GEARING UP FOR GUIDE DOGS
AN EXERCISE VIDEO

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INTRODUCTION

- According to the World Health Organization (2007), age-related visual impairment is increasing. It is estimated that 65% of people who are visually impaired are over age 50 and 82% of those visually impaired over age 50 are blind (WHO, 2014).
- Guide Dogs for the Blind (GDB) is a national training program that serves individuals with blindness or low vision. As a non-profit organization, GDB provides all services free of charge to participants. Training lasts for two weeks with a class size of 6-8 students and instructor/student ratio of 1:2. Participants learn how to perform daily tasks with their dogs and venture out in the community during the on-campus training.
- When walking with a guide dog, different upper extremity muscles and postures are adopted. Older adults with low vision may not be in the proper physical condition to meet the strenuous demands of handling a guide dog due to the normal aging process and decreased mobility.
- There is an overall lack of research studies regarding muscles used with either a long cane or a guide dog; the project developers supplemented current literature with experts' opinion from GDB.
- Occupational exercises can be integrated into older adults' daily activities to stretch and strengthen the necessary muscles to handle a guide dog.
- Short-term goals of this project are to decrease muscle pain and injury when handling a guide dog and to facilitate older adults' success in the GDB program.
- In the long term, this project may potentially help to increase the eligibility of older adults in preparing and maintaining the physical capability when partnering with a guide dog.

LITERATURE REVIEW

- Vision assists with balance and plays a major role in gait (Logan et al., 2010).
- Older adults' participation in daily activities can be hindered by low vision, which can increase functional disability through a decreased ability to see and interact with their environment (Travis, Boerner, Reinhardt, & Horowitz, 2004).
- Assistive devices may support or increase older adults' ability to complete everyday tasks (Fok, Polgar, Shaw, & Jutai, 2011). Guide dogs serve as an assistive device by allowing their owners to independently venture into the community.
- Different muscles are required when using a white cane vs. handling a guide dog. Twenty percent of participants reported pain from associated body movements with the white cane, including pain in the head, neck, shoulder, lower back, forearm, and wrist. Injury from repetitive motion may occur with long cane use (Mount et al., 2001).
- Traditional exercise is difficult to maintain independently without a consistent, structured program and supportive follow-up (Opdenacker, Boen, Coorevits, & Delecluse, 2008).
- Exercise integrated into daily routines is more sustainable in the long-term compared to structured exercise programs (Clemson et al., 2012; Opdenacker, Boen, Coorevits, & Delecluse, 2008; Schutzer & Graves, 2004).
- Clemson et al., recommends functional, integrated exercise to improve and maintain physical capacity, based on the results of the study using a Lifestyle-integrated Functional Exercise program (2012).

STATEMENT OF PURPOSE

The objective of the project is to improve older adults' strength and endurance through the use of an evidence-based occupational exercise video. The exercises within the video are integrated into daily life activities to promote adherence and habituation to the exercises.

METHODOLOGY

Needs Assessment:

Interviews with stakeholders:

- Met with Theresa Stern, Vice President of Outreach, Admissions & Alumni Services, to assess needs of GDB.
- Met with dog trainers to experience walking with the guide dogs and the muscles involved in handling a guide dog.
- Met with the GDB staff nurse to understand physical challenges of participants during GDB training program.

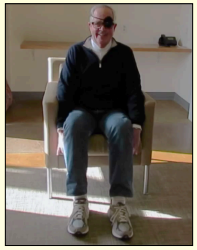
Pre-production:

- Designed script for video using clear and descriptive language to narrate the exercises so that viewers can perform the exercises based on auditory input only.

Video Filming and Production:

- Recruited actors to perform exercises. Actors wore solid dark or light shirts to provide high contrast for ease of viewing.
- Filmed video on GDB campus with two different cameras.
- Adapted video with decreased speed of scrolling script and voice-over, and added high-contrast colors to increase ease of viewing for those with low vision.
- Heavily edited video to provide easy viewing and listening to increase exercise participation.

Towel Stretch



Chair Marching

Shoulder Shrugs

CONCLUSION

- Ambulation, functional mobility, and community mobility are more challenging for older adults with low vision due to the key role of vision in gait (Logan et al., 2010).
- While adults with low vision experience many difficulties, the use of assistive devices positively influence their engagement in meaningful occupations.
- Adding exercises to already established routines may increase the chance of continued use of the exercises and will help to create new habits to maintain muscle strength and flexibility of the muscles used while walking a guide dog.
- Further research is needed to assess how the use of physical exercise to prepare for a training course can impact engagement in occupation. Additionally, research should address integrated exercise and how it can best be used to impact older adults who apply to receive a guide dog.

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