6.9 Bladder and bowels 589

6.9 Bladder and bowels 589

ESSENTIALS Urinary incontinence Urinary incontinence is not an inevitable consequence of ageing. Its impact on social, psychological, and physical well-being is com- parable to that of other chronic conditions such as diabetes and dementia. The different types of urinary incontinence are identified on the basis of history (including a bladder diary), clinical examination (par- ticularly abdominal and pelvic), and investigation (including urinary dipstick to check for infection and measurement of post-void re- sidual volume). Treatment should be based on realistic patient-related goals and follow the principles of comprehensive geriatric assessment. Depending on the type of incontinence, reduction in caffeine in- take, bladder training, pelvic floor exercises, medication (particu- larly antimuscarinic agents and β-3 agonists), and (rarely) surgery may be used. Targeted rehabilitation, adaptation of the environ- ment, and the provision of toileting aids and equipment are part of the overall treatment package. Constipation and faecal incontinence Constipation, including symptoms of evacuation difficulty and/or fewer bowel movements, is a common problem as people age. Risk factors include problems in cognition, mobility, gastrointes-tinal motility, dysautonomia, anorectal dysfunction, and disabling neurologic disorders.
A systematic case finding and diagnostic ap- proach is therefore essential. Common precipitants of constipation include low fluid volume intake, acute illness, anticholinergic medi- cations, and iron supplementation. Evidence-based approaches to treatment include increased fluid intake, increased dietary fibre, physical exercise, and abdominal massage. A systematic stepped approach to laxative treatment starts with well-established cheaper products before proceeding to more expensive alternatives. Faecal impaction with hard or soft stool can result in overflow diarrhoea, hence the presenting complaint can be misleading. Faecal incontinence is more common in frail individuals but is often assessed inadequately. The cause is often multifactorial. Treatment depends on the cause: a combination of approaches may be necessary, including avoidance of faecal impaction, instiga- tion of a structured bowel care plan including regular prompted toi-leting, dietary modification, and (in some cases) use of loperamide or similar medications. Urinary incontinence Introduction Urinary incontinence (UI) is the involuntary leakage of urine. Its prevalence increases with age due to age-related changes in the urinary tract and the functional impact of other comorbidities on the process of toileting. Urinary incontinence is not, however, an inevitable consequence of ageing. This misconception should be actively challenged by healthcare professionals as it may prevent an individual patient from seeking treatment. The maintenance of continence is associated with many factors. The concept of social continence (i.e. to void in a socially acceptable place at a socially acceptable time) highlights the impact of cogni- tive, physical, and environmental aspects. Urinary incontinence in the older adult should therefore be treated as a ‘geriatric syndrome’ and comprehensive geriatric assessment should be undertaken.

This should include an assessment of functional status, environ- ment and a medication review. The impact of urinary incontinence on social, psychological, and physical well-being is comparable to that of other chronic condi- tions such as epilepsy or a stroke. The frail older adult rarely pre- sents in isolation and the need for assistance with toileting and hygiene can have a considerable impact on the quality of life of the carer too. This associated carer burden can occur in both the home and in the institutional setting. This can lead to negative percep- tions of the older adult by the carer as well as a detrimental effect on the carer's well-being. The presence of urinary incontinence in association with other comorbidities can increase the associated burden of these diseases. It has been consistently shown that treatment of urinary incon- tinence in the older adult is more cost-effective than containment alone, and that the older adult will benefit from assessment and 6.9 Bladder and bowels Susie Orme and Danielle Harari

590 Section 6 Old age medicine treatment. Such benefits include being able to stay in their domicile of choice, maintenance of their social functioning, and ability to perform instrumental activities of daily living. Epidemiology The prevalence of urinary incontinence is likely to be higher than estimated due to low rates of help seeking behaviour. Defining prevalence by age alone is also unhelpful because of the diversity within the population of over 65's across the world, and within countries fitter community-dwelling older people differ signifi- cantly in their functional and cognitive ability from the frailer, in- stitutionalized older population. In 1993, UK MORI showed a lifetime prevalence of urinary incontinence at any age of 6.6% in men and 14% in women. There was a steady increase in incidence with age, with urinary incontinence being more prevalent in women at all ages. The Newcastle Cohort 85+ study in 2009 reported an incidence of severe urinary incontinence (weekly or more) of 21%. Overall the literature would suggest a prevalence of 15–30% of weekly episodes of urinary incontinence for fitter community-dwelling older adults, and 50–80% among those in institutional care. The higher incidence of urinary incontinence among the frailer in- dividuals in institutional care demonstrates the impact of cog- nition, comorbidities, and functional status on the ability to maintain continence. Aetiology—maintenance of continence 'Social continence' is a learnt skill. We learn as children the need to void in a socially appropriate place and at a socially appropriate time. The ability to do this depends on many factors outside the lower urinary tract. In particular, cognitive function, mobility, and manual dexterity are important. If we consider the stages involved in the maintenance of social continence it is easier to appreciate how any functional impairment may influence the ability of an in- dividual to stay dry. • Recognition of the sensation and need to void—when we have the initial sensation to void we need to control this urge until a suitable place to void is found. This requires an intact and nor- mally innervated bladder, sphincter, and pelvic floor. We require significant cognitive function and sensory awareness to be able to identify a socially acceptable place. • Ability to communicate the need to toilet—if assistance is re- quired, the ability to summon and the availability of that assist- ance will influence toileting. This is a particular consideration for those who require help. • Functional motor ability—ability to get to the toilet quickly enough and sufficient manual dexterity to be able to remove lower body garments and sit on the toilet safely. • Ageing changes affecting voiding—age-related changes in the lower urinary tract predispose to greater difficulty maintaining continence. Increased collagen deposition in the urethral and bladder walls result in decreased urethral closing pressure and reduced functional bladder capacity respectively. Prostatic volume increases with age and may affect the voiding stage of micturition. Atrophic vaginitis in postmenopausal women can exacerbate urinary incontinence and increase the tendency towards recurrent urinary tract infections. Ageing reduces the production of antidiuretic hormone by the

