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Occupational Therapy's Role for Individuals with Long-Term Neurological Conditions

Courtney Ahle
ca1691@mynsu.nova.edu

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Occupational Therapy's Role for Individuals with Long-Term Neurological Conditions

Courtney Ahle OTD-S

George Palang, Lead Neuro-Recovery Specialist & Floor Supervisor, Stay in Step Brain and Spinal Cord Injury Facility

Dr. Christina Kane, EdD, OTR/L



Introduction

- Spinal cord injuries can lead to a significant number of sensory or motor deficits, thus limiting an individual's independence during daily tasks (Peev et al., 2020).
- A sudden loss of independence can play a pivotal role in one's sense of self-efficacy and overall well-being.

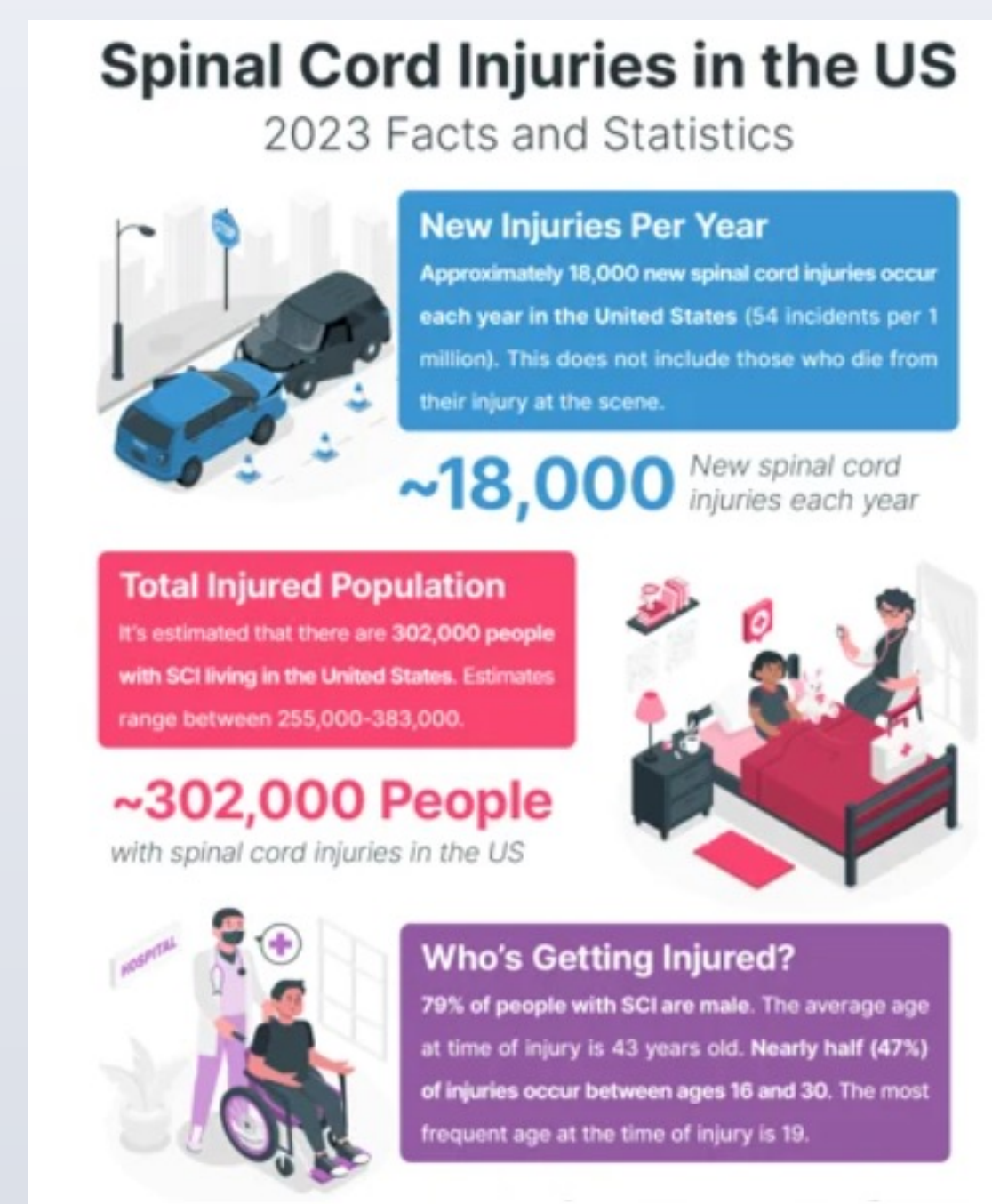


Fig. 1 Spinal Cord Injury Statistics

Capstone Site Description

Stay In Step Brain and Spinal Cord Injury Recovery Center

- Located in Tampa, FL
- One PT, two PTAs, one OT, four trainers
- Non-profit, outpatient neurorehabilitation facility
- Founded by a veteran who suffered from a spinal cord injury
- Treats individuals with long-term neurological conditions (i.e. SCI, TBI, CVA, MS, PD)
- Utilizes client-centered, activity-based therapy interventions



Fig. 2 Stay in Step Ability Games

Summary of Needs Assessment

- Enhance interdisciplinary collaboration to address all aspects of a client's well-being, including physical, cognitive, and emotional needs.
- Implement a manual demonstrating OT exercises and adaptive methods to perform ADLs and/or IADLs safely and effectively.
- Advocate for expansion of OT services within this facility to address fine motor skills, bed mobility, emotional regulation, vision, attention, memory, safety awareness, and patient/caregiver education.



Fig. 2 Stay In Step Logo

Literature Review Summary

- SIS uses activity-based therapy (ABT) to restore and promote abilities that clients had prior to their injury. ABT is defined as therapeutic interventions that are specifically designed to activate musculature below the level of injury to recover prior function (Jones et al., 2012).
- In one study, patients with an SCI that completed high repetitions during exercises were able to regain skills that had been affected and maximize neuroplasticity (Zbogor et al., 2017).
- Neuroplasticity is known as the ability of the brain to adapt its response to stimuli by reorganizing connections within the nervous system in response to a previously learned experience (Puderbaugh, 2022).
- A study determined that locomotor training has allowed some clients with motor incomplete SCIs to restore voluntary movement during ADLs, such as dressing, bathing, and toileting (Behrman et al., 2017).

