Southern Thailand. Physical fall risk was assessed by a full tandem stand test and perceived fall risk was assessed by the Fall-Efficacy Scale International. We classified FRA into: 1) Rational FRA means low physical fall risk and low perceived fall risk; 2) Irrational FRA means low physical fall risk but high-perceived fall risk; 3) Congruent FRA means high physical fall risk and high-perceived fall risk; and 4) Incongruent FRA means high physical fall risk but low perceived fall risk. Irrational FRA and Incongruent FRA are a maladaptive FRA. About 60% of the participants had maladaptive FRA, which consisted of irrational FRA (57.3%) and incongruent FRA (2.3%). 20.8% were in rational FRA and 19.6% in congruent FRA. Among those with rational FRA, incongruent FRA, irrational FRA, and congruent FRA, 27.8%, 60%, 41.1%, and 74.1% reported having at least one fall in the past year, respectively. After covariate adjustment, participants in the congruent FRA group were 3.29 times more likely (p=0.006) to fall than those in rational FRA. High proportion of participants had maladaptive FRA so screening individuals with maladaptive FRA and prevent them to transition into the congruent FRA group is important efforts to mitigate health and economic burdens.

FALLS AND NUTRITIONAL RISK AMONG RURAL STATE RESIDENTS
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Vermont continues to have one of the nation’s highest fall rates and its rurality may be a contributing factor. The purpose of our study was to compare fall history and nutritional risk (a fall risk factor also associated with rurality) in participants from rural and metropolitan areas. We collected data at statewide community-based fall risk screenings. During the events, nutritional data was collected using the DETERMINE Your Nutritional Health Screening Tool Questionnaire. We used descriptive statistics (chi2) to examine the relationship between fall history, nutritional risk, and rurality. From 123 subjects, 67% were classified as rural residents. There was no relationship between fall history and nutritional risk (p=0.6). Compared to rural residents, a significantly higher percentage of those living in metropolitan areas reported falls (54% versus 35% p=0.05). However, metropolitan residents were not at higher nutritional risk (49% versus 54%, p=0.61). National nutritional risk rates are lacking, but food insecurity is associated with nutritional risk. Our overall reported high nutritional risk (20%) is higher than the prevalence of food insecurity, both nationally (11%) and in Vermont (9%). In conclusion, we did not identify a relationship between fall history and nutritional risk. We did find a higher percentage of metropolitan residents reporting falls. Furthermore, we identified that DETERMINE is a feasible nutritional screening tool to use at fall risk screenings. It can be used to identify community-dwelling older adults at nutritional risk, but it may not have the sensitivity to identify an association between nutritional risk and falls.

ABILITY OF THE PHYSIOLOGICAL PROFILE ASSESSMENT TO CLASSIFY FALLER TYPE:
A PROSPECTIVE COHORT STUDY
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Accurately identifying older adults who will experience subsequent falls is important for the provision of secondary fall prevention. The purpose of this study was to determine the accuracy of the Physiological Profile Assessment (PPA) – a valid and reliable fall-risk assessment [1] – in predicting subsequent falls over a 12-month period in older adults who sought for medical attention after an index fall. Seven hundred thirty-seven community-dwelling adults, aged 70 years and older, who were seen at the Vancouver General Hospital Fall Prevention Clinic, completed the PPA at their initial visit. Falls over the subsequent 12 months were tracked prospectively via monthly falls calendars. All individuals received geriatric care at baseline. Binary logistic regressions were performed to determine the accuracy of classifying two prospective faller types: 1) no additional falls; 2) one or more additional fall(s). Baseline PPA, age, and sex were entered as independent variables. During the 12 month observation period, 345 participants had no additional falls (Age:81.3±6.6yrs;Female=251) and 392 fell one or more times (Age:82.3±6.5yrs;Female=230). The classification accuracy was 51.3% for those who had no additional falls and 64.8% for those with one or more additional fall(s) (Overall:58.5%;χ2=29.0;PPA:β=-0.21;Age:β=-0.01;Sex:β=-60). The PPA was not able to accurately differentiate between those who did and did not subsequently fall. Fall-risk assessment sensitivity and specificity should be improved in older adults seeking medical attention following an index fall to inform secondary fall prevention. [1] Lord SR, et al., 2003. Phys Ther.

FALL RISK BEHAVIORS AND INTRINSIC RISK FACTORS FOR FALLS IN INDIGENOUS AND NON-INDIGENOUS RURAL OLDER ADULTS
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Within California, older adults living in rural counties have reported higher rates of falls than urban dwelling older adults. Although many Indigenous people live in rural areas, it is unclear whether the rate of falls among Indigenous older adults is similar to that of non-indigenous older adults living in rural areas. Thus, the purpose of this study was to examine fall risk behaviors and intrinsic risk factors for falls in rural dwelling Indigenous (N = 89), and non-Indigenous (N = 68) older adults 60-95 years of age living in California. Results showed that both Indigenous and non-Indigenous older adults share similarly high fall rates, but there are a much greater number of Indigenous older adults falling multiple times a year. Moreover, fall risk behaviors and intrinsic fall risk factors were significantly different between Indigenous and non-Indigenous rural-dwelling older adults. Future studies should investigate falls and fall risk factors in different tribes/locations of Indigenous older adults to better understand whether these risk factors differ among tribes. Moreover, it would be beneficial for future studies to assess the effectiveness of fall prevention exercises on fall risk in these communities. Information gained from this study helps to inform clinicians and researchers alike about the
prevalence of falls and factors contributing to falls among Indigenous older adults living in rural communities; and helps to influence decisions in the future of programs for reducing fall risk in this often neglected population.