pituitary, which along with changes in the renal medulla leads to the reduced renal concentrating ability with age. Increased production of atrial natriuretic peptide also occurs. These factors result in the ten- dency to troublesome nocturia associated with nocturnal poly- uria, passing more than one-third of total voided volume during night-time hours. • Pathological causes of voiding difficulty—only this last stage is influenced directly by the lower urinary tract: the features and causes are described next. Clearly environmental and physical factors and intercurrent illnesses may impact on the ability to sequence the stages given here. Addressing these factors may help reduce or prevent incon- tinent episodes. Clinical assessment Clinical history A focused clinical history should include asking about the spe- cific symptoms of lower urinary tract dysfunction. Table 6.9.1 describes the relevant symptoms associated with bladder storage changes and Table 6.9.2 the symptoms during and after mic- turition. Table 6.9.3 describes the clinical types of incontinence based on the clinical features. The duration and severity of the symptoms should be noted, and specific reasons why the patient sought treatment at that time. The history should also include a detailed social history, includ ing access to toileting facilities, ability to attend to lower body hygiene, and the need for carers to aid toileting. Obstetric history in women should be noted, including parity, instrumental delivery, and any birth complications. Any history of abdominal or pelvic surgery in both men and women should be recorded. A detailed bowel history including any effect that constipation has on lower urinary tract symptoms (LUTS), and the presence of any coexisting faecal incontinence should be elucidated. A re- cord of pad usage and any financial burden associated with the purchase of pads should be recorded. The impact on the carer and assessment of carer burden should also be sought. Drug history is important as many pharmacological agents can affect lower urinary tract symptoms, as shown in Box 6.9.1.
Table 6.9.1 Lower urinary tract symptoms (bladder storage symptoms) Symptom Definition Daytime urinary frequency Increased frequency of micturition during waking hours—more than patient previously felt was normal, ie associated with bother Nocturia The need to micturate one or more times that interrupts and awakens from sleep Urgency Complaint of a sudden compelling desire to pass urine that is difficult to deter Overactive bladder syndrome (OAB) Urinary urgency with increased frequency and nocturia, with or without urinary incontinence, in the absence of UTI or other pathology UTI, urinary tract infection.

 Bladder diary From the history alone, it can be difficult to ascertain the timing of voids and incontinence episodes. A bladder diary is a useful tool to obtain more reliable information. A gold standard ‘bladder diary’ is completed for three consecutive days and records volumes of fluid and food intake, as well as voided volume, episodes of urinary incontinence, and pad changes. This can be a challenge for a frail, older adult to complete, especially in the presence of cognitive im- pairment or functional needs that require the presence of carer to toilet. However, a useful amount of information can be obtained by recording the number and type of drinks (e.g. ‘mug of tea’), and recording when voids are in the toilet and when incontinence epi- sodes occur. It is better to obtain some indication of the voiding pattern of the patient rather than none. In those with severe cognitive impairment, recordings of the vol- umes of and types of fluid drunk and hourly wet checks by day and night can be helpful in obtaining an underlying diagnosis. Useful materials to document bladder activity can be obtained from the International Consultation on Urological Diseases website. Clinical examination A useful assessment of the patient’s functional and mobility status can be made watching their ability to walk over to the couch and undress for the rest of the examination. A record of body mass index should be made. Abdominal examination for evidence of previous surgery, palpable masses, or faecal impaction should be performed.

Examination of the external genitalia should look for signs of Candida infection, contact dermatitis, vaginal atrophy, and skin conditions such as lichen planus. Digital rectal exam- ination (PR) is indicated to check anal tone, the presence of hard stool in the rectum and to perform prostate examination in men. Prolapse may be visible at the introitus. Per vaginal examination should be performed, including asking the patient to cough to demonstrate any prolapse of the vaginal walls and to demonstrate stress incontinence. Cognitive assessment is advised in the frail. The abbreviated mental test score is useful and if less than or equal to 7/10, pro- ceeding to more detailed assessment may be appropriate. Clinical investigations Urine dip stick +/- mid-stream urine culture and sensitivity The presence of coexisting urinary tract infection (UTI) can ex- acerbate urinary incontinence, although treatment of UTI alone is rarely sufficient to cure the urinary incontinence. The purpose of the urine dip is also to help exclude 'red flags', including the pres- ence of haematuria or significant pyuria in the absence of infection. These would indicate the need for further investigation of the lower urinary tract including ultrasound imaging and cystoscopy. Table 6.9.2 Voiding and post-micturition symptoms Symptom Definition Hesitancy Complaint of a delay in initiating micturition Slow Stream Complaint of a urinary stream perceived as slower than previously or in comparison to others Straining to void Complaint of the need to make an intensive effort to initiate, maintain, or improve urinary stream Feeling of incomplete bladder emptying Complaint that the bladder does not feel empty after micturition Need to immediately re-void Complaint that further micturition is necessary soon after passing urine Post-micturition leakage Complaint of a further involuntary passage of urine following completion of micturition Postural dependent micturition Complaint of having to take up specific postural positions to improve bladder emptying Dysuria Complaint of discomfort during or after micturition. Discomfort may be felt internally or externally (external genitalia) Urinary retention Complaint of the inability to pass urine despite persistent effort Table 6.9.3 Urinary incontinence by type Symptom Abbreviation in text Definition Urinary incontinence UI Involuntary loss of urine Stress urinary incontinence SUI Involuntary loss of urine on physical examination, sneezing, or coughing Urgency urinary incontinence UUI Involuntary loss of urine associated with urgency Postural urinary incontinence PUI Involuntary loss of urine associated with change of body position Nocturnal enuresis Involuntary loss of urine occurs during sleep Mixed urinary incontinence MUI Involuntary loss of urine associated with urgency and also physical examination, sneezing, or coughing Continuous urinary incontinence CUI Continuous involuntary loss of urine Insensible urinary incontinence IUI Urinary incontinence where patient is unaware of how it occurred Functional urinary incontinence FUI Urinary incontinence due to decreased motivation, initiative, or ability to get to the toilet when the need arises Box 6.9.1 Medications impacting bladder function and continence • Alcohol • α-adrenergic agonists (e.g midodrine, pseudoephedrine) • α-blockers (e.g. doxazosin, tamsulosin) • ACE inhibitors (e.g. ramipril, lisinopril) • Caffeine • Cholinesterase inhibitors (e.g. donepezil, rivastigmine) • Diuretics (e.g. bendrofluazide, furosemide, bumetanide) • Anticholinergic drugs • Oral oestrogen therapies (e.g. hormone replacement therapy, HRT) • Opioids (e.g. codeine, morphine, tramadol) • Sedatives and hypnotics (e.g. benzodiazepines, zopiclone)

 Post-void residual volume The measurement of post-void residual volume is a simple non- invasive test using ultrasound. There is no agreed cut-off point to define an acceptable post-void residual volume, but in the ab- sence of symptoms an amount less than 200 ml is likely to be so. Post-void residual volume increases in the presence of severe constipation with faecal impaction, also with medications with anticholingeric effects. Both of these causes are

