NHS
National Institute for Health and Clinical Excellence

Quick reference guide

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Nocturnal enuresis

The management of bedwetting in children and young people

NICE clinical guideline 111
Developed by the National Clinical Guideline Centre

About this booklet

This is a quick reference guide that summarises the recommendations NICE has made to the NHS in 'Nocturnal enuresis: the management of bedwetting in children and young people' (NICE clinical guideline 111).

Who should read this booklet?

This quick reference guide is for healthcare professionals and other staff who care for children and young people with bedwetting.

Who wrote the guideline?

The guideline was developed by the National Clinical Guideline Centre, which is based at the Royal College of Physicians. The Centre worked with a group of healthcare professionals (including consultants, GPs and nurses), patients and carers, and technical staff, who reviewed the evidence and drafted the recommendations. The recommendations were finalised after public consultation.

For more information on how NICE clinical guidelines are developed, go to **www.nice.org.uk**

Where can I get more information about the guideline?

The NICE website has the recommendations in full, reviews of the evidence they are based on, a summary of the guideline for patients and carers, and tools to support implementation (see inside back cover for more details).

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NICE clinical guidelines are recommendations about the treatment and care of people with specific diseases and conditions in the NHS in England and Wales.

This guidance represents the view of NICE, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer, and informed by the summary of product characteristics of any drugs they are considering.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

Contents

Patient-centred care

Treatment and care should take into account patients' individual needs and preferences. Good communication is essential, supported by evidence-based information, to allow patients to reach informed decisions about their care. Follow advice on seeking consent from the Department of Health or Welsh Assembly Government if needed. Families and carers should have the opportunity to be involved in decisions about treatment and care. Where appropriate, for example for older children, this should be with the child's agreement. If caring for young people in transition between paediatric and adult services refer to 'Transition: getting it right for young people' (available from **www.dh.gov.uk**).

Introduction

- This guideline makes recommendations on the assessment and management of bedwetting in children and young people.
- It applies to children and young people up to 19 years with the symptom of bedwetting. There is no minimum age limit to allow consideration of the benefit of interventions in younger children (under 7 years) previously excluded from treatment.
- The causes of bedwetting are not fully understood. There are a number of different disturbances of physiology that may be associated with bedwetting, such as sleep arousal difficulties, polyuria and bladder dysfunction. It often runs in families.
- The term 'bedwetting' is used in this guideline to describe the symptom of involuntary wetting during sleep without any inherent suggestion of frequency of bedwetting or pathophysiology.
- The treatment of bedwetting has a positive effect on the self-esteem of children. Healthcare professionals should persist in offering treatment if the first-choice treatment is not successful.

Key to terms

The following definitions were used for this guideline:

Bedwetting: involuntary wetting during sleep without any inherent suggestion of frequency of bedwetting or pathophysiology.

Daytime symptoms: daytime urinary symptoms such as wetting, urinary frequency or urgency.

Response to an intervention: the child has achieved 14 consecutive dry nights or a 90% improvement in the number of wet nights per week.

Partial response: the child's bedwetting has improved but 14 consecutive dry nights or a 90% improvement in the number of wet nights per week has not been achieved.

Principles of care

- Offer support, assessment and treatment tailored to the circumstances and needs of the child or young person and parents and carers.
- Do not exclude younger children (under 7 years) from the management of bedwetting on the basis of age alone.
- Explain that bedwetting is not the child or young person's fault and that punitive measures should not be used for the management of bedwetting.

Key priorities for implementation

Principles of care

- Inform children and young people with bedwetting and their parents or carers that bedwetting is not the child or young person's fault and that punitive measures should not be used in the management of bedwetting.
- Offer support, assessment and treatment tailored to the circumstances and needs of the child or young person and parents or carers.
- Do not exclude younger children (for example, those under 7 years) from the management of bedwetting on the basis of age alone.

Assessment and investigation

- Discuss with the parents or carers whether they need support, particularly if they are having difficulty coping with the burden of bedwetting, or if they are expressing anger, negativity or blame towards the child or young person.

