

Voiding and bowel problems



Lise Kay, M.D.
Urologist and Surgeon
The Danish Society of
Polio and Accident Victims



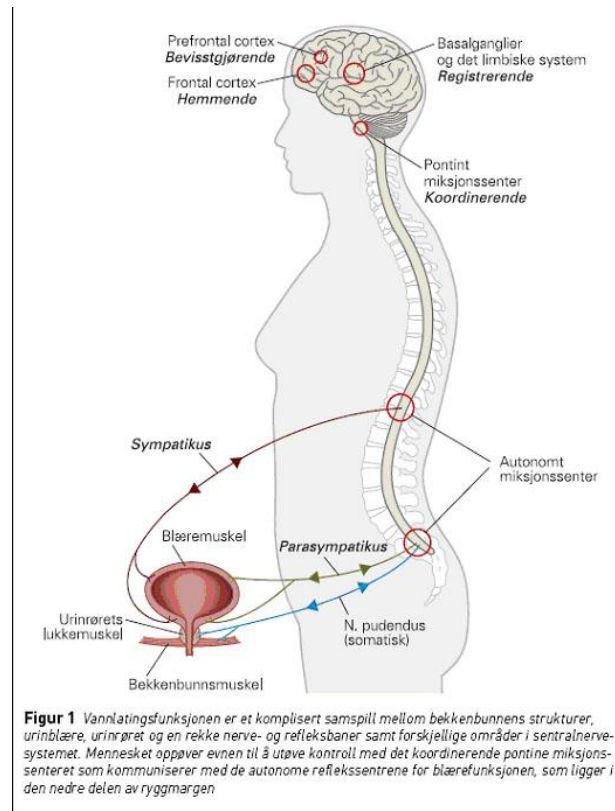
Topics:

- Nervous control of voiding and bowel function
- Other factors with influence on voiding and bowel function
- Looking at polio survivors – do they have a special risk ?
- Voiding problems – what can be done ?
- Bowel problems – what can be done ?

Why focus on voiding and bowel problems?

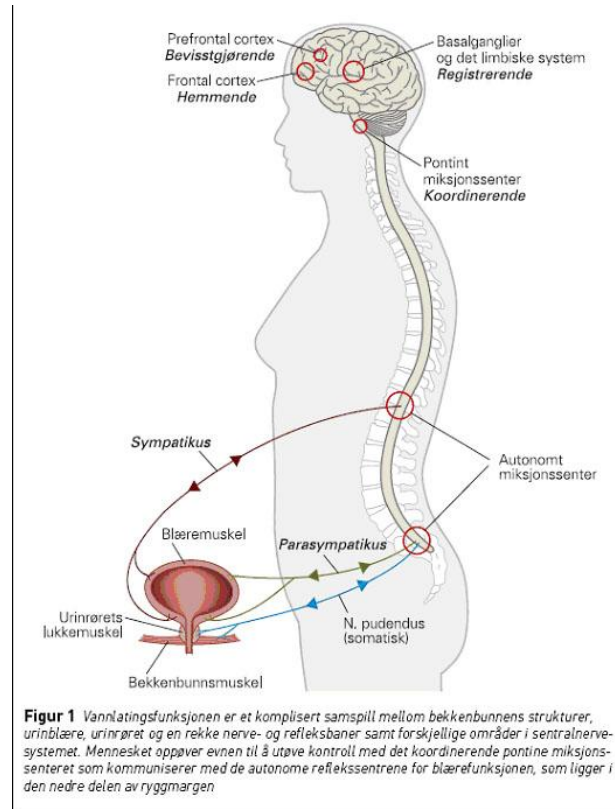
- PPS patients experience voiding problems more often than polio patients without PPS (Johnson 1996)
- Polio survivors experience voiding problems twice as often as the normal population (Kay, poster 83)
- Polio survivors are much more bothered by their voiding problems (Kay, poster 83)
- Bowel problems relate to physical activity and functional ability (Johannesson 2011, Kay 1994)
- Constipation and incontinence have a major influence on quality of life (Farmdale 2011, Mönnikes 2011, Duggan 2011, Kim 2011)

