Management of Urinary & Faecal Incontinence Post-Stroke.

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Part 1: Objectives

1. Develop an understanding of normal micturition

2. Identify types of urinary incontinence post-stroke

3. Introduce a new post-stroke urinary continence pathway / management plan
Background

- 40-60% of stroke survivors experience lower urinary tract dysfunction [LUTD] (Thomas et al. 2008).

- Post-stroke UI is associated with increased patient mortality and morbidity (Sommerfield et al. 2011, Wit et al. 2012, Van Almenkerk et al. 2013).

- Urinary incontinence [UI] is acknowledged as a significant problem but other needs are deemed of greater importance (Booth et al. 2009).

- Registered nurses [RN] are often unable to distinguish between types of UI and management techniques (Booth et al. 2009).

Normal Micturition

- **Cerebral cortex**: Interprets messages as full or empty bladder.
- **Pontine micturition centre**: "Switches" between filling/storage and voiding.
- **Hypogastric nerve**: (sympathetic) inhibits detrusor contraction during filling mode and contracts muscles in urethra and bladder neck.
- **Pelvic nerve**: (parasympathetic) unopposed impulses result in detrusor contraction.
- **Pudendal nerve**: (somatic) under voluntary control.
### Types of Incontinence

<table>
<thead>
<tr>
<th>Type</th>
<th>Symptoms</th>
<th>Pathophysiological cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urge incontinence (Detrusor hyperreflexia)</td>
<td>Involuntary leakage associated with urgency and frequency or nocturia.</td>
<td>Stroke lesion damages the neuro-micturition pathways directly.</td>
</tr>
<tr>
<td>Overflow incontinence (Detrusor hyporeflexia)</td>
<td>Continuous and/or dribbling of urine. Associated with acute/chronic urinary retention, poor stream and straining whilst voiding.</td>
<td>Loss of bladder tone during the acute phase of stroke. Note, the pathophysiological cause of bladder tone loss is not fully understood.</td>
</tr>
<tr>
<td>Functional incontinence</td>
<td>Urinary incontinence despite normal neurological bladder functioning.</td>
<td>Indirect cause due to cognitive or motor disabilities, rendering the survivor unable to mobilise to the toilet or express the need to pass urine.</td>
</tr>
<tr>
<td>Reflex incontinence &amp; urinary incontinence with impaired awareness</td>
<td>Reduced awareness of bladder fullness. Follows a normal voiding pattern.</td>
<td>Total or partial anterior circulatory stroke with new parietal and sub cortical damage.</td>
</tr>
</tbody>
</table>

Adapted from Mehdi et al. (2012) and Woodward (2014).
Perceived barriers to promoting urinary continence

- Time
- Manpower
- Lack of education - staff & patient
- Patient resistance
- Staff roles
- Culture
- Other therapies take priority
A new way of thinking or evidence in action?

<table>
<thead>
<tr>
<th>ICONS Study (Thomas et al. 2015).</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Primary outcome: to assess for the presence/absence of UI at 12-weeks post-stroke between a Systematic Voiding Programme [SVP] and usual care [UC].</td>
</tr>
<tr>
<td>• Secondary outcome: to assess the effects that a SVP has on differing types of UI and the frequency and/or severity of incontinent episodes.</td>
</tr>
<tr>
<td>• No overall benefit at 12-weeks noted between the SVP when compared to UC</td>
</tr>
</tbody>
</table>

However…

| • Sub-group analyses: of all stroke types (except ACA infarcts) patients were more likely to be continent at 12-weeks when using a SVP |
| • Better level of continence achieved in patient’s with stress or urge incontinence |

<table>
<thead>
<tr>
<th>Continence tools for residential aged care (O’Connell et al. 2009).</th>
</tr>
</thead>
<tbody>
<tr>
<td>• User friendly</td>
</tr>
<tr>
<td>• Users similar tools available on the ward</td>
</tr>
</tbody>
</table>
Our initiative

• A new stroke specific pathway

• Staff education programme - formal & ad hoc

• Improved MDT collaboration

• Patient Education
A stroke specific pathway

Bladder Management Flow Chart in Stroke

Does the patient have urinary incontinence?