Planning management

- Consider whether or not it is appropriate to offer alarm or drug treatment, depending on the age of the child or young person, the frequency of bedwetting and the motivation and needs of the child or young person and their family.

Advice on fluid intake, diet and toileting patterns

- Address excessive or insufficient fluid intake or abnormal toileting patterns before starting other treatment for bedwetting in children and young people.

Reward systems

- Explain that reward systems with positive rewards for agreed behaviour rather than dry nights should be used either alone or in conjunction with other treatments for bedwetting. For example, rewards may be given for:
  - drinking recommended levels of fluid during the day
  - using the toilet to pass urine before sleep
  - engaging in management (for example, taking medication or helping to change sheets).

Initial treatment

- Offer an alarm as the first-line treatment to children and young people whose bedwetting has not responded to advice on fluids, toileting or an appropriate reward system, unless:
  - an alarm is considered undesirable to the child or young person or their parents and carers **or**
  - an alarm is considered inappropriate, particularly if:
    - bedwetting is very infrequent (that is, less than 1–2 wet beds per week)
    - the parents or carers are having emotional difficulty coping with the burden of bedwetting
    - the parents or carers are expressing anger, negativity or blame towards the child or young person.
- Offer desmopressin to children and young people over 7 years, if:
  - rapid-onset and/or short-term improvement in bedwetting is the priority of treatment **or**
  - an alarm is inappropriate or undesirable (see recommendation 1.8.1).

Lack of response to initial treatment options

- Refer children and young people with bedwetting that has not responded to courses of treatment with an alarm and/or desmopressin for further review and assessment of factors that may be associated with a poor response, such as an overactive bladder, an underlying disease or social and emotional factors.

Assessment and investigation

- Ask about the bedwetting, daytime symptoms, toileting patterns and fluid intake (see table 1). Consider asking the child or young person and parents or carers to keep a record of these, if it would be useful for assessing and treating bedwetting.
- If bedwetting started in the last few days or weeks perform urinalysis and consider whether it could be caused by a systemic illness (see table 2).
- If bedwetting is secondary (the child or young person has previously been dry at night without assistance for 6 months or more) ask about possible triggers (see table 2)
- Assess for comorbidities and other factors that may be associated with bedwetting (in particular those listed in table 2), and consider assessment, investigation and/or referral.
- Do not perform urinalysis routinely (see box 1).

Box 1 Urinalysis

Do not perform urinalysis routinely, unless the child or young person has:

- started bedwetting recently (in the last few days or weeks)
- daytime symptoms
- any signs of ill health
- a history, symptoms or signs suggestive of urinary tract infection
- a history, symptoms or signs suggestive of diabetes mellitus.

Table 1 History taking

Patterns and symptoms	Interpretation/action
Pattern of bedwetting How many nights a week does bedwetting occur? How many times a night does bedwetting occur? Does there seem to be a large amount of urine? At what times of night does bedwetting occur? Does the child or young person wake up after bedwetting?	Bedwetting that occurs every night is severe bedwetting, which is less likely to resolve spontaneously than infrequent bedwetting A large volume of urine in the first few hours of the night is typical of bedwetting only A variable volume of urine, often more than once a night, is typical of bedwetting and daytime symptoms with possible underlying overactive bladder
Daytime symptoms Does the child or young person need to pass urine frequently (more than seven times) or infrequently (less than four times) during the day? Does the child or young person need to pass urine urgently during the day? Is the child or young person wetting during the day? Does the child or young person have abdominal straining when passing urine or a poor urinary stream? Does the child or young person have pain passing urine?	Daytime symptoms may indicate a bladder disorder such as overactive bladder Pain passing urine may indicate a urinary tract infection Perform urinalysis If daytime symptoms are severe: – consider assessment, investigation and/or referral – consider investigating and treating daytime symptoms before bedwetting – this may rarely indicate an underlying urological disease
Toileting patterns Does the child or young person avoid using certain toilets, such as school toilets? Does the child or young person go to the toilet more or less often than his or her peers? Do daytime symptoms happen only in certain situations?	Give advice about encouraging normal toileting patterns (see page 10)
Fluid intake How much does the child or young person drink during the day? Are they drinking less because of the bedwetting? Are the parents or carers restricting drinks because of the bedwetting?	Inadequate fluid intake may mask an underlying bladder problem and may impede development of adequate bladder capacity Give advice on fluid intake (see page 10)

