# Urinary incontinence

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# Urinary incontinence

- Urinary incontinence is defined as the involuntary loss of urine that is objectively demonstrable and is a social or hygienic problem. It is increasingly prevalent as the ageing population expands. It affects an individual's physical, psychological and social well-being and is associated with a significant reduction in quality of life. The prevalence increases with age, with approximately 5 per cent of women between 15 and 44year and approximately 20 per cent of those older than 65 years. It is even higher in women who are institutionalized and may affect up to 40 per cent of those in residential nursing homes

# Common symptoms associated with incontinence

- • Stress incontinence is a symptom and a sign and means
- loss of urine on physical effort It is not a diagnosis
- • Urgency means a sudden desire to void
- • Urge incontinence is an involuntary loss of urine
- associated with a strong desire to void
- • Overflow incontinence occurs without any detrusor activity when the bladder is overdistended
- • Frequency is defined as the passing of urine seven or
- more times a day, or being awoken from sleep more than
- once a night to void

# Classification of incontinence

- **Urethral causes**
  - Urethral sphincter incompetence (urodynamic stress incontinence)
  - Detrusor overactivity or the unstable bladder – this is either neurogenic or non-neurogenic
  - Retention with overflow
  - Congenital causes
  - Miscellaneous
  - Extraurethral causes
  - Congenital causes
  - Fistul

# Urethral causes
# *Urodynamic stress incontinenc*

- *Urodynamic stress incontinence*
  Urodynamic stress incontinence (USI), previously called genuine stress incontinence, is noted during filling cystometry, and is defined as the involuntary leakage of urine during increased abdominal pressure in the absence of a detrusor contraction

- The aetiology of USI is thought to be related to a number of factors:
  - Damage to the nerve supply of the pelvic floor and
  urethral sphincter caused by childbirth leads to progressive changes in these structures, resulting in altered function. In addition, mechanical trauma to the pelvic floor musculature and endopelvic fascia and ligaments occurs as a consequence of vaginal delivery. Prolonged second
  stage, large babies and instrumental deliveries cause the most damage.

- • Menopause and associated tissue atrophy may also cause damage to the pelvic floor.
  • A congenital cause may be inferred, as some nulliparous women suffer from incontinence. This may be due to altered connective tissue, particularly collagen. Stress incontinence is much less common in black women and differences in connective tissue are thought to be responsible.
  • Chronic causes, such as obesity and chronic obstructive pulmonary disease, raise interabdominal pressure, and constipation and associated straining may also result in problems

# Symptoms

- Stress incontinence is the usual symptom, but urgency, frequency and urge incontinence may be present. There may also be an awareness of prolapse. On clinical examination, stress incontinence may be demonstrated when the patient coughs. Vaginal examination should assess for prolapse and, in particular, the vaginal capacity and the woman's ability to elevate the bladder neck, as this may alter management. It is not unusual to find a cystourethrocele in women with stress incontinence, but there is no causal relationship.Urodynamic studies will define the cause of incontinence and are particularly important when there has been a previous, unsuccessful continence operation or if the symptomatology is complex

# Detrusor overactivity

- Detrusor overactivity, previously called detrusor instability, is a urodynamic observation characterized by involuntary detrusor contractions during the filling phase which may be spontaneous or provoked

# Understanding the pathophysiology

- **Detrusor overactivity**
  The pathophysiology of detrusor overactivity is poorly understood and the aetiological factors require substantiation
  Poor toilet habit training and psychological factors have been implicated More recently, there have been suggestions that urinary tract infection may be a trigger, but further research is required
  The largest group of women with this condition have an idiopathic variety which is more prevalent after the menopause Childhood enuresis increases the likelihood of developing symptoms of overactivity
  Neuropathy appears to be the most substantiated factor
  Incontinence surgery, outflow obstruction and smoking are also associated with detrusor overactivit

# *Symptoms*

- The combination of symptoms of urgency, frequency and nocturia is termed the overactive bladder (OAB) syndrome with (OAB wet) or without (OAB dry) urgency incontinence, in the absence of urinary tract infection or other obvious pathology. Urgency is the complaint of a sudden, compelling desire to void which is difficult to defer. This group of symptoms has a much more deleterious effect on quality of life than stress incontinence. Women with OAB are more restricted and often map their journeys around the location of toileting facilitie

- *Examination*
  Any masses that cause compression of the bladder must be excluded and prolapse must be examined for, as this may cause some of the symptoms. If there is vaginal atrophy, this may also cause some urgency and frequency. Observation of involuntary loss of urine from the urethra, synchronous with coughing, may suggest stress incontinence.
  Observation of urine leakage through channels other than the urethra may suggest a congenital anomaly or fistula

# Retention with overflow

- nsidious failure of bladder emptying may lead to chronic retention and, finally, when normal voiding is ineffective, to overflow incontinence. The causes
  may be:
  • lower motor neurone or upper motor neurone lesions
- • urethral obstruction;
  • pharmacological.
  The patient may be aware of and present with increasing difficulty in bladder emptying or she may present only with frequency. Ultimately, normal emptying stops and a stage of chronic retention with overflow develops

# Symptoms

- Symptoms include poor stream, incomplete bladder emptying and straining to void, together with overflow stress incontinence. Often, there will be recurrent urinary tract infection.
  Cystometry is usually required to make the diagnosis, and bladder ultrasonography or intravenous or CT (computed tomography) urogram may be necessary to investigate the state of the upper urinary tract to exclude reflux

# Urinary tract infection

- Acute and chronic urinary infections are important and avoidable sources of ill health among women. The short urethra, which is prone to entry of bacteria during intercourse, poor perineal hygiene and the occasional inefficient voiding ability of the patient and unnecessary catheterizations are all contributory factors. Post-menopausal atrophy and change in vaginal pH may predispose to recurrent urinary tract infection (UTI) due to vaginal colonization of coliform bacteria

- A significant urinary infection is defined as the presence of a bacterial count of the same organism/ mL of freshly plated urine. On microscopy, there are usually red blood cells and white blood cells. The common organisms are *Escherichia coli, Proteus mirabilis, Klebsiella aerogenes, Pseudomonas aeruginosa* and *Streptococcus faecalis*. These gain entry to the urinary tract by a direct extension from the gut, lymphatic spread via the bloodstream or transurethrally from the perineum. Symptoms include dysuria, frequency and occasionally haematuria. Loin pain and rigors and a temperature above 38°C usually indicate that acute pyelonephritis has developed

- A culture and sensitivity of midstream specimen of urine is required. Intravenous or CT urography or renal ultrasonography may be required in patients with recurrent infection to define anatomical or functional abnormalities.
  With acute urinary infection, once a midstream urine specimen has been sent for culture and sensitivity, antimicrobial therapy can begin. If the patient is ill, the treatment should not be delayed and an antimicrobial drug regimen can be started immediately. The regimen can be changed later according to the results of the urine culture and sensitivity. Commonly used drugs include trimethoprim 200 mg twice daily or nitrofurantoin 100 mg four times daily or a cephalosporin.
  Recurrent urinary tract infection for which an identifiable source has not been found may be managed by long-term low-dose antimicrobial therapy, such as trimethoprim. Recently, ciprofloxacin

- and norfloxacin have proved effective. There is sound evidence that vaginal oestrogen treatment can reduce recurrent urinary infections in post-menopausal women.
  It is important to treat urinary tract infections effectively, especially in younger women. The development of acute pyelonephritis during pregnancy can be a cause of fetal morbidity.