Capstone Project Description & Outcomes

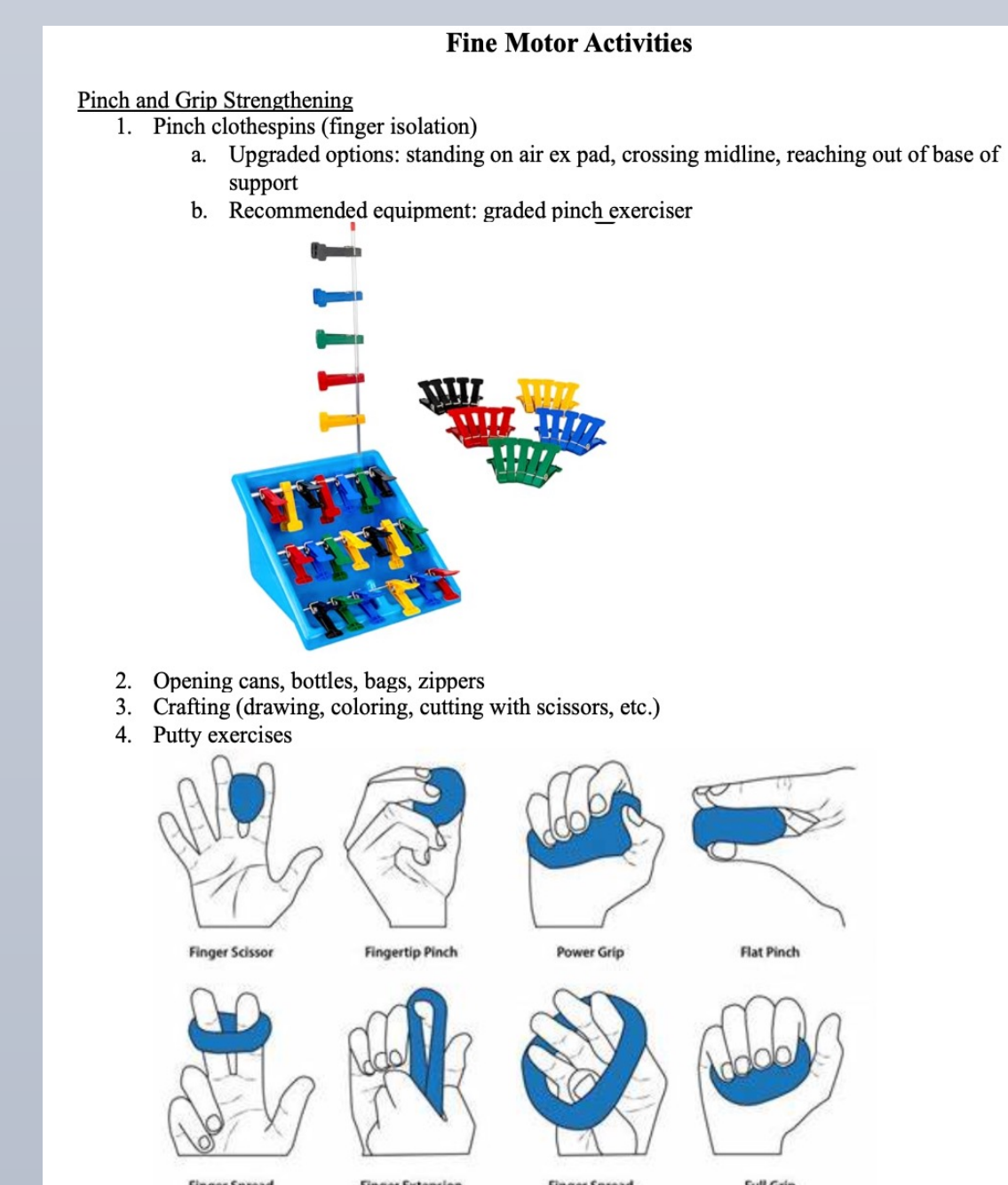
