

Abstract

Title: Falls in the elderly

Objectives: The aim of this diploma thesis is to analyze and classify knowledge about falls in the elderly during usual daily activities with focus on prevention and detection of falls by using wearable and non-wearable systems for detecting falls in the elderly.

Methods: This diploma thesis is written with the method of literary research through professional literature, books and articles in both Czech and English was used in the work. To meet the objectives that have been provided were selected examples that helped analyze and clarify the issue of falls in elderly.

Results: The sources of professional literature have shown that the falls in the elderly are a very serious issue of society. At the same time, it is important to be aware of their possible health and economic impacts, as well as how to prevent them. The correct use of fixation shoes has been shown to reduce the risk of fall. Many fall detection devices are able to call for timely help. Last but not least, knowledge of this issue could help to improve and innovate the fall detection and prevention systems.

Keywords: falls in elderly, senior immobilization, biomechanics of falls, detection and prevention of senior falls, osteoporosis, senior bone aging, senior cartilage aging, biomechanics of senior walking, walking speed, balance control