



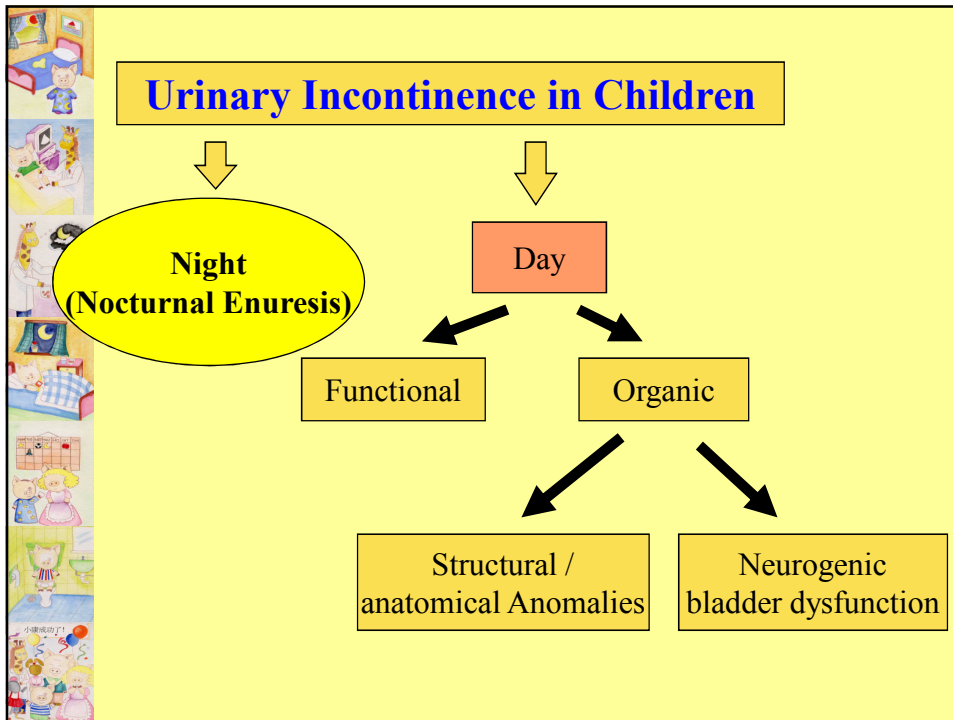
# Paediatric Urotherapy Training

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## Urinary Incontinence in Children

- ☹️ Urine leakage in a child from 5 years of age
- ☹️ Leakage occurs on a regular basis (> once / week ) and sufficient to cause social inconvenience



## Urotherapy

- Treatment / training aimed at normalizing the bladder function by active cooperation ( learning & practice ) of the child, based on evaluation of the function

( Anna-Lena Hellstrom, 1990)



## The design of a Paediatric Urotherapy Nurse Clinic in Hong Kong

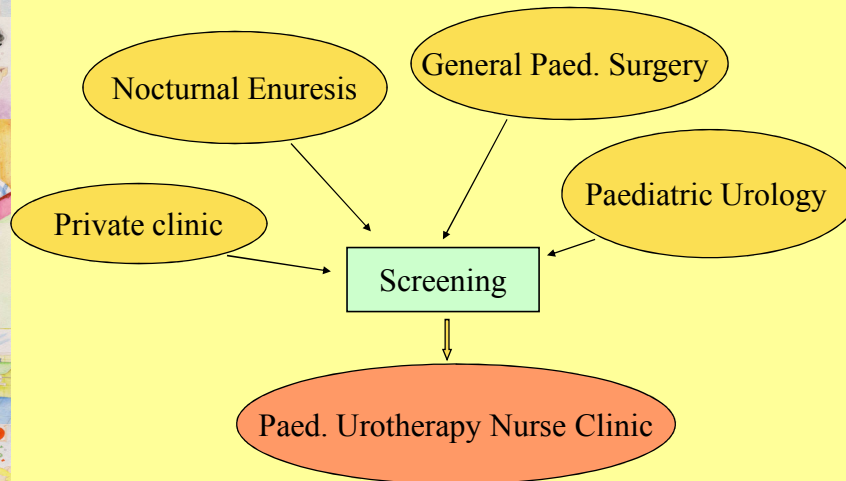


### Paediatric Urotherapy Nurse Clinic

- **Aims:** To provide bladder rehabilitation training for children who present with daytime and / or night time enuresis
- Services started since June, 2001 in Li Ka Shing Surgical OPD, PWH
- HA nurse clinic accreditation - 2009
- Session: every Wednesday a.m.
- Training: includes out-patients & in-patients programme



