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EDITORIAL

F3ALLS APPROACH TO PREVENTING FALLS

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Falls occur in 30% of community dwelling older persons (1, 2). Falls are 3 times more frequent in persons living in long term care compared to those in the community (3) In the United States in 2015, the medical cost of falls was approximately $50 billion (4). Falls are more common in persons with dementia due to an increase in leukoariosis in persons with vascular dementia and a dual tasking deficit (5-8). Persons with diabetes mellitus have an increased risk of falls and fractures at an early age (9-11). Falls represent a major cause of fractures in older persons (12).

Persons with frailty and sarcopenia are at particular risk for falling (13-16). Rapid screens for frailty, the FRAIL (17-19) and sarcopenia, the SARC-F (20-22) have been developed and both predict an increased propensity for older persons to fall. The FRAIL-NH is a predictor of falling in nursing homes (23, 24).

In view of the high medical costs associated with falls the Centers for Disease Control and Prevention has developed the Stopping Elderly Accidents, Deaths and Injuries (STEADI) methodology (25-27). While the algorithm has a number of positive features it is complex to use and more time consuming than can be undertaken in an average general practitioner visit. For this reason we have developed the simple F3ALLS approach to fall prevention (Table I).

Both previous falls (28) and fear of falling (29, 30) are associated with an increased fall risk. These patients should be referred to a physical therapist who should do the Toulouse St. Louis University Mini Falls Assessment (31) and then carry out appropriate therapy. Following therapy, they should be enrolled in a long-term exercise program such as the Modified Otago Exercise Program (32-36). There is reasonable evidence supporting resistance exercise and balance training for preventing falls, but it should be continued for life (1, 37-39).

Foot pain should result in an assessment for diabetic neuropathy. If present improved diabetic control within the modern guidelines should be instituted (40, 42). Supervised balance exercises should be instituted (43). Persons with other foot abnormalities should be referred to a podiatrist (44). A cane or other walking aids should be offered to these individuals (45).

Self-reported unsteadiness predicts fear of falling and falls (46). These persons require a medication review and referral for balance related exercises.

The SARC-F or handgrip strength should be used to diagnose sarcopenia in those persons complaining of loss of strength (47-49). They should then be referred for resistance exercise training (50, 51) and leucine enriched essential amino acids (52, 53).

Low systolic blood pressure increases the risk of falls in older persons and those with diabetes mellitus (54, 55). Orthostatic hypotension is strongly associated with falls (56-58). Postprandial hypotension is a common cause of falls in older persons and diabetics with autonomic neuropathy (59). It can be treated with α-1-glucosidase inhibitors (acarbose or

Table 1
The F3ALLS Approach to Preventing Falls

	Item	Question	Treatment
F	Previous falls	Have you fallen in the last 6 months?	Assess with Toulouse – St. Louis University Mini Falls assessment (31) Physical therapy
F	Fear of falling	Are you afraid of falling?	Exercise and balance program
F	Foot (neuropathy)	Do you have foot pain?	If diabetic, assess for peripheral neuropathy
A	Ataxia (balance)	Are you unsteady?	Balance exercises and medication review
L	Loss of muscle (sarcopenia)	Have you lost strength?	SARC-F (20) and, if positive, physical therapy
L	Low blood pressure	Is systolic blood pressure less than 120mmHg or does blood pressure fall by >20mmHg on standing or after eating?	Evaluate for polypharmacy or anemia Evaluate for autonomic neuropathy then fludrocortisone or droxidropa
S	Syncope (fainting)	Are you dizzy or do you feel faint or pass out?	Event monitor or implantable loop recorder

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miglitol), which increase glucagon like peptide-1 and slow gastric emptying (59-61).

Approximately 30% of falls in older persons and persons with diabetes mellitus are due to syncope (62, 63). When the person does not have orthostasis or postprandial hypotension the most likely cause is an arrhythmia. Investigation for an arrhythmia requires an event monitor, but because they often occur months apart, an implantable loop recorder is commonly indicated (64, 65).

It would seem that the F3ALLS represents a rapid and easily computerizable, approach to falls prevention.

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