



OT LIFESTYLE SOLUTIONS

Home Safety: The Unique Role of Occupational Therapy

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Objectives

- Outline the unique perspective of OT related to home safety
- Highlight potential roles with populations not normally considered for home modifications
- Summarize potential assistive technology options for home safety
- Outline the broad scope of OT evaluation tools related to home safety
- Identify potential innovative methods to increase access
- Review funding sources
- Summarize the growing research evidence supporting OTs' role in Home Safety evaluations.



Potential OT Roles in Productive Aging

- Environmental modifications and Home Safety
- Fall Prevention
- Assistive technology prescription and training
- Health and Wellness including mental health
- Management of chronic conditions while improving/maintaining participation
- Caregiver support and training
- Community Mobility and Older Drivers
- Role transitions
- Transitions related to moving and maintaining participation



Occupational Therapy: A unique perspective

- Person-Environment-Occupation
 - Person factors
 - Physical abilities, cognition, vision, hearing, values and interests, safety judgement
 - Environment factors
 - Accessibility, tasks environment match, safety concerns and demands, supports, resources
 - Occupation (task) demands
 - Attention, problem solving, physical demands, environmental interaction, safety concerns and demands



Advantages beyond CAPS or ADA environment for Home Safety

- Focus on unique Person-Environment-Occupation fit
- Identify training, compensation or adaptation needs that includes before and after modifications to maximize utilization
- Background and training allows for understanding of future needs
- Skilled in working with clients with unique needs and or cognitive challenges
- Liaison between contractors and client



Persons with visual impairments/low vision

- Home safety evaluation for hazard removal
- Lighting changes that are task and person specific
- Adaptations to improve safety
 - Automation of some lighting
 - Color contrasts for changes in rooms, elevations etc.
 - Magnification options for some tasks
 - Medication management strategies
- Adaptations to improve task effectiveness
 - Adapting closets and cabinets to find items
 - Setting routines and habits to support participation



Persons with Dementia

- Caregiver support and training
- Client and care-giver centered evaluation
- Environmental modifications for safety and increasing function
 - Decreasing distractions
 - Improving safety
 - Facilitating task initiation/completion
 - Electronic supports to facilitate participation and safety
- Task modifications for cognitive changes
 - Structure to allow initiation, reduce steps, backward chaining
 - Caregiver training
- Able to match these modifications to person's functional level

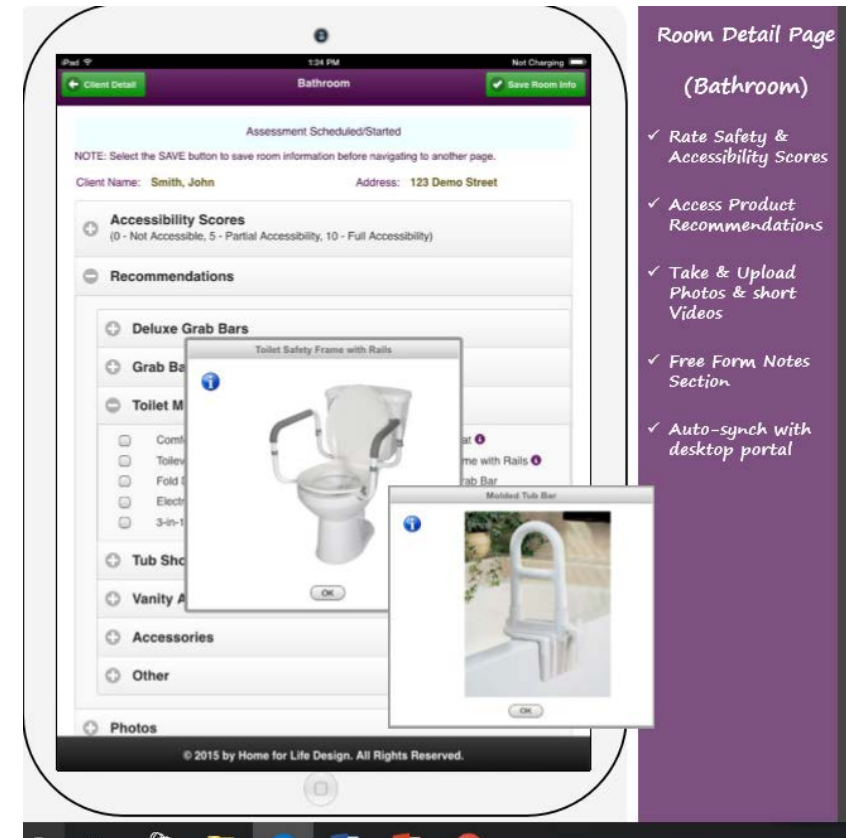


Assistive Technology for Home Safety

- 3 main types of technologies in this area
 - Redundant alerts for persons who are hard of hearing
 - Alarms to signal for help
 - Assistance/compensation for persons with physical and or cognitive challenges
- Examples:
 - Door alarms, wandering alerts
 - Locked medication dispensers with alarms
 - Voice and remote activation
 - Fall sensors and vitals monitoring
 - Stove motion sensors
 - Electronic/telehealth supported cottages

