Chapter 7 - FALLS

Table 7.a: Common risk or precipitating factors for falls and their management

RISK OR PRECIPITATING FACTORS	MANAGEMENT
Anti-drugs – those working on the brain (e.g. **Antidepressants, Antipsychotics, Anticholinergics, Antiepileptics**) and those affecting the cardiovascular system (e.g. **Antihypertensives** and diuretic)	Review, reduce dose, stop medications, and cut down number of medications
Environmental hazards	E.g. remove loose rugs, use nightlights, handrails and non-slippery surfaces
Infections – urinary or others	Treat infections
Osteoarthritis/Musculoskeletal (lower limbs)	Treat arthritis, exercise to improve muscle strength
Unwell patients are more prone to deconditioning and falls. In fact falls is a poor prognostic factor for cancer	Treat underlying illness, consider rehabilitation
Biochemical abnormalities – e.g. hyponatraemia, hypoglycaemia	Correct abnormalities
Cardiovascular - postural hypotension (wise to check it a few times over 2 or 3 days as a single measurement may be falsely negative; also see text for correct postural BP measurement) - carotid sinus hypersensitive/micturition syncope - arrhythmia, aortic stenosis, myocardial infarct	Treatment of causes e.g. dehydration, review medications, pressure stocking, adding pindolol or fludrocortisone if above fails
CNS or PNS disorder – stroke, cerebellar impairment, Parkinsonian syndromes, peripheral neuropathy	Physiotherapy, gait and balance classes
Cognitive impairment – dementia and delirium	
D vitamin deficiency	Replacement
Deconditioning	Rehabilitation
Eye disease (refractive, cataract, macular degeneration, glaucoma, visual field defect)	Ample lighting, correct refractive error, remove cataract, treat glaucoma
Frailty	Rehabilitation, nutrition

NB: environmental safety and exercise are general measures worth considering.

Mnemonic ("A" is shared with AEIOU and ABCDEF)

A ("**A**nti"-drugs), **E** (environmental), **I** (infections), **O** (osteoarthritis), **U** (unwell)

Biochemistry/**BP**, **C**VS or **C**NS (&PNS) disorders, **C**ognitive impairment, **D** vitamin deficiency or **D**econditioning, **E**ye diseases, **F**railty

CHAPTER 12 - Frailty

Introduction

In recent years, frailty is gaining attention in geriatric medicine and other specialties. The clinical concept of frailty is generally agreed to as a state of decline in physiological capacity in multiple organ systems, thereby increasing the vulnerability of an individual to relatively minor stressors. Consequently, frailty increases the risk of adverse outcomes including hospitalisation, institutionalisation and mortality. Given population ageing, frailty is frequently encountered in clinical practice.

The concept of frailty implies a continuum from fitness (robustness) to frailty (vulnerability). However, for practical reasons scholars have proposed a division into clinical stages: robust (non-frail), pre-frail and frail. Some scholars also identify severity grades within frailty: mild, moderate, severe, and very severe.

A number of factors have been identified to be important in the pathophysiology of frailty. These include nutritional deficiencies, musculoskeletal problems including sarcopenia, low physical activity, cognitive impairments and adverse psychosocial factors (e.g. living alone, poverty, depression). A number of geriatric syndromes and diseases are also linked with frailty. These include falls, dementia, intellectual disabilities, polypharmacy, cancer, HIV and endocrine disorders (e.g. diabetes mellitus). The pathophysiology of frailty has not been fully clarified but pathways such as ‘inflammaging’ (i.e. pro-inflammatory cytokines promoting protein degradation or altering metabolism) may lead to cumulative cellular damage and accelerated ageing.

The identification of frailty is useful as a marker of clinical risk and as a pointer towards the need to conduct a Comprehensive Geriatric Assessment (CGA) and investigations to identify its drivers. In that light, many frailty identification tools exist with the two most common ones being Fried's phenotype (or physical frailty phenotype) and Rockwood's Frailty Index of cumulative deficits (see table). No agreement has yet been reached on a standard tool of frailty identification. However, some tools can capture some patient groups better or be more suited in some specific settings.

In terms of management strategies, the focus may shift from prevention or actively reversing frailty (in the early stages) to end of life care (as an option in severe late stage where no further remediable factors can be identified). In terms of prevention at a population level, the most evidence based interventions are physical activity, nutrition optimisation, health education and social engagement. At the individual level, a comprehensive assessment of the underlying drivers and identification of potentially remediable factors is of utmost importance.

History

- Establish the day-to-day functional abilities and ask how any declines have affected the patient’s life, including quality of life, psychological state and social situation.
- Ask if there is a recent illness that has triggered decline in physical or cognitive function or weight loss. This could include urinary tract infection, stroke, depression, fractures, falls, delirium, drug usage, anaemia, heart failure, reflux oesophagitis, etc. It

is important to appreciate that in the presence of an acute illness, a patient can appear much frailer than at baseline.