

## Research - R197

Poster

### **Abstract Title:**

Sleeping Medications, Anithypertensives, Anitcoagulants and Prescription Narcotics are associated with Non mechanical falls

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### **Background & Purpose:**

Falls are an increasing cause of injury. Prior studies have shown that 35% of community dwelling elderly will fall at least once a year. At our Level 1 trauma center, falls have risen from 40% to 50% between 2001 and 2010. 70% of these falls result in injuries and 5-10% result in death. Half the elderly patients will fall again within the next year. With our aging population, falls will continue to be the mechanism of injury in an increasing number of trauma patients. This study looks to see if there are any differences in the patient population between mechanical and non-mechanical falls.

### **Study/Project Design:**

This was a prospectively administered survey regarding the circumstances that caused the trauma patient's fall.

### **Setting:**

Patients admitted to a Level 1 trauma center for injuries related to a fall from July 2012 to August 2013.

### **Sample:**

This sample included a total of 335 surveys of fall related trauma patients with a 54% response rate. The age range of the respondents was 20 to 105 years old.

### **Procedures:**

The survey included the following parameters: living arrangements, use of walking devices, activity preceding fall, location of fall, environmental causes, surface, impairment issues related to the fall (dizziness, weakness, vertigo etc) and fall distance. Hospital information included: medications, toxicology, blood alcohol level (BAC), discharge status and hospital length of stay (LOS) collected from the electronic medical record and trauma database. The respondents were stratified into two subgroups: mechanical (MECH) vs non-mechanical falls (NMECH). MECH is defined as an extrinsic fall related to slipping, tripping, stumbling or industrial whereas a NMECH is defined as an intrinsic fall related to syncopal episodes. Data was analyzed using Chi-square for proportional data and student's t-tests for continuous data. Nonparametric statistics were used for data not normally distributed.

### **Findings/Results:**

Non respondents include patients that declined participation, severe dementia, brain injury with no witness of fall and short LOS. The mean age was  $69.14 \pm 18.38$  and 44.2% were males. There were 253 (75%) patients in the MECH group and 82 (25%) in the NMECH group. The NMECH group was significantly older than the MECH group ( $75.6 \pm 1.6$  vs  $67.2 \pm 1.2$ ,  $p=0.0002$ ). There was no significant difference in the number that fell from standing. The NMECH had significantly higher rates of use of sleeping medications (14% vs 7%,  $p=0.04$ ), antihypertensive medications (76% vs 59%,  $p=0.008$ ), anticoagulants medications (55% vs 41%,  $p=0.02$ ) and prescription narcotics (30% vs 18%,  $p=0.02$ ). There were no differences between the two subgroups regarding living arrangements, use of walking devices, toxicology, BAC, discharge status, mortality, LOS and gender.

### **Discussion/Conclusions/Implications:**

Patients that suffer non-mechanical falls are older and are more likely to be taking antihypertensives, anticoagulants, prescription narcotics, and sleeping medications than those who have mechanical falls. The evaluations for the non-mechanical fall did not result in any difference in length of stay or discharge status. In the elderly population, which is at high risk for repeated falls, reviewing their medications and the effects may be beneficial in preventing further episodes and requires further study.