common within a frail, older population. Urodynamics Multichannel cystometry (with or without video screening) is no longer recommended for the diagnosis of urinary incontinence, but it may be advisable before surgical intervention is undertaken and should form part of a multidisciplinary team assessment of the patient. Differential diagnosis Table 6.9.4 indicates clinical diagnosis by history, examination, and clinical investigations. The impact of multimorbidity Tables 6.9.5 and 6.9.6 indicate the association of urine incontin- ence with other diseases and the additional disease burden exacer- bated by urinary incontinence. Treatment The aims of treatment should be based on patient-related goals and follow the principles of comprehensive geriatric assessment. Expectations and priorities of the patient and carer regarding treatment goals can be explored during the initial consultation (e.g. 'I want to sleep better at night without having to get up and go to the toilet'). Goal settings should be realistic and the patient and carer should be fully informed. Targeted rehabilitation, adap- tation of the environment, and the provision of toileting aids and equipment are part of the overall treatment package. Guidance on assessment and diagnosis with a flow chart illustrating the management of urinary incontinence in frail, older men and women is available from the International Consultation on Urological Diseases. The aim of treatment in the very frail may involve goals of being 'less wet' or 'sleep better at night' rather than complete dryness. Treatment is always more cost effective than containment alone and is beneficial for both the individual and for the greater healthcare economy. The National Institute for Health and Care Excellence (NICE) have produced evidence-based and cost-effective treatment guides specifically with reference to four patient groups. They are as follows; • NICE CG97. Lower urinary tract symptoms in men: Management. https://www.nice.org.uk/guidance/cg97 • NICE CG148. Urinary incontinence in neurological disease: Assessment and management. https://www.nice.org.uk/guidance/ cg148 • NICE CG171. Urinary incontinence in women: Management https://www.nice.org.uk/guidance/cg1471 • NICE TA290. Mirabegron for treating symptoms of overactive bladder https://www.nice.org.uk/guidance/ta290 Specific treatment is related to the subtypes of urinary incontin- ence. The following discussion is an overview of current conserva- tive and pharmacological options. Surgical interventions are not discussed in detail and should be considered only after a multidis- ciplinary team review. Conservative management and lifestyle modification Reduction in caffeine intake while maintaining adequate hydration is effective for the symptoms of overactive bladder. Mixed urinary incontinence should also be treated with reduction in caffeine in- take in the first instance. Teaching the bladder to 'hold on' is a useful cognitive behav- ioural therapy technique formally known as bladder training. This is effective in cognitively intact patients, but in cognitively Table 6.9.4 Diagnosis by clinical factors, history, examination, and clinical investigations Diagnosis History Examination and Investigations Treatment Stress UI Leakage on coughing, straining activity Signs of prolapse in women, vaginal atrophy. Bladder diary indicates UI episodes but no frequency Pelvic floor exercises. Adequate fluid intake, caffeine reduction, surgical intervention after MDT. Treat constipation Overactive bladder Urgency. Bothersome frequency. Urgency incontinence, nocturia Multiple small voids + episodes of UI by day and night on bladder diary Pelvic floor exercises, caffeine reduction, bladder retraining, prompted voiding, time voiding, antimuscarinics, β3 agonists, treat constipation, Botulinum toxin, sacral neuromodulation Mixed UI Symptoms of both stress UI and OAB As above Treat predominant symptoms first, pelvic floor exercises, adequate fluid intake, bladder retraining, antimuscarinics, β3 agonists Incontinence associated with incomplete bladder emptying Possible insensible losses, nocturnal incontinence, postural leakage Signs of faecal impaction, possible palpable bladder, raised PVR on ultrasound, episodes of UI by day and night Treat constipation, adjust anticholinergic burden, intermittent or indwelling catheter

(patient choice) Nocturia predominant associated with reversed nocturnal diuresis Small volumes by day, multiple voids at night, nocturia, and sleep disturbance Signs of CCF and peripheral oedema may be present, small voids by day on bladder diary, multiple large volume voids at night-time Adequate fluid intake, caffeine reduction, Loop diuretics taken prior to bedtime (4–6 hours beforehand if furosemide). Active night-time toileting CCF, congestive cardiac failure; OAB, overactive bladder syndrome; MDT, multidisciplinary team meeting; PVR, post-void residual urine volume; UI, urinary incontinence.

6.9 Bladder and bowels 593 impaired patients, time intervals between voiding or intentional toileting after meals can reduce the episodes of urinary incontin- ence in the day time, but is unlikely to make people completely dry. Pelvic floor exercises Pelvic floor exercises are effective in both stress urinary incontinence and mixed urinary incontinence. It is advised that they are taught by a professional, rather than simply by giving the patient a leaflet, and that it is ensured the patient has significant cognition to ensure the instructions are followed correctly. Pelvic floor exercises are effective in women of all ages provided they are performed correctly. Containment products and toileting aids Containment products should be used as an adjunct to definitive diagnosis and treatment of the underlying cause of the urinary in- continence rather than a primary solution. They are, however, ne- cessary if the patient is likely to remain wet due to multifactorial reasons including functional and cognitive status that would stop treatment making them completely dry. Table 6.9.5 Conditions contributing to urinary incontinence Condition Type of incontinence Notes Dementia Urge incontinence Functional incontinence Causes UI by variety of mechanisms: a) Decreased motivation and initiative to go to the toilet b) Social disinhibition c) Decreased executive function d) Immobility or gait disturbance e) Severe autonomic failure (Lewy body dementia) Stroke Urge incontinence Functional incontinence Urinary retention Varying effects on bladder and bowel function, mobility, and functional ability to toilet UI post stroke often improves over time. Uncommon but poor prognostic indicator for those in whom it persists Parkinson’s Functional incontinence Urge incontinence Also autonomic failure in ‘Parkinsons plus’ syndromes Delirium Functional incontinence Urinary retention Delirium can be associated with detrusor underactivity or bladder outflow obstruction causing urinary retention (‘cystocerebral syndrome’) as well as infection causing UI Normal pressure hydrocephalus Urge incontinence Incontinence, gait, and cognitive deficits Potentially reversible with VP shunt Anxiety and depression Functional incontinence Can result from incontinence Less motivation to stay continent Can also cause mildly impaired cognition Arthritis Functional incontinence Urge incontinence Diabetes Functional incontinence Polyuria in poorly controlled DM Peripheral neuropathy Autonomic neuropathy Increased susceptibility to UTI Peripheral oedema (heart failure, venous insufficiency, medications) Nocturia Nocturnal polyuria Nocturnal enuresis Overnight reabsorption of peripheral oedema causing increased circulating volume and increased nocturnal urine production. Increased ANP levels secondary to myocardial stretch from increased circulating volume may also contribute to increased nocturnal urine production Constipation and faecal impaction Combined faecal and urinary incontinence Urge incontinence Urinary retention Outflow tract obstruction causing urge incontinence from detrusor overactivity Straining can result in weakened pelvic floor muscles COPD Stress incontinence Cough can exacerbate stress incontinence ANP, atrial natriuretic peptide; DM, diabetes mellitus; COPD, chronic obstructive pulmonary disease; UI, urinary incontinence; UTI, urinary tract infection; VP, ventriculoperitoneal. Table 6.9.6 Consequences of bladder dysfunction and urinary incontinence Condition Notes Depression
and anxiety Also reduced quality of life and social isolation Falls and fractures Falls and fractures

can result from UI, especially UUI and OAB Nocturia Nocturia can result in daytime sleepiness, and have an adverse effect on cognition. It is associated with an increased falls risk of between 10–20% with two or more voids per night, as well as an increased fracture risk and nocturnal enuresis Pressure area sores UI is an important feature in the development of pressure area sores, and slows their healing. Can also cause skin rashes and dermatitis Urinary tract infection UTI is associated with chronic urinary retention, as well as indwelling catheters and condom (convene) drainage systems OAB, overactive bladder syndrome; UI, urinary incontinence; UTI, urinary tract infection; UUI, urgency urinary incontinence.