Nervous control of voiding and defecation

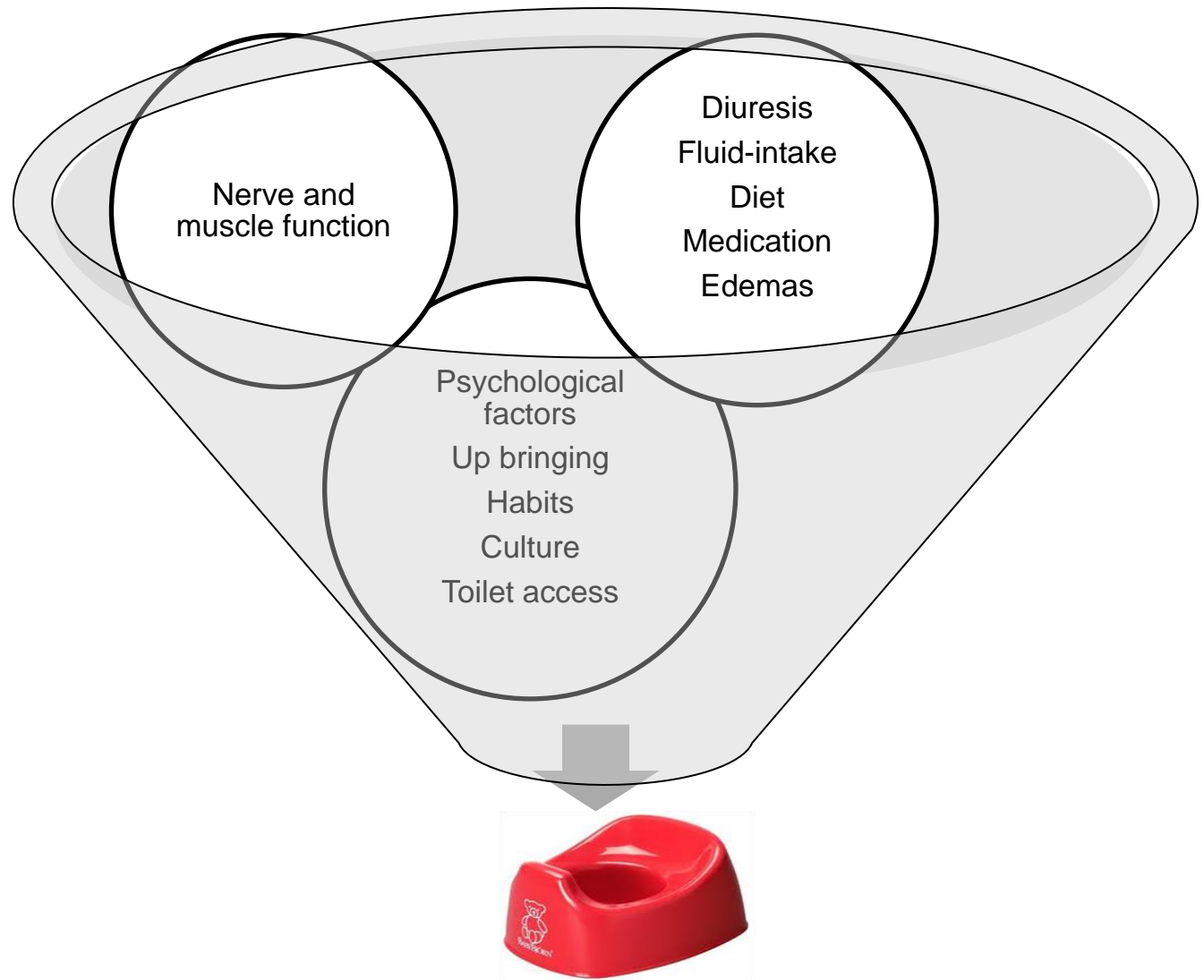


Nervous control of voiding and defecation

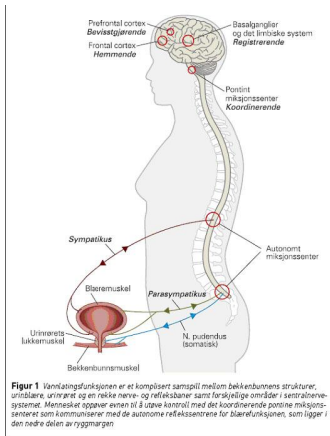
- Prefrontal cortex: awareness
- Frontal cortex: inhibition
- Basal ganglia: record of sensation
- Pons: coordination



