

An Instrument to Predict Fall Risk—Project StepWiz

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Falls are the most common cause of injuries and the primary etiology for accidental deaths in the elderly population. The ability to quickly take a step is of paramount importance in maintaining balance. Previous research has shown a significant correlation between the time it takes to execute a step and the risk of experiencing a future fall. Consequently, a method that can quickly and accurately measure step behavior may be used to identify individuals with an increased risk of falling. The current project has

built a prototype device that can be used in a clinical setting to easily and efficiently measure parameters of step execution. The step is performed under either single task (motor task only) or dual task conditions (motor task while performing an attention demanding cognitive task). Data can be stored in a relational data base and a clinical report that reflects fall risk can be printed. The current project is part of the Swedish PIEp initiative (Product Innovation Engineering Program), a federally and industry supported program that promotes innovation and technology commercialization in engineering education through development of innovation knowledge, experience and education including exchange of students and personnel between industry and academia on a national and international level.