594 Section 6 Old age medicine Many devices and pads are available, although provision and re-imbursement or free availability does vary internationally and (in the United Kingdom) locally. Patient choice should be respected where possible. A useful website is the ‘Continence Products Advisor’, a collaboration between the International Consultation on Incontinence (ICI) and the International Continence Society. Catheters Indwelling catheters are not a viable long-term option for urinary incontinence. There is a high risk of catheter associated urinary tract infection, bypassing, and local trauma to the peri-urethral area. For patients with urinary incontinence associated with in- complete bladder emptying, intermittent catheterization is pref- erable. This can be performed by the patient if cognition and dexterity allows, but if necessary a carer or healthcare professional can be trained to provide the procedure. Catheter valves including ‘flip-flow valves’ allow a filling and emptying cycle during the daytime if the patient has significant cognition and function to be able to open and close the valve. Either this or a suprapubic catheter is preferable if long-term cath- eterization is unavoidable. The risks of catheter-associated UTI are less with suprapubic catheterization, and this has less of an impact on sexual function. Pharmacological treatments Antimuscarinic agents Muscarinic M3 receptors initiate bladder contraction, and there are cholinergic receptors (M1-M5) at many other sites in the body, including the salivary glands, bowel, and central nervous system. Anticholinergic medication blocking these other sites causes side effects, dry mouth and constipation being the most common. Anticholinergic medication acting centrally can cause central nervous system (CNS) side effects. These drugs enter the central nervous system passively via the blood brain barrier (the higher the degree of lipophilicity the greater the penetration), and they are actively removed via P-glycoprotein 1 transport (also known as multidrug resistance protein 1, which pumps many foreign substances out of cells), hence an antimuscarinic with a high lipophilicity and a low affinity as pump substrate increases the risk of CNS related side effects including confusion (both acutely and chronically). Oxybutynin is a highly liphophilic antimuscarinic with a low P-glycoprotein 1 substrate affinity, which is why NICE recommends it not be given to very frail older women. However, all antimuscarinics have the potential to cause confusion, hence initiation of this medica- tion should accompany a medication review that takes into account overall anticholinergic burden. A high total anticholingeric load may be associated with progressive effects on cognition over time. Estimation of this overall anticholinergic burden of multiple medi- cations can be done with on line support (see further reading). The importance of medication review indicates the need for comprehen- sive geriatric assessment in the treatment as well as the diagnosis of urinary incontinence in the frail older adult. β-3 agonists β-3 adrenergic receptors inhibit bladder contractions. β-3 agonists have been shown to have similar efficacy to antimuscarinics in the treatment of overactive bladder. If other medication the frail older adult is taking means that the anticholinergic load cannot be re- duced, and they would be the first line option for pharmacological treatment for those in whom an antimuscarinic is not tolerated or is contraindicated. α-blockers α-1 adrenergic receptors promote

contraction of the bladder neck, urethra, and prostate to enhance bladder outflow resistance, particularly in elderly men with enlarged prostates. α-blockers are the first-line pharmacological agent for men with bothersome lower urinary tract symptoms if conservative measures are unsuccessful or not appropriate. Desmopressin Patients with nocturnal polyuria may benefit from use of oral or nasal desmopressin (an antidiuretic hormone (ADH) analogue) before bedtime if other medical causes have been excluded and they have not benefitted from other treatments. 5-α reductase inhibitors Androgens cause cellular proliferation, decrease in apoptosis, and promote angiogenesis within the prostate. 5-α reductase inhibi- tors block the conversion of testosterone to dihydrotestosterone and thereby mitigate the effects of androgens. They are offered to men with bothersome lower urinary tract symptoms and a prostate estimated to be larger than 30 g or a serum prostate-specific antigen (PSA) greater than 1.4 ng/ml. Surgical interventions Detailed description of surgical procedures is beyond the scope of this chapter, but surgical intervention should be considered only after discussion at a multidisciplinary team meeting (MDT). Sacral neuromodulation with an implantable device is a recommended option for intractable overactive bladder. Botulinum toxin is also recommended, but the optimum dosage and interval between treatments is not clear. Because of the risk of retention the patient must be able to perform intermittent self-catheterization before being accepted for the procedure. Future developments The quality of investigation and management of urinary incontin- ence is suboptimal in most if not all countries, including the English National Health Service (NHS), as evidenced by national audits. Men are generally more reluctant to come forward, and those with lower urinary tract storage symptoms are consistently undertreated. This is likely to be due to concerns regarding the risk of medica- tion induced urinary retention, but studies have shown that the risk has been exaggerated and may be less than 2%. If both storage and voiding problems are present, coprescription of a selective α-blocker and an antimuscarinic is recommended. There has been an increased body of evidence in recent years that maintenance of continence is as reliant on central control as it is on the lower urinary tract. As we are beginning to understand the cognitive aspects of maintaining continence, the options for treat- ment will become more diverse and more tailored to the needs of the individual. The challenge of an ageing population within the western world means that the personal, social and economic burden of urinary

6.9 Bladder and bowels 595 incontinence cannot be ignored. The pattern of help-seeking behaviour in the ‘baby boomers’ means that we are likely to see an increase in patients presenting for treatment or screening and treatment. Constipation and faecal incontinence Introduction Constipation is a common concern for adults beyond age 60, re- flected by more primary care consultations and increasing laxative use. Older people reporting constipation are more likely to have anxiety, depression, and poor health perception and quality of life. In frail older people, constipation can lead to faecal impaction and incontinence, urinary retention, delirium, and hospital admission. Faecal incontinence is distressing, often leading to embarrassment and social isolation, adding to the risks of poor mental health, dependency, and mortality. It is also a particular challenge to in- formal carers, and may be the ‘final straw’ leading to nursing home admission. Despite all this, both constipation and faecal incontin- ence are under-reported, in part because many doctors are found to make light of the issues, and offers of high-quality empathic advice are infrequent. Constipation and faecal incontinence are also costly conditions, particularly on laxatives and community nursing time. National and international guidance have emphasized the importance of identifying treatable causes of faecal incontinence in frail older people, rather than simply offering pads, but in the UK audit shows that professional assessment and care is often