Factors influencing voiding and defaecation



Looking at polio survivors – do they have a special risk ?



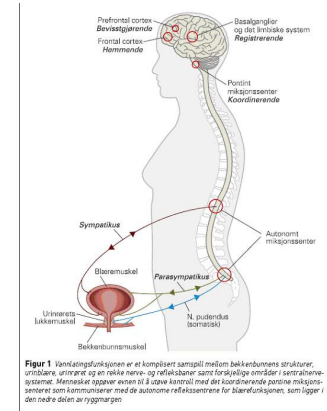
Looking at survivors - do they have a special risk ?

- **Nerve function**

- 20% of pt.s with acute polio have voiding problems (Skinhøj 1933, Toomey 1933, Wreight 1936)

- **Muscle function**

- Insufficient emptying - distension – weak muscle function



Looking at polio survivors – do they have a special risk ?

- Up bringing



- Toilet access



Voiding problems – what can be done?



What can be done?

- **Step 1:** patient level
- **Step 2:** basic healthcare level
- **Step 3:** specialist level

What can be done ?

Step 1: Patient level

- Drinking habits
- Toilet habits
- Toilet access

**If symptoms are not relieved:
the problem calls for further evaluation !**

What can be done ?

Step 2: Basic healthcare level

- Exclude other diseases (urine stix, UL scan, PSA)

- Drinking - voiding chart

| Time | Drinking volume | Voiding volume | Leakage/ activity |
|------|-----------------|----------------|-------------------|
| | cc | cc | |
| | cc | cc | |
| | cc | cc | |

- Urinary flow and residual urine

Hint:



Edemas in paralyzed legs may result in increased urine production at night

What can be done ?

Step 2: Basic healthcare level

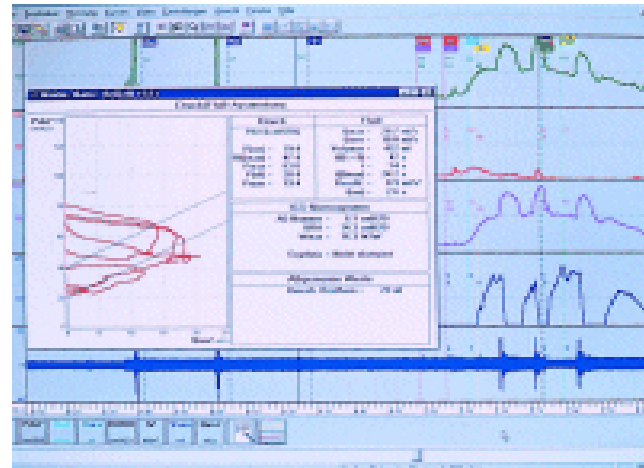
- Edema: elevation, compression stocking, mild diuretics at 5 o'clock pm
- Residual urine > 100 cc → to urologist
- Voiding volumes < 100 cc → to urologist

**If symptoms are not relieved:
the problem calls for further evaluation !**

What can be done ?

Step 3: Specialist level

- Full urodynamic examination



Bowel problems – what can be done?



What can be done ?

Step 1: Patient level

- Eating and drinking habits
- Toilet habits
- Toilet access

**If symptoms are not relieved:
the problem calls for further evaluation !**

What can be done ?

