Nocturnal enuresis  
NICE 2010 CG111

She was 9 years old and sat there, reluctant to make eye contact…. ‘Go on then’ said an exasperated mum. ‘No you say’ she whispered. ‘She still wets the bed and she wants to go on a school trip next month – I don’t know what to do next!’

NICE recognise that bedwetting is common and distressing and has a significant impact on the emotional wellbeing of children and stress levels of parents.

The guideline covers all children up to the age of 19. They deliberately do not include a minimum age though acknowledge that developmentally, a child aged 5 would be expected to be consistently dry at night. The reason for this is that they wish to challenge the traditional view that no treatment is necessary until after the age of 7. If wetting is causing distress to parent or child it should be taken seriously.

The key messages of this guideline for GPs are:

- Effectively communicate to the child and parent that bedwetting is NOT the child’s fault and punitive measures should not be used.
- Treatment has a positive effect on self-esteem and we should persist in offering different treatments if first line measures fail.
- Desmopressin nasal spray is blacklisted because of the risk of hyponatremia and should not be used. If needed, desmospressin tablets or melts should be used.

Nocturnal enuresis statistics:

- Infrequent bedwetting (<2 nights weekly) occurs in 21% of 4 ½ year olds and 8% of 9 year olds
- Frequent bedwetting (>2 nights weekly) occurs in 8% of 4 ½ year olds and 1.5% of 9 year olds

Nocturnal enuresis: Management of bedwetting in children  
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What is the underlying aetiology?

There are a number of contributing factors which should be considered in assessment and investigation:

- Sleep arousal difficulties
- Polyuria
- Bladder dysfunction (this may manifest with day time bladder problems)
- Family history – bedwetting seems to run in families

Important principles of care:

- Inform children and young people and their parents that bedwetting is not their fault and that punitive measures should not be used.
- Do not exclude children aged less than 7 from management of bedwetting on the basis of age alone.
- Offer practical information to reduce the impact of bedwetting eg. bed protection and disposable products.

Assessment and investigation:

If clinically indicated, rule out systemic illness, particularly if history is short:

- Urinary tract infection – investigate and treat as appropriate.
- Constipation and soiling – if present treat (see section on constipation in GP Update Handbook).
- Diabetes – if new diagnosis needs same day referral.

Perform urinalysis only if clinically indicated.
If the child has previously been dry at night for 6 months, then enquire about possible medical, emotional or social triggers and consider whether these need intervention:

- Developmental delay or learning disabilities.
- Behavioural or emotional problems – offer psychological intervention or social support as appropriate.
- Family distress or a vulnerable child/family.

If no underlying cause is established:

- **Pattern of bedwetting**
  - Frequent bedwetting is less likely to resolve spontaneously.
  - A large volume of urine in the first few hours of the night is typical of bed wetting.
  - Variable volume more than once each night may suggest an underlying overactive bladder.
- **Presence of daytime symptoms** eg. frequency, urgency, daytime wetting, pain on urination or need for abdominal straining.
  - These symptoms may indicate underlying overactive bladder or urological problems and should be investigated and treated prior to tackling bed wetting.
- **Toileting patterns:**
  - Do day time symptoms only occur in certain situations and does the child avoid using the toilet in certain settings?
  - Give advice about encouraging normal toilet patterns (see later).
- **Assess child’s fluid intake**, particularly check if the child or parents are restricting fluids as this may impede development of normal bladder capacity.

Management options
It is important to discuss with the child and parents their most important goals and the advantages and disadvantages of the treatment options. This is because time and motivation is required to make treatments effective.

**Advise about fluid intake:**

- Discuss that adequate fluid intake is important:
  - Age 4-8 Female 1-1.4 L Male 1-1.4L
  - Age 9-13 Female 1.2-2.1 L Male 1.4-2.3L
  - Age 14-18 Female 1.4-2.5 L Male 2.1-3.2 L
- Increase fluid intake in hot weather or with physical exercise.
- Avoid caffeinated drinks.
- Don’t restrict fluid or diet to treat bedwetting.
- Encourage use of the toilet 4-7 times daily.