## Referrals from different clinics



## Ideal candidates

- > 5 years old children
- Children with day time urinary symptoms +/- nocturnal enuresis
- No neurological / structural / urological problems



## Assessment

- Medical & surgical history, UTI episodes
- Medications, urinalysis
- Physical examination of abdomen, genital areas, spine

**Bladder diary**

**Bed wetting chart**

**Bowel function diary**



## Radiological investigations

- Ultrasonography of urinary tract
- Spine X-ray
- Magnetic Resonance Imaging
- Micturition Cystometric Urethrogram (MCU)
- Renal Scans
- Uroflowmetry, bladder scan for PVR
- Urodynamic studies



## Urotherapy training program

- Individualized program based on assessment information, signs & symptoms of voiding disorders
- **Aim:** to help the child to get control over its voiding



## Urotherapy training program

- **Standard urotherapy training**
- Bowel management program
- Enuretic alarm training
- Biofeedback therapy
- Neuromodulations



## Standard urotherapy training

- Cognitive and behavioral training
- Scheduled drinking, time voiding
- Optimal toilet posture
- Active relaxation exercise
- Uroflow biofeedback with bladder scanner measurement
- Double voiding strategies if large PVR



## Bladder man

- Cognitive and behavioral training
  - ❖ anatomy & physiology of urinary system
  - ❖ behavioral modification of voiding style



## Optimal toilet posture



## Snoopy chart

### Bladder volume training

- Encourage drinking
- Random urine output once daily / alt. day
- Set target



## Dry Pie

- Enuresis record for children
- 5 weeks in a pie chart



## Reward chart

- Color 1 bar for a dry day or dry night
- Reward for achieve a pre-set target



### Uroflow biofeedback with bladder scanner measurement



## Uroflow biofeedback

- Visualize uroflowmetry curve during voiding
- Learn to correct flow curve
- Check PVR



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## Nocturnal Enuresis

- ☰ The failure to achieve bladder control by a given age, usually defined as 5 years, with wetting occur during sleep without organic disease



## Nocturnal Enuresis

### Primary

- The child has never been dry for a significant length of time

### Secondary

- Loss of control after a significant period ( 12 months or more ) of being dry, beyond the age of 3 years



## Enuresis Alarm

- Offer a choice of type ( body worn vs bed pad )
- Regular follow up and feedback

### FAILURE

- Review reason why e.g. alarm breakdown, failure to wake, turning off alarm, parental intolerance



## Enuresis Alarm

### Advantages:

- high initial and long term response rate
- safety of equipment

### Dis-advantages:

- fail to awake
- disrupted sleep for the rest of family
- possible technical failure



## Urotherapy training program

- Standard urotherapy training
- **Biofeedback therapy**
- neuromodulations



## Biofeedback training

- **Aim:** to help develop greater awareness & voluntary control over the pelvic floor muscles during voiding
- Out-patient or in-patient individualized training



## Urotherapy training program

- Standard urotherapy training
- Biofeedback therapy
- **Neuromodulations**



## Neuromodulation

- Transcutaneous electrical nerve stimulation ( TENS)
  - Electrodes bilaterally put over S3 level
- Stimulation of the pudendal nerve to activate the pelvic floor and modulates innervation of the bladder, sphincter and pelvic floor
- Clinical changes:
  - Decrease number of wet episodes
  - Decrease urge intensity



## Urotherapy Protocol

- Urotherapy protocol for detrusor overactivity ( DO)
- Urotherapy protocol for dysfunctional voiding ( DV)
- Urotherapy protocol for DO & DV



## Conclusions

- The development of the Urotherapy Clinic can improve children's micturition parameter by intensive voiding re-education
- Great support can be provided to child & families during the training process



**Thank You**