Step 2: Basic health care level

- Exclude other disease (colonoscopy, X-ray)
- History of medicine, diet and toilet habits
- Laxative

**If symptoms are not relieved:
the problem calls for further evaluation !**

Laxatives

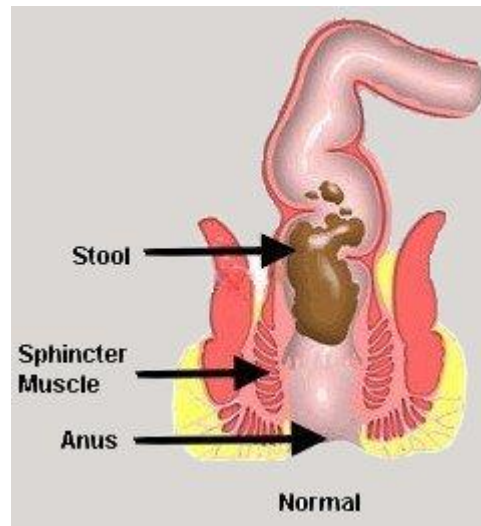
- Bulking effect (Visiblin)*
- Osmotic effect (Magnesia, Lactulose, Norgine/Movicol)*
- Rectal enemas *

* No risk of overuse !

- Stimulation of peristaltic movements (Bisacodyl, Natriumpicosulfat)

Hint:

- Diarrhoea may be caused by constipation:
Stercoral diarrhoea/ diarrhoea paradoxa



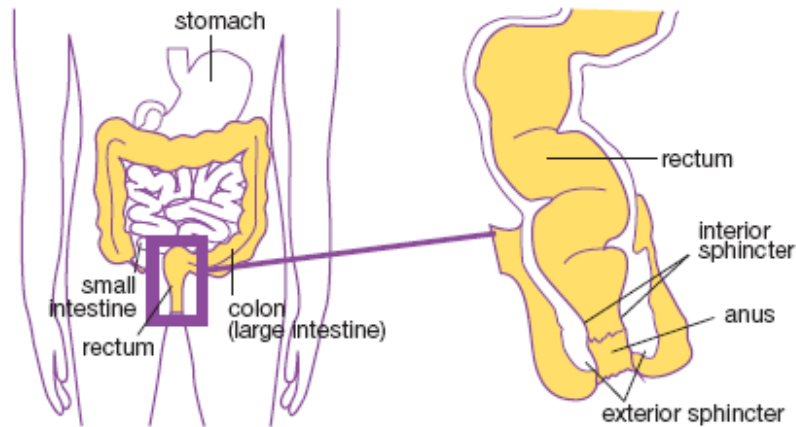
Rectal examination

What can be done ?

Step 3: Specialist level

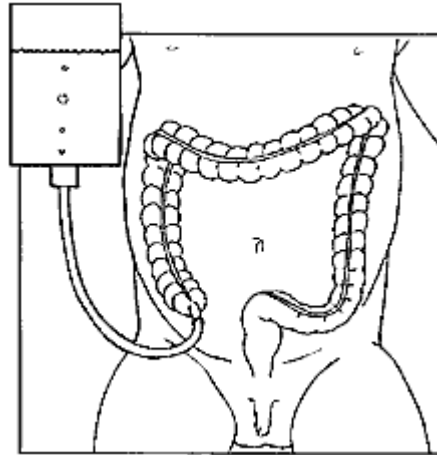
- Colon transit time
- Transanal irrigation
- Operation

Transanal irrigation



Operations

- Malone
- Colostomy



Take home messages

- Polio patients experience voiding and bowel problems that influence their quality of life
- The problems can alliviated – often by simple means
- Successful rehabilitation must also address these problems

Thank you for your attention !



Observations during the acute polio epidemics

| | |
|--------------|--|
| 1894 Caverly | 8% of patients could not void, 2% were incontinent |
| 1933 Toomey | 19% could not void |
| 1936 Wreight | 20% of children and 65% of grown-ups had voiding problems |
| Skinhøj 1949 | 42 pt of 199 had voidings problems: 32 > 15 years 38 could not void 4 were incontinent 28 had lasting < 1 week 6 with permanent problemes |

