

case

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Feb 2012

A boy, 10 years old

- ➔ **Bedwetting 5/7days**
- ➔ **No nocturia**
- ➔ **No wet pants**
- ➔ **Frequency 5 x/day**
- ➔ **No constipation**
- ➔ **No adhd**
- ➔ **No URI/ uropathie**

Urological symptoms* /ALARMSYMPTOMS	Yes	No
Leakages of urine during the day		No
Frequency of urination >8x/day?		No
Frequency of urination <3x/day?		No
Sudden and urgent need to urinate?		No
Need to push in order to urinate (straining)?		No
Fractionated voiding?		No
Illness./malformation of kidneys and/or urinary tract?		No
Previous history*	Yes	
Urinary tract infections?		No
Stools**	Yes	
Constipation?		No
Traces of stools in underpants (NOT due to inadequate wiping of bottom)?		No
Drinking habits***	Yes	
Does the child drink a lot in the evening and/or at night?		No
Psychology**	Yes	
A...		N

A boy, 10 years old

- **Bedwetting 5/7days**
 - Sometimes only drops
- **No nocturia.. But parents are waking him up**
- **No wet pants**
 - Sometimes a few drops
 - When he is nerveous, when it is cold, when he drinks too much, after sport, giggling
- **Frequency 5 x/day**
 - But has to pee during “lessons”
 - 12 times/day when he drinks more
- **Is postponing**

A boy, 10 years old

- ➔ **Frequency 5 x/day**
 - ➔ But has to pee during “lessons”
 - ➔ 12 times/day when he drinks more
- ➔ **STANDAARDISED FLUID INTAKE INCREASES SENSITIVITY**

Urological symptoms* /ALARMSYMPTOMS	Yes	No
Leakages of urine during the day	Yes	No
Frequency of urination >8x/day?	Yes	No
Frequency of urination <3x/day?		No
Sudden and urgent need to urinate?	Yes	No
Need to push in order to urinate (straining)?		No
Fractionated voiding?		No
Illness./malformation of kidneys and/or urinary tract?		No
Previous history*	Yes	
Urinary tract infections?		No
Stools**	Yes	No
Constipation?		No
Traces of stools in underpants (NOT due to inadequate wiping of bottom)?		No
Drinking habits***	Yes	
Does the child drink a lot in the evening and/or at night?		No
Psychology**	Yes	
Awareness of behavioural problems or other		No

A boy, 10 years old

- **Nocturnal diuresis 200-240ml**
 - **Morning void 40-60 ml**
 - **Diaper 180-200ml**
- **No nocturia**
- **2 times /day wet pants**
 - **But only after school at home**

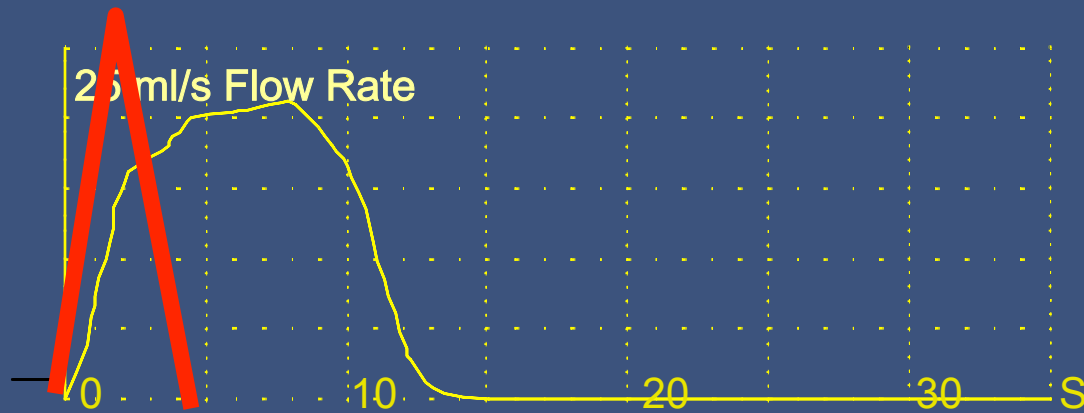
A boy, 10 years old
Hjalmas formula $(10 + 1) * 30 = 300\text{ml}$

