



@nephrology_RMCH

Night-time wetting

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4th June 2019



Twitter

♥ Yvette Russell liked



John Dingwall  @johndingwall · 1d 

What's been your most absurd medical experience? Mine was today's prostate exam during which the doctor stuck a gloved finger up my backside. At which point all the pound coins fell out of my jeans pocket onto the floor and I told him he had hit the Jackpot.

 445

 1,390

 8,958



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Nocturnal enuresis (NE)

- Background
- Aetiology
- Assessment
- Management
- Who to refer
- Conclusions





Imperfect timing

WORLD BEDWETTING DAY - TIME TO TAKE ACTION - 28TH MAY 2019



Bedwetting can have a serious impact on:

- School
- Social performance
- Daytime functioning

Van Herzele C, Dhondt K, Roels S P et al. Desmopressin(melt) therapy in children with monosymptomatic nocturnal enuresis and nocturnal polyuria results in improved neuropsychological functioning and sleep. *Pediatr Nephrol.* 2016



Background

- Definition varies (50% wet nights in 2/52, >3 wet in 3/12, etc.) When does it start?
- Prevalence:
 - 15% at 5 years
 - 7% at 7 years
 - 5% at 10 years
 - 2% at 15 years
 - 1% of adults
- Males > females until 10 years, then equal.
- “Low severity, high prevalence” condition.



Background

- Socially and emotionally stigmatising
 - Parental disapproval
 - Sibling teasing
 - Bullying at school
 - Repeated treatment failure
-
- All the above are worse the older the child and lower self-esteem



Background

- 15% annual spontaneous cure rate.
- 50% of families don't consult a doctor.
- 75% are primary, 25% secondary - after 6 months reliably dry (stress, UTI, diabetes, etc).
- NE genes, 13q – ENUR1 (AD with variable penetrance) and 12q – ENUR2. All quiet for 15 years.
- If both parents have NE then 70% children have condition.



Aetiology

- Virtually all with NE are 'normal' children
- Aetiology remains poorly understood.
- Multifactorial
 - Bladder capacity - reduced *functional* capacity, but normal bladder size. Detrusor instability mooted
 - Sleep - little evidence for depth of sleep, more for altered arousal



Aetiology

- Multifactorial
 - Urine volume - no endogenous nocturnal rise in ADH in some children
 - Genetics
 - Constipation
 - Obstructive sleep apnoea
 - ADHD
 - UTI
 - Large intake caffeinated drinks



Assessment

- History
 - Night (& day) symptoms, UTIs, development
 - Voiding history, **constipation**
 - Impact on family, stresses
- Examination
 - Bladder, spine, perineum, legs
- ? urinalysis unless:
 - It's secondary
 - UTI issues
 - daytime symptoms
 - concerns re diabetes (NICE)
- No other investigations are required



Management

- Poorly researched area, despite huge numbers with NE.
- NICE – August 2010 (reviewed Nov 2018)
- General principals:
 - Often don't treat those under 5 years
 - Specialist enuresis clinics may be best
 - Sympathetic, supportive, enthusiastic approach - doctor, continence advisor



Management

- Behavioural interventions
- Enuresis alarms
- Drug interventions
- Complimentary interventions



Management

- Behavioural interventions:
 - Rewards: 'Star chart'
 - **Fluid target**, void before bed, help with sheets, regular voiding, take medication, etc
 - Lifting/waking
- *Cochrane*: small no. of trials, often one only. No firm conclusions can be reached.



