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Approach to LUTD in children

Anne-Françoise Spinoit
Paediatric LUT conditions

- **Overactive bladder**: urgency
- **Urge incontinence**: incontinence and urgency
- **Voiding postponement**: postpone voiding using holding maneuvers
- **Underactive bladder**: low voiding frequency, use raised intraabdominal pressure to void
- **Dysfunctional voiding**: contract the sphincter during voiding, producing uroflow curves of a staccato type
Day Time Conditions
Paediatric LUT conditions

The Standardization of Terminology of Lower Urinary Tract Function in Children and Adolescents: Update Report from the Standardization Committee of the International Children’s Continence Society

Paul F. Austin,* † Stuart B. Bauer, Wendy Bower, Janet Chase, Israel Franco, † Piet Hoebeke, Søren Rittig, Johan Vande Walle, † Alexander von Gontard, Anne Wright, † Stephen S. Yang and Tryggve Nevéus
And this is *after* we have simplified the terminology!
Difference infant VS adult bladder

• Birth: uncontrolled bladder, uncontrolled night time diuresis $\Rightarrow$ incontinent

• Evolution $\Rightarrow$ controlled bladder

• Maturation bladder sphincter unit + maturation of nervous system + maturation of diuresis
Neonatal bladder function

• Prenatal bladder function?
• Primitive reflexes
  – Perineal stimulation
  – Toe curling with full bladder
• Automatic emptying?
• No neonatal natural fill studies
Maturation of bladder sphincter unit

- In absence of congenital anomalies
- Dependent on maturation of nervous control
- Mainly growing
Congenital anomalies
Continence in children: requirements

- Normal lower urinary tract
- Normal innervation of the lower urinary tract
- Normal cognitive function
- Normal water and solute handling
- Normal toilet training?
Bladder Bowel Dysfunction (BBD)

- Lower Urinary Tract Dysfunction
- Bowel Dysfunction
# The Bristol Stool Form Scale (for children)

## Choose Your Poo!

<table>
<thead>
<tr>
<th>Type</th>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image1" alt="Type 1" /></td>
<td>Rabbit dropplings. Separate hard lumps, like nuts (hard to pass).</td>
</tr>
<tr>
<td>2</td>
<td><img src="image2" alt="Type 2" /></td>
<td>Bunch of grapes. Sausage-shaped but lumpy.</td>
</tr>
<tr>
<td>3</td>
<td><img src="image3" alt="Type 3" /></td>
<td>Corn on cob. Like a sausage but with cracks on its surface.</td>
</tr>
<tr>
<td>4</td>
<td><img src="image4" alt="Type 4" /></td>
<td>Sausage. Like a sausage or snake, smooth and soft.</td>
</tr>
<tr>
<td>5</td>
<td><img src="image5" alt="Type 5" /></td>
<td>Chicken nuggets. Soft blobs with clear-cut edges (passed easily).</td>
</tr>
<tr>
<td>6</td>
<td><img src="image6" alt="Type 6" /></td>
<td>Porridge. Fluffy pieces with ragged edges, a mushy stool.</td>
</tr>
<tr>
<td>7</td>
<td><img src="image7" alt="Type 7" /></td>
<td>Gravy. Watery, no solid pieces ENTIRELY LIQUID.</td>
</tr>
</tbody>
</table>

**The Bristol Stool Tart**

1. Rabbit droppings
2. Bunch of grapes
3. Corn on cob
4. Sausage
5. Chicken nuggets
6. Porridge
7. Gravy
CAUSED BY ANATOMICAL ANOMALIES:

Specific treatment needed (surgery)

CAUSED BY NON OBVIOUS REASONS:

Essentially behavioral, educative supportive treatment

Incontinence?
First line treatment

• Urotherapy
• Pharmacotherapy
• Psychological support
**Urotherapy**

*When acquisition of continence is delayed, first-line treatment is Urotherapy*

**Urotherapy is**

- **Non-pharmacological**
- **Non-surgical**
- **Educational, behavioral**

Urotherapy:

- **bladder re-education** program

Urotherapy is:

- Patient education
- Cognitive
- Behavioral and physical therapy methods is used.
Urotherapy

• Counselling, provision of information, positive reinforcement and increasing and supporting motivation of the patient.
• Explain the condition to the patient (demystification)
• Break the taboo
• Review the eating and drinking habits
Urotherapy

- Voiding and drinking chart
- Posture on toilet
- Manual testing
- Relaxation biofeedback training
- Uroflowmetry and uroflow biofeedback
- Wetting alarms
Twenty Years of Urotherapy in Children: What Have We Learned?

Piet Hoebke

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be variable. Therefore we need to define more clearly the kind of patients we include in studies evaluating the effect of urotherapy. The different components of the different urotherapy programs deserve a separate evaluation to sort out which part of urotherapy is the most essential to obtain a good result. In addition, controlled trials are needed. The best control group would be a group of patients who are followed without any treatment, which would allow us to obtain information about the natural history of the dysfunction.

Without these results available I still believe that it might be rather the teaching qualities of the urotherapist than the program itself that are responsible for the good outcome.
Physiotherapists
Psychologists
Neurologists
Nurses
The whole team with ONE goal
Urotherapy

Time-Consuming without financial compensation

Early start of medication most often

With sometimes improvement
Sometimes improvement with relapse when medication is stopped
Sometimes absolutely no improvement at all

➤ Referral to tertiary centre specialized in children continence

➤ In the time being children have a reinforced shame feeling, behavioral problems

Urotherapy?
The ‘voiding school’

• A group session:
  – 6/8 children
  – 1 parent

• Teaching of urotherapy by
  – Physiotherapist
  – Urologist/Nephrologist

• Importance of a team
Plassen in verschillende stukjes.
Urine transport is slecht verdeeld.
• Currently many drugs for LUT conditions are off-label and not licensed for pediatric use.
CONCLUSIONS

LUTD are frequent
First line approach is essential
Time consuming
Thanks!

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