

A guide to assessing bladder function and urinary incontinence in older people

An overview of the causes of incontinence in older people, its diagnosis and management, and how bladder function and structure changes with age

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This article provides a brief overview of the causes of urinary incontinence in older people and the factors that need to be taken into account when assessing and treating the condition.

The incidence of incontinence is increasing as there has been a steady increase in the number of older people in the UK and this group has a higher prevalence of incontinence problems (Fonda et al, 2005). However, fewer than half of those affected by incontinence seek professional help (Staskin et al, 2005).

The psychosocial implications of incontinence are huge, often resulting in people becoming afraid to leave home because they are worried that they will not be able to find a toilet and are fearful of being incontinent. This, in turn, can lead to loss of mobility and depression. Incontinence is also known to be associated with falls in older people (Teo et al, 2006).

The *National Service Framework for Older People* (Department of Health, 2001) stated that older people should have access to an integrated continence service as described in *Good Practice in Continence Services* (DH, 2000). However, the Royal College of Physicians (2006), in its audit of continence care provision for older people, reported that inadequate access to integrated services still remains.

The aetiology of urinary incontinence in the frail older person is often multifactorial. This should be borne in mind when assessing an older person who is experiencing bladder symptoms or incontinence, as there may be a combination of age-related changes contributing to the problem.

AGE-RELATED CHANGES IN THE BLADDER

The urinary bladder is a hollow muscular organ that has two main purposes: to store urine and to void urine.

The bladder wall is composed of several layers, including the detrusor muscle – made up of smooth muscle fibres and elastic connective tissue – which enables the bladder to fill without an increase in bladder pressure. It also contracts, enabling the bladder to void (Fig 1).

Continence is maintained by a complex coordination between the bladder, urethra, pelvic floor muscles, the endopelvic fascia and the nervous system.

To maintain continence the urethral pressure must exceed the pressure of the bladder.

A normal bladder can hold approximately 500ml, and most people feel the first sensation that they need to void when it is about half full. As the bladder fills, it sends sensory signals via afferent nerves to the brain. If it is not convenient to pass urine, the brain sends an inhibitory message back to the bladder asking it to “hold on”. This continues until the person finds an appropriate place to void. The brain then sends a message to the bladder causing the detrusor muscle to contract.

AGE-RELATED CHANGES TO THE URINARY SYSTEM

The bladder and associated structures undergo age-related changes, which can affect bladder function and continence.

The ageing bladder is likely to have a decreased capacity with a smaller voided volume and increased involuntary detrusor contractions, which will result in urinary symptoms such as overactive bladder and urge incontinence. There may also be

LEARNING OBJECTIVES

1. Understand the complex nature of incontinence in older people and how to undertake a comprehensive and holistic assessment to identify the causative factors.
2. Be aware of the therapies available to promote continence in older people.

decreased bladder contractility during voiding, resulting in an increased residual volume that may cause frequency, urgency, incontinence and urinary tract infections (Fonda et al, 2005).

A decrease in oestrogen levels in older women results in a reduction of periurethral and vaginal collagen, leading to atrophic changes in the urethra and vagina. This can

result in a decreased urethral pressure in women, increasing the likelihood of stress and urge incontinence, and prolapse, as well as the risk of urinary tract infections.

In men, the risk of benign prostatic hyperplasia (BPH) increases with age and can give rise to a number of symptoms, including urgency and frequency, hesitancy and straining, and urinary retention.

Microscopic BPH is seen in about 65% of men aged 60-70, 80% of men aged 70-80 and 90% of men aged 80-90. It is estimated that around 25% of these men will develop bladder symptoms due to outflow obstruction (Slack et al, 2008).

Older people are also more likely to have an increased urine production at night (nocturnal polyuria), which can result in nocturia and nocturnal enuresis. This can affect quality of life and is a common cause of falls when people are trying to reach the toilet (Slack et al, 2008).

OTHER FACTORS THAT CAN AFFECT BLADDER FUNCTION

Frail older people often have health conditions that can cause bladder and bowel dysfunction.

Polypharmacy is common in older people and incontinence may be a result of medication that has been prescribed for other conditions (Slack et al, 2008). For example, diuretic medication can result in increased urinary frequency, urgency and

urge incontinence, and alpha-blockers prescribed for hypertension can weaken the urethral muscle, resulting in stress incontinence.