Recommended fluid intake

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



Management

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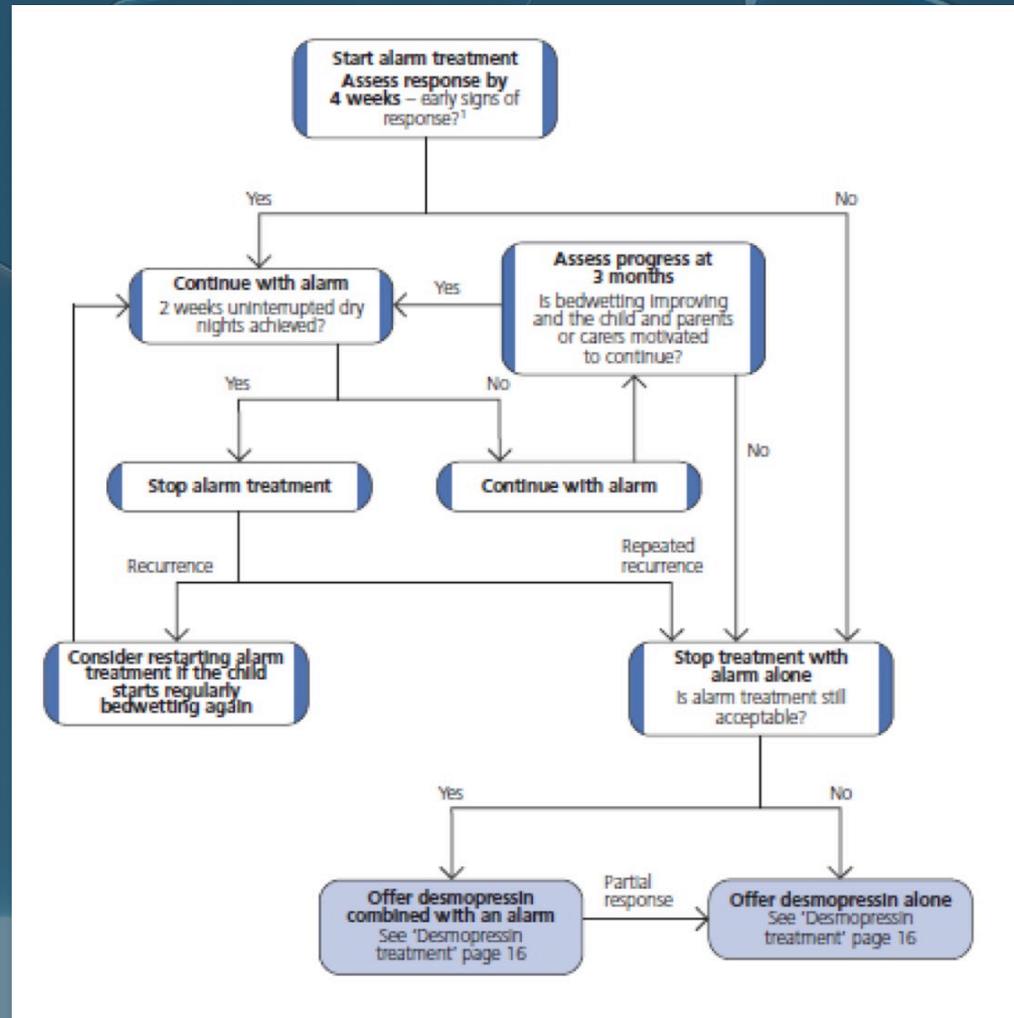


Management

- Enuresis alarms:
 - Bell/buzzer.
 - Wireless Rodger pants.
 - Problems with adherence (40% drop out).
- Not for everyone.
- *Cochrane*: effective Rx. 66% dry during use. 50% dry after stopping – unlike drugs. Bell vs buzzer - not possible.