Table 2 Assess for a systemic cause or trigger and comorbidities

Systemic causes, triggers, comorbidities and other factors	Action if suspected
Urinary tract infection	Investigate and treat in line with 'Urinary tract infection in children' (NICE clinical guideline 54)
Constipation and/or soiling	Investigate and treat in line with 'Constipation in children and young people' (NICE clinical guideline 99)
Diabetes mellitus	Offer immediate (same day) referral to a multidisciplinary paediatric diabetes care team for diagnosis and immediate care, in line with 'Type 1 diabetes' (NICE clinical guideline 15)
Medical, emotional or physical triggers	Consider whether assessment or treatment is needed for any identified triggers
History of recurrent urinary infections Known or suspected physical or neurological problems Developmental, attention or learning difficulties Family problems or vulnerable child, young person or family	Consider assessment, investigation and/or referral
Behavioural or emotional problems	Consider assessment, investigation and/or referral Consider involving a professional with psychological expertise Treatment may need to be tailored to the specific needs of the family
Maltreatment	Consider maltreatment in line with 'When to suspect child maltreatment' (NICE clinical guideline 89)

Planning management

Explain the condition, the effects and aims, and advantages and disadvantages of the possible treatments (see pages 15 and 17). For example, that alarms have a high long-term success rate and desmopressin treatment is effective for rapid, short-term results.

Ask about:

- what the child or young person and their parents or carers hope the treatment will achieve
- whether short-term dryness is a priority for family or recreational reasons (for example, for a sleep-over)
- the child or young person's views on their bedwetting, including what the main problem is and whether it requires treatment.

Discuss factors that might affect treatment and support needs, such as:

- sleeping arrangements (for example, does the child or young person have his or her own bed or bedroom)
- the impact of bedwetting on the child or young person and family
- whether the child or young person and parents or carers have the necessary level of commitment, including time available, to engage in a treatment programme
- whether the parents or carers need support, particularly if they are having difficulty coping with the burden of bedwetting, or if they have expressed anger, negativity or blame towards the child or young person.

Information and advice

Information for the child or young person and family

Offer information:

- that is tailored to the needs of the child or young person and their parents or carers
- about support groups
- about practical ways to reduce the impact of bedwetting, such as bed protection and washable or disposable products.

Advice for the child or young person and family

Fluid intake, diet and toileting patterns

Advise children and young people and their parents or carers:

- that adequate daily fluid intake is important (see table 3)
- that the amount of fluid needed varies according to the ambient temperature, dietary intake and physical activity
- that caffeine-based drinks should be avoided
- to eat a healthy diet and not to restrict diet to treat bedwetting
- about the importance of using the toilet to pass urine regularly during the day and before sleep (between four and seven times a day). Parents or carers should continue to encourage regular toilet use alongside treatment.

Table 3 Suggested total daily intake of fluid from drinks for children and young people

Age (years)	Sex	Total drink intake per day (ml)
4–8	Female Male	1000–1400 1000–1400
9–13	Female Male	1200–2100 1400–2300
14–18	Female Male	1400–2500 2100–3200

Reward systems

- Explain that reward systems should be used, either alone or with other treatments for bedwetting. Rewards should be given for agreed behaviour rather than dry nights, for example:
  - drinking recommended levels of fluid during the day
  - using the toilet to pass urine before sleep
  - engaging in management (for example, taking medication or changing sheets).
- Inform parents or carers that they should not use systems that penalise or remove previously gained rewards.

Lifting and waking[1]

Offer advice on lifting and waking during the night as follows:

- Neither lifting nor waking will promote long-term dryness.
- Waking should be used only as a practical measure in the short-term management of bedwetting.
- Young people with bedwetting that has not responded to treatment may find self-instigated waking (for example, using a mobile phone alarm or alarm clock) a useful management strategy.

