How to perform a comprehensive baseline continence assessment

It has been reported that 4-7% of women under 60 years and 4-17% of those over 60 have daily episodes of urinary incontinence (Hunskaar et al, 2005); 21% of 85-year-olds have severe or profound urinary incontinence (Collerton et al, 2009). According to the National Institute for Health and Care Excellence, depending on the definition used, 1-10% of adults are affected by faecal incontinence, and nearly two-thirds of those also have urinary incontinence (NICE, 2014).

Poor continence care can have negative effects on physical, emotional and financial wellbeing. It can contribute to anxiety, depression and loss of personal relationships, and increase the risk of urinary tract infections and even falls and skin damage (Yates, 2017a; 2016).

A stepwise baseline assessment of continence will help determine causes of incontinence and inform treatment.

Key points

- Continence problems can have devastating effects on patients and their families
- A stepwise baseline assessment will help determine causes of incontinence and inform treatment
- Assessments must include a thorough history and a review of drugs, bladder/bowel charts, quality of life, fluid/food intake and environmental factors
- Urinalysis should be used as a screening test and post-void residual volume should be measured by catheterisation or ultrasound scanning
- Abdominal, neurological or pelvic floor examination should only be performed by professionals with the necessary competencies

Assessing continence

The purpose of a continence assessment is to help identify the causes of, and factors contributing to, urinary and faecal symptoms. In most cases, these can be alleviated or eliminated by identifying and treating the underlying causes. Conducting a baseline assessment is to understand the different types of continence problems that can affect the bladder and the bowel (Table 1).

Continence assessments should be conducted by a professional with the relevant knowledge and skills (McClurg et al, 2013), and in line with the minimum standards in continence care (United Kingdom Continence Society, 2015). National guidance is available on the assessment and management of lower urinary tract symptoms in men (NICE, 2010); for women, guidance is incorporated in the guidelines on female urinary incontinence (NICE, 2015; 2013).

A baseline continence assessment should aim to determine:
- How long the problem has been experienced;
- Symptoms and/or presentation;
- Effect on quality of life;
- Current management.

It should follow a stepwise approach and include the elements listed in Box 1, which are discussed below.

History

History taking should cover the patient’s medical, surgical, neurological, obstetric and mental health history (NICE, 2015; 2014; Staskin et al, 2013), and include allergies,
Table 1. Bladder and bowel continence problems

<table>
<thead>
<tr>
<th>Type</th>
<th>Symptoms</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress urinary incontinence</td>
<td>Involuntary urine loss on physical exertion or sneezing or coughing; leakage of urine is normally small</td>
<td>Abnormal descent of bladder neck and urethra usually associated with poor muscle support from pelvic floor due to pregnancy, oestrogen deficiency, surgery or trauma</td>
</tr>
<tr>
<td>Overactive bladder/urge incontinence</td>
<td>Urgency, with or without incontinence, usually associated with frequency and nocturia; when incontinence occurs, leakage of urine is normally medium or large</td>
<td>Bladder contractions occur while bladder is filling; may be associated with fluid intake, a medical condition (such as stroke or diabetes) or medication, or may be idiopathic</td>
</tr>
<tr>
<td>Mixed incontinence</td>
<td>Involuntary leakage with symptoms of both stress and over-activity</td>
<td>Associated with urgency and exertion, effort, sneezing or coughing</td>
</tr>
<tr>
<td>Voiding difficulties/obstructive incontinence</td>
<td>Dribbling urine, feeling of bladder fullness, frequency, hesitancy, stop-and-start flow; susceptibility to urinary tract infections; leakage of urine is normally small</td>
<td>Chronic urinary retention due to strictures, enlarged prostate, neuropathic illnesses, prolapse or unresolved constipation</td>
</tr>
<tr>
<td>Functional incontinence</td>
<td>Amount of leakage varies from small to large according to degree of loss of functional ability</td>
<td>Risk factors: sex, age, cognitive impairment, Parkinson's disease, dementia, cerebrovascular accident, heart failure and diabetes, Poor mobility/dexterity, failing eyesight, poorly fitting footwear, long toenails, breathlessness and environmental factors (Box 4) that make it harder to use a toilet can contribute to the problem</td>
</tr>
</tbody>
</table>

Bowel continence problems

<table>
<thead>
<tr>
<th>Type</th>
<th>Symptoms</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faecal leakage</td>
<td>Involuntary loss of faeces on physical exertion, sneezing or coughing</td>
<td>Anal sphincter or pelvic floor damage due to degeneration and/or childbirth (especially first-child delivery, instrumental delivery, birth weight &gt;4kg, midline episiotomy, ≥3-4 births, abnormal presentation)</td>
</tr>
<tr>
<td>Faecal urgency</td>
<td>Frequency of defeaecation (usually &gt;3 times daily) with severe urgency and usually loose stools</td>
<td>Anal sphincter or pelvic floor damage</td>
</tr>
<tr>
<td>Constipation</td>
<td>Hard faeces, infrequent passing of stool (less than once every three days)</td>
<td>Gut motility and/or stool consistency</td>
</tr>
<tr>
<td>Faecal impaction</td>
<td>Build-up of hard faeces, with possible overflow of liquid faeces</td>
<td>Local pathology (prolapse, piles, fistula, anal tears)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Immobility, poor diet, age, neuropathic conditions, medication, inadequate toilet facilities</td>
</tr>
</tbody>
</table>

Adapted from Yates (2017b)

**Medications**
Most medications will have some effect on the bladder and/or bowel, so is important to ascertain what medications the patient is taking, and whether they are prescribed, over-the-counter or recreational. Box 2 lists common drugs that can affect continence.

