



# Behavioural interventions including alarms: bedwetting (enuresis)

## Intervention

Behavioural interventions, including reward strategies, requiring a behaviour or action by the child that promotes night dryness.

### Simple behavioural interventions

The child can achieve simple behavioural interventions without great effort. They include:

- lifting
- waking
- reward charts
- retention control training
- bedwetting alarms
- overlearning.

### Complex behavioural interventions

Multiple behavioural (complex) interventions include dry bed training or full-spectrum home training. These interventions require greater effort by the child and parents to achieve, and include enuresis alarm therapy.

### Alarm therapy

Alarm therapy can be performed with other interventions. This strategy appears to be the most effective method for stopping bedwetting.

## Indication

Bedwetting affects around 15–20% of children aged 5 years. Parents who wet the bed as children are more likely to have children with enuresis.

Children at least 5 years of age who are unhappy or uncomfortable about their bedwetting.

Daytime bladder control and coordination usually occurs by 4 years of age, however nighttime bladder control typically takes longer and is not expected until a child is 5–7 years old.

While parents may see bedwetting as a 'problem' due to inconvenience or concerns about underlying disease, for most children it is only seen as a problem when it interferes with their ability to socialise with friends.

Most children who wet the bed have no physical or emotional problems.

If the condition is not distressing to the child or parents, treatment is not indicated.

## Precautions

Constipation is a common problem in children and can also cause bedwetting.

Diabetes and urinary tract infections could contribute to enuresis and should be excluded where indicated.



## Adverse Effects

Children and parents may become frustrated by lack of response to treatment and relapse. Some of the interventions will cause temporary sleep deprivation for both child and parent(s).

## Availability

Mattress bedwetting alarms are available for hire from The Royal Children's Hospital. A referral is required to see a paediatrician before hiring the alarm.

Refer to [Consumer resources](#).

Bedwetting alarms are available to purchase from around \$80–160 on various Australian-based online stores.

## Description

### Simple behavioural interventions

These include [lifting](#), [waking](#), [reward charts](#) and [retention control training](#). [Bedwetting alarms](#) and [overlearning](#) are also considered simple interventions, however these require purchase of an enuresis alarm and so may be considered second-line interventions.

#### Lifting

This involves lifting the child from bed while they sleep and taking them to the toilet, without necessarily waking the child.

#### Waking

This involves waking the child up and walking them to the toilet. Children can be woken at set times or randomly through the night.

#### Reward charts

These are calendars with a space for each day, where a sticker can be placed indicating a dry night. These act as visual reminders of progress.

#### Retention control training (also known as 'bladder training')

This involves encouraging children to hold voiding urine as long as possible once a day, as a means of expanding bladder capacity and enabling recognition of a full bladder.

#### Bedwetting alarms

These are typically reserved for children older than 7 years. Alarms work by using a sensor that detects the first drops of urine in the underwear. When the sensor is activated, it sends a signal to an alarm device, which is intended to wake the child with a sound, light or vibration. The alarm helps to train the child to wake up or stop urinating before the alarm goes off.

Children should be in charge of their alarm and should test it every night before sleeping. Parents should give positive reinforcement for dry nights and for successful use of the alarm sequence.

As alarm therapy begins, some children will not awaken when the alarm goes off. Parents should wake the child initially, although most children will eventually learn to awaken on their own. It is critical for success of alarm therapy that the child is awake and conscious during the process of going to the bathroom in the middle of the night and not 'sleepwalking' through the experience.

Use the alarm continuously until the child has 3–4 weeks of consecutively dry nights. This usually takes 3–4 months but can range between 5 weeks and 6 months. The alarm sequence can be restarted if bedwetting recurs.



## Description

### Overlearning

This also involves use of an enuresis alarm, as described above, until the child is dry for 3–4 weeks. The child is then allowed to drink three-quarters of a cup (approximately 200 mL) of water in the hour before bedtime. The child then wears the enuresis alarm to sleep. Filling the bladder challenges the child's ability to awaken before wetting the bed, hence the concept of 'overlearning'.

### Complex behavioural interventions

These include [dry bed training](#) and [full-spectrum home training](#).

#### Dry bed training

This consists of a strict schedule for waking the child up at night until the child learns to wake up alone when needed. The training is implemented over 7 nights.

- Night 1: Wake the child every hour at 1 am and have them go to the toilet. The parent may stay with the child on the first night.
- Nights 2–6: Wake the child once a night, 3 hours after falling asleep on the second night and earlier on each subsequent night. On the sixth night, wake the child 1 hour after bedtime.
- Night 7: The child should wake on their own. After training is complete, repeat the steps if the child wets the bed 3 nights in a row.

#### Full-spectrum home training

This includes behavioural interventions such as encouraging the child to remove soiled sheets and remake the bed, overlearning, dry bed training and bladder training.

Complex interventions alone have not been shown to be better than alarms used alone.

## Tips and challenges

There does not appear to be one simple behavioural therapy that is more effective than another.

Simple treatments do not have any side effects or safety concerns. Therefore, simple methods could be tried as first-line therapy before considering alarms or drugs for this common childhood condition.

Treatment should be delayed until the child is able and willing to adhere to the treatment program. Parents also need to be highly motivated before starting behavioural interventions.

If the enuresis persists despite use of the options listed above, there are enuresis clinics at the major hospitals in each state/territory where specialised assistance can be sought.

## Grading

NHMRC Level 1 evidence



## References

Caldwell PHY, Nankivell G, Sureshkumar P. Simple behavioural interventions for nocturnal enuresis in children. *Cochrane Database Syst Rev*, 2013;7: CD003637. DOI: 10.1002/14651858.

Glazener CMA, Evans JHC, Peto RE. Alarm interventions for nocturnal enuresis in children. *Cochrane Database Syst Rev*, 2005;2: CD002911. DOI: 10.1002/14651858 (accessed February 2007).

Glazener CMA, Evans JHC, Peto RE. Complex behavioural and educational interventions for nocturnal enuresis in children. *Cochrane Database Syst Rev*, 2004;1: CD004668. DOI: 10.1002/14651858 (accessed March 2008).

## Consumer resources

The Royal Children's Hospital, Bedwetting  
[www.rch.org.au/kidsinfo/fact\\_sheets/Bedwetting](http://www.rch.org.au/kidsinfo/fact_sheets/Bedwetting)

The Children's Hospital at Westmead, Kids health: Bedwetting  
<http://kidshealth.schn.health.nsw.gov.au/fact-sheets/bedwetting>

Better Health Channel, Bedwetting  
[www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Bedwetting](http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Bedwetting)

Raising Children Network, Bedwetting  
[http://raisingchildren.net.au/articles/bedwetting\\_\(cyh\).html/context/618](http://raisingchildren.net.au/articles/bedwetting_(cyh).html/context/618)

Patient.co (UK), Bedwetting (nocturnal enuresis)  
[www.patient.co.uk/health/Bedwetting](http://www.patient.co.uk/health/Bedwetting)

Patient.co (UK), Reward systems for bedwetting  
[www.patient.co.uk/health/Bedwetting-Reward-Systems](http://www.patient.co.uk/health/Bedwetting-Reward-Systems)

Patient.co (UK), Bedwetting alarms  
[www.patient.co.uk/health/Bedwetting-Alarms](http://www.patient.co.uk/health/Bedwetting-Alarms)