Many medicines can have an adverse effect on bladder and bowel function, so when an older person with incontinence or bladder symptoms is being assessed, a medication review should be undertaken.

Diabetes mellitus occurs in 15-20% of frail older people (Fonda et al, 2005) and can result in a range of bladder problems, including polyuria, urinary retention and urinary tract infection.

Older people with chronic chest conditions, such as COPD, are at an increased risk of stress incontinence due to the strain on the pelvic floor muscle as a result of coughing.

Congestive heart failure can contribute to nocturnal polyuria, nocturia and nocturnal enuresis. Diuretic medication for heart failure can cause daytime urgency, frequency and incontinence.

Severe constipation is a common problem in older people and faecal impaction can cause urinary retention and both urinary and faecal incontinence.

Neurological conditions such as stroke and Parkinson's disease may interfere with the nervous pathways that control bladder function, resulting in urgency, frequency and, sometimes, retention of urine.

Older people with dementia may have good bladder function but, because of cognitive impairment and mobility problems, are often unable to recognise the need to pass urine or to find the toilet. This can result in "inappropriate voiding", when, for example, the older person with dementia voids in a waste bin or similar receptacle.

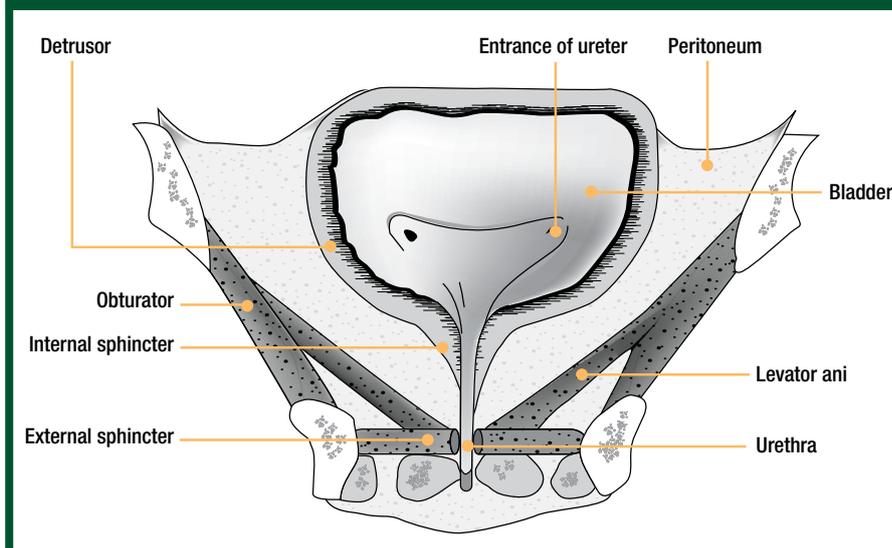
ASSESSMENT OF THE OLDER PERSON WITH BLADDER DYSFUNCTION

When assessing the older person with incontinence or bladder dysfunction, a holistic and comprehensive approach is essential. It is important not to have any preconceived thoughts as to causes.

The person may be embarrassed and ashamed, and therefore time should be set aside to talk about their feelings. The underlying cause is often multifactorial and the nurse has to undertake the role of detective to try to identify it.

It is advisable to use an assessment tool to guide the assessment process and ensure that all the essential information is gathered. This is vital if a balanced judgement about the

FIG 1. THE BLADDER



cause of the problem is to be made.

The bladder record diary has been cited as the single most valuable tool in assessing urinary incontinence (Norton, 2001). NICE (2006) recommends maintaining a three day bladder diary (Box 1, p22).

Symptoms of urgency, frequency and nocturia and urge incontinence are all indicative of an overactive bladder, while leaking on coughing, sneezing and exertion are more likely to suggest stress urinary incontinence.

The amount and type of fluid drunk can affect continence. Drinks containing caffeine, such as coffee and tea, or alcohol may cause increased urgency and frequency and it may be helpful to reduce this type of fluid (Wilson et al, 2005). However, total fluid intake should be 2L a day.

Urinalysis is an essential part of a continence assessment, providing valuable information that can lead to a diagnosis or disprove a suspected condition. It is advisable to dip test urine with a multiproperty reagent stick to detect any abnormalities.