Yes

RNs to complete “Bladder Dysfunction” screening on e-Noting within 24hrs of admission

No

Complete “Continence Urinalysis” on e-Noting within 24hrs of admission

1. RNs and NAs to initiate “Three Day Bladder Diary”. See page 2-5.

2. Is a cognition screen required? If so, OTs or Drs to complete within 3 days and document on e-Noting?

Does the patient have a significant cognitive impairment?

Yes

Follow prompted voiding management plan for patients with a significant cognitive impairment. See page 5 of this booklet for guidance.

No

Follow timed voiding / bladder retraining management plan for patients without a significant bladder dysfunction. See page 9 of this booklet for guidance.

Complete weekly evaluation of management plan, i.e. continence achieved – yes / no? Why? Why not?

Reassess if patient becomes newly incontinent
## Three day bladder dairy

<table>
<thead>
<tr>
<th>Day 1 Date:</th>
<th>Time</th>
<th>Drinks (amount i.e. 1 cup / type)</th>
<th>Continent (i.e. to the toilet, bed pan)</th>
<th>Incontinent (Degree of wetness i.e. Pad only Pad &amp; underwear Pad, underwear &amp; sheets)</th>
<th>Weight of Pad (mg)</th>
<th>Comments (e.g. unable to get to the toilet, spilt bottle, patient reported sensation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>0800</td>
<td>Cup of tea</td>
<td>No</td>
<td>Yes - pad &amp; sheets</td>
<td>320 mg</td>
<td>Unable to get to the toilet</td>
</tr>
<tr>
<td>Waking to breakfast</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0815</td>
<td>x1 cup of coffee</td>
<td>No</td>
<td>Yes - Pad</td>
<td></td>
<td>200 mg</td>
<td>Reported urgency</td>
</tr>
<tr>
<td>Breakfast to lunch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1130</td>
<td>x2 cups of water</td>
<td>No</td>
<td>Yes - Pad &amp; sheets</td>
<td></td>
<td>160 mg</td>
<td>Unable to use bottle in time</td>
</tr>
<tr>
<td>Lunch to mid-afternoon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid-afternoon to dinner</td>
<td>1445</td>
<td>x1 cup of tea</td>
<td>No</td>
<td></td>
<td>220 mg</td>
<td></td>
</tr>
<tr>
<td>1610</td>
<td>Yes</td>
<td>No – used bottle</td>
<td></td>
<td></td>
<td>120 mg</td>
<td>Helped to use bottle</td>
</tr>
<tr>
<td>Dinner to bed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td>x1 coffee</td>
<td>No</td>
<td>Yes - Pad</td>
<td></td>
<td>200 mg</td>
<td>Unable to remove pad in time</td>
</tr>
<tr>
<td>Overnight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Management Plan

<table>
<thead>
<tr>
<th>Time (Based on patient's Bladder Diary)</th>
<th>Intervention</th>
<th>Did the patient increase their &quot;hold time&quot; between voids?</th>
<th>Outcome</th>
<th>Comment i.e. Were they continent/incontinent?</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example 0500</td>
<td>Patient encouraged to hold urine for a further 10 minutes, then walked to the toilet with assistance</td>
<td>Yes</td>
<td>Yes</td>
<td>Continent</td>
<td>JH</td>
</tr>
<tr>
<td>0700</td>
<td>Offered bottle and passed urine</td>
<td>No</td>
<td>Yes</td>
<td>Continent</td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>Assisted to toilet and passed urine</td>
<td>No</td>
<td>Yes</td>
<td>Continent</td>
<td></td>
</tr>
<tr>
<td>1400</td>
<td>Offered bottle and helped to pass urine</td>
<td>No</td>
<td>Yes</td>
<td>Continent</td>
<td></td>
</tr>
<tr>
<td>1530</td>
<td>Helped to the toilet and passed urine</td>
<td>No</td>
<td>Yes</td>
<td>Incontinent</td>
<td></td>
</tr>
<tr>
<td>1800</td>
<td>Offered bottle and passed urine</td>
<td>No</td>
<td>Yes</td>
<td>Continent</td>
<td></td>
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<td>No</td>
<td>Yes</td>
<td>Continent</td>
<td></td>
</tr>
<tr>
<td>1015</td>
<td>Assisted to toilet and passed urine</td>
<td>No</td>
<td>Yes</td>
<td>Continent</td>
<td></td>
</tr>
<tr>
<td>1430</td>
<td>Offered bottle and helped to pass urine</td>
<td>No</td>
<td>Yes</td>
<td>Continent</td>
<td></td>
</tr>
<tr>
<td>1615</td>
<td>Helped to the toilet and passed urine</td>
<td>No</td>
<td>Yes</td>
<td>Incontinent</td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td>Offered bottle and passed urine</td>
<td>No</td>
<td>Yes</td>
<td>Continent</td>
<td></td>
</tr>
</tbody>
</table>
Prompted voiding is an intervention that is designed to minimise incontinent episodes (Thomas et al. 2014, Thomas et al. 2015).