NICE - alarm





Management

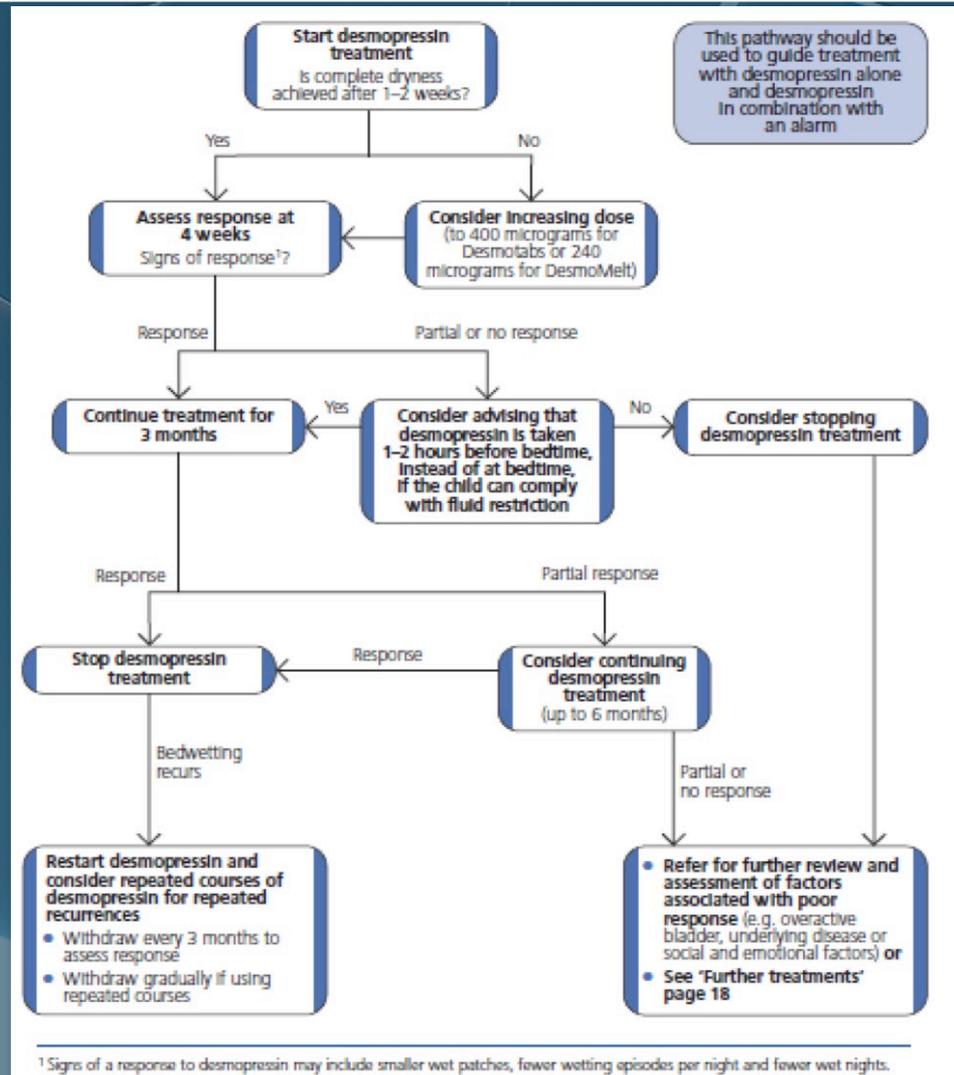
- Drug interventions
 - Desmopressin
 - Tricyclic antidepressants (TCADs)
 - Imipramine
 - Others
 - Indometacin, diclofenac, ibuprofen, oxybutynin



Management

- Desmopressin
 - Nasal (withdrawn), oral, 'Melts'. 70% respond.
 - Short term - 3 months. Watch fluids.
- *Cochrane*: Reduced no. wet nights rapidly on Rx. Not sustained on stopping. No clear dose related effects. Fewer adverse effects c.f. TCADs but equal efficacy. Desmo + alarm better than alarm alone. Behavioural measures vs desmo – insufficient evidence.

NICE - desmopressin





Management

- Tricyclics
 - 25% dry on treatment. Not sustained.
 - NICE - Imipramine only. 3/12 trial.
- *Cochrane*: Average reduction of 1 wet night/week. Almost all relapse off Rx. Overdose risk. Troublesome adverse effects. TCAD vs TCAD – no good data. TCAD vs alarm – unreliable/conflicting data. TCAD vs desmo – as above.



