

With the increased life expectancy, people aging with spinal cord injury (SCI) are more likely to experience chronic conditions, including diabetes mellitus (DM). The results of previous literature related to the prevalence of DM are mixed and risk factors associated with diagnosis of DM after SCI are not well defined. This study aims to investigate the prevalence of DM and explore associated risk factors for diagnosis of DM among adults aging with long-standing spinal cord injury in the United States. This is a secondary data analysis using the National Spinal Cord Injury Model Systems Database. Participants included 516 people age 45 and older who have been living with SCI for more than 10 years. The prevalence of DM in this sample was 13.2%. Multivariate logistic regression, controlling for confounding variables, was conducted to identify risk factors associated with DM diagnosis in this sample. The multivariate logistic regression model found that the participants who responded with less severe SCI measured by the ASIA impairment scale were less likely to be diagnosed with DM (OR=0.332,  $p=.017$ ). Also, DM was found to be significantly associated with BMI (OR=1.043,  $p=.010$ ) and age (OR=1.038,  $p=.010$ ) respectively. Duration of disability was not significantly associated with DM. Future research is needed to validate these findings and identify other common risk factors for DM such as diet/nutrition. Further, exploration of the effect size of risk factors is also warranted. Such findings will inform interventions to aid prevention and early detection of DM.

#### AN INTERNATIONAL REVIEW OF MOTOR VEHICLE COLLISION RISK WITH MEDICAL CONDITIONS IN OLDER ADULTS

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The objective was to examine the impact of seven categories of medical illness on risk of Motor Vehicle Collisions (MVC) in older adults. In late 2019, a systematic review of the MVC risk associated with alcohol use disorders, psychiatric disorders, epilepsy, diabetes, hearing loss, vision disorders and sleep disorders was conducted. A total of 64,720 titles were screened, and 138 articles were included. Of these, only thirteen pertained to older adults, only six showed increased MVC risk in at least one condition, and only seven were rated of "Good" quality. Hearing impairment was associated with MVC only if associated with visual acuity or contrast sensitivity impairments (RR 1.52, 95% CI 1.01-2.3 and RR 2.41, 95% CI 1.62-3.57, respectively). A high depression score was associated with increased MVC (RR 1.5, 95% CI 1.1-2.1) in one study, but a similar relationship was not found in two other studies. Glaucoma increased at-fault MVC risk (RR 1.65, 95% CI 1.20-2.28) in one study, but no relationship was found in another. Visual field loss increased MVC risk in three of four studies (RR or HR ranging from 1.31 to 2.32). One negative study each were identified for alcohol use disorders, age-related macular degeneration, any eye disease, or any psychiatric disorder, and four negative studies were identified for reduced visual

acuity. No studies of older adults were found for epilepsy or sleep disorders. Interpretation of MVC risk in older drivers with medical illness is rendered challenging by the paucity and quality of studies.

#### BRAIN MAGNETIC SUSCEPTIBILITY IS ASSOCIATED WITH SLOWER GAIT IN COMMUNITY-DWELLING OLDER ADULTS

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Age-related slowing of gait is exceedingly common and a robust predictor of various adverse health outcomes in older age. Prior neuroimaging studies have documented diverse non-specific structural brain abnormalities which are related to slow gait; however, the extent to which quantitative susceptibility mapping (QSM), which measures regional magnetic susceptibility in the brain, associates with gait speed remains unexplored. In the current study, 415 non-demented community-dwelling older adults (91 males; 81+/- 7 years) underwent an MRI (Siemens 3T TIM Trio) and in-home motor assessment. Gait speed was measured and averaged across 2 timed 8-ft walks. MR-acquired QSM data were pre-processed, registered to ICBM template, and spatially smoothed with a 5mm FWHM Gaussian kernel. When these maps entered group-level GLMs, voxel-wise associations with gait speed were of interest, after adjusting for demographics. We observed very strong negative associations between gait speed and magnetic susceptibility, such that those with slower gait had higher susceptibility in bilateral inferior frontal, superior temporal, and angular gyri (corrected  $p<.0005$ ). Robust associations were also observed in the middle frontal, precentral, and postcentral gyri of the right hemisphere. These novel findings suggest that reduced myelination or increased iron accumulation in these brain regions may contribute to impaired gait. Future work will need to determine to what extent these cross-sectional QSM metrics are independent predictors of incident adverse health outcomes when controlling for other common brain imaging abnormalities observed in older adults.

#### DIFFERENTIAL INFLUENCE OF COVID-19 PANDEMIC ON LIFE-SPACE MOBILITY OF OLDER ADULTS

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Life-space mobility (LSM) is critical to aging successfully since it is essential to maintain independence, affecting the health and quality of life of older adults. During the COVID-19 pandemic older adults, who are at high-risk of serious illness and complications, are restricted by stay-at-home orders, limiting their outdoor activities. This study evaluated differences in LSM before and during the pandemic and factors related to limited pre-hospitalization mobility. We used a natural experiment design comparing LSM one month