Ashford and St. Peter's Hospitals
NHS Foundation Trust

Enuresis guideline

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Guideline History		
Date	**Comments**	**Approved By**
October 2022		Paediatric Guidelines Committee

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Enuresis Guideline

Definitions:

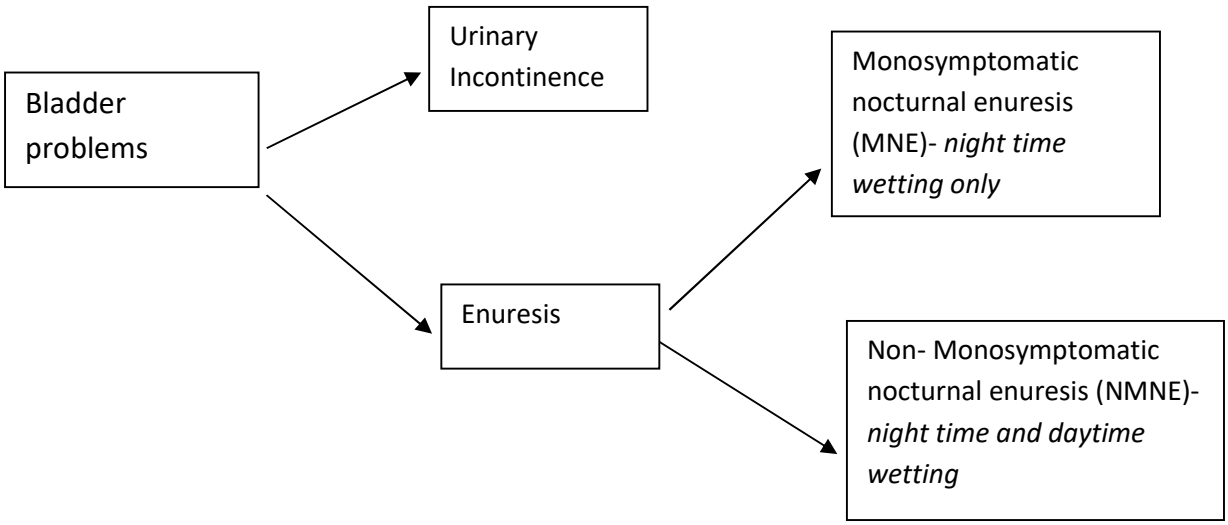
Enuresis *(also called nocturnal enuresis). It is the intermittent involuntary incontinence that occurs during periods of sleep, in children over 5 years of age that occurs more than once per month over a period of more than three months. Enuresis is generally considered to be normal in children under 5 years of age with no congenital or acquired defects of the central nervous system. It is very common in children up to the age of seven.*

Primary nocturnal enuresis: bedwetting in a child that has never been completely dry at night.

Secondary nocturnal enuresis: bedwetting occurs after the child or young person has been previously dry at night for more than 6 months. It often has an underlying cause such as diabetes, urinary tract infection, constipation, psychological problems (such as behavioural or emotional problems or family problems).

Monosymptomatic nocturnal enuresis: night time wetting only.

Non- Monosymptomatic nocturnal enuresis: night time and daytime wetting.



