiming to not only map adult and children's continence services across England, but to investigate the impact of Covid-19 on services. We hope to provide information on the results of this study next year. However, we would also be happy to share any updates about your services' development or how you have had to adapt due to Covid-19.

Please do get in touch with us with your contributions

Email: bbuk@disabledliving.co.uk Tel: 0161 214 4591

Research Reviews

Alarm interventions for nocturnal enuresis in children (Review) Caldwell PHY, Codarini M, Stewart F, Hahn D, Sureshkumar P

Cochrane Database of Systematic Reviews 2020, Issue 5. Art. No.: CD002911. DOI: 10.1002/14651858.CD002911.pub3.

Abstract

This Cochrane review of the effects of enuresis alarms for treating bedwetting in children, included randomised and quasi-randomised trials of enuresis alarms alone, or of alarms used with another treatment for bedwetting in children aged 5-16 years old.

Seventy-four trials involving a total of 5983 children were included. Three of the studies were either funded or supported by a pharmaceutical company. Cochrane evaluated the quality of many of the studies as low, which meant that the results and authors' conclusions were uncertain.

From the available research evidence, the authors concluded that:

- Alarms may result in fewer wet nights a week than no treatment.
- More children may achieve fourteen consecutive dry nights and continue to experience dry nights if they use an alarm, compared to children who were controls or had no treatment.
- It was unclear whether alarms were more effective at reducing the number of wet nights a week than placebo drugs. No studies on this reported on how many children remained dry after discontinuation of treatment.
- It is possible that code-word alarms led to slightly more children achieving complete response to alarm treatment compared to control alarms. However, there was little or no difference in how many of the children remained dry after treatment finished. Due to the poor quality of evidence the authors were unable to ascertain if there were any differences in treatment efficacy between other types of alarm.
- The evidence comparing reduction in incidents of wetting with an alarm to behaviour interventions, including waking, bladder training, dry-bed training and star charts with rewards, was also low quality. However, the authors felt that alarms may give improved response in terms of reduced number of wet nights, complete response to treatment and likelihood of remaining dry after treatment.

- Alarms used in combination with Desmopressin might result in increased dry nights as well as more children achieved complete response and remained dry after cessation of treatment, when compared to desmopressin used alone.
- The quality of evidence in studies involving tricyclics was very low, so no conclusions were able to be drawn about whether there was any difference in effectiveness between these medications and an alarm.
- Very low quality evidence also prevented conclusions being drawn about the comparative effectiveness of alarms to cognitive behaviour therapy, psychotherapy, hypnotherapy and restricted diet
- It was not clear if there were any differences between using bladder training on its own or using bladder training in conjunction with an alarm.

Seventeen of the seventy-four included trials reported adverse events, nine stated there were none and the remaining forty-eight did not mention adverse events. The adverse events reported included alarms not waking the child, alarms sounding when the child was dry, alarms waking others in the household, being uncomfortable or frightening for the child, or being too difficult to use. The low quality of evidence meant that authors could not determine whether the rate of adverse events for alarms was different than for other treatments.

Due to poor quality of evidence the authors were only able to conclude that alarms may be more effective than no treatment in improving bedwetting in children. They were unable to ascertain whether the alarm was any more effective than Desmopressin but concluded that there was probably less risk of adverse events with the alarms than with Desmopressin.

Implications for Practice

The Cochraine review was an extensive piece of work and has the benefit of a systematic review, in that it seeks to identify all the relevant evidence, assess the quality of each study and synthesise finding in an unbiased way

and then interpret and present the findings. This review highlights that much of the evidence on efficacy of alarm therapy is of poor quality and therefore conclusions from individual research papers may be flawed. More research is high-quality research is needed.

There were previous Cochrane reviews that included alarms; one that focussed on behavioural therapy (Caldwell et al 2013) and one looking primarily at alarms (Glazener et al 2005). The Caldwell et al (2013) found that alarm therapy was more effective than bladder training and that simple behavioural interventions appeared to be less effective than alarm. Glazener et al (2005) involved fifty three trials and 2862 children found that alarms were better than no treatment and that they '...appear more effective than desmopressin or tricyclics by the end of treatment, and subsequently.' However, the authors commented that better quality research was needed.

This new Cochrane review includes twenty-one more trials than the 2005 review and 3121 more children, but the quality of the research was deemed to be mainly of low to moderate quality, with some very low quality. This impacts on the conclusions that can be drawn.