lacking, and it is likely that the same applies elsewhere. Definitions Use of standardized definitions such as the Rome III criteria (Table 6.9.7) would help epidemiological estimation of the burden of constipation and faecal incontinence and promote more con- sistent clinical assessment and management. These criteria are symptom-based. Objective assessment relies on finding faecal loading in the rectum and/or colon through clinical examination and/or plain X-ray. Objective assessment is particularly important in frail older people in whom constipation can be underestimated. Constipation subtypes affecting older people include rectal outlet delay and irritable bowel syndrome with predominant constipa- tion (IBS-C), identified using standard definitions. The WHO International Consultation on Incontinence defines faecal incontinence as 'involuntary loss of liquid or solid stool that is a social or hygienic problem'. The frequency, amount of leakage and 'bother' are recognized parameters to quantify faecal incon- tinence, but patients have highlighted predictability, awareness, ability to wipe, and burning discomfort as important to them. Aetiology and risk factors Lifestyle factors Greater physical activity such as regular walking makes consti- pation less likely for community-dwelling older people. Exercise increases colonic propulsive activity. Habitually higher levels of physical activity through adulthood may reduce the likeli- hood of constipation problems in older age. Reduced mobility is the strongest association with heavy laxative use among nursing home residents, with gut transit time in bedridden people as long as three weeks. In the United Kingdom, fibre intake (in wheat bran, vegetables, and fruit) decreases with advancing age, and lower consumption predisposes towards constipation. In Europe, the Mediterranean diet is associated with lower constipation rates. In frail individuals lower food intake leads to constipation and anorexia, thus resulting in a vicious cycle. Low fluid intake in older adults makes symptomatic slow transit constipation more likely. Factors leading to low intake include im- paired thirst sensation, relative renal insensitivity to antidiuretic hormone in response to hypertonicity, access difficulty associated with physical or cognitive impairments, and voluntary fluid re- striction in a misguided attempt to control urinary incontinence. Alcohol consumption may be a preventive factor for constipation. Associations with other conditions and their treatments Half or more of older people with faecal incontinence also have urinary incontinence. Co-morbidity and physical disability con- tribute as much or more than age in predicting constipation and faecal incontinence. Diarrhoea or loose stool is a strong predictor for faecal incontinence in all settings, but is most common in frail older people. In acutely hospitalized patients, loose/liquid stool consistency, illness severity, and older age are the strongest predictors of faecal incontinence, while faecal loading, functional disability, loose stools, and cognitive impairment are contributory factors. In nursing home residents, risk factors for constipation include low fluid intake, poor bed mobility, neurodegenerative conditions, polypharmacy, and specific culprit medications. Constipation oc- curs in up to a third of patients receiving enteral nutrition. Products containing fibre are available, but definitive data on their efficacy is lacking. Depression and anxiety are associated with increased self- reported constipation and faecal incontinence in older people. A perception of constipation may be a somatic manifestation of psychiatric illness, so not all self reports are confirmed by other features.

Table 6.9.7 Definitions of constipation Constipation (Rome III criteria) Symptoms for over six months and two or more of the following symptoms on more than 25% of defecations during the past three months: • Straining • Lumpy or hard stools • Two or less bowel movements per week • Sense of incomplete evacuation • Loose stools not present and insufficient criteria for irritable bowel syndrome (abdominal distension or pain relieved by defecation, passage of mucus) Rectal outlet delay or difficult evacuation • Sensation of anorectal blockage • Need for manual manoeuvres (e.g. pressing in or around the anus to aid evacuation) to facilitate defecations Clinical

constipation • Large amount of faeces (hard or soft) in rectum on digital examination and/or • Faecal loading on abdominal radiograph

596 Section 6 Old age medicine Hypercalcaemia from any cause results in constipation by inducing reversible conduction delay within the extrinsic and in- trinsic gut innervations. Constipation is also a well-recognized diagnostic feature of hypothyroidism, particularly in older women. Long-term renal haemodialysis patients have prolonged age-adjusted gut transit time: most have bothersome constipa- tion unless treated. The cause is likely multifactorial and may include fluid restriction, low fibre intake, suppression of the defe- cation urge while undergoing dialysis, and comorbidities such as diabetes. Ion exchange resins, sometimes used to prevent or treat hyperkalaemia, are extremely constipating and on occasion a cause of faecal perforation. Diabetes mellitus Diabetic autonomic neuropathy can result in slow colonic transit and impairment of the gastrocolic reflex, but constipation can occur without neuropathy so other factors are involved. Faecal incontinence may result from anorectal dysfunction or bac- terial overgrowth due to prolonged gut transit, which charac- teristically causes nocturnal diarrhoea. Acute hyperglycaemia can further inhibit anorectal function and colonic peristalsis. Metformin, thiazolidineodiones and the gliptins can also cause loose stools, increasing the risk of faecal incontinence. The α-glucosidase inhibitor, acarbose, may cause diarrhoea, but it may usefully reduce transit time in diabetic patients with constipation. Neurodegenerative conditions More than half of patients with Parkinson’s disease report consti- pation (Rome criteria), mostly being bothered by it. It may present early, even before motor symptoms. There are several mechan- isms: loss of dopaminergic neurons and increased Lewy bodies in the myenteric plexus prolong colonic transit; pelvic dyssynergia causes rectal outlet delay and prolonged straining. Constipation is often associated with other nonmotor symptoms, adversely impacting quality of life. Dihydroxyphenylalanine (DOPA) or dopamine agonists may exacerbate constipation. Botulinum toxin injected into the puborectalis muscle has been used to improve rectal emptying in Parkinson’s disease patients with good effect, though repeat injections every three months are required to main- tain clinical benefit. Dementia predisposes individuals to rectal dysmotility, partly through ignoring the urge to defecate. Constipation may precipi- tate physically aggressive behaviour in those unable to communi- cate the problem. Patients with Parkinson’s disease dementia or Lewy body dementia are more likely than those with Alzheimer’s to suffer constipation, impaction, faecal incontinence, and other autonomic symptoms Constipation affects 60% of those recovering from stroke and in early stages this may be associated with combined rectal outlet delay and slow transit constipation. Faecal incontinence is several-fold more prevalent in stroke survivors than controls. It may develop months after acute stroke and can be transient, con- sistent with the cause being constipation plus overflow. Later on, faecal incontinence is associated with mobility disability rather than the size or location of the stroke lesion. Weak abdominal and pelvic muscles causing difficulties with evacuation may also contribute. Polypharmacy/drug side effects Many medications increase the risk of constipation (Box 6.9.2). Drug classes with anticholinergic effects reduce gut smooth muscle contractility and are associated with symptomatic con- stipation in community-dwelling older people and with faecal incontinence in stroke survivors. Long-term use may result in chronic megacolon. The tendency to constipation from opiates (oral more than transdermal) can be effectively managed by coprescribing laxatives or suppositories. The key factor with iron supplements is total elemental iron absorbed. Calcium channel blockers can cause severe constipation by impairing lower gut (particularly rectosigmoid) motility. Nonsteroidal anti- inflammatory drugs (NSAIDS) promote constipation through prostaglandin inhibition. Association with primary gastrointestinal disorders

Suspicion for colorectal cancer should be higher in older adults than younger counterparts with bowel symptoms, including faecal incontinence. As a sole symptom, constipation (≤2 reported bowel movements a week) is associated with a greater risk of colon cancer in older people, hence colonoscopy may be warranted in the ab- sence of other obvious causes. Constipation-predominant irritable bowel syndrome (IBS-C) is a prevalent subtype of IBS among older people, with preponder- ance for women. It shares some of the Rome III diagnostic criteria for constipation, but is also associated with lower socioeconomic status, anxiety, depression, and somatization. The pathophysi- ology is distinct from the usual chronic constipation, and the usual laxative-based treatment approach is less successful. Prokinetic and prosecretory agents may be helpful. Perhaps half of adults aged 60+ in developed countries have left-sided diverticulosis coli, predominantly associated with inad- equate fibre intake, prolonged gut transit, and straining-induced high intraluminal pressures. This anatomical change may not cause symptoms. Patients with an episode of acute uncomplicated diverticulitis need treatment as they are at risk of erratic bowel habit, with diarrhoea sometimes alternating with constipation, long-term abdominal pain, and recurrent acute diverticulitis with fever, systemic upset, and potentially perforation. Epidemiology Systematic reviews examining the prevalence of constipation and faecal incontinence have suffered from the lack of standardiza- tion in definitions, but constipation is clearly a highly prevalent problem for older people. For example, in 2004 it was reported that some 63 million people in North America were affected (Rome III Box 6.9.2 Medications increasing the risk of constipation • Polypharmacy (over five medications) • Anticholinergic drugs and total anticholinergic burden (tricyc- lics, antipsychotics, antihistamines, antiemetics, drugs for detrusor hyperactivity) • Opiates • Iron or calcium supplements • Antacids containing aluminium • Nonsteroidal anti-inflammatories

