



# StairAbility

Rehabilitation Science & Technology    Stair Climbing    Assistive Technology    Aging in Place

## University of Pittsburgh researchers have developed a novel stair climbing technology to support older adults to age in place safely and independently.

About 77% of older adults in the US want to age in place ([AARP](#)), but only 10% of homes are aging-ready, with stairs into and throughout the home being one of the main issues ([US Census Bureau](#)). As inaccessible stairs are a barrier to independent living for many older adults, we developed StairAbility.

StairAbility is a modular set of stairlift attachments that allows older adults to easily adapt their existing stairlifts to accommodate different needs, preferences, and levels of ability in order to facilitate independent stair climbing in the home. These attachments can be swapped with the existing seat on a stairlift by removing the seat and effortlessly snapping one of StairAbility attachments in its place. The current attachments we have developed include the following:

- **Handlebar Attachment:** Users hold onto the handlebar attachment, press the power button, and walk up and down the stairs with powered support.
- **Basket Attachment:** Users can use the basket attachment to carry heavy or awkwardly-shaped items like laundry baskets or grocery bags for them up or down the stairs while they focus on walking on the stairs.

### Indications

- For older adults who would like to independently live and age in their home

### Applications

- Multi-story homes that lack accessibility and are not aging-ready

### Advantages

- Adapts to user as mobility needs change over time
- Provides easily user-swappable attachments
- Promotes stair climbing safety, confidence, and independence
- Supports the completion of activities of daily living
- Encourages mobility, exercise, and active aging

### Invention Readiness

A functional prototype of StairAbility has been developed.

#### IP Status:

Provisional Patent in progress

ID Case #06626

#### Inventors (Research profiles are linked in each name):

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#### Related Publications:

N/A