Clinical practice highlights that many children do well with alarms. Combination therapy is needed for a significant proportion. Those who make the most progress tend to be those who understand their condition, have supportive families who are empowered to make decisions about treatment that works for their unique situation.

As clinicians it is our role to fully assess the child and work with them and their families to find solutions that are effective for them.

2. Body-Worn Versus Bell-and-Pad Alarm Device for the Management of Monosymptomatic Nocturnal Enuresis in Children

Blake Peck, Bronwyn Peck, Jack Harvey, Andrea Green, Kerrie Svedas, Shirley Whitaker, Mark Nethercote, Rosemarie Shea

Journal of Wound Ostomy & Continence Nursing, 47, 5 :507-512.

Abstract

This study, to compare the effectiveness of a bed mat (bell-and-pad) alarm compared to a body worn alarm to treat monosymptomatic enuresis, randomised 86 children, aged 6 – 16 years old, to either a bed mat (n=45) or body worn alarm (n=41) for a maximum of sixteen weeks, or until fourteen consecutive dry nights had been achieved. The child maintained a diary of whether they were wet or dry, the time the alarm sounded, when they responded to the alarm and whether they passed urine without the alarm.

The study was designed in recognition that previous studies, quoted by the authors, indicate that an alarm is the most effective first-line treatment for enuresis, with approximately 65% of children achieving success (Butler and Gasson 2005).

Continence nurses in Victoria, Australia assessed each child to ensure that they were in the correct age range and had typical development. Further questions were asked about the child's history, comorbidities, use of medications and family history and the child's symptoms.

The child was reviewed after eight and sixteen weeks, at which times questions were asked about the wetting, dry nights, whether the child had achieved fourteen consecutive dry nights, how often the alarm was used, how loud the alarm was, how easy it was to use and whether there were any occasions of wetting when the alarm had not sounded, or of the alarm sounding when the child was dry. The family were also asked if there had been compliance with the treatment programme.

Eight (17.8%) children who were using the bedmat alarm and four (9.8%) children who used the body worn alarm had achieved fourteen consecutive dry nights at the first review and stopped the treatment programme. The paper does not report the numbers that were dry at the second review, but do state that there was no statistically significant

difference between the two types of alarm (64% dry for 14 nights or more with bedmat alarm vs 44% with the body worn alarm) for the overall duration of use, the actual number of nights the alarm was used for and the number of nights that the alarm had to be used for to attain the fourteen consecutive dry nights. The bed mat alarm also had more positive outcomes in six of nine secondary outcome measures.

The authors identify that the key to success with an alarm is that the child and parent wakes when it sounds and that parental support is significant for success. In this study the body-worn alarm was less effective at waking the parents than the bed mat alarm, which may have contributed to the better results seen with the latter. Furthermore, the child needs to get up and try to use the toilet as part of the treatment. This study also found that fewer children who used the body-worn alarm did this; more of them just turned the alarm off and went back to sleep, which may have been because their parents were not woken by the alarm.

It is important to note that some issues with the reliability of the alarms were identified. These included failure to sound, need to change the batteries frequently and discomfort. They concluded that the alarms not waking the parents and also alarms sounding when the child was not wet were an issue with the body-worn device that they chose for the study.

The authors recognise that their study was small in scale and that although the apparent better performance of the bed mat alarm in terms of clinical outcome could be related more to the particular alarm that was used rather than to an intrinsic difference between the body-worn and bed mat alarms.

Implications for Practice

More research is needed into whether there is a significant difference between effectiveness of bed mat and body-worn enuresis alarms. However, it remains clear that alarm reliability, its ability to wake both child and parents and compliance are key to success. It is therefore important that the child and family are given a choice of which type of alarm to use if possible, that alarms offered are reliable and replaced if faulty. Families need to be provided with the explanations and support they require to comply with the treatment pathway.

3. Therapeutic effects of desmopressin in primary monosymptomatic nocturnal enuresis treatment depending on patient's age

Zoran Radojicic, Sasa Milivojevic, Jelena Milin Lazovic, Djordje Toplicic, Natasa Milic

Journal of Pediatric Urology <https://doi.org/10.1016/j.jpuro.2020.08.003>

Abstract

This prospective cohort study of 89 children was designed to establish whether age has an impact on how effective Desmopressin is in treating monosymptomatic enuresis. Children with non-monosymptomatic enuresis, active urinary tract infections, constipation or soiling, diabetes insipidus or mellitus, renal disease, hypertension, congenital abnormalities or neurological conditions, secondary enuresis or previous treatment for enuresis were all excluded, as were children with reduced functional bladder capacity (less than 50% of expected) and urine osmolality had to be <800mOsmol/kg H₂O.