Not designed to affect bladder function (Thomas et al. 2008).

Most appropriate for patients with a significant cognitive impairment or those that cannot effectively communicate their need to urinate.

Verbal prompts and positive reinforcement are used to support the intervention (Eustice et al. 2000).
Timed voiding / bladder retraining

- **Timed voiding** is an intervention whereby the bladder is emptied at regular intervals (before the bladder is full) in order to avoid urgency to void.

- **Bladder retraining** requires the individual to **progressively increase the time intervals between urinations**.

- Goal is to return the patient to a “normal” voiding pattern.

- Distraction techniques can be utilised to suppress the urge to void (Thomas *et al.* 2014, Thomas *et al.* 2015).

**TIMED VOIDING + BLADDER RETRAINING**
Pelvic Floor Muscle Training [PFMT]

- Relevant to bladder retraining.
- Incorporated into programme in order to help increase intervals between voids.
- Involves physio support.
Successful implementation through education

- Face-to-face education
- Information booklet

- RNs / HCAs, therapists & medics
- Ad-hoc sessions
- Formal training
- Information booklet

- MDT
- Patient
- Review
- Family

- Weekly review
- Audits
- Formal staff and patient feedback

- Face-to-face education
- Information booklets
Summary

• Move away for containment towards rehabilitation.

• Improving urinary continence management can improve outcomes for stroke patients.

• Effective management of urinary continence is a MDT effort.
Part 2: Objectives

1. Anatomy and physiology of the bowel

2. Identify different types of bowel dysfunction

3. Develop an awareness of bowel assessments and interventions
Background

• South London Stroke Register (1995-2000). Prevalence of post-stroke faecal incontinence (FI) at:
  ➢ 7-10 days = 30%
  ➢ 1 year = 11%
  ➢ 3 years = 15%

• FI at 3 months is associated with long-term placements (28% vs. 6%) and death within 1 year (20% vs 8%).

Harari et al. (2003)
Bowel Anatomy
## Nursing Management

<table>
<thead>
<tr>
<th>Faecal incontinence</th>
<th>Nursing management</th>
</tr>
</thead>
<tbody>
<tr>
<td>can’t control wind, leaks liquid or soft stool without prior warning</td>
<td>• Bowel chart</td>
</tr>
<tr>
<td>sudden urge to pass stool, doesn’t always make it on time</td>
<td>• Toileting regime</td>
</tr>
<tr>
<td></td>
<td>• Review medication</td>
</tr>
<tr>
<td></td>
<td>• Diet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Constipation (not passing stool regularly, unable to fully empty bowels)</th>
<th>Nursing management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Bowel chart</td>
<td>• Rectal examination</td>
</tr>
<tr>
<td>• Toileting regime</td>
<td>• Review medication</td>
</tr>
<tr>
<td>• Diet/hydration</td>
<td>• Exercise</td>
</tr>
</tbody>
</table>
Bowel Assessment

Patient assessment
Ask the patient about the bowel problem. Consider the following:

• The main symptoms and how they bother the patient;
• Normal bowel habit;
• Stool consistency (use the Bristol Stool Chart – see Fig 1);
• Colour and smell of stool and presence of mucus, blood or undigested food;
• Pain on defecation;
• Problems with control – urgency to open bowels with bowel accidents, incontinence of faeces without being aware or flatus incontinence;
• Bloating;
• Abdominal pain;
• The need to undertake certain manoeuvres to help empty the bowel, for example, supporting the perineum, manual evacuation;
• Incomplete emptying - not feeling as if they have completely emptied the rectum but cannot empty any more;
• Straining to pass a stool;
• Effects on sexual function;
• Coping strategies – such as toilet mapping (planning journeys based on where toilets are), staying near toilets, using toilet substitutes, appliance use and containment.
Bowel Assessment (cont.)

