

## **Driving Ability and Transportation Needs of Elderly Drivers: A Prospective from Emergency Department Elderly Patients**

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### **Abstract**

The number of Canadians over 65 is growing faster than anticipated. Since older adults live independently longer and stay more active, many will continue to depend on driving to meet their transportation needs. Older drivers are mostly safe drivers; however, with advancing age, many older adults develop medical conditions that affect their driving ability and often lead to driving cessation. Often these medical conditions are first recognized in emergency department (ED) when patients present with an acute illness or injury. We proposed to interview elderly drivers who attend the ED to examine their driving ability and transportation needs.

### **Background**

For most healthy older adults, driving is important to meet their mobility needs and quality of life. Driving however is a complex task requiring a combination of perceptual, cognitive and motor skills (Mathias & Lucas, 2009; Reger, Welsh, Watson, Cholerton, Baker & Craft, 2004). As people age, many will experience some decline in these skills due to medical conditions. When this decline reaches a critical point, the individual is deemed unfit to drive. Most elderly drivers are safe drivers despite some functional decline because of self-regulation such as avoiding nighttime driving. However, as these medical conditions progress, driving fitness should be evaluated. The emergency department (ED) is often the first place that older patients visit when they develop acute manifestation of underlining medical conditions. In this study we examined the driving status and transportation needs of ED elderly drivers.

### **Methods**

In this prospective cohort study, we collected data on a convenience sample of 92 patients aged  $\geq 70$  years who were treated in the Vancouver General Hospital ED, an urban tertiary centre in Vancouver, Canada, between August and September 2017. We included patients who live independently and are current drivers defined as those who drove at least once in past 4 weeks. Data came from questionnaires which asked about driving status and transportation needs, medical record review, and driving fitness screening tests including Trail Making Test B (TMTB), Mini-Mental State Examination (MMSE), and ruler drop reaction time (Dickerson 2014; Wilson & Pinner 2013).

### **Results**

A total of 132 elderly patients met the inclusion criteria and 92 (70% response rate; 57 males and 35 females) agreed to participate. The average age was 79.1 ranging from 70 to 95 years old. The majority (n=86, 93.5%) own a vehicle and 55 (60%) drove daily or almost daily. Twenty drivers (22%) had considered giving up driving but few had discussed their driving with family members (15/92, 16.3%) or family doctor (6/92, 6.5%). When asked about public transportation, 31 respondents had never taken public transit in past year. Most (89%) knew about transportation services for seniors but

only 11 had used those services in past year. Many cited convenience as the main reason for their preference of transportation.

Sixty eight drivers also agreed to take the driving fitness screening tests. Approximately 10 drivers failed the TMTB test (requiring >181 seconds), none scored below 17 (indicating severe cognitive impairment) in MMSE and 14 drivers had a reaction time over 0.248 second (indicating reaction time deficiency) in ruler drop test.

Medical chart review showed that at least 16 patients were diagnosed at discharge with medical conditions such as cardiac diseases which are known to be associated with higher crash risk. Fifteen drivers were prescribed with medications such as sleep aids and antidepressants that may affect their driving skill.

### **Conclusions**

Many current elderly drivers drive and will continue to drive despite having medical conditions that potentially affect their driving fitness. Simple screening tools may be helpful to target potentially unfit drivers for interventions in the ED.

### **References**

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