- **Nocturnal diuresis 200-240ml**
 - **Morning void 40-60 ml**
 - **Diaper 180-200ml**
- **No nocturia**
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Further diagnostics

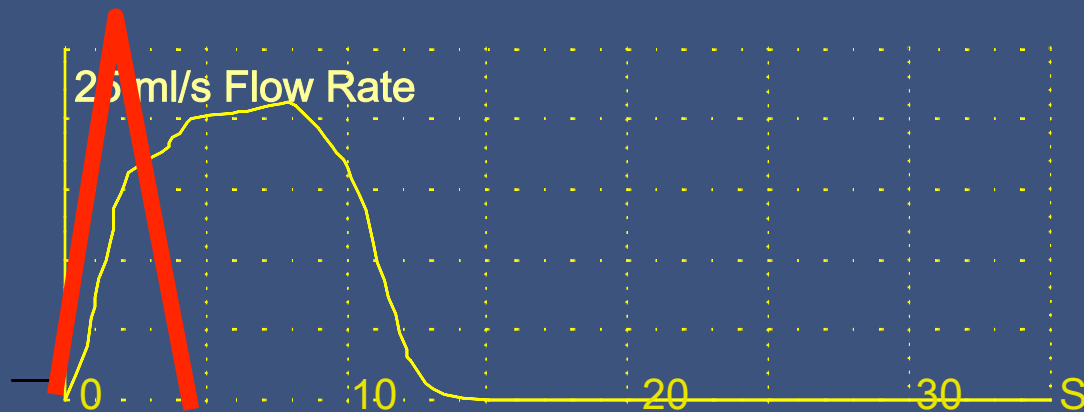
- ➔ **Uroflow =** **Optional / obligatory ?**
- ➔ **Ultrasound for residue** **Optional / obligatory ?**
- ➔ **US bladder wall** **Optional / obligatory ?**
- ➔ **US kidney** **Optional / obligatory ?**
- ➔ **Cystomanometry** **Optional / obligatory ?**
- ➔ **Videocystomanometry** **Optional / obligatory ?**

urinary flow curves of healthy children



urinary flow curves of healthy children

INTERPRETATION



MEANING OF THICK BLADDER WALL





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EBM = treatment ?

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- **None**
- **First treat daytime symptoms before tackling nighttime**

EBM = treatment ?

- ➔ **Urotherapy**
- ➔ **Bladder volume training**
- ➔ **Anticholinergics**
 - ➔ Oxybutinine
 - ➔ Solifenacine / tolterodine
 - ➔ propiverineHCl
 - ➔ Imipramine
- ➔ **Pelvic floor relaxation therapy**
- ➔ **Neuromodulation ?**
- ➔ **Alarm**

A boy, 10 years old and what .. if

- **Nocturnal diuresis 200-240ml**
 - **Morning void 40-60 ml -- 180 ml**
 - **Diaper 180-200ml.... only drops**
- **No nocturia**
- **0 times /day wet pants**

A boy, 10 years old and what ...if

- **Nocturnal diuresis 200-240ml**
 - **Morning void 40-60 ml**
 - **Nocturia 180 ml**
- **No nocturia**
- **0 times /day wet pants**

choice

- **If no ADHD / therapy compliant**
 - Oxybutinine 3 x/day
 - + urotherapy
- **If ADHD / poor compliance**
 - Solifenacin / tolterodine / propiverineHCL
- **If daytime problems resolved**
 - Treat nocturnal enuresis if present

A boy, 10 years old and what ...if

- **Nocturnal diuresis 340-400ml**
 - **Morning void 140-160 ml**
 - **Nocturia 180-240 ml**
- **3times /day wet pants**

A boy, 10 years old and what ...if

- **Nocturnal diuresis 340-400ml**
 - **Morning void 140-160 ml**
 - **Nocturnal enuresis 180-240 ml**
- **3 times /day wet pants**