

## ABSTRACT

**This review explores occupational therapy's role in the non-traditional setting of adaptive skiing and winter sports by examining the implications of using skiing as an intervention.**

## BACKGROUND

Occupational therapists often use the therapeutic use of occupations, including everyday life activities to support participation, performance and function in roles (American Occupational Therapy Association, 2014). For many people, downhill skiing is a meaningful occupation that is fun, challenging and a healthy form of exercise. Adapting ski equipment allows individuals with all abilities to participate in skiing. Sterba (2006) describes adaptive skiing as an enjoyable and safe winter outdoor recreational activity for children with disabilities. There are many implications for occupational therapists to use skiing as an intervention to rehabilitate a variety of impairments and target multiple areas of function at once.

## LITERATURE REVIEW

Skiing is meant to be enjoyed by individuals of all abilities. In addition to enjoying the outdoors, there are many physical and cognitive benefits to participating in downhill skiing.

- Improve Muscular Strength
  - Muller, et al., (2011) found that downhill skiing significantly increased older adults' aerobic capacity, leg muscle power and strength. Stating that improving muscular strength "can significantly improve the operational process required in everyday life" (Muller et al., 2011). Maintaining and improving muscular strength is important for all individuals to be able to participate in daily activities and improve cardiovascular health.
- Improve Gross Motor Coordination
  - Sterba (2006) found that adaptive downhill skiing was a great way to improve gross motor coordination in children with cerebral palsy beyond the effects of ongoing PT and OT. The results of the Gross Motor Function Measure showed significant improvements in standing, walking running, jumping and an overall higher total score after participating in adaptive downhill skiing. (Sterba, 2006).

## LITERATURE REVIEW, cont.

- Improved Balance
  - Sterba (2006) also found improved balance and coordination due to the total body exercise children with cerebral palsy experience while engaging in adaptive downhill skiing. Sterba (2006) speculates that core strength, proximal stability and postural alignment as well as anticipatory and feedback postural control may have improved while downhill skiing, but this was not specifically measured in this study.
- Promote Positive Mental Health Changes
  - Typical skiers with no cognitive or physical disabilities showed decreased signs of mental stress, an overall healthier lifestyle and found social, emotional and intellectual benefits from engaging in skiing (Burtscher et al., 2013).
  - Patel and Greydanus (2010) found improved coping skills and personal motivation, self-confidence and teamwork in individuals with a disability who participated in a competitive sport, such as downhill skiing, with the Special Olympics.
  - Individuals who participated in adaptive skiing programs reported improved physical well-being and decrease in bullying due to improved socialization and/or improved coping ability after completing a season participating in adaptive skiing (Frumberg et al., 2019).

## IMPLICATIONS FOR OT PRACTICE

Skiing is a wonderful way to stay active and healthy for all populations and abilities. Using skiing as an occupational therapy intervention is a meaningful way to target multiple impairments at one time. Research shows that skiing can help to strengthen muscles, improve gross motor coordination, enhance balance and improve mental health. Aside from those areas, vision and cognition are additional areas that can be addressed during skiing but there is no current research on these areas. The areas of cognition that can be addressed during skiing can include, but are not limited to, attention, path finding, sequencing and memory/recall. The areas of vision that can be addressed during skiing can include visual scanning, visual attention, visual memory and many other skills.

Different areas of practice that could benefit from using skiing as an intervention include mental health patients, geriatric care, physical disabilities and cognitive disabilities.

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