Training programmes

Do not use:

- strategies that interrupt normal passing of urine or encourage infrequent urination during the day
- dry-bed training[2] with or without an alarm.

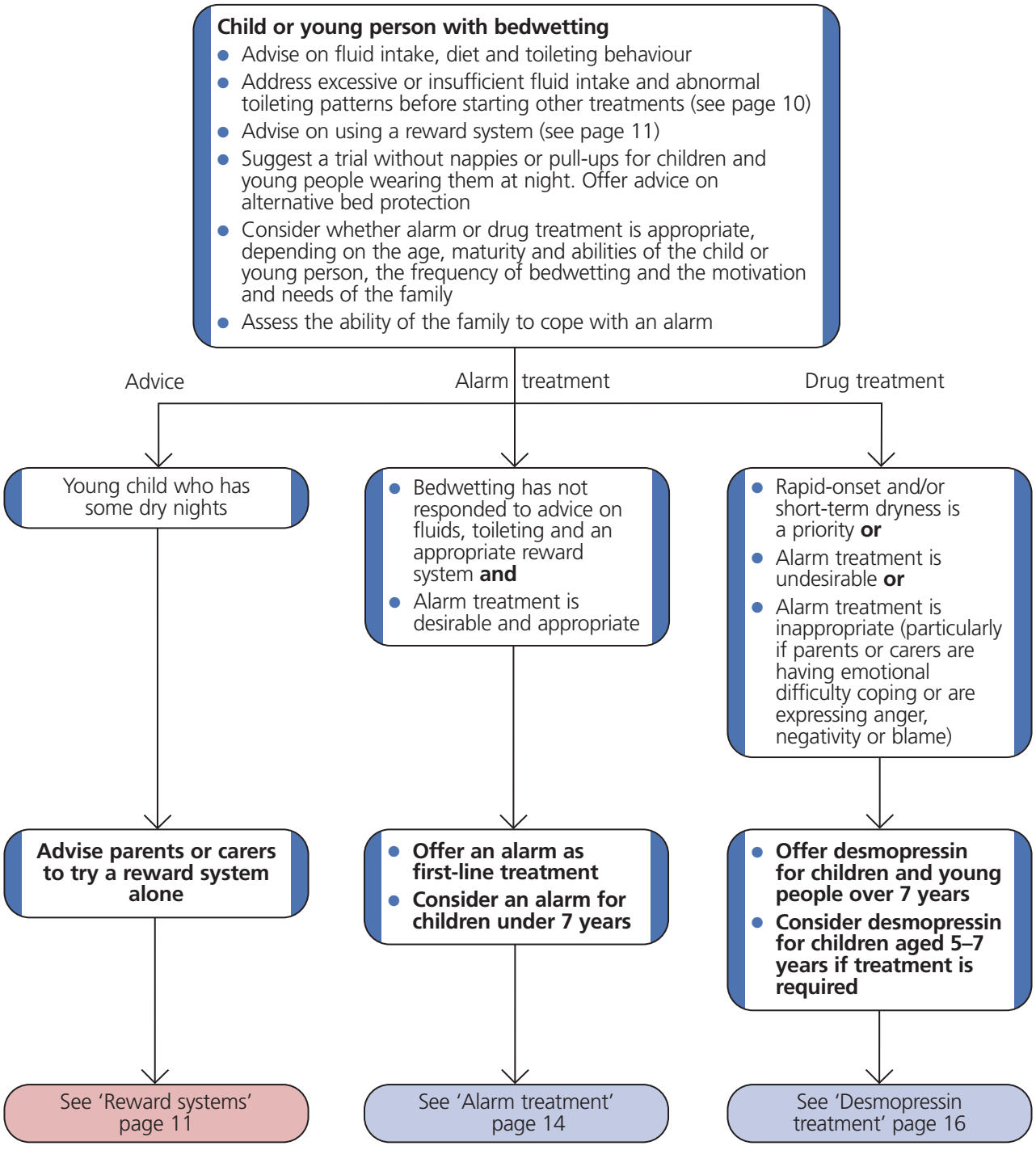
[1] Lifting is carrying or walking a child to the toilet. Lifting without waking means that effort is not made to ensure the child is fully woken. Waking means waking a child from sleep to take them to the toilet.
[2] Dry-bed training is a training programme that may include combinations of a number of different behavioural interventions, and that may include rewards, punishment, training routines and waking routines, and may be undertaken with or without an alarm.

