Incontinence in Children

Dr Nadia A Hassan
Speciality Doctor in Community Paediatrics
Croydon University Hospital
Incontinence In Children

- Urinary Incontinence
- Prevalence of incontinence in Children
- Enuresis Service
- Referrals
- NICE Guidance
- Common condition
- Treatments
- Red Flags
- New Research
- Questions
Urinary incontinence

Definition:

This is defined as the involuntary loss of urine.

Standardised definitions

- **Enuresis nocturna**: Enuresis is derived from the Greek verb enourein, which literally means ‘to make water in’, enourgkotez are ‘piss-a-beds’.
- **Urgency**: The frequent attacks of imperative urge to void, countered by hold-manoeuvres or Urgency is defined as a strong desire to void accompanied by fear of leakage.
- **Frequency**: Voiding more than seven times a day.
- **Dysfunctional voiding**: Disturbance of pertinent nervous or psychological control (Congenital malformations of the CNS, Developmental disturbances, Acquired conditions, Disorders of smooth and striated muscle function, congenital anomaly, Giggle incontinence; Hinman syndrome)
- **Fractionated voiding**: Micturition that occurs in several small fractions, with incomplete bladder emptying
Nocturnal enuresis at 7.5 years old prevalence and analysis of clinical signs.

Butler RJ1, Golding J, Northstone K; ALSPAC Study Team Avon Longitudinal 2005

<table>
<thead>
<tr>
<th>Bedwetting</th>
<th>Once a week</th>
<th>Twice a week</th>
<th>Every night</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>8.9%</td>
<td>1.5%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Boys</td>
<td>16.8%</td>
<td>3.3%</td>
<td>0.3%</td>
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<table>
<thead>
<tr>
<th>Age</th>
<th>&lt;3 nights</th>
<th>3-6 nights</th>
<th>7 nights</th>
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<tr>
<td>5 yr</td>
<td>16%</td>
<td>7%</td>
<td>3%</td>
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<tr>
<td>7 yr</td>
<td>10%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>10 yr</td>
<td>3%</td>
<td>2%</td>
<td>1%</td>
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</tbody>
</table>
Incontinence Service for Children at Croydon

- **Lead Consultant** – Dr Stacy John Legere
- **Community Doctor** – Dr Nadia A Hassan
- **Nurse Practitioner** – Maria Casey, Julia Robson, Michele Fox, Lorraine Hewitt, Ward Gray, Michelle Mc-Donald
Capacity

- 11 nurse led clinics a month (66 patients)
- 2-4 doctor led clinics a month (12-24 patients)
- Current figure 15 new referrals every month Oct/Nov/Dec
- 109 referrals received by Enuresis team in 2013.

<table>
<thead>
<tr>
<th>Sep13-Feb14</th>
<th>Seen</th>
<th>Discharged</th>
<th>Tertiary Ref</th>
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<tbody>
<tr>
<td>Doctor</td>
<td>48</td>
<td>13</td>
<td>5</td>
</tr>
</tbody>
</table>
What Do We do?

1. Assessment of day and night urinary incontinence
2. Education and support for parents with children with incontinence.
3. Liaise with school regarding holistic support
4. Arrange investigations
5. Provide alarms and equipment
6. Follow up patients.
7. Provide useful resources for parent and patients.
8. Referral to tertiary centre for further management.
NICE Guidance 111

- Autonomy for parent and patient
- Support Family and child
- Treatment tailored to child’s needs
- Do not exclude children under 7 on basis of their age
- Explain that bed wetting is not child’s fault and punitive measure should not be taken.
- Evidence based practise
- Drug safety
NICE Guidance


2. Bedwetting (nocturnal enuresis) in children and young people *NICE 2014. Pathway last updated: 02 January 2014*


4. Urinary tract infection in children *NICE 2014Pathway last updated: 21 February 2014*
Who do we see

- Children over 5 yrs of age with nocturnal enuresis.
- Day / night wetting if no red flags
- Referral from school
- Self referral from parent for support.
- Referral from HV
- Referral from GP
- Referral from colleague.
Urgent Referral to Specialist

1. Haematuria
2. Recurrent urinary tract infections (for example, three or more infections in the last 6 months)
3. Loin pain
4. Recurrent catheter blockages (for example, catheters blocking within 6 weeks of being changed)
5. Hydronephrosis or kidney stones on imaging
7. Refer people with changes in urinary function that may be due to new or progressing neurological disease needing specialist investigation (for example, syringomyelia, hydrocephalus, multiple system atrophy or cauda equina syndrome).