6.9 Bladder and bowels 597 criteria), with a higher prevalence in those aged 65 plus. Reports of infrequent bowel movements alone (≤2 per week) is no more preva- lent in older than younger people (fewer than 8%), and more than 50% move their bowels daily. However, two-thirds have persistent straining and over a third report hard stools, and this along with evacuation difficulty contributes to higher rates of self-reported constipation in older people. Despite laxative use, most surveys find that most care home residents are constipated according to Rome III criteria. Among these frailer individuals, difficult evacu- ation can lead to recurrent rectal impaction and overflow. Faecal impaction was a primary diagnosis in 27% of acutely hos- pitalized geriatric patients admitted over the course of one year in the United Kingdom. Loading is the underlying factor in over half and may be even more for care home residents. In community-dwelling people age has a significant influence on rates of solid and liquid faecal incontinence. The prevalence varies according to the general health and setting of the study, but is typically 6–12% for community dwellers aged 65+, and two to threefold higher among the 80+ population. Rates are typically twice or more during acute illness requiring hospitalization, and up to 50% in care homes, but these rates depend on the highly variable casemix and quality of bowel care received. Incidence rates are very much higher for people with dementia. Persisting faecal incontinence is a poor prognostic factor in care home residents. Surveys persistently show that, in contrast with younger women, many older people do not report or seek help with faecal incontinence, prompting the suggestion that screening or a sys- tematic case finding approach may be helpful in primary care services, and is essential in care homes. The quality of assess- ment and response in both settings has been demonstrably poor in surveys or audits, so much remains to be done in education and training. Pathogenesis Colonic function Physiological studies suggest that changes in the lower bowel predisposing towards constipation in older people are not pri- marily age-related. The

extrinsic risk factors discussed previ- ously predominate in the pathophysiology of constipation. The total gut transit time (normally 80% of radio-opaque markers pass from mouth to anus within five days), colonic motor ac- tivity, and postprandial gastrocolic reflex show no differ- ences between healthy older and younger people. Conversely, older people with chronic constipation have prolonged transit, mainly of the left colon and rectosigmoid. Prolongation is greater in institutionalized or bedridden people. Slow transit results in a cycle of worsening constipation by reducing stool water content (normally 75%), shrinking faecal bulk, reduction in intraluminal pressures, and hence less generation of propa- gating motor complexes and propulsive activity. The changes in the ageing gut that predispose to these developments are shown in Box 6.9.3. Pathological metabolic states may also impact colonic func- tion: hypokalaemia and hypomagnesaemia produce neuronal dys- function that minimizes acetylcholine stimulation of gut smooth muscle and hence prolongs transit through the gut. This may cause acute colonic pseudo-obstruction. Anorectal function Studies of anorectal function show age-related changes. In normal defecation, colonic activity propels stool into the rectal ampulla causing distention and reflex relaxation of the smooth muscle of the internal anal sphincter or anal canal. This is followed by reflex contraction of the external anal sphincter and skeletal pelvic floor muscles. On perception of the need to defecate, the external sphincter is voluntarily re- laxed, and evacuation proceeds with assistance from abdom- inal wall muscle contraction. There is an age-related decline in internal sphincter tone and thickness, particularly in frailer older people, predisposing to faecal incontinence. External anal sphincter and pelvic muscle strength is also reduced, particu- larly in multiparous women, contributing to both faecal incon- tinence and evacuation difficulties. Rectal motility is probably preserved in healthy ageing, but some studies have shown increased anorectal sensitivity thresh- olds and reduced rectal compliance. Table 6.9.8 shows the three manifestations of anorectal dysfunction. The anorectal pathology is multifactorial in older women, including pudendal neuropathy, diabetes, and rectal and vaginal prolapse. Constipation and pro- longed straining may further impair pudendal nerve function. Box 6.9.3 Changes in the ageing gut that predispose to constipation • Reduced number of neurons in the myenteric plexus • Impaired response to direct stimulation leading to intrinsic myenteric dysfunction • Progressive loss of interstitial cells of Cajal in the colon • Increased collagen deposit in left colon leading to altered compli- ance and motility • Reduced amplitude of inhibitory junction potentials and hence in-hibitory nerve input to circular colonic muscle causing segmental motor incoordination • Increased binding of plasma endorphins to gut receptors Table 6.9.8 Patterns of anorectal dysfunction leading to rectal outlet delay Name Pathophysiology Clinical picture Rectal dysmotility Reduced rectal motility and contractions Increased rectal compliance, leading to dilation Impaired rectal sensation, blunting urge to pass stool Chronically, rectal distention required to trigger the defecation reflex Hard or soft stool retention on digital examination of which patient may be unaware Chronic rectal distention leads to relaxation of the internal sphincter and faecal soiling Pelvic floor dyssynergia Paradoxical contraction or failure to relax the pelvic floor and external anal sphincter muscles during defecation Severe and longstanding rectal outlet delay Irritable bowel syndrome (IBS) Increased rectal tone and reduced compliance Lower pain threshold on distending the rectum Usually constipation- predominant in older people Abdominal distention or pain relieved by defecation Passage of mucus, and feeling of incomplete emptying

 Pelvic floor dyssynergia may result from sacral cord ischaemia or impingement impairing parasympathetic outflow. It is also ob- served in Parkinson’s disease. Clinical features and differential diagnosis History For the bowel history, a stool chart (recorded by