Children under 5 years

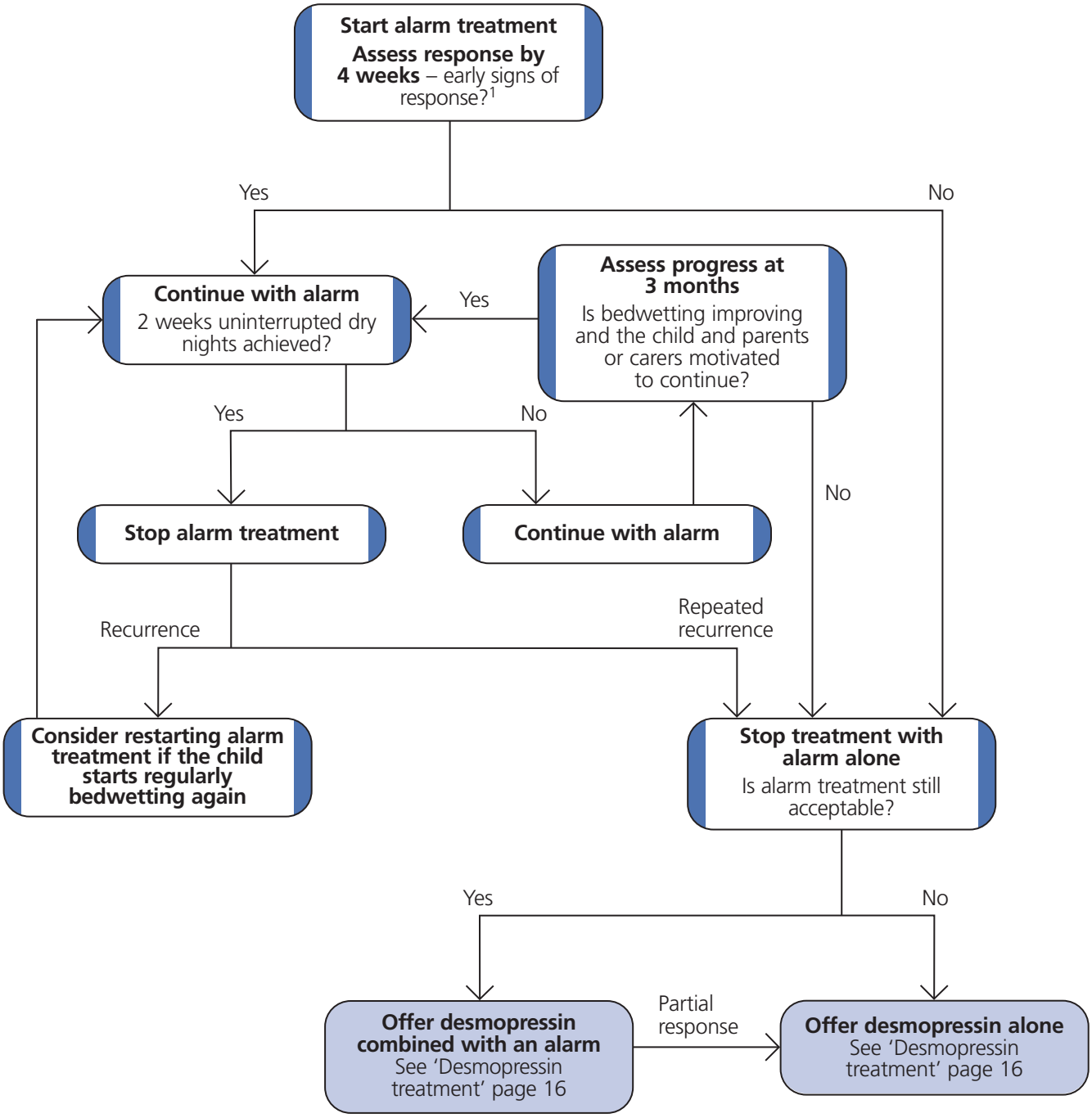
The recommendations in this section describe situations where healthcare professionals can offer useful advice and interventions to children under 5 years with bedwetting.