The children who met the inclusion criteria were divided into two groups: one of 43 children aged 5-6 years and one of 46 children aged 7-12 years. All children were advised to avoid foods high in protein and /or salt content for three to four hours before bedtime and to observe other lifestyle measures for three months prior to starting Desmopressin 0.2mg/day an hour before bedtime. All the children were told to stop drinking 2 – 3hours before bed and to limit their evening fluid intake to 200-300mls.

The children were reviewed every four weeks and their response to treatment was assessed after three months. At this point the decrease in number of night time wetting episodes over the preceding month, urine osmolality in the morning and compliance were compared between the two groups.

The authors found that the morning urine osmolality was similar between groups, but the average frequency of wetting both before and after treatment was higher in the younger age group and the percentage reduction in bedwetting was higher in the older age group and was statistically significant. Compliance with the treatment regime was lower in the younger age group. The authors point to the considerable evidence base for efficacy of Desmopressin as a treatment for enuresis, with the range in reduction of frequency of wetting being 10-91%; although only 25% of children attained complete dryness on Desmopressin. Therefore, they suggest that the main use of Desmopressin is for symptom control.

Radojicic et al point to a study from 2004 (Mammen et al) that found children with nocturnal polyuria, fewer than three wet nights a week, only one wet incident per night and bladder capacity as expected for age were indicators of a positive response to

Desmopressin. However, there are no previous studies about the impact of age on Desmopressin response.

This study suggests that Desmopressin is significantly more effective in children over 7 years of age. They have no definitive explanation for their findings, but suggest that reduced functional daytime bladder capacity in the younger children, the lower compliance with the treatment regime and the fact that younger children sleep for longer hours might contribute to their results. However, they do not define the difference between percentage bladder capacity in the younger versus the older age group. Furthermore, they diagnosed children with more than 50% expected bladder capacity as having monosymptomatic enuresis, although the International Children's Continence Society definition of small is 65%. Therefore, they may have unwittingly included some children with non-monosymptomatic enuresis.

The authors recommend further research to better understand the relationship between younger age and reduced response to Desmopressin.

Implications for Practice

Younger children are more prone to low voided volumes and overactive bladder symptoms (Rushton et al 1996; Dehoorne et al 2007), which may impact their response to Desmopressin. These should be fully assessed, with bladder diaries and appropriate treatment offered for every child who presents with bedwetting.

Children with nocturnal polyuria, who are not wet every night may be most likely to benefit from Desmopressin, including at a young age. Therefore, Desmopressin should be offered as a treatment option if desirable and clinically applicable at all ages. However, it may be helpful for families where it has not worked to know that it may be more efficacious when the child is slightly older and remains a treatment option to consider at a later date.

Low compliance has previously been found to correspond to poor response to Desmopressin. As this study found poor compliance to be more common in younger children, this should be considered when reviewing treatment options with the family. Compliance is likely to improve where there is greater concern about the impact of the condition and where there is an increased response to treatment. Therefore, good explanations to the child and family about the nature of the condition and treatment, as well as ongoing support may improve compliance and subsequently Desmopressin response, regardless of age.

Enuresis Award 2020

This year due to the pandemic, Bladder & Bowel UK took the decision to extend the entry deadline for the annual Enuresis Award to October. The standard of entries this year was once again high. The judges were impressed with the work that had gone into the projects and are delighted to announce that the Winners were the Children's Community Continence Team, from Locala Community Partnership CIC, Batley in West Yorkshire.

Our congratulations to Susan Oates, Ruth Farnell and Kath Witty for their project: **How social media and technology improves outcomes for children and young people with bedwetting.**

This year the judges once again felt that the standard of entries was sufficiently high to be able to award a Highly Commended certificate. This went to Jennifer Walsh and Julie Gandy at Powys Teaching Health Board for their project: **Creating a digital solution to enhance clinical effectiveness and improve patient outcomes.**

Congratulations to all our entrants. Do look out for the Enuresis Award 2021 and consider entering if you have made a difference to the care of children with bedwetting.



Bladder & Bowel UK congratulate the winning entrants!

Look out for the Bladder & Bowel UK Enuresis Award 2021. Entries will open in the Spring with a closing date that is anticipated to be at the end of July.