**Bladder and/or bowel charts**
A bladder or bowel chart (or, if not feasible, an observational chart) will give a measure of bladder and/or bowel performance over time, as well as an indication of what could be going wrong. Completed bladder and/or bowel charts (also called diaries) are essential elements of continence assessments.

A three-day bladder chart is recommended to accurately assess bladder problems and confirm clinical patterns [NICE, 2013; Staskin et al, 2013]. A basic bladder chart will feature three 24-hour periods so the patient can enter the frequency and volume of voiding every hour over 72 hours. If volume cannot be measured, patients simply record frequency by ticking the corresponding hour slot for every voiding. Frequency can vary but is usually 4-8 times in 24 hours. The chart will feature a second column to record episodes and amounts of leakage; a key to leakage amount can be used – for example, D = damp, W = wet, S = soaking. More elaborate charts allow recording of voiding urgency, type and quantity of fluids consumed, and what the patient thinks may have triggered leakage.

**Faecal impaction**
Build-up of hard faeces, with possible overflow of liquid faeces
Box 1. **Elements of a baseline continence assessment**
- Complete medical, surgical, neurological, obstetric, mental health and social history
- All medications – prescribed, over-the-counter and recreational
- Three-day bladder and/or one-week bowel chart – if not feasible, observational chart
- Quality-of-life questionnaire
- Fluid and/or food intake – including type and quantity
- Dipstick urinalysis – used as a screening, not a diagnostic test
- Post-void residual urine volume – measured using bladder scanning or urethral catheterisation
- Vaginal/rectal/abdominal/neurological examination – to be conducted only by competent health professionals
- Environmental factors

A one-week bowel chart allows patients to record the following:
- Number of times they have opened their bowels every day for seven days (frequency of defaecation);
- Stool consistency, according to the Bristol Stool Chart;
- Amounts passed, for example, small, medium or large;
- Presence of leakage or soiling;
- Urgency in minutes;
- Medication used, for example, laxatives;
- Pain on defaecation;
- Any other key things to note.

These charts only work if patients can complete them independently or give the information to someone who will fill in the chart on their behalf. For those who are unable to do so – for example, due to being unconscious or cognitively impaired – an observational chart could be used instead.

**Quality-of-life questionnaires**

Continence issues are not usually life threatening but they do affect quality of life. Recognising the extent to which symptoms affect individual patients is an important part of continence assessment. Questionnaires are most informative when completed both at baseline and after treatment completion, to show whether there has been an improvement. There are several validated questionnaires for each type of continence problem (Staskin et al, 2013).

For female urinary continence problems, NICE (2013) recommends the Bristol Female Lower Urinary Tract Symptoms questionnaire; the International Consultation on Incontinence Modular Questionnaire, which also comes in a short form; and the King’s Health Questionnaire (NICE, 2013). All are free and easily accessible.

For men, the International Prostate Symptom Score asks eight questions, of which seven relate to urinary continence symptoms and one to quality of life.

For bowel continence issues, the St Mark’s incontinence score, which evaluates faecal incontinence severity, or the Bowel Control Self-Assessment questionnaire can be used.

**Fluid and/or food intake**

For patients with bladder or bowel dysfunction, maintaining an appropriate fluid intake is crucial. The average daily fluid intake of an adult should be approximately 1.5L, but individual consumption will vary according to age, health status, activity levels and weather. Insufficient fluid intake can contribute to constipation; conversely, excessive fluid intake may increase urinary continence problems and voiding activity (Gilbert, 2006).

Continence is also affected by the type of fluids consumed. Caffeine (found in coffee, tea, drinking chocolate and fizzy drinks) can stimulate the bladder and exacerbate frequency, urgency and nocturnal voiding. A mild diuretic, it can increase the amount of urine produced if >250-300mg is consumed per day – the equivalent of 3-5 cups of coffee, 5-8 cups of tea or 5-6 cans of caffeinated soft drinks (Gilbert, 2006). Alcohol has both a diuretic and sedative effect; their combination may lead to episodes of incontinence. Other fluids, such as fruit juices and herbal teas, can also have an impact on both bladder or bowel continence.

NHS Choices (2018) recommends that individuals with constipation eat high-fibre foods (fruit, vegetables, wholegrain foods, pulses) and those with faecal incontinence avoid high-fibre foods, caffeine and artificial sweeteners. Intolerance to dairy products (lactose intolerance) or wheat, barley or rye (gluten intolerance) can also cause loose stools and should be ruled out before initiating any treatments.

