TREATMENT OF NOCTURNAL ENURESIS IN CHILDREN

**Key Points**

Discuss the causes of bedwetting and remove any negative attributes. Explain the symptoms in the context of the ability of the bladder to store urine, the volume of night time urine produced, and the child's arousability.

Discuss the prognosis and the risk of relapse, e.g., 76.8% and 61.8% of children could respond to desmopressin or alarm treatment respectively over 6 months, and the usual length of treatment may be 3-6 months or more.

Exclude/treat constipation as an underlying cause of the bedwetting.

Give verbal and written information

Encourage the family to:
- Stop using ‘pull ups’ or similar
- Stop ‘lifting’ the child at night
- Ensure the child has a bath/shower following a wet night
- Ensure easy access to toilet at night
- Leave a potty/bucket by bed if necessary.

All children to go on a regular drinking and toileting regime, i.e. 6-7 voids/drinks at regular times throughout the day.

Trial drinks exclusion to check which drinks may contribute to the bedwetting.

Last void at sleep time, i.e. just before child turns light out to go asleep.

**IMPORTANT NOTES ON MEDICATION**

Advise regarding fluid restriction 60 mins prior to administration of DesmoMelt/tab and 8 hours following DesmoMelt/tab to be taken within an hour of child's bedtime. Treatment can continue for as long as symptom control is required.

Check response by suspending administration for a week every 3 months.

**IMPORTANT NOTES ON ALARMS**

Prior to issuing an alarm check:
- Are parents tolerant and supportive?
- Is child mature enough to cope with alarm?
- Are sleeping arrangements conducive?
- Does child show arousal?
- Is child motivated?

Are family aware of protracted course of treatment and potential disruption?

Check family have spare bedding.

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**Treatment Options**

**Children presenting with daytime symptoms (Frequency/urgency/low functional bladder)**

- **Oxybutynin IR** (anticholinergic)
  - 2.5–5.0mg BD
  - last dose at bed time
  - increase up to 5mg TDS if necessary

- **Oxybutynin ER** (Lynnel XL)
  - Starting dose 5mg per day with incremental increases of 5mg/day if necessary up to 15mg

**Children presenting with nocturnal polyuria – low vasopressin levels**

- **Desmopressin**
  - DesmoMelt®
    - 120mcg
  - Desmotabs®
    - 0.2 mg tablet

  > 5yrs (120-240 mcg) at bedtime
  - Initially start with 1 melt review after 1 week and increase to 2 melts (240mcg) if poor response
  - >5 years (0.2-0.4mg) at bed time
  - Initially start with 1 tablet (0.2mg) and review after 1 week and increase dose to 2 tablets (0.4mg) if poor response

Consider combined therapy of both anticholinergic (oxybutynin) and desmopressin if response to individual medication is poor

**Alarm Treatment**

- **Body worn alarms**
  - Give choice of alarm if possible. Ensure:
    - Practical demonstration prior to issue
    - Written as well as verbal instruction
    - Review after 1 week
    - Monitor every 2-4 weeks

- **Bed alarms**

**Combined Treatments** – for child who fails to respond to a single treatment

**Consider combining:**
- Alarm/anticholinergic (eg. Oxybutynin)
- Alarm/desmopressin
- Desmopressin/Anticholinergic

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NICE QUALITY STANDARD RECOMMENDATIONS REGARDING TREATMENT OPTIONS (NICE 2014)

NICE Quality Standard Statement 3. Children and young people, and their parents or carers if appropriate, have a discussion about initial treatment if bedwetting has not improved after changing their daily routine. First line treatment options include either medication or alarm.

Medication - DesmoMelt
Desmopressin is recognised as the first line medication of choice for children with bedwetting with children aged <12 having a significant preference for DesmoMelt. It is known that the melt formulation has a more predictable bioavailability when compared to tablets and that the bioavailability of melt formulation is approximately 60% greater than that observed for the tablet formulation, allowing administration of lower dosages to achieve the same plasma concentrations, particularly in younger children when there is often a shorter time interval between their last meal and bedtime (de Bruyne P et al (2014); de Guchtenaere A et al (2011); Lottman H et al (2007); Østerberg O et al (2006)).

Combined treatment
A recent study compared the efficacy of combination therapy with desmopressin and an anticholinergic to desmopressin monotherapy (on its own) for the first line treatment of children with primary monosymptomatic nocturnal enuresis (PMNE). The efficacy was evaluated by International Children’s Continence Society criteria at 1 and 3 months after treatment initiation. The combination therapy group showed a higher rate of complete response than the monotherapy group (20.4 vs. 6.1% at 1 month of treatment; 46.9 vs. 22.4% at 3 months of treatment). In terms of success (response and complete response), there was a significant difference between the two groups after 3 months of treatment. The study concluded that combination therapy with desmopressin plus an anticholinergic is quicker and more effective than desmopressin monotherapy in reducing PMNE (Park 2014).

Medication versus alarm treatment
Another recent study compared outcomes of treatment with medication versus alarm. Based on patients who completed 6-month treatment, success was achieved in 76.8% and 61.8% of children, respectively. At 12 months, 77.8% of desmopressin melt and 75% of enuresis alarm patients had success. However, long-term success rate was significantly higher with desmopressin melt (68.8% vs. 46.2%) (Onol FF, et al 2014). While it has been shown that Desmopressin and alarm demonstrate comparable efficacy in the treatment of PNE. Drop out rates from the alarm group can be high, indicating the importance of considering family motivation before selecting alarm treatment, to ensure optimal outcome (Evans 2011).

References

NICE quality standard Nocturnal Enuresis (bedwetting) in children and young people September 2014