Management

- Other drugs
 - Indometacin, diclofenac, oxybutynin, tolterodine, etc.
 - NICE don't suggest which anticholinergic to use.
- *Cochrane*: Not enough evidence to support their use.



Management

- Complimentary interventions include
 - Hypnosis
 - Psychotherapy
 - Acupuncture
 - Chiropractic adjustment
- *Cochrane*: No good evidence for any, often single trial data. Weak evidence that chiro adjustment better than sham adjustment.



Who to refer?

- No response to alarm +/- desmopressin.
- Urinary tract infection present.
- Daytime wetting co-exists.
- Organic cause suspected (e.g. diabetes mellitus, spinal dysraphism, neuropathy).
- Significant psychological problems, either as a cause, or as an effect.



Conclusions

- Common disorder
- Cause of great concern to parents & child
- ERIC - www.eric.org.uk
- Seldom any associated pathology
- Needs enthusiastic management
- Most cured, few persist into adulthood



ERIC

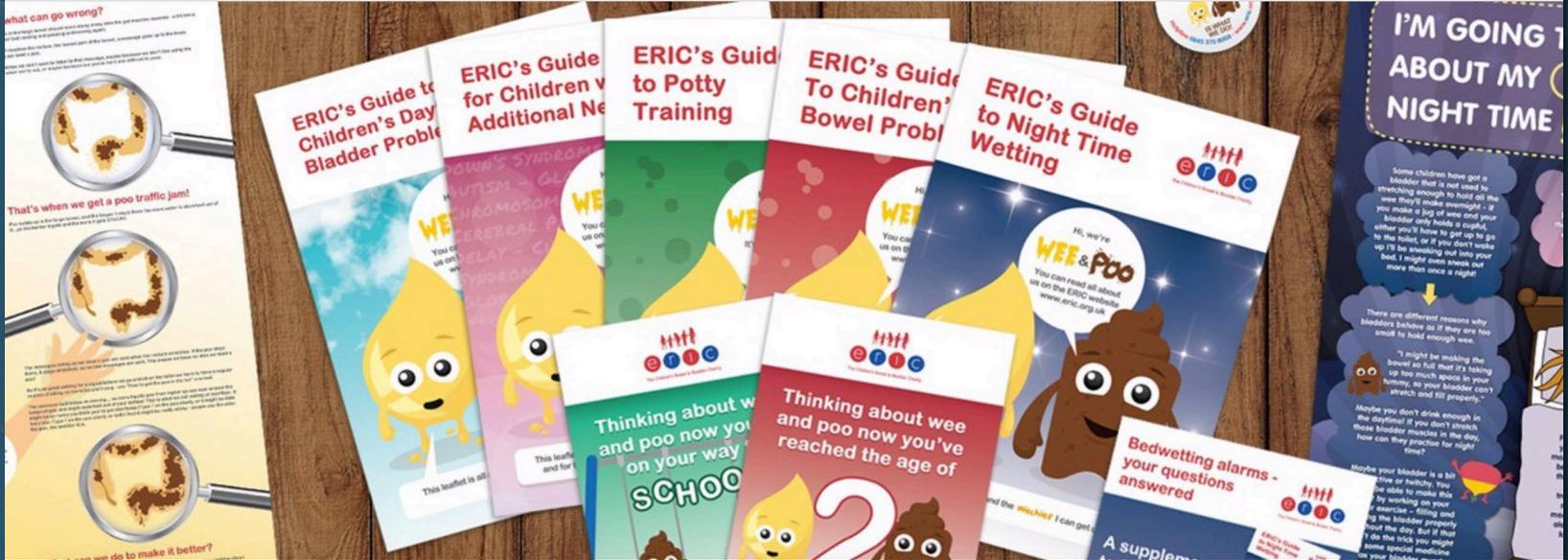


Helpline: 0845 370 8008*

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Conclusions

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...and finally.



**These urinals are useless,
the wee goes everywhere
and it's too hot.**