Maintenance of Physical Function in Frail Older Adults

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KEYWORDS

• Physical activity • Sedentary • Community • Low intensity • Frailty
• Physical function

KEY POINTS

- Participating in regular physical activity is safe for sedentary older adults.
- Multiple barriers prevent the initiation and maintenance of a regular routine of physical activity.
- Health care provider recommendations are important to changing behavior.
- Social settings, such as a faith-based community, may be the social–relational connection or key ingredient of the intervention delivery.

Physical function tends to decrease with older Americans, while disability rates usually increase with age.[1] These changes may impair mobility and functional capacity that ultimately affect quality of life and lead to institutionalization. Although much of the general public mistakenly believes this decline is inevitable, loss of function is not a part of normal aging. One key factor in the prevention of functional decline is participation in regular physical activity (PA). Older adults are still capable of caring for themselves, and some continue to compete as elite athletes into their 90s (eg, Jack LaLanne, who became a TV fitness icon for women from 1952 to 1985, and continued

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his daily 2-hour workout as a nonagenarian).[2] More importantly, women enjoyed working out with Jack. His workouts were easily performed in the home with low-cost, low-tech equipment.

Despite the popularity of numerous televised exercise programs and more than a decade of national attempts to increase participation in regular PA, older adults in the United States are sedentary. Only 20% participate in strength training required to maintain physical function.[2] As older adults transition to retirement, many lose the benefits gained from occupational or lifestyle PA.[3] To make a significant impact on this national trend, it is critical that health care providers actively screen older adults to determine if they are meeting the national requirements for PA and provide recommendations for sedentary older adults. Research evidence shows that low-intensity physical activity is feasible and beneficial for older adults.[4] This article will review strategies to reduce the barriers and strengthen motivators to this important behavior change for frail older adults. Research continues to develop and test strategies to support frail older adults who need to initiate and maintain a regular routine of PA.

BACKGROUND

Older adults generally fall into 5 categories of physical functionality that range from physically elite to physically independent.[5] Physically elite older adults are master athletes who train on a daily basis or continue to work in a physically demanding profession such as a hiking instructor or firefighter. Physically fit older adults remain very active, exercising intentionally 2 to 7 days a week, and may continue working. Physically independent older adults do not exercise with any regularity, but have not been diagnosed with a debilitating disease known to result in loss of function and independence. These older adults have little physical reserve and are close to transitioning to the next level of function, which is physically frail.

Physically frail older adults are able to perform activities of daily living that are basic to caring for oneself.[5] They may require some assistance such as meal preparation and shopping to maintain independence. Frailty is not the same as disability, but frail older adults are at risk of developing a disability and death from a minor stressor.[5] Frailty is a geriatric syndrome that results from impaired physiologic reserve across multiple systems.[6] That loss of reserve may be due to age, disease, or disuse. It results in a reduced ability to withstand physical and psychosocial stressors and increases an older person's vulnerability to adverse mental and physical health outcomes.[6] Clinical symptoms may include anorexia, weight loss, fatigue, and inactivity; signs include reduced immune function, age-related muscle wasting (sarcopenia), age-related loss of muscle strength (dynapenia), bone thinning (osteopenia), malnutrition, balance disturbance, and gait instability. Key factors leading to the development of frailty are chronic undernutrition and physical inactivity.[6] Predictably, the outcomes associated with frailty are increased risk of falls with injury, acute illness, cognitive decline, disability, dependency, social isolation, institutionalization, and death.[6] Clearly, it is important to be proactive in the management and prevention of frailty in older adults, because the associated functional decline is costly to the individual; additionally, the associated higher health care resource utilization is costly to the larger society.

The lowest level of physical function is physically dependent, which is characterized as inability to complete some or all of the activities of daily living and depend upon others for basic needs. When the demands of self-care outweigh the homeostatic reserves of the older adult, the frail elder is no longer able to independently meet day-to-day functional needs and becomes dependent on formal or informal assistance; this, potentially, leads to institutionalization.[5,6] Disability rates are higher in centenarians