

# Aging in Place: Home Modifications to Increase Independence

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# Introduction

- ▶ U.S census bureau shows only 10% of homes are aging ready, posing limitation to older adults ability to age in place (Vespa et al, 2020)
- ▶ Medicaid and CHIP Payment and Access Commission have estimated the potential out of pocket costs for a shared room in a nursing facility to be 15 thousand dollars annually (Medicaid and CHIP Payment and Access Commission, 2023)
- ▶ 1 in 4 adults age 65 and older will experience an injurious fall in the next year (Moreland, 2020)
- ▶ Home modification programs have been shown to improve functional mobility and activity in the home

# Home Safety Assessment Outcome Measures and Guides

- ▶ Home Falls and Accidents Screening Tool, AKA home FAST
  - ▶ A 25 question form that is shown to correlate with increased fall risk if the home scores over 9 points (Mackenzie & Byles, 2018 )
  - ▶ Questions are presented in a layperson friendly manner
- ▶ Westmead Home Safety Assessment
  - ▶ Designed to be completed by rehab professionals
  - ▶ More detailed than Home FAST, but may be more difficult to complete for layperson
- ▶ Home Safety Self-Assessment Tool
  - ▶ In depth overview of possible safety hazards in the home and explanations of how to address hazards
  - ▶ Targeted towards individuals in Erie County, NY; The listed businesses will not be relevant in our area
- ▶ AARP Home Fit Guide (AARP, 2020)
  - ▶ Made for the layperson; good descriptions and pictures of the home area being discussed
  - ▶ Also covers general home safety tips not directly related to aging in place

# Home Modification in the Literature

- ▶ Let's briefly review three studies selected to highlight:
  - ▶ The economic feasibility of home modifications
  - ▶ The future direction of home modifications
  - ▶ And the effect of home modification on aging in place

# Inclusive Practices for Aging in Place

- ▶ Evaluates the Older Adult Home Modification Program, OAHMP.
- ▶ Average cost of \$1135 to complete modifications
- ▶ Participants report 91% of functional goals met or partially met after the OAHMP
- ▶ Most hazards were found to involve inadequate lighting, flooring/steps/railing safety, and ADL adaptive equipment needs
- ▶ The study was performed in St. Louis and the average age of the participants was 72 years

# Development of a Smart Home Modification Program

- ▶ A study by Mun and Kim surveyed multiple experts in home modification and smart technology to assess the viability of smart technology to aid aging in place efforts
- ▶ This study suggests smart technology can offer many benefits to those looking to improve their safety and function in the home
- ▶ While the smart home technology discussed in this study is not readily available now, there are some modifications to the home that can be implemented today (i.e. automatic light switches, virtual assistants, outlet timers, clap on/off light, and video doorbells)

# A Systemic Review of Home Modification for Aging in Place in Older Adults

- ▶ This review shows home modification can...
  - ▶ Improve quality of life
  - ▶ Decrease incidence of falls
  - ▶ Improve independence
  - ▶ Decrease anxiety and depression
  - ▶ Improve mobility
  - ▶ And decrease fear of falling
- ▶ It is emphasized that the most improvement in independence and functional mobility as well as decrease in fall risk utilized physical therapy as well as home modification



# Where to Start?

- ▶ Make it easy to navigate your home
- ▶ Ensure adequate support with activities
- ▶ Choose easy to use fixtures
- ▶ Consult with your doctor to see if you could benefit from physical therapy in conjunction with home modifications
- ▶ General home safety

# Make it Easy to Navigate Your Home

- Clean up clutter in walkways, stairs, and small areas



# Make it Easy to Navigate Your Home

- ▶ Remove trip hazards such as unsecured throw rugs and loose wires



**Non trip wire tape**  
**Image reference #7**

# Make it Easy to Navigate Your Home

- Provide proper lighting in all areas (inside, outside, and task lighting)



# Make it Easy to Navigate Your Home

- Make transitions in the floor easy to see



**Double handrail and high contrast steps. By American Printing House for the Blind. Image reference #4**

# Make it Easy to Navigate Your Home

- ▶ Add non-slip surface to non-carpeted stairs



**Non slip stair treads**  
**Image reference #2**



# Make it Easy to Navigate Your Home

- ▶ Avoid pinch points with furniture, especially if you use a walker



# Make it Easy to Navigate Your Home

- ▶ Single floor living avoids stairs



**Non slip stair treads**  
**Image reference #2**



# Make it Easy to Navigate Your Home

- ▶ Clean up clutter in walkways, stairs, and small areas
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- ▶ Single floor living avoids stairs

