# Home Modifications for Aging-in-Place Clients

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## BACKGROUND

The United states is currently experiencing historic growth of older adult population (age 65 and over).

- By 2030, all baby boomers will be over age of 65, and older adult population will grow to 21%.
- By 2034, older adults are projected to outnumber children (those under 18).
- By 2060, almost 1 in 4 Americans will be over age of 65, and number of adults 85 and over will triple. America will have 500,000 centenarians by this time (Vespa, 2019).

Not only is older adult population growing, but many are intending to stay in their homes as they age.

- According to United States of Aging Survey National Findings (2012), 9 out of 10 older adults plan to remain in current living environment for next 5-10 years.
- Main reasons include: enjoying current environment, family and friends in close proximity, and preferring not to be involved in moving process.

With combination of growing aging population and growing interest in remaining at home, it is important for OTs to address aging-in-place strategies for these individuals.

- According to systematic review by Stark et al. (2017), strong evidence was found for effectiveness of home modifications for improving functional performance for individuals with various medical conditions.
- Strong evidence also found for effectiveness of home modifications for decreasing falls when used as multicomponent intervention (paired with at least 1 additional fall reduction strategy).

## METHODS

The following methods were employed for completion of this project:

- Phase I: Building Foundational Competency- A total of 3 CEU courses were completed with 24 hours of hands-on learning (CAPS training).
- Phase II: Resource Development- A detailed list of effective home modifications for each area of the home was comprised using information gained through mentor observation, home evaluations, and CAPS training.
- Phase III: Expert Feedback- Site mentor reviewed completed handout and offered suggestions for additional content for final product. Suggestions were made for the following areas: entrance, staircases, and additional considerations.

## RESULTS

A series of strategies were developed across 8 environmental parts to include all necessary areas of the home. In addition, a list of evidence-based home modifications was proposed to improve quality of life for clients, while promoting aging-in-place.

**Entrance**

1. Ensure exterior walkways are well-lit and free of tripping hazards.
2. Railings on both sides of stairs (If stairs present).
3. Address should be clearly visible in case of emergency response.
4. Replace doorknob with lever door handle to allow for easier access to the home.
5. Adequate lighting- for nighttime security and visibility.
6. Porches should have edge protection on all sides.
7. Threshold at entrance should be as low as possible.


**Kitchen**

1. Side-by-side refrigerator.
2. Increase floor space to allow adequate room for maneuverability with mobility device.
3. Ensure easy access to necessary cabinet areas.
4. D-shaped handles on cabinets and pantries.
5. Controls should be located on front of stove to reduce reach and increase safety.
6. Consider Installing multi-level countertops.


**Bathroom**

1. Ensure toilet is comfort-height (17”-19” from floor).
2. Grab bars at toilet and shower.
3. Walk-in or roll-in shower to decrease fall risk with transfer tasks.
4. Shower chair or extended tub bench.
5. Hand-held shower head.
6. Curtains instead of glass sliding doors.
7. Increase contrast between surfaces.



**Bedroom/Living Room**

1. Ensure location of bed allows for easy access to bathroom.
2. May consider lighting path from bed to bathroom to increase safety with nighttime visits.
3. Consider installing bedrail to aid with bed transfers/mobility.
4. Hospital bed (with overhead trapeze) may be necessary under certain conditions.
5. Furniture arrangement should allow for wide walkways.
6. Secure large area rugs to floor with double-sided tape or non-slip grips. Remove all throw rugs.

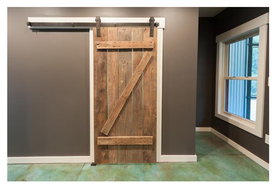

**Laundry Room**

1. Front loading washer and dryer (easier access as opposed to top-loading units).
2. Consider placing washer/dryer on raised platforms to reduce bending.
3. Front-mounted controls on washer/dryer to reduce unnecessary reach.
4. Large print operating instructions/controls may be necessary for those with low vision.



**Closets**

1. Add a light fixture to increase visibility.
2. Consider installing adjustable shelves to allow for easier access to items.
3. Install sliding or swinging doors without a floor track (tripping hazard).
4. If closet is deeper than 18”, it should have opening of 32” minimum to allow for sufficient room for item storage and retrieval.




**Staircases**

1. Railings on both sides of stairs.
2. Light switches at top and bottom of staircases.
3. Automatic nightlights near steps/staircases.
4. Add contrast between surfaces of stairs.
5. Stair lift may be necessary for those with limited mobility.


**Additional Considerations**

1. Change all light bulbs to LED bulbs.
2. Replace toggle light switches with rocker-style switches.
3. Smoke and carbon monoxide detectors present on each floor of home.
4. Replace all doorknobs with lever door handles.
5. Set water heater at 120 degrees maximum to prevent scalding (105 degrees recommended).
6. Accessible telephone on each floor of home (if landline).
7. Ensure bedroom, full bath, kitchen, and laundry room located on main level.
8. Widen doorways to 32” minimum (36” recommended).
9. Remove throw rugs or secure to floor.
10. Flashlights in multiple rooms in case of power outage.


## BOTTOM LINE FOR OT

This project has examined effective home modifications for older adults wishing to remain in the home as they age. All areas of the home were addressed, with recommendations made for each. Implications for future practice as a result of this project are as follows:

- Most important areas for home modifications: entrance, bathroom, kitchen, staircases (if used).
- Safety = #1 priority.
- Adequate lighting in all areas of home is crucial.
- Cost effective options should be considered before more expensive options.
- Modifications should be made with future in mind as well as present.