carers if neces- sary) for one week to document bowel pattern and episodes of faecal incontinence may be helpful. Assessment of stool consist- ency is diagnostically helpful and the Bristol stool chart is suitable (Fig. 6.9.1). A recent history of altered bowel habit should prompt consideration of causes other than or additional to ageing, frailty, or dementia (Box 6.9.4). The main differential diagnoses include gastrointestinal problems— diverticulitis (with or without complications such as perforation or fistulae), colon or anorectal cancer, and rectal ischaemia—and spinal cord disease. IBS-C should be a diagnosis of exclusion in older people, and only made in those with a long history of IBS symptoms. Abdominal pain developing on a background of chronic consti- pation may herald complications such as impaction with obstruc- tion, stercoral perforation, sigmoid volvulus, or urinary retention. Imaging is necessary to clarify the diagnosis. Faecal incontinence associated with faecal loading usually pre- sents as frequent passive leakage of watery stool, which may mis- lead patients, carers, and healthcare providers into thinking the problem is diarrhoea rather than constipation. Leakage of small amounts with some urgency sensation is more typical of external anal sphincter weakness, whereas leakage without awareness is more typical of internal sphincter dysfunction. Faecal incontin- ence associated with complete formed bowel movements is seen in dementia, although these patients are also prone to faecal incontin- ence from faecal loading. Faecal impaction may present with anorexia, vomiting, and ab- dominal pain, but nonspecific deterioration may be the only clue in patients with frailty and/or dementia. Physical examination Digital rectal examination (DRE) is mandatory. It may reveal hard stool, soft stool (particularly when laxatives are used) or no stool, which does not exclude higher impaction. In impaction, other find- ings may include fever, delirium, abdominal distention, reduced bowel sounds, and tachypneoa caused by diaphragmatic splinting. The sepsis features are thought due to microscopic stercoral ulcer- ations of the colon. A dilated rectum with diminished sensation on DRE and re- tained stool suggests rectal dysmotility. Digital assessment of squeeze and basal tone has been shown to be as sensitive and specific as manometry in discriminating sphincter function be- tween continent and incontinent older patients aged over 50. Easy finger insertion with gaping of the anus on finger removal indicates poor internal sphincter tone, whereas reduced squeeze pressure around the finger when asking the patient to ‘squeeze and pull up’ suggests external sphincter weakness. Absent cutaneous-anal reflex (gentle scratching of the anal margin should normally induce a visible contraction of the external sphincter) and, in particular, perianal anaesthesia suggests sa- cral cord dysfunction. Proctoscopy can easily be incorporated into bedside or clinic as- sessment. It may reveal internal haemorrhoids, anal fissure, ano- rectal cancer, or other abnormalities. Perineal examination is needed for assessment of faecal incon- tinence and constipation in older women, and may reveal posterior vaginal prolapse (evident when bearing down in the gynecologic position), excessive perineal descent (>4 cm when patient bearing down while lying in the lateral position), or rectal prolapse, though lesser degrees of prolapse may be only evident when the patient strains while sitting or squatting. Urinary retention may be associated with faecal incontinence because of common causation (e.g. spinal cord disease), or may re- sult from faecal loading itself, particularly in women. Investigations Plain abdominal X-ray can be helpful in evaluating constipation. It may demonstrate complications such as sigmoid volvulus or extraluminal gas due to stercoral perforation or more commonly colonic or rectal faecal loading associated with lower bowel dila- tion. Fluid levels in the large or small bowel suggest advanced obstruction. Acute colonic pseudo-obstruction is most likely to Separate hard lumps, like nuts (hard to pass) Type 1 Type 2 Type 3 Type 4 Type 5 Type 6 Type 7 Bristol Stool Chart Sausage-shaped but lumpy Like a sausage but with cracks on the surface Like a sausage or snake, smooth and soft Soft blobs with clear-cut edges Fluffy pieces with ragged edges, a mushy stool Watery, no

solid pieces, Entirely liquid Fig. 6.9.1 Bristol Stool Scale Chart. From Lewis SJ, Heaton KW (1997). Stool form scale as a useful guide to intestinal transit time. Scand J Gastroenterol, 32 (9), 920–4, reprinted by permission of the publisher (Taylor & Francis Ltd, http://www.tandfonline.com). Box 6.9.4 Symptoms that should promote further assessment and investigations • Abdominal pain • Fever • Rectal bleeding or mucus • Rectal pain • Systemic features such as weight loss and anaemia • Faecal incontinence preceding urinary incontinence in patients with dementia

6.9 Bladder and bowels 599 occur in acutely ill hospitalized frail older people with a history of chronic constipation, and may cause colonic dilation with a caecal diameter of ≥10 cm. Faecal loading in the descending and sigmoid colon, and/or faeces rather than air in the caecum, correlate well with prolonged transit time. Dilatation of the colon in the absence of acute obstruction points to a neurogenic component to bowel dysfunction and thus identifies patients at risk of recurrent colonic impaction. Rectal dilatation (>4 cm) implies dysmotility and evacuation problems. Sigmoidoscopy, colonoscopy, or contrast imaging with enema or computed tomography (CT) may be necessary for investigation in patients with worrying clinical features as outlined. Their safety profile in older patients is good, although preparation may need modification and some patients may merit overnight monitoring. The diagnostic yield of colonoscopy for investigation of constipation without other features is low. Anorectal function tests Management of older people with constipation or faecal incontin- ence is not generally improved by anorectal physiology tests. If conservative measures are inadequate, then endoanal ultrasound may be helpful is in identifying patients for either surgery (sphincter reconstruction) or biofeedback treatment of pelvic dyssynergia manifest by clinically weak sphincters, preserved sensation, and persistent rectal outlet delay. Treatment As the causes of constipation and faecal incontinence in older people are usually multifactorial, and management is impacted by comorbidity, functional, and social factors, the comprehensive geriatric assessment approach is necessary. Nonpharmacological approaches These should be the first line of management and for many will be sufficient, but plenty of evidence shows that they are underused, even in primary care or in care homes where the prevalence jus- tifies greater levels of competence than currently seem to exist. Research is lacking as a result of professional disinterest, lack of research funding, and the practical challenges of researching with older frail people. Education of patients and caregivers The scope and approach should be targeted to the individual, with awareness of caregiver needs and challenges. The goals may range from resolution of the constipation or faecal incontinence, or minimizing the impact on quality of life while not abolishing the problem, to the practical issues of dealing with intractable faecal incontinence such as pads, bedsheets, and odour control. One randomized controlled trial with older stroke patients showed that an educational approach resulted in persisting modi- fication of diet and fluid intake to control bowel problems. There is insufficient evidence to establish the impact of individual or popu- lation approaches to increasing dietary fibre. Educating informal caregivers on maintaining faecal continence in patients with de- mentia may increase their knowledge, but the impact on faecal incontinence is unknown. The main components of advice and in- formation are shown in Box 6.9.5 and are best supported by written material of appropriate style and language. Pharmacological treatments for constipation The evidence base for laxative treatments in older people is poor, but there is some randomized controlled trial evidence for efficacy and safety in adults with chronic constipation for osmotic salts, sugars and sugar alcohols, polyethylene glycol (PEG), anthraquinones, diphenolic laxatives, bisacodyl, and sodium picosulphate. Higher quality evidence supports the use of polyethylene glycol, followed by lactulose and psyllium. Newer prokinetic agents show promise, but comparative trials and