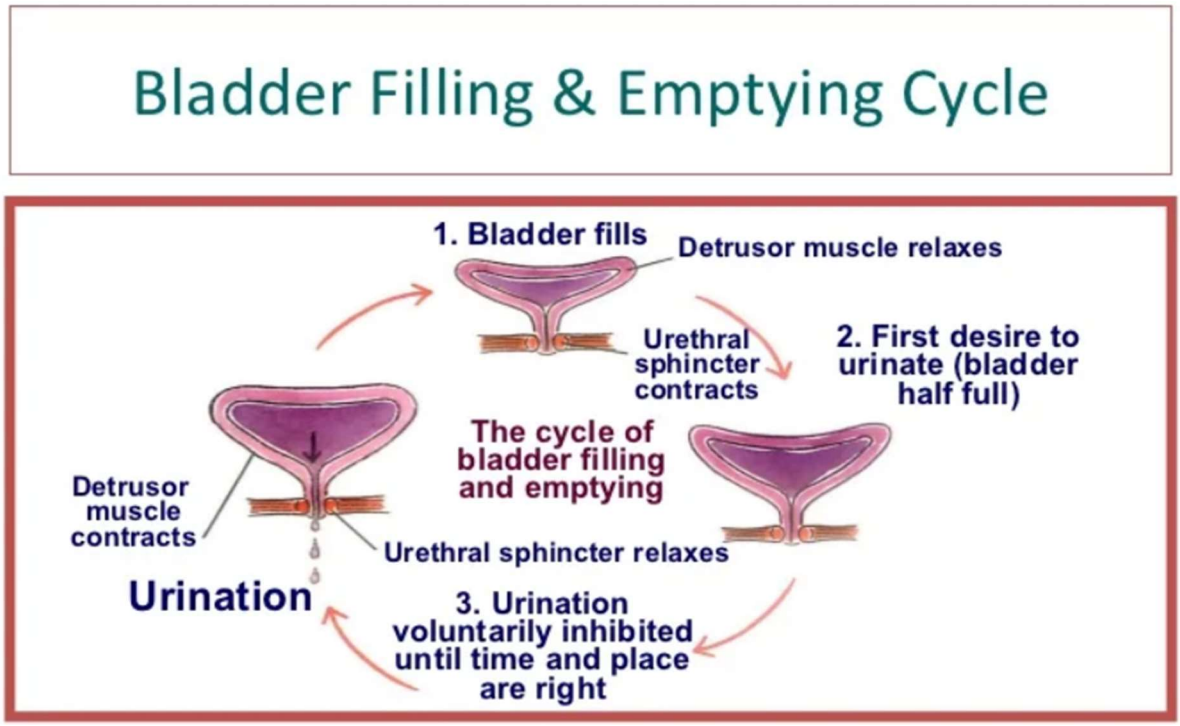
Epidemiology of nocturnal enuresis:

Thought to be very common (15% at 7 years of age, 2-3% at 12-14 years of age, 1-2% at 15 years and over)

Bedwetting is more common in boys than in girls (2:1).

Most children do not have an underlying structural abnormality or neurological cause.

Spontaneous remission rate is about 15% per year.



Causes:

Monosymptomatic nocturnal enuresis:

1. Sleep arousal difficulties
2. Polyuria
3. Bladder dysfunction – an overactive bladder or small bladder capacity

Non- Monosymptomatic nocturnal enuresis:

1. An overactive bladder
2. Structural abnormalities
3. Neurological disorders
4. Urinary Tract Infection (UTI)
5. Chronic Constipation
6. Small bladder capacity

Risk Factors:

- Family History of enuresis (general risk is 15%, with one parent- risk is 45%, with two parents- risk is 77%)
- Male (2:1 male to female ratio)
- Developmental delay
- Constipation, faecal incontinence
- Psychosocial variables or behavioural disorders (inadequate toilet training, parental separation, conflicts within the family, the birth of a sibling, high anxiety level, depression, trauma, admission to hospital, sexual abuse, oppositional-defiant disorder, attention deficit hyperactivity disorder and autism)
- Sleep apnoea and upper airway obstructive symptoms
- Chronic Kidney disease
- Diabetes mellitus/insipidus
- Sickle Cell disease

History:

- Pattern of wetting? (nights/days/continuous incontinence/dribbling)
- When did wetting start? If recent, consider presentation of a systemic illness
- History of toilet training, prior interventions for enuresis and responses of family members and peers to voiding.
- Previously dry without assistance? If so, enquire about any possible medical, emotional or physical triggers and consider whether assessment and treatment is needed for these
- Any daytime symptoms such as urgency, frequency, or leakage?
- Difficulty in passing urine?
- Previous urinary tract infections?
- Constipation/soiling?
- Family history of enuresis?
- Motor delay?
- Any emotional or behavioural problems? Consider involvement of psychological expertise
- Sleep dysfunction?

Examination:

- Growth: plot height and weight (excessive tiredness or loss of weight consider an underlying chronic illness or renal impairment).
- Blood pressure
- Abdomen: distended bladder, features of constipation
- Lumbar spine: features of spina bifida, sacral agenesis and occult spinal dysraphism, including sacral dimple, tuft of hair, naevus, lipoma, asymmetrical gluteal creases.
- Neurologic examination: assessment of motor strength, deep tendon reflexes, perineal sensation, gait and coordination.
- Genitalia: penile or meatal abnormalities in boys as well as labial adhesions in girls