- Reassure parents or carers that many children under 5 years wet the bed (for example, approximately one in five children aged 4 and a half years wet the bed at least once a week).
- Ask whether toilet training has been attempted. If not, ask about the reasons for this and offer advice and support. Advise parents or carers to toilet train their child unless there are reasons why it should not be attempted.
- Advise parents or carers to take their child to the toilet if the child wakes during the night.
- Suggest a trial of 2 nights in a row without nappies or pull-ups for a child who has been toilet trained during the day for at least 6 months. Offer advice on alternative bed protection. Consider a longer trial if the family circumstances allow it, for older under 5s or if a reduction in wetness is achieved.
- Consider further assessment and investigation to exclude a specific medical problem for children over 2 years who, despite awareness of toileting needs and showing appropriate toileting behaviour, are struggling not to wet themselves during the day as well as the night.
- Assess for constipation, in line with 'Constipation in children and young people' (NICE clinical guideline 99).

Initial treatments



Alarm treatment



[1] Early signs of a response to an alarm may include smaller wet patches, waking to the alarm, the alarm going off later and fewer times per night, and fewer wet nights

Alarm treatment (continued)

In addition to offering an alarm as described on page 13, consider alarm treatment tailored to the needs and/or abilities of children and young people with:

- hearing impairments (for example, consider a vibrating alarm)
- learning difficulties and/or physical disabilities.

Do not exclude alarm treatment as an option for children and young people with:

- daytime symptoms as well as bedwetting
- secondary onset bedwetting.

Using alarms with reward systems

- Inform children and young people and parents or carers about the benefits of combining alarm treatment with a reward system using rewards for desired behaviour (for example, waking up when the alarm goes off, going to the toilet, returning to bed and resetting the alarm).
- Encourage children and young people and their parents or carers to discuss and agree their roles and responsibilities for using alarms and rewards.