**SAVE THE DAY
BY FIGHTING
BEDWETTING
AT NIGHT**

NEW Bladder & Bowel UK Leaflets

At **Bladder & Bowel UK** we are continuously reviewing our existing resources and creating new ones for children and families (and adults) who are affected by continence conditions as well as the health care professionals who support them. The following are new or newly reviewed:

Understanding Constipation and Faecal Impaction

<https://www.bbuk.org.uk/wp-content/uploads/2020/12/Understanding-Constipation-and-Faecal-Impaction-1.pdf>

Understanding Macrogol Laxatives

<https://www.bbuk.org.uk/wp-content/uploads/2020/12/Understanding-Macrogol-Laxatives-1-1.pdf>

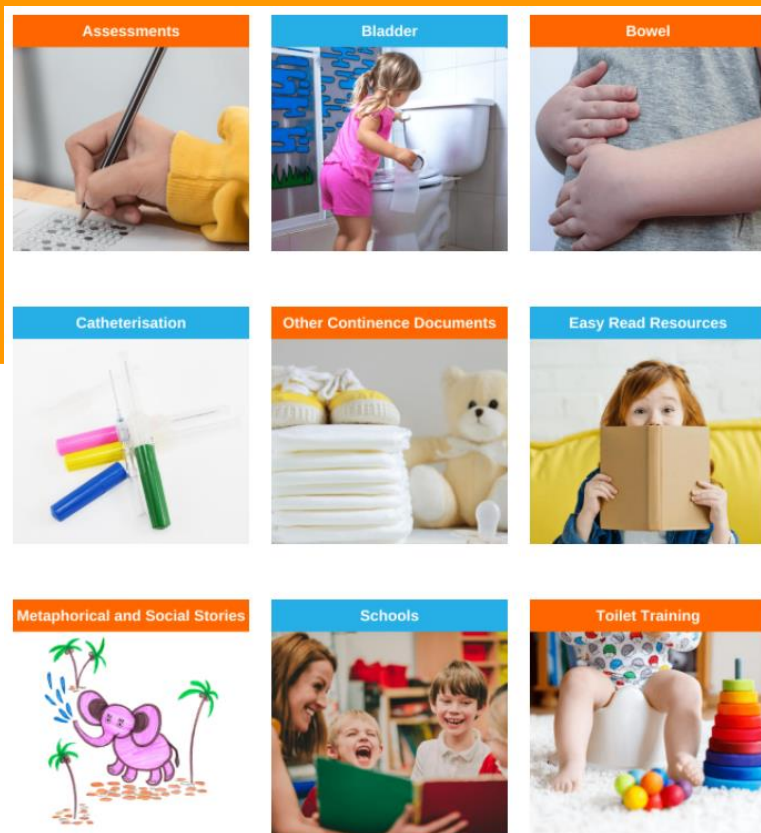
Understanding Management of Constipation and Disimpaction

<https://www.bbuk.org.uk/wp-content/uploads/2020/12/Understanding-Management-of-Constipation-and-Disimpaction-1.pdf>

Bladder and Bowel Resources for Children and Young People

Bladder & Bowel UK have a range of children and young people's resources on our website. View our Children's Resources here:

<https://www.bbuk.org.uk/children-young-people/children-resources/>



Contact Bladder & Bowel UK for More Information

Bladder & Bowel UK have a national helpline for anyone affected by bladder and/or bowel issues, including patients, families, carers and the professionals who support them.

Bladder & Bowel UK continue to produce an electronic professional's newsletter every two months. If you are not receiving this but want to stay up-to-date with developments in continence care and find out about our educational events, then email us at bbuk@disabledliving.co.uk and ask to be added to the mailing list.

The telephone
number for the helpline
has changed to
0161 214 4591
You can also contact
us via email
bbuk@disabledliving.co.uk



Sharing Best Practice

Training

For more information about bespoke training email:

bbuk@disabledliving.co.uk

Bladder & Bowel UK Annual Continence Symposiums

Dates to be announced for 2021!

More information available at: www.bbuk.org.uk/professionals/professionals-training/training-symposium/

Children's continence special interest group

To join email bbuk@disabledliving.co.uk

Members receive email newsletters and information about training, developments and issues related to continence.

Free Downloadable Resources

Available from the Bladder & Bowel UK website at:

www.bbuk.org.uk

Editorial Group

Dr Fiona Cameron (community paediatrician), Dr Paula Drummond (consultant community paediatrician), Dr Catriona Morrison (consultant paediatrician), Davina Richardson (children's specialist nurse), June Rogers MBE (children's specialist nurse), Martina Thomas (children's continence nurse), Dr Anne Wright (consultant paediatrician).

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