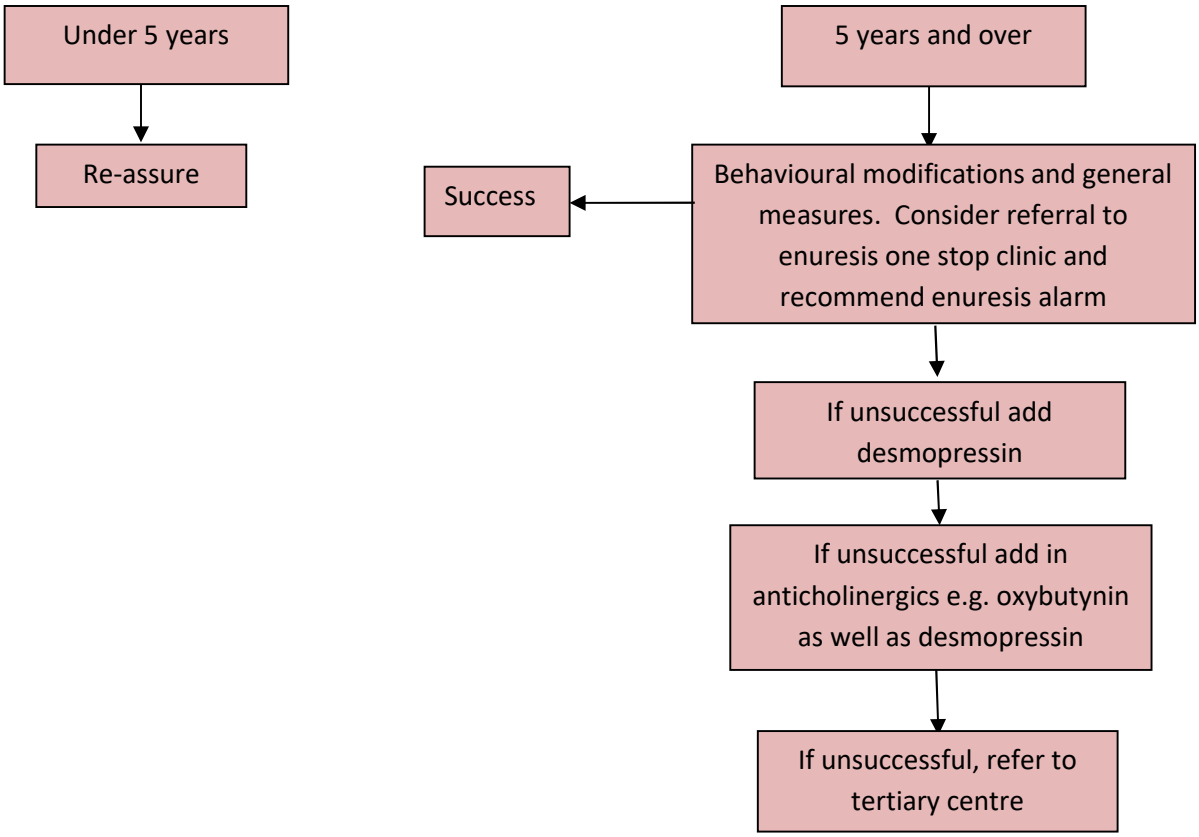
Red flags in History and Examination:

- If acute and secondary
- Voiding difficulties present- weak stream, need to strain to void
- Polydipsia and polyuria, these could be features of diabetes mellitus or insipidus
- Renal problems
- Hypertension
- Distended bladder on examination
- Neurological deficits or abnormalities in the spine
- Heavy snoring or sleep apnoea
- Poor growth/loss of weight

Investigations:

- 2 days voiding and drinking diary. This is useful for objective outlook of urine voided and frequency of enuresis (s*ee appendix 1).* Urine output of >50ml/kg in 24 hours should be investigated for polyuria
- Urine analysis (to exclude infection, signs of renal disease, poor urine concentrating ability or glycosuria)
- Renal tract ultrasound- this is not compulsory but could help in showing the bladder volume and wall thickness which can predict underlying bladder dysfunction

Flowchart for management of monosymptomatic nocturnal enuresis in children



Success is defined as being dry for 14 consecutive nights

Once successful trial off medications/alarms every three months

Management of Monosymptomatic nocturnal enuresis

Under 5 years: Reassurance

5 years of age and over:

Try general measures first

- Initial advice-demystify, reassure (most children become asymptomatic over time), educate. Motivation is a significant factor for success. Explain to the child that bedwetting is not his/her fault. It is important for the child not to restrict social activities because of bedwetting.
- Signpost to www.eric.org.uk , https://www.stopbedwetting.org/ , https://www.bbuk.org.uk/bladder-resources/
- Adjust fluid intake to the correct age-appropriate amount (see appendix 2)
- Regular voiding during daytime and bladder training: timed voiding (voiding every 2-3 hours while awake), avoidance of holding manoeuvres, optimal voiding posture
- Avoid bladder irritants (tea, coffee, fruit squash, fizzy drinks)
- Avoid drinking 1-2 hours before bedtime
- Advice the child to empty his/her bladder just before he/she goes to bed
- Star charts/ reward systems may have a place in the management of enuresis
- Early referral to enuresis one-stop clinic for support
- Treat Constipation/UTI
- Manage bedwetting; i) mattress protectors, duvet protectors, pillow protectors, sleeping bag liners ii) lifting to toilet during the night does not help long term but can be a useful short-term management strategy