3/3/2014
Incontinence in Children

- Day time Symptoms
  - Functional (Storage phase/voiding phase)
  - Pathological (Anatomic/Neuropathic)

- Nocturnal Symptoms
  - Nocturnal Polyuria (Enuresis Alarm/Desmopressin)
  - Small Capacity Bladder (Oxybutinin)
Nocturnal Enuresis

- Definition: **The term bedwetting is used to describe the symptom of involuntary wetting during sleep without any inherent suggestion of frequency of bedwetting or pathophysiology.**
- Different physiological disturbances eg. Reduced vasopressin secretion 1998
- Sleep arousal difficulties,
- Polyuria and bladder dysfunction.
- It often runs in families.
- 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.
Prevalence Of Nocturnal enuresis

- The efficacy and safety of oral desmopressin in children with primary nocturnal enuresis. Schulman SL, Stokes A, Salzman PM. Journal of Urology 2001;166(6)

- Nocturnal enuresis at 7.5 years old: prevalence and analysis of clinical signs. Butler RJ1, Golding J, Northstone K; ALSPAC Study Team:2427-31
Primary Nocturnal Enuresis

- Evidence shows reduced production of Vasopressin
- Urine production is usually in the first 3 hrs after falling asleep
- Children wet bed first part of the night

**Treatment**

- Alarm
- Desmomelt (120mcg-240mcg 1 hr. before bedtime no need for water)
- Or Desmotab (0.2mg-0.4mg)
- Alarm + Desmopressin

Note: oral desmopressin works better than nasal spray, risk of hyponatremia. Avoid drinks after medication.
Costs

In the UK, 16 weeks of drug treatment (the usual time allowed for fourteen consecutive dry nights to be attained using an alarm, Butler 1991) would cost (BNF 2002):

1. Desmopressin nasal spray (20 μg per night) £78
2. Desmopressin tablets (200 μg)- £116
3. Imipramine hydrochloride (25 mg tablet per night)-£ 4
4. Imipramine syrup (25 mg)- £14
5. Enuresis alarms-£33.60, may be re-used several times.
2009 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

- Alarm interventions for nocturnal enuresis in children
- Fifty six trials met the inclusion criteria, involving 3257 children of whom 2412 used an alarm
- 2/3 of children became dry during alarm alone as compared to no treatment.
- Desmopressin may have a more immediate effect, alarms appeared to be as effective by the end of a course of treatment.
- Desmopressin alone was better than no treatment or alternative treatment.
- Alarm plus desmopressin had 2/3 success rate.
Day Time Incontinence Questions

**Functional**
1. Severity/quantity
2. Primary/Secondary
3. Frequency
4. Foul smelling
5. Toilet Phobias/LD/attention seeking Behaviour
6. Posturing
7. Leakage associated with urgency/cough/laugh/after voiding
8. Stream
9. Emotional/maltreatment

**Pathological**: Rare, anatomical malformation,
Causes of incontinence during day

- Constipation
- UTI
- DM
- Toilet Phobias
- Urinary Stasis
- Genitourinary anomaly
- Neuropathic bladder
- Spinal Pathology
- Maltreatment
- Child sexual Abuse
Day time Urinary Incontinence

Red Flags
1. Continuous urinary leak (ectopic ureter, neuropathy)
2. Maternal Diabetes (sacral agenesis, caudal regression)
3. Birth mark at spine (consider spinal problems)
4. Talipes (sacral agenesis)
5. Obstructed stream (posterior urethral valve)

Refer to paediatric urology services.
Small Capacity Bladder
Overactive Bladder

Small Capacity bladder

Day/night symptoms

Monosymptomatic nocturnal symptoms

Bladder Training

Oxybutynin

Alarm to increase bladder capacity
Small Capacity Bladder/Overactive Bladder

- Daytime symptoms may indicate a bladder disorder such as overactive bladder. **Urgency/Frequency/Incontinence**

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<tbody>
<tr>
<td>Normal Frequency</td>
<td>4-6 times /day</td>
</tr>
<tr>
<td>Infrequent voided</td>
<td>&lt; 4 times a day</td>
</tr>
<tr>
<td>Urinary frequency</td>
<td>&gt; 7 times/day</td>
</tr>
</tbody>
</table>

- Rule out UTI, IDDM, Perform urinalysis(day time symptoms).
- Bladder capacity = Agex30+30mls (Urine flow measurements)
- Treatment, bladder training (12-18 months) 75% success, oxybutynin (tds), Tolterodine (bd) or Solifenacin (od)
New Research

Management of Overactive Bladder

• **Neuromodulation**
  TENS, PINS,Urostin
  *SE: very few adverse effects*

• **Botulism Type A**
  *SE: Repeated injections/urinary retention*

• **Mirabegron beta 3 Agonist (NICE approved)**
  *SE: GI disturbance/headaches/cardiovascular*
Tertiary Referral

1. Red Flags
2. Bladder dysfunction / neuropathic bladder
3. Day time symptoms not improving with Bladder training and Oxybutynin over 6 months.
4. Nocturnal enuresis not improving despite 6 months of alarm and Desmopressin 6 months.
5. CAMHS referral for children with LD/ASD/Phobias/Emotional difficulties.
How you can help?

- Identifying children who should be referred.
- Early medical treatment for constipation. (most common cause of day time wetting)
- Identifying red flags
- Urine dip for children with day time symptoms. (exclude UTI, DM etc.)
- Early referral to enuresis services
- Please support with prescription of medications.
Questions
Thank You