**Reward Systems**
These should be used either alone or with other treatments for bedwetting. **Rewards should be given for agreed behaviours, rather than dry nights:**

- Drinking recommended amounts of fluid.
- Using the toilet to pass urine before going to sleep.
- Engaging with treatment eg. taking medication, helping to change sheets.

Lifting and waking will not promote long term dryness but may be used as a short term practical measure to manage bedwetting.

Any training programme which restricts normal urination during the day should not be used.

**If these first line management strategies are not effective then discuss alarms and drug treatment with parents:**
Alarm Treatment

The basis of alarm treatment is to gradually improve the child’s arousal level in response to needing to pass urine. It requires motivation on both the child and parents’ part. When the alarm goes off, the child and parents should get up, visit the toilet and then reset the alarm before returning to bed.

- Offer where advice on fluids, toileting and reward systems have not been effective unless:
  - An alarm is considered undesirable by parents or child.
  - Bedwetting is very infrequent eg. <2 times per week.
  - Parents are having emotional difficulties coping with the burden of bedwetting.
  - Parents express anger, negativity or blame towards the child.

- Alarms have a high long term success rate (Cochrane Review shows that two thirds of children will achieve dryness with initial benefits taking 1 month and success within 3-6 months (Cochrane 2005 CD002911)).

- Discuss with the child and parents that it will take weeks to months for the treatment to be successful.
  - It is important to monitor progress eg. fewer wet nights, smaller volume of urine before aroused etc
  - Assess response to alarm treatment at 1 month – if any signs of response continue until the child achieves two weeks continuous dryness.
  - If symptoms relapse after a continuous period of dryness, the alarm can be reused.
  - If there is no sign of response at 1 month consider combination with desmopressin treatment providing there is still motivation to use the alarm system.

Drug Treatment

Desmopressin works by reducing the amount of urine produced overnight.

- Consider desmopressin tablets (not nasal spray – this is now blacklisted for use in children because of the risk of hyponatremia) where:
  - Rapid or short term dryness is a priority.
  - Alarm treatment is undesirable or inappropriate.

- Overnight fluid restriction is necessary – nothing to drink from 1 hour before and 8 hours after taking medication.

- Start at the lower dose of each preparation and only increase dose if no response after two weeks:
  - Desmotabs Start dose: 200mcg Maximum dose: 400mcg
  - Desmomelts Start dose: 120mcg Maximum dose: 240mcg

- If response at 4 weeks, continue treatment for three months then attempt withdrawal.

- If bedwetting recurs then repeat courses of desmopressin may be given – withdraw every three months to assess whether still needed.

- Desmopressin should be withdrawn at times of ill health where fluid imbalances may occur eg. diarrhoea and vomiting or sickle cell crisis.

- Do not monitor electrolytes, weight, blood pressure or urine osmolarity.

Alarm therapy and desmopressin can be combined, particularly if multiple recurrences occur on stopping alarm therapy.

Referral:

If these first line treatments fail alone and in combination then further assessment by a paediatrician is warranted. They may consider:

- Anticholinergics, particularly if daytime symptoms of overactive bladder are present.
- Imipramine
- Additional psychological support.
Take home messages: NICE on Nocturnal Enuresis

- Make a diagnosis and do not delay treatment because of the impact on the child’s self-esteem.
- Explain clearly that it is not the child or parents’ fault.
- Perform urinalysis only if clinically indicated.
- Initial advice should include adequate fluid intake and reward systems based on behaviour rather than dry nights.
- First line treatment is the use of an alarm–advise it may take weeks to months to work but that the results are long lasting.
- Second line treatment is desmopressin–advise that fluid restriction is necessary for 1 hour before and 8 hours after taking the medication at bedtime. **DO NOT USE THE NASAL SPRAY.**
- If effective, desmopressin should be withdrawn every 3 months to assess if it is still needed.
- A combination of desmopressin and an alarm can be used for children who do not respond to either alone.
- Refer children who do not respond to these therapies for consideration of more intensive input and anticholinergics/imipramine.

Useful Websites

**For parents and professionals:**
ERIC is a charity which provides lots of useful information and resources for children with continence difficulties. They sell alarms for between £45-£100.
www.eric.org.uk

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