If general measures prove unsuccessful, progress to subsequent treatment (see next page). Please give above measures about 4 weeks to take effect i.e., if in next clinic review, no change then move to the next line of treatment

First line:

Enuresis Alarm

- It is one of the best and most widely used therapies for enuresis/bedwetting
- This could be purchased privately, and they are relatively inexpensive
- The alarm sends off a sound signal when the child wets the bed, it gradually teaches him/her to recognise the body's own signals
- Assess response at about 4 weeks (or in the next clinic review). Continue if there are early signs of response (until a minimum of 2 weeks of uninterrupted dry nights have been achieved)
- If no good response after 3-4 months, move to second line (see below)

Second line:

- Enuresis alarm and desmopressin
    - Desmopressin is an anti-diuretic that reduces the urine made by the kidneys by increasing water re-absorption
    - It should be taken at bedtime
    - Restrict fluid 1 hour before until 8 hours after taking desmopressin, this is to reduce risk of water intoxication and hyponatraemia
    - Dose can be increased if there is an inadequate response to the starting dose (start at 200mcg for Desmotabs or 120mcg for DesmoMelt)
    - Continue for 3-4 months. Repeated courses may be used (in children and young people who are not completely dry after 1-2 weeks of the initial dose, consider increasing dose to 400mcg for Desmotabs or 240mcg for DesmoMelt)

- Desmopressin alone: if using the alarm is no longer acceptable to the child or carer

Third line:

- Add in anticholinergics (e.g. oxybutynin or tolterodine). These are detrusor-relaxing drugs which act as adjuvant therapy.

If no improvement despite above or non-compliance, refer to Paediatric Urology at St Georges hospital or Bladder and bowel service at Evelina Children's hospital.

Management of non-monosymptomatic nocturnal enuresis (NMNE)- night time and daytime wetting

- Aim to treat **daytime wetting** first then address nighttime wetting. Use the measures as stated daytime incontinence and nocturnal enuresis management.
- One may need to prescribe anticholinergic and desmopressin

Criteria for referral to Tertiary services (St George's Urology or Evelina Bladder and bowel service)-

- Voiding difficulties in boys
- Spinal cord pathology
- Severe bedwetting despite laid out measures in this guideline
- History of recurrent urinary tract infections
- Known or suspected anatomical or neurological problems
- Comorbidities such as diabetes mellitus

Useful leaflets and booklets

From bladder and bowel UK website- **https://www.bbuk.org.uk/wp-content/uploads/2019/06/Easy-read-Bedwetting-2.pdf**

From ERIC website- **https://www.eric.org.uk/Handlers/Download.ashx?IDMF=7119adbb-9210-4f95-b493-fb2400d1bede**

From International Children Continence Society- **http://i-c-c-s.org/wp-content/uploads/2015/05/Enuresis-Leaflet.pdf**

http://i-c-c-s.org/wp-content/uploads/2015/05/Bedwetting-Booklet.pdf
excellent booklet on bedwetting and the management of it

References:

1. Birmingham Women's and Children's NHS Foundation Trust – nocturnal enuresis guideline
2. NICE guidelines – bedwetting in children and young people
3. www.eric.org.uk
4. Oxford University Hospitals NHS trust – Fluid management in children
5. Bogaert G, Stein R, Undre S, Nijman RJM, Quadackers J, Hoen L, Kocvara R, Silay S, Tekgul S, Radmayr C, Dogan HS. Practical recommendations of the EAU-ESPU guidelines committee for monosymptomatic enuresis-Bedwetting. Neurourol Urodyn. 2020 Feb;39(2):489-497. doi: 10.1002/nau.24239. Epub 2019 Dec 2. PMID: 31793066.
6. The European Association of Urology (EAU) Paediatric Urology Guidelines 2022
7. https://www.slideshare.net/SMS_2015/micturation-reflex-by-dr-irum
8. International Children's Continence Society website; http://i-c-c-s.org/
9. Steven Thurber, Childhood Enuresis: Current Diagnostic Formulations, Salient Findings, and Effective Treatment Modalities. Archives of Psychiatric Nursing, Volume 31, Issue 3, 2017, Pages 319-323
10. BMJ Best Practice- Enuresis by Grantham E. Last updated Jul 2022