clarification of potential cardiac adverse effects are needed. The paucity of data showing comparative effectiveness of laxa- tives in clinical practice means that a systematic step-wise approach is recommended for most patients, starting with the milder and cheaper products. For patients in particular clinical settings with a high risk of serious constipation and potential impaction, starting with the stronger agent such as polyethylene glycol (com- bined if necessary with enemas) should be considered. Unsuccessful prevention or treatment often results from inadequate assessment, resulting in an inappropriate strategy. Rectal outlet delay often requires a different approach (e.g. enemas or sup- positories) to prolonged transit. Selection and techniques of enema and suppository use in frail older people also requires some ex- pertise. Regular use of phosphate enemas should be avoided in pa- tients with renal impairment as hyperphosphataemia may occur. Tap water enemas are the safest type for regular use, although they take more time. Manual evacuation may be necessary before inser- tion of enemas or suppositories in patients with hard stool rectal impaction. Treatment of faecal incontinence The first step is to identify the underlying cause. The general ap- proach to management of the main causes is shown in Table 6.9.9. Comprehensive geriatric assessment Attitudes and coping strategies affect the impact that bowel prob- lems have on individuals, hence these factors need to be incorp- orated in assessment and management, as well as the physical and social resources upon which they can call for support. This means that a comprehensive geriatric assessment-based approach is required. Functional faecal incontinence can occur in individuals with normal gut function but with toilet access difficulties due to cogni- tive or functional limitations. The difficulties may include wiping Box 6.9.5 Advice and information for carers of patients with dementia and faecal incontinence • Understanding the range of normal bowel patterns • Maintaining a regular and comfortable bowel habit, with attention to privacy/dignity • The technique of abdominal massage for constipation • Dietary advice to encourage softer stools and increase fibre and fluid intake • Advice on probiotic supplementation (particularly Bifidobacterium Lactis) • Avoidance of sedentariness and increasing physical activity, eg walking • Sphincter strengthening exercises • Using suppositories to stimulate evacuation

 and adjustment of clothing. Withholding evacuation because of access problems can lead to constipation. The domestic or outdoor environment may need assessment to understand the challenges. Loss of continence along with physical independence is under- mining and distressing. Preservation of privacy and dignity of care is important, particularly in institutional or other ‘public’ settings. FURTHER READING Urinary incontinence Ancelin ML, et al. (2006). Non-degenerative mild cognitive impair- ment in elderly people and use of anticholinergic drugs: longitu- dinal cohort study. BMJ, 332, 455–9. Continence Products Advisor (a collaboration between the Inter national Consultation on Incontinence (ICI) and the International Continence Society). http://www.continenceproductadvisor.org Gray SL, et al. (2015). Cumulative use of strong anticholinergic medi- cations and incident dementia. JAMA Intern Med, 175, 401–7. Haylen BT, et al. (2010). An International Urogynecological Asso ciation (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. Neurourol Urodyn, 29, 4–20. International Consultation on Urological Diseases (2013). Incontinence, 5th edition. http://www.icud.info/incontinence.html Mayer T, Haefeli WE, Seidling HM (2015). Different methods, dif- ferent results—how do available methods link a patient’s anti- cholinergic load with adverse outcomes? Eur J Clin Pharmacol, 71, 1299–314. National Institute for Health and Care Excellence (NICE) (2010). Lower Urinary Tract Symptoms in Men: Management. Clinical guideline [CG97]. https://www.nice.org.uk/guidance/cg97 National Institute for Health and Care Excellence (NICE) (2012). Urinary Incontinence in Neurological Disease: Assessment and Management. Clinical

guideline [CG148]. https:// Available from www.nice.org.uk/guidance/cg148 National Institute for Health and Care Excellence (NICE) (2013). Mirabegron for Treating Symptoms of Overactive Bladder. Technology appraisal guidance [TA290]. https://www.nice.org. uk/guidance/ta290 National Institute for Health and Care Excellence (NICE) (2013). Urinary Incontinence in Women: Management. Clinical guideline [CG171]. https://www.nice.org.uk/guidance/cg171 Oelke M, et al. (2015). Appropriateness of oral drugs for long-term treatment of lower urinary tract symptoms in older persons: re- sults of a systematic literature review and international consensus validation process (LUTS-FORTA 2014). Age Ageing, 44, 745–55. Salahudeen MS, Duffull SB, Nishtala PS (2015). Anticholinergic burden quantified by anticholinergic risk scales and adverse out- comes in older people: a systematic review. BMC Geriatr, 15, 31. Villalba-Moreno AM, et al. (2016). Systematic review on the use of anticholinergic scales in polypathological patients. Arch Gerontol Geriatr, 62, 1–8. Review. Erratum in: Arch Gerontol Geriatr, 2016 May–Jun, 64, 178–80. Constipation and faecal incontinence Akpan A, Gosney MA, Barrett JA (2007). Factors contributing to fecal incontinence in older people and outcome of routine man- agement in home, hospital and nursing home settings. Clin Interv Aging, 2, 139–455. Costilla VC, Foxx-Orenstein AE (2014). Constipation in adults: diagnosis and Management. Curr Treat Options Gastroenterol, 12, 310–21. Edwards NI, Jones D (2001). The prevalence of faecal incontinence in older people living at home. Age Ageing, 30, 503–17. Harari D, et al. (2014). National audit of continence care: adherence to National Institute for Health and Clinical excellence (NICE) Guidance in older versus younger adults with faecal incontinence. Age Ageing, 43, 785–93. Koloski NA, et al. (2013). Impact of persistent constipation on health- related quality of life and mortality in older community-dwelling women. Am J Gastroenterol, 108, 1152–8. Landefeld CS, Bowers BJ, Feld AD (2008). National Institutes of Health state-of-the-science statement: prevention of fecal and urinary incontinence in adults. Ann Intern Med, 148, 449–58. Macmillan AK, et al. (2004). The prevalence of fecal incontinence in community-dwelling adults: a systematic review of the literature. Dis Colon Rectum, 47, 1341–9. Noisen E, et al. (2014). Constipation prevalence and incidence among medical patients acutely admitted to hospital with a medical con- dition. J Clin Nurs, 23, 2295–302. Norton C, Thomas L, Hill J (2007). Management of faecal incon- tinence in adults: summary of NICE guidance. Br Med J, 334, 1370–1. Rayner CK, Horowitz M (2013). Physiology of the ageing gut. Curr Opin Clin Nutr Metab Care, 16, 33–8. Rey E, et al. (2014). A nation-wide study of prevalence and risk factors for fecal impaction in nursing homes. PLoS One, 9, e105281. Saga S, et al. (2013). Prevlaence and correlates of fecal incontinence among nursing home residents: a population-based cross-sectional study. BMC Geriatr, 13, 87. Schnelle JF, et al. (2002). Translating clinical research into practice: a randomized controlled trial of exercise and incontinence care with nursing home residents. J Am Geriatr Soc, 50, 1476–83. Table 6.9.9 Management of faecal incontinence Overflow faecal incontinence Aim for avoidance of faecal impaction by use of stimulant and/or osmotic laxatives Add in regular suppositories and enemas if necessary Faecal incontinence related to frailty and/or dementia Avoid impaction Carry out a structured bowel care plan including regular prompted toileting Faecal incontinence with loose stools Treat or remove identifiable causes, including medications Increase dietary fibre and reduce potential dietary factors (e.g. dairy products, alcohol, unpeeled fruit) Consider loperamide or similar medications Faecal incontinence with weak anal sphincters Consider suitability for sphincter strengthening exercises and biofeedback approaches

---

Revision #1
Created 2026-01-22 16:44:39 UTC by Omar Ayman
Updated 2026-01-22 16:44:39 UTC by Omar Ayman