Assessment of diet and fluids

• Fibre content – too much or too little;

• Amount of wheat products – possible intolerance;

• Spicy foods – increase gut motility;

• Supplementary diets – may cause diarrhoea;

• High in fat – may increase gut motility;

• Trigger foods;

• Milk – possible intolerance;

• Coffee, diet drinks, sports drinks, excess alcohol – may increase gut motility, giving a loose stool.

Royal College of Nursing (2008)
Auscultation of the Anterior Abdominal Wall

- Position patient in the supine position.
- Use the stethoscope to listen over several areas of the abdomen for the presence of bowel sounds.
- When bowel sounds are not present, listen for a full 3 minutes before determining that bowel sounds are absent.
- Palpate after auscultation as this can falsely increase the presence bowel sounds.

Ferguson (1990)
Digital Rectal Examinations

100% of the attendees agreed that DRE and manual evacuation were nursing roles.

RCN Congress 2017
DRE Procedure

• Consent and lie patient in the left lateral position with knees flexed.

• Wash hands and use PPE. Lubricate gloved index finger.

• Observe anal area for: soreness, excoriation, swelling, haemorrhoids, rectal prolapse or infestation.

• Palpate the perianal area from 12 o’clock clockwise to 6 o’clock and then from 12 o’clock anti-clockwise to 6 o’clock. Note irregularities.
DRE Procedure (cont.)

- Prior to insertion ask patient to breath out or place finger on anus for a few seconds. Insert finger and assess anal sphincter control; resistance should be felt.

  Anal tone present but with no awareness of fullness / unable to initiate or inhibit defecation = Reflex Bladder / Anal tone absent = Flaccid Bladder

- With finger in anus sweep clockwise then anti-clockwise. Note irregularities and the consistency of any faecal matter felt.

- Clean anal area after procedure, document findings and liaise with the MDT.

  Dougherty et al. (2015)
## Medication

<table>
<thead>
<tr>
<th>Bulk Forming (Fybogel)</th>
<th>Stimulant (sodium docusate, senna, glycerin suppository)</th>
<th>Osmotic (lactulose, macrogol, phosphate enema)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increases faecal mass which stimulates peristalsis</td>
<td>• Increases intestinal motility</td>
<td>• Increases the amount of water in the colon either from the body or water administered.</td>
</tr>
<tr>
<td>• Useful with type 1 stool</td>
<td>• Can cause diarrhoea in excess</td>
<td>• Take with plenty of water</td>
</tr>
<tr>
<td>• Take with plenty of water</td>
<td></td>
<td>• Take with plenty of water</td>
</tr>
</tbody>
</table>
Gastrocolic reflex

• Reflex response to food or drink entering the stomach.

• Results in an increase in muscular activity throughout the gut which can result in movement of stool into the rectum.

• Response may be reduced or absent in individuals with spinal cord injury.

• Commence bowel care 20-30 minutes after food or warm drink.

• Response is strongest after breakfast!
Abdominal massage

- Massage abdomen following the lie of the colon.

- Technique helps to promote peristalsis, thus moving stool into the rectum and relieving flatulence.

- Use while waiting for suppositories/enema to work.
Example of a Management Plan

Start with stimulant laxative if needed 8-12 hours before bowel management

Have something to eat or drink 20-30 minutes before beginning

Insert suppositories then wait until wind is passed or up to 45 minutes depending on type of stimulant

Sit on toilet/commode if patient has sitting balance

Abdominal massage while waiting

Digital stimulation for approx 30 seconds up to 4 time, 5-10 minutes between each.
Summary

• FI is common but may be transient.

• Undertake a bowel assessment to determine cause of constipation / faecal incontinence.

• Consider the type of laxative required.

• Trial toileting regimes dependent on individual patient needs.
References