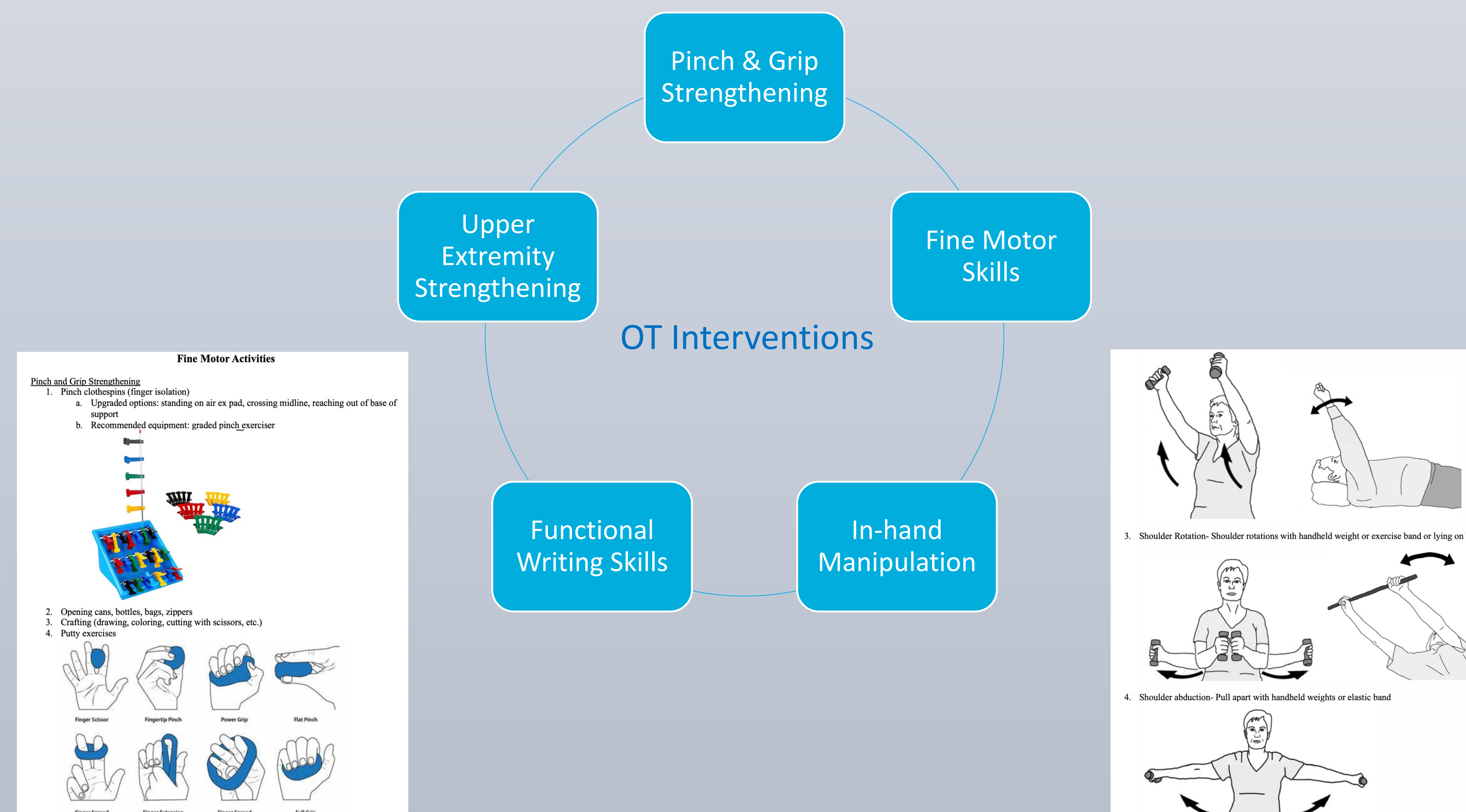
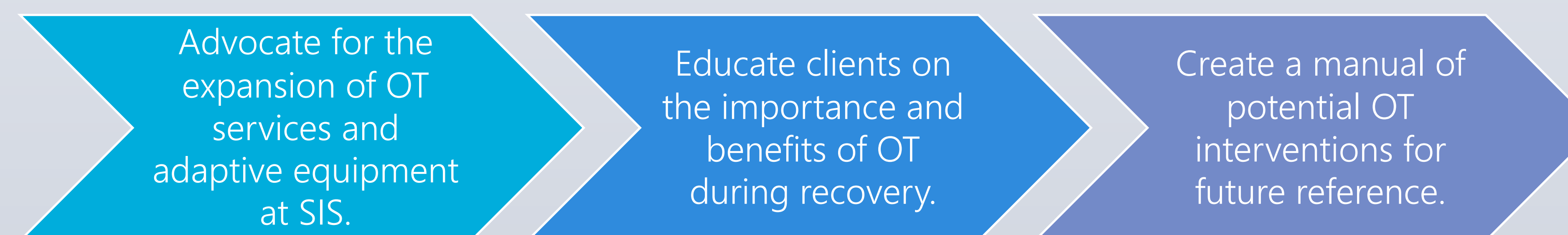