CRITICAL ASPECTS OF MOBILITY FOR IMPROVING PATIENT OUTCOMES AFTER CARDIAC SURGERY

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Physical activity after major cardiac surgery has been associated with length of stay, discharge location, risk of readmission, and functional change. However, in-hospital mobility is not currently assessed in a standardized way with nurse reports being the primary mechanism of tracking patient activity. Furthermore, it is unclear whether it is the total amount, frequency, or type of activity that is most important for improving patient outcomes post-surgery. To better understand the duration, frequency, and intensity of patient activity post-cardiac surgery, we conducted an observational study of 206 patients using a wrist-worn accelerometer and ankle-worn pedometer. Patients with lower levels of average daily pedometer-based ambulation in the first four days post-surgery, when compared to counterparts who ambulated more, had higher odds of a longer length of stay (OR=4.55, p<0.0001) or being discharged to rehab vs. home (OR=7.7, p=0.012), independent of age, race, bypass time, and EuroSCORE (cardiac surgery risk score). Engaging in an average of less than two bouts of accelerometer-derived activity lasting 5 minutes or more each day was associated with higher odds of having a longer length of stay (OR=2.69, p=0.008) or being discharged to rehab vs. home (OR=20.9, p=0.019). A slower speed of recovery during the first four postoperative days, characterized by a smaller increase in pedometer-based ambulation with each successive day, was also associated with higher odds of being discharged to rehab vs. home (OR=6.62, p=0.008). Further research is needed to develop appropriate frequency and activity thresholds for use as intervention tools to improve patient outcomes post-surgery.

NEURAL CORRELATES OF COMPLEX WALKING TASKS IN OLDER ADULTS

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Walking on a narrow path challenges attention and balance control but its neural correlates are unknown. We assessed the association between gray matter microstructural integrity and gait speed along a 6 m long and 20 cm wide path in participants from the Health, Aging, and Body Composition Study (n=155; mean age=83, 53% women, 35% black). Micro-structural integrity was measured by mean diffusivity (MD) in gray matter computed from diffusion weighted imaging (DWI); higher MD indicates lower integrity. We conducted general linear models to assess this association with gray matter microstructural integrity of regions of interest (based on known associations of usual pace gait speed): middle frontal gyrus; caudate; putamen; anterior, middle, and posterior cingulate; hippocampus; precentral gyrus; and supplementary motor area. We adjusted for total brain atrophy, usual pace gait speed, age, sex, race, and education. The average narrow-path gait speed was 0.97 m/s (standard deviation: 0.21). Average usual pace gait speed was 1.1 m/s (standard deviation: 0.21). After adjusting for covariates, we identified significant negative associations between narrow-path gait speed and gray matter MD of left posterior cingulate, left and right hippocampus, and left precentral gyrus (p<0.05). Narrow-path gait speed is associated with lower microstructural integrity in gray matter related to network connectivity (posterior cingulate), spatial cognition (hippocampus), and motor function (precentral gyrus).

INDOOR AND REAL-LIFE OUTDOOR GAIT SPEED AND ITS ASSOCIATION ON GEOGRAPHIC LIFE-SPACE AND OUTDOOR MOBILITY

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Indoor outpatient mobility is important to community-dwelling older adults as it enables reach and access to resources for everyday activities, but this becomes increasingly challenging with the progressive decline in physical performance in ageing. We aim to understand the relationship between Indoor (IGS) and Real-Life Outdoor Gait Speed (OGS) with objectively-measured geographic life-space extent and outdoor mobility among community-ambulant older adults in Singapore. Thirty-three participants aged ≥55 years living in three neighbourhoods wore hybrid mobility trackers continuously for 7 days. Baseline 6-metre IGS was measured with a stopwatch, while OGS was from outdoor accelerometer data. Nodes were defined as significant places visited for ≥5 minutes. Multiple linear regressions examined each association between IGS and OGS on geographic life-space extent and outdoor mobility measures adjusting for confounders. Participants’ mean age was 69.2±7.1 years with mean IGS and OGS of 1.11m/s and 0.85m/s respectively. They spent on average 4.7 hours/day out-of-home with the majority (57%) of nodes located within 500m from home. There were no significant associations between gait speeds and geographic life-space measures. Higher OGS was associated with higher total number of nodes/week while higher IGS was significantly associated with lower percentage of nodes within 500m from home. Our findings highlighted the complexity and multi-dimensionality of independent outdoor mobility as both gait speed performances were not significantly associated with geographic life-space extent, but rather with...