Supporting Trust Guidelines:

Urinary incontinence guideline
Constipation- Management of Paediatric Constipation

Appendix 1:

Voiding and Drinking Diary (day 1)

Name: **I woke up at:** **I went to sleep at:**

Date …../…../……	**Drink**		**Urine volume (mls)**	**Leakage (pls tick)**	**Bowels open (pls tick)**	**Comment**
Time	Type	How much (mls)				
6-7 am						
7-8 am						
8-9 am						
9-10 am						
10-11 am						
11-12 am						
12-1 pm						
1-2 pm						
2-3 pm						
3-4 pm						
4-5 pm						
5-6 pm						
6-7 pm						
7-8 pm						
8-9 pm						
9-10 pm						
10-11 pm						
11-12 pm						
12-1 am						
1-2 am						
2-3 am						
3-4 am						
4-5 am						
5-6 am						
Total						

Voiding and Drinking Diary (day 2)

Name: **I woke up at:** **I went to sleep at:**

Date …../…../……	**Drink**		**Urine volume (mls)**	**Leakage (pls tick)**	**Bowels open (pls tick)**	**Comment**
Time	Type	How much (mls)				
6-7 am						
7-8 am						
8-9 am						
9-10 am						
10-11 am						
11-12 am						
12-1 pm						
1-2 pm						
2-3 pm						
3-4 pm						
4-5 pm						
5-6 pm						
6-7 pm						
7-8 pm						
8-9 pm						
9-10 pm						
10-11 pm						
11-12 pm						
12-1 am						
1-2 am						
2-3 am						
3-4 am						
4-5 am						
5-6 am						
Total						

Appendix 2:

Fluid intake requirements per age:

Recommended fluid intake for children per day:

Age	Gender	Recommended fluid intake
4-8 years	Female Male	1,000-1,400ml 1,000-1,400ml
9-13 years	Female Male	1,200-2100 ml 1,400-2,300ml
14-18 years	Female Male	1,400- 2,500ml 2,100-3,200ml

Recommended fluid intake is water (fizzy drinks, drinks containing caffeine and red berries are known to irritate the bladder)

Ensure one has a drink every 2 hours or so, ensuring one drinks 6-8 water based drinks each day (including 3 in school)

3. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for all children from 0-18 years old across the emergency department, inpatient ward and outpatient department.

b. Purpose

i. This guideline aims to facilitate a common approach to the management of children. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

All healthcare professionals responsible for the care of all children 0-18 years should be aware of practice according to this guideline.

d. Approval and Ratification

This guideline will be approved and ratified by the Paediatric Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Paediatric Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Paediatric Department for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 3 yearly basis by the appropriate persons.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Paediatric Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Author and the supervising consultants.
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All groups of staff and patients were taken into consideration and there is no bias towards or against any particular group.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
There is no evidence of discrimination.
Conclusion • Provide a summary of the overall conclusions
There is no evidence of discrimination.
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
This guideline is appropriate for use.

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document: Enuresis Guideline

Policy (document) Author: Dr Geraldine Igbenoba

Executive Director: N/A

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	**Y**	
	Is it clear whether the document is a guideline, policy, protocol or standard?	**Y**	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	**Y**	
	Is the purpose of the document clear?	**Y**	
	Are the intended outcomes described?	**Y**	
	Are the statements clear and unambiguous?	**Y**	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	**Y**	
	Who was engaged in a review of the document (list committees/ individuals)?		**Paediatric Guidelines Committee**
	Has the policy template been followed (i.e. is the format correct)?	**Y**	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	**Y**	

		Yes/No/ Unsure/NA	Comments
	Are local/organisational supporting documents referenced?	**Y**	
5.	**Approval**		
	Does the document identify which committee/group will approve/ratify it?	**Y**	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	**N/A**	
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	**Y**	
	Does the plan include the necessary training/support to ensure compliance?	**N/A**	
7.	**Process for Monitoring Compliance**		
	Are there measurable standards or KPIs to support monitoring compliance of the document?	**N**	
8.	**Review Date**		
	Is the review date identified and is this acceptable?	**Y**	
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	**Y**	
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	Y	

Committee Approval (Paediatric Guidelines Group)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	**Dr Claire Mitchell**	**Date**	**17/10/2022**
Ratification by Management Executive (if appropriate)			
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner			
Date: n/a			