A detailed medical and surgical history should be taken, as well a list of all medications, including over the counter medications. The potential side effects of these should be checked to find out if the bladder symptoms may be related to them.

A bladder scan should be taken to assess post-micturition residual bladder volume of urine. There is no evidence-based agreed specific maximum post residual volume that is considered normal or a minimum post residual volume that is considered abnormal.

When assessing the significance of a bladder residual volume, it is important to look at the bladder function and symptoms before considering any intervention such as intermittent catheterisation.

With an older person's informed consent, it may be appropriate to undertake a vaginal or digital rectal examination. This should only be done by a practitioner who has been trained and is competent in the procedure. Such an examination can determine the strength or weakness of the pelvic floor muscles, and also identify conditions such as prolapse, vaginal atrophy, constipation and BPH. The modified Oxford grading system may be used to grade the strength and endurance of the pelvic floor muscles (Laycock and Haslam, 2002).

An abdominal examination should be undertaken by a doctor or nurse practitioner to exclude an abdominal mass and, in men, a digital rectal examination is carried out to assess the prostate gland. The doctor may also take blood to measure the prostate specific antigen (PSA) which, if raised, may indicate prostate cancer.

In people known to have problems with cognitive function, for example if they have dementia, their ability to recognise the need to void and that the toilet is the appropriate place to void should be assessed.

It is also important to assess people's ability to reach the toilet unassisted and, if not, whether they have appropriate help.

For people with mobility problems, for example as a result of a stroke, a functional assessment should be undertaken to ensure

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that they can access the toilet, commode or urinal independently and, if not, that help is readily available.

PLAN OF CARE FOLLOWING ASSESSMENT

A good assessment will help to identify any underlying causes of the incontinence and enable treatment to be initiated. The options should be discussed with the older person, their willingness and ability to participate in self-help strategies assessed and a clear explanation should be given to the individual and/or carer.

Patients' preferences for care must be established and the care plan individualised with patient-centred goals (Fonda et al, 2005). In frail older people, some interventions may be inappropriate, but advanced age alone should not preclude treatment if the assessment identifies that it is necessary (Fonda et al, 2005).

Conservative therapies such as bladder retraining, ensuring a good fluid intake, reducing caffeine, constipation management and pelvic floor exercises are effective.

Referral to a urotherapist may be advisable for further pelvic floor assessment and re-education if the pelvic floor muscles are weak.

There is evidence that prompted voiding during the daytime for older people in care homes is effective (Fonda et al, 2005).

Older men with benign prostate disease may be managed with medication, for example alpha-blockers. Those with early prostate cancer may be carefully monitored with regular blood tests for PSA, digital rectal examination and observation of symptoms. Other treatment options include

BOX 1. BLADDER DIARY

A well completed bladder diary provides useful information to support the assessment process and it is worth spending time explaining how to complete it to the patient or carer. When reviewing the bladder diary, the following should be observed:

- Number of voids per day;
- Number of voids at night;
- Maximum void;
- Minimum void;
- Average void;
- Number of incontinent episodes and degree of wetness;
- Fluid intake and type.

surgery and radiotherapy. Advanced prostate cancer may be treated with hormonal therapies and the symptoms monitored.

Antimuscarinic drugs for overactive bladder should be prescribed with caution in older people because of the risk of interactions with other medications, the effect of coexistent disease and the risk of side effects such as impaired cognitive function (Wagg, 2007).

There is trial evidence in the following for frail older people:

- Darifenacin;
- Oxybutynin, modified release;
- Solifenacin;
- Tolterodine (Wagg, 2007).

NICE (2006) recommends the use of topical oestrogen for vaginal atrophy and reported that it could also improve symptoms of frequency, dysuria and urge or stress urinary incontinence.

Surgery should only be considered after conservative therapies have been tried (NICE, 2006). Age is not a barrier to incontinence surgery. However, older people, particularly those who are frail, are susceptible to delirium and loss of mobility post-operatively, so pre-operative assessment and careful post-operative care is essential to minimise complications (Fonda et al, 2005).

CONCLUSION

Older people are more susceptible to incontinence and this can have a huge impact on their daily activities.

A holistic assessment by a nurse who has a good understanding of the complex nature of incontinence in older people can identify the causative factors and enable an appropriate plan of treatment to be initiated.

For many individuals this will result in a cure or improvement in their incontinence, which will help both the patient's and their carer's quality of life. ●

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