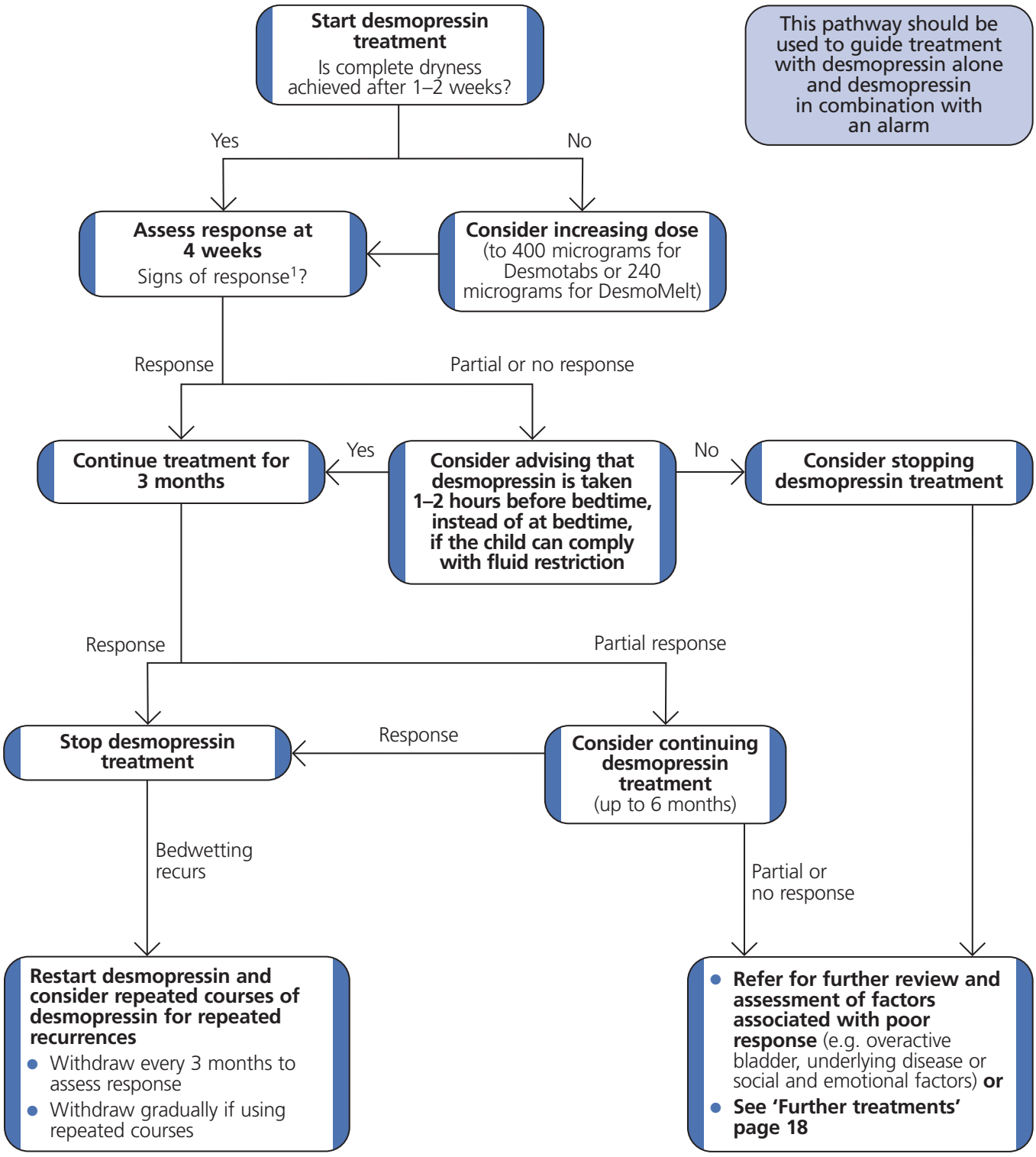
Information, advice and support

Ensure that advice and support for using an alarm are available, and agree with the child or young person and their parents or carers how this should be obtained. They may need a considerable amount of help when learning how to use the alarm.

Inform the child or young person and parents or carers:

- of the aims of alarm treatment
- that alarms have a high long-term success rate
- that using an alarm needs sustained commitment, involvement and effort
- that using an alarm can disrupt sleep, and that parents or carers may need to help the child or young person to wake to the alarm
- that they are not suitable for all families
- that they will need to record their progress
- about what to do when the alarm goes off, how to set, use and maintain the alarm, and how to manage problems
- that it may take a few weeks before the alarm starts to have an effect, and it may take weeks before dry nights are achieved
- that they can restart using the alarm immediately, without consulting a healthcare professional, if bedwetting starts again after stopping treatment
- how to return the alarm when they no longer need it.

Desmopressin treatment



[1] Signs of a response to desmopressin may include smaller wet patches, fewer wetting episodes per night and fewer wet nights.

Desmopressin treatment (continued)

In addition to offering desmopressin as described on page 13, do not exclude it as a treatment option for children and young people with:

- daytime symptoms as well as bedwetting, however do not use desmopressin for children and young people who only have daytime wetting
- sickle cell disease, if they can comply with night-time fluid restriction. Provide advice about withdrawal of desmopressin at times of sickle cell crisis
- emotional, attention or behavioural problems or developmental or learning difficulties, if they can comply with night-time fluid restriction.

For children and young people being treated with desmopressin, do not routinely measure:

- weight
- serum electrolytes
- blood pressure
- urine osmolality.

Information and advice

Inform the child or young person and parents or carers:

- that many children and young people will experience a reduction in wetness, but many relapse when treatment is withdrawn
- how desmopressin works
- of the importance of fluid restriction from 1 hour before until 8 hours after taking desmopressin
- that it should be taken at bedtime
- how to increase the dose if the response to the starting dose is not adequate
- that treatment should be continued for 3 months
- that repeated courses can be used.