## Review

# Ensure Adequate Support With Activities

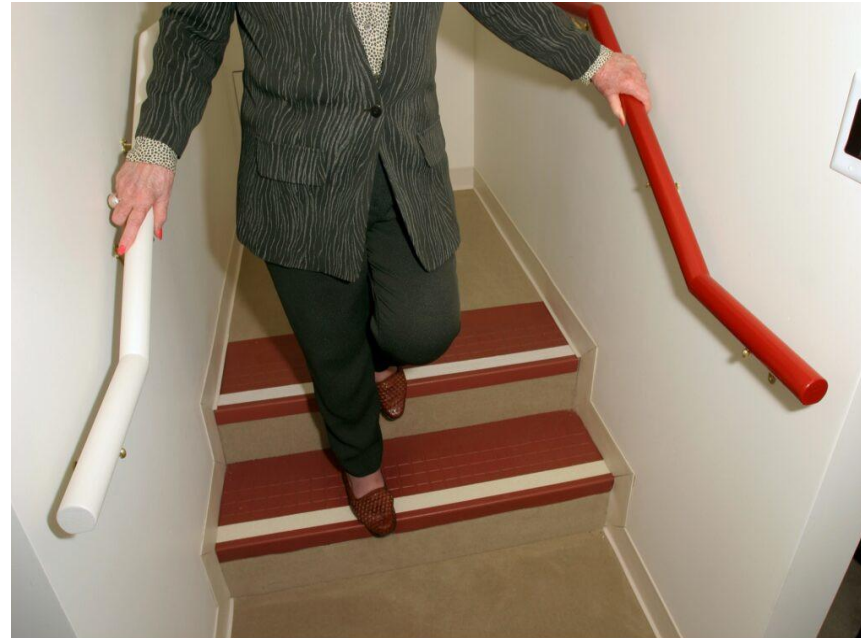
- ▶ A grab bar can improve safety in the bathroom



OneweekendWebsite, Image Reference  
#3

# Ensure Adequate Support With Activities

- It is best to have graspable handrails at all stairs, on both sides



**Double handrail and high contrast steps. By American Printing House for the Blind. Image reference #4**

# Ensure Adequate Support With Activities

- Elevated toilets can improve sit to stand transfer safety



**Bedside commode chair.**  
**Image reference #8**

# Ensure Adequate Support With Activities

- ▶ A shower chair can reduce standing balance requirements



**Shower chair**    **Image reference #12**

# Ensure Adequate Support With Activities

- ▶ A nonslip matt can improve balance in wet areas like the shower/bathroom



**Non slip bath mat.  
Image reference #5**

# Ensure Adequate Support With Activities

- ▶ A bench or chair can be useful in areas where you put on/remove clothing/shoes



# Ensure Adequate Support With Activities

- ▶ A parking aid can be helpful if you park your car in the garage



**Visual parking aid**  
**Image reference #9**



# Ensure Adequate Support With Activities

- ▶ A grab bar can improve safety in the bathroom
- ▶ It is best to have graspable handrails at all stairs, on both sides
- ▶ Elevated toilets can improve sit to stand transfer safety
- ▶ A shower chair can reduce standing balance requirements
- ▶ A nonslip matt can improve balance in wet areas like the shower/bathroom
- ▶ A bench or chair can be useful where donning and doffing clothing/shoes
- ▶ A parking aid can be helpful if you park your car in the garage

## Review

# Choose Easy to Use Fixtures

- ▶ Lever style doorhandles are easiest to manipulate and requires less grip strength than knob style handles



**Lever style door handle**  
**Image reference #10**

# Choose Easy to Use Fixtures

- ▶ Cabinet pulls are easier to use than knobs



**Cabinet pull handle hardware. Image Reference #11**

# Choose Easy to Use Fixtures

- ▶ Motion activated light switches can be helpful to ensure adequate light while moving from room to room



**Motion activated light switch**  
**Image reference #6**

# Choose Easy to Use Fixtures

- ▶ A range with controls in front of the burners can limit reaching over hot burners and flame



# Choose Easy to Use Fixtures

- ▶ A handheld/adjustable shower head is best in the shower to reduce mobility requirements



# Choose Easy to Use Fixtures

- ▶ Lever style doorhandles are easiest to manipulate and requires less grip strength than knob style handles
- ▶ Cabinet pulls are easier to use than knobs
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- ▶ A handheld/adjustable shower head is best in the shower

## Review

# Physical Therapy to Improve Mobility

- ▶ A physical therapist can assess your..
  - ▶ Strength
  - ▶ Balance
  - ▶ Endurance
  - ▶ And functional mobility in your home
- ▶ Once the therapist identifies your specific weaknesses, they will create an individualized plan to meet your meaningful goals
- ▶ You can receive physical therapy in a variety of settings, including your own home
- ▶ Ask your doctor if physical therapy could be needed to improve your safety with mobility in and out of the home



# General Home Safety

- ▶ Always keep smoke/carbon monoxide detectors operational
- ▶ Keep hot water to a temperature that won't cause burns (below 120 F)
- ▶ GFCI outlets by water sources
- ▶ It is best to have a phone available at all times to call for help
- ▶ Always know where your pet is while walking

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