Fig. 3 Fine Motor Activities

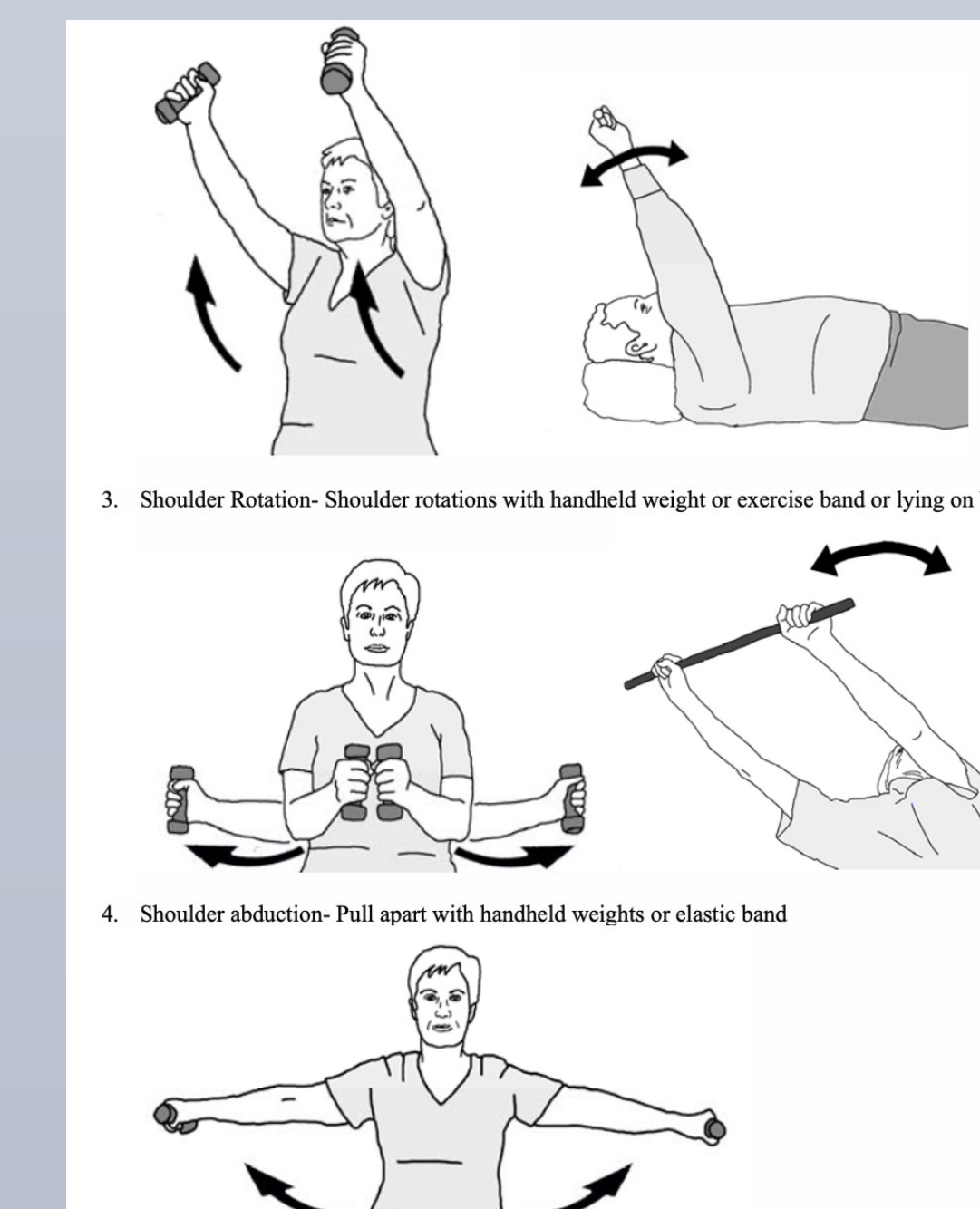


Fig. 4 Upper Extremity Exercises

Capstone Goals Achieved

- Conducted a needs assessment with current clientele at SIS to design and implement client-centered interventions to achieve optimal outcomes.
- Advocated for the expansion of the OT profession to within SIS by conducting educational sessions for clients, distributing home exercise programs, and informing clients on the importance of OT during recovery.
- Developed and finalized a manual for employees and clients, outlining effective OT interventions to restore upper extremity strength, endurance, and range of motion and prevent muscle atrophy.

Implications for OT Practice

- Although SIS strives to address many aspects of their clients' recovery, challenges with completing activities of daily living are not a primary focus.
- Research supports the effectiveness of ABT interventions in OT treatment.
- The use of ABT aligns with SIS's existing therapy methods and clients have reported improvements from ABT interventions.



Fig. 5 Annual Gala Invitation



Fig. 6 Annual Ability Games Invitation

References & Acknowledgements

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References Available Upon Request