**Dipstick urinalysis**

In suspected urinary incontinence, dipstick urinalysis is not a diagnostic but a screening test (Staskin et al, 2013) used to detect other issues such as renal problems, diabetes and UTIs. Urinalysis detects haematuria, glucose, pyuria and bacteriuria (blood, glucose, white blood cells and bacteria in the urine, respectively); haematuria, for

Box 2. **Common drugs that can affect continence**
- Diuretics
- Alpha blockers/alpha-adrenergic receptor antagonists
- Antidepressants, antipsychotics and narcotic analgesics
- Angiotensin-converting enzyme inhibitors
- Non-steroidal anti-inflammatory drugs
- Calcium channel blockers
- Sedatives, hypnotics and sleeping pills
- Anticholinergics and antimuscarinics
- Antihistamines
- Laxatives
- Antibiotics

Box 3. **Diagnostic symptoms of urinary tract infections**

The presence of one or more of the following should raise suspicion of UTI; however, this should not be diagnosed on a urine dipstick. A urine sample may be indicated but treatment will not always conclude with antibiotic therapy.
- Dysuria (pain on urination)
- Urgent need to urinate
- Frequent need to urinate
- New or worsening urinary incontinence
- Shaking chills (rigors)
- High (>37.9°C) or low (<36°C) temperature
- Pain in flank (side of body) or suprapubic region (above pubic bone)
- New costovertebral (central low back) tenderness
- Frank haematuria (visible blood in urine)
- New onset or worsening of pre-existing delirium (confusion) or agitation
example, can be indicative of a cancer causing lower urinary tract storage symptoms. Urinalysis will also give an indication of the patient’s hydration level. UTI diagnosis should be based on presenting symptoms, not on dipstick urine testing; Box 3 details current guidance on UTI diagnosis.

**Post-void residual (PVR) urine**

The correct measurement and interpretation of PVR urine volume is a crucial part of continence assessment and will direct the course of treatment. There is no consensus on what constitutes normal or abnormal PVR volumes, but 100-150ml is usually considered large (although this will depend on total bladder capacity). Large PVR volumes are associated with dribbling, urgency, and difficulty starting urination. PVR volumes are also associated with UTIs, especially in at-risk people such as those with spinal cord injury or diabetes. Very large PVR volumes (>300ml) may be associated with an increased risk of upper urinary tract dilation and renal insufficiency (Kelly, 2004).

There are two methods of assessing PVR, both of which should only be undertaken by a competent professional:

- **Urethral catheterisation**, which allows direct measurement;
- **Bladder ultrasound scanning** (NICE, 2013), a non-invasive technique producing a 2D or 3D image of the bladder that allows urine volume to be estimated (Haylen et al., 2010).

Bladder ultrasound scanning should be used in patients with signs of incomplete emptying and/or recurrent UTIs, or those with an underlying neuropathy, symptoms of obstruction or constipation leading to incomplete emptying or difficulty in voiding, or poor flow for similar reasons.

**Examination**

Staskin et al. (2013) and NICE (2013) advise performing an abdominal, neurological or pelvic floor examination is part of continence assessment, but they should only be performed by professionals with the necessary competencies.

A visual inspection of the perineum can identify a multitude of conditions; for example, a prolapse may be seen (especially on coughing), or skin damage or excoriation that may have been caused by urinary and/or faecal leakage. Competent professionals can undertake a rectal examination to assess the fullness of the rectum and identify constipation and faecal impaction.

**Environmental factors**

Environmental factors – some of which are listed in Box 4 – will affect all patients with continence problems, but particularly those with vision, mobility, dexterity and/or cognition difficulties. An adequate environment can make a huge difference and allow patients to maintain continence.

**Conclusion**

Continence assessments are multi-faceted and skilled procedures, in which each step is crucial in ascertaining the type of problem the patient is experiencing. All steps are linked, so it is vital to go through them all (competence permitting). A thorough and comprehensive baseline continence assessment is key, as its outcomes will inform diagnosis and treatment. The better the baseline assessment, the better the management and prognosis. 

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**Box 4. Environmental factors**

- Bed proximity to the toilet on hospital ward
- Sharing room with partner at home
- Height of chair, bed and equipment designed to aid standing/getting on and off the bed; occupational therapy assessment may be needed
- Height of toilet seat; raised seat may be needed, as indicated by occupational therapy assessment
- Sufficient space in toilet to accommodate wheelchair, walking aid and assistance if required
- Toilet doors that can be shut and locked for privacy and dignity
- Toilet environment that is warm, well-lit, clean, fresh-smelling and free from hazards
- Easy-to-activate flushing systems and adequate hand washing and drying facilities
- Floor surfaces that are level, non-slippery and non-shiny
- Signage that is clear, easy to understand and large enough to be read
- Staff or carers who are available to help people use the toilet when they need
- Availability of equipment needed to help functioning

Adapted from Yates (2016), Heath (2009), Royal College of Nursing (2007)

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**References**


Royal College of Nursing (2007) Continence Care in Care Homes: A Framework to Gather and Share Key Information. Bit.ly/RCNCcontinence