Treating recurrences of bedwetting

- Consider alarm treatment as an alternative to continuing drug treatment for children and young people who have recurrences of bedwetting, if an alarm is now appropriate and desirable.
- Perform regular medication reviews for children and young people on repeated courses of drug treatment for bedwetting.

Further treatments

Desmopressin combined with an anticholinergic

The use of anticholinergics for bedwetting in children and young people is discussed in this section. Not all anticholinergics have a UK marketing authorisation for treating bedwetting in children and young people. If a drug without a marketing authorisation for this indication is prescribed, informed consent should be obtained and documented.

Consider desmopressin combined with an anticholinergic for children and young people:

- who have been assessed by a healthcare professional with expertise in the management of bedwetting that has not responded to an alarm and/or desmopressin and have any of the following:
  - bedwetting that has partially responded to desmopressin alone
  - bedwetting that has not responded to desmopressin alone
  - bedwetting that has not responded to an alarm combined with desmopressin
- who have been assessed by a healthcare professional with expertise in prescribing this combination and have daytime symptoms and bedwetting.

Do not use an anticholinergic:

- alone for children and young people with bedwetting without daytime symptoms
- combined with imipramine.

Partial response

- Consider continuing treatment for bedwetting that has partially responded to desmopressin combined with an anticholinergic, as bedwetting may further improve for up to 6 months.

Repeated recurrence

- Consider repeated courses of desmopressin combined with an anticholinergic for bedwetting that recurs repeatedly after successful treatment with desmopressin combined with an anticholinergic.

Information and advice

Inform the child and young person and parents or carers:

- that success rates are difficult to predict, but more children and young people are drier with a combination of desmopressin and an anticholinergic than with desmopressin alone
- that the combination can be taken together at bedtime
- that treatment should be continued for 3 months
- that repeated courses can be used.

Imipramine treatment

- Do not use tricyclics as the first-line treatment for bedwetting in children and young people.
- If offering a tricyclic, use imipramine.
- Consider imipramine for bedwetting that has not responded to any other treatments, following assessment by a specialist in bedwetting that has not responded to alarm and/or desmopressin treatment.
- Perform a medical review every 3 months for children and young people using repeated courses of imipramine.
- Withdraw imipramine gradually when stopping treatment.

Information and advice

Inform the child or young person and parents or carers:

- that many children and young people will experience a reduction in wetness, but the majority will relapse after treatment is stopped
- how imipramine works
- that it should be taken at bedtime
- that the dose should be increased gradually
- that treatment should be continued for 3 months
- that repeated courses may be considered
- about the dangers of overdose, the importance of taking only the prescribed amount and storing it safely.

Further information

Ordering information

You can download the following documents from **www.nice.org.uk/guidance/CG111**

- The NICE guideline – all the recommendations.
- A quick reference guide (this document) – a summary of the recommendations for healthcare professionals.
- 'Understanding NICE guidance' – a summary for patients and carers.
- The full guideline – all the recommendations, details of how they were developed, and reviews of the evidence they were based on.

For printed copies of the quick reference guide or 'Understanding NICE guidance', phone NICE publications on 0845 003 7783 or email publications@nice.org.uk and quote:

- N2318 (quick reference guide)
- N2319 ('Understanding NICE guidance').

Implementation tools

NICE has developed tools to help organisations implement this guidance (see **www.nice.org.uk/guidance/CG111**).

Related NICE guidance

For information about NICE guidance that has been issued or is in development, see **www.nice.org.uk**

Published

- Constipation in children and young people. NICE clinical guideline 99 (2010). Available from **www.nice.org.uk/guidance/CG99**
- When to suspect child maltreatment. NICE clinical guideline 89 (2009). Available from **www.nice.org.uk/guidance/CG89**
- Urinary tract infection in children. NICE clinical guideline 54 (2007). Available from **www.nice.org.uk/guidance/CG54**
- Type 1 diabetes. NICE clinical guideline 15 (2004). Available from **www.nice.org.uk/guidance/CG15**

Updating the guideline

This guideline will be updated as needed, and information about the progress of any update will be available at **www.nice.org.uk/guidance/CG111**

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