OT Home Safety Evaluation Tools

- Increasing research looking at standardization and scoring of safety risk and performance.
- *HomeforLife Design* computer app evaluation
 - www.homeforlifedesign.com
- *In-Home Occupational Performance Evaluation*
 - (*I-HOPE; Stark, Somerville, & Morris, 2010*),
- Safety Assessment of Function and the Environment for Rehabilitation—Health Outcome Measurement and Evaluation
 - (*SAFER-HOME v3; Chiu et al., 2006*),
- Home Falls and Accidents Screening Tool
 - (*Home FAST; Mackenzie, Byles, & Higginbotham, 2000*)



OT Falls Assessments and Home Hazards

- Home Safety Self Assessment Tool
 - (HSAT; Horowitz, Nochajski, & Schweitzer, 2013)
- Rebuilding Together Home Safety checklist
www.rebuildingtogether.org
- Performance Assessment of Self-care skills (PASS-Home)
 - www.pitt.edu/~facaffs/acie/holm.html
- Cougar Home Safety Assessment v.4
 - www.misericordia.edu/images/ot/finalcougar07.pdf
- Kitchen Safety Evaluations: The Safe at Home Tool- Looks at recognizing unsafe situations
 - www.une.edu/com/research/researcher.asp?RID=30



OT Falls Assessments and Home Hazards Cont.

- Activities Specific Balance Confidence Scale
 - <http://www.rehabmeasures.org/Lists/RehabMeasures/DispForm.aspx?ID=949>
- Falls Efficacy Scale
 - <http://www.rehabmeasures.org/PDF%20Library/Falls%20Efficacy%20Scale.pdf>
- Decision on which to use is based on client needs, goals, occupations to be covered, and environmental context.

Remote Access and Home Safety

- Not always trained OT professional available to visit
- Allows for efficiency (e.g. long drive times not billable)
- Most require a trained aide/caregiver to be available
- Video taping, photography, and remote viewing
 - A standardized protocol is being developed
 - Effectiveness of remote home safety assessments
 - <https://www.ncbi.nlm.nih.gov/pubmed/28326967>
- Telehealth
 - In real time evaluation (VA in NC developing protocols for this)
 - Improves communication and problem solving
 - Allows for training and follow up, communication with remodeler etc
 - Currently not reimbursable from Medicare/Medicaid for OTs



Older Driver Safety and OT

- CarFit
 - fitting the driver to the vehicle to maintain safety
 - Education related to vehicle safety features
- Driving Skills
 - Driving Rehabilitation Specialist
 - Evaluation safety to drive or need for further training and follow up
 - “Lost” driver prevention for drivers with dementia
 - Resuming driving after illness or injury
- Alternatives to driving
 - Evaluation of safe community mobility options
 - Training and support to change habits and routines

Funding sources for Occupational Therapy

- Medicare
- Medicaid
- Medicaid Waivers – Potential coming in WA Area Agency on Aging
- Commercial Insurance
- Private payment
- Lack of resources overall for the coverage for the amount of work involved.



What does the research say?

- **Well Elderly Study 2** (2011 NIH funded)
 - 460 older adults in socio-economically disadvantaged populations in LA area
 - Randomized controlled trial
 - OT Lifestyle Redesign program over 6 months including education and evaluation of home safety hazards.
 - favorable changes in bodily pain, vitality, social functioning, mental health, composite mental functioning, life satisfaction and depressive symptomatology
 - significantly greater increment in quality-adjusted life years
 - OT provides cost effective way to reduce health decline and promote well being in older population.
 - <http://jech.bmj.com/content/early/2011/06/01/jech.2009.099754.full#T1>



What does the research say? Cont

- **CAPABLE Study**

- 281 older adults
- Medicaid/Medicare demonstration program
- OT, handyman and nurse
- After 5 months
 - Improved performance in ADLs, IADL (grocery shopping, medication management etc)
 - Improved symptoms of depression
- <http://content.healthaffairs.org/content/35/9/1558>



What does the research say? Cont

- Higher hospital spending on OT is associated with **decreased readmission rates** (2016)
 - Of 19 cost factors evaluated OT was only one that made a difference for patients with heart failure, pneumonia, and acute MI
 - OT's unique role in evaluation of function, social and environmental issues seen to contribute
 - Home safety evaluations and home modification recommendations key feature
 - Functional cognitive evaluations for issues like kitchen safety, medication safety
 - <http://journals.sagepub.com/doi/abs/10.1177/1077558716666981>



What does the research say? (Cont)

- **OT Home Safety Assessment** significantly reduces falls
 - 238 persons >70 yrs community dwelling in England, history of fall in past year RCT
 - Intervention: OT Home Safety Evaluation versus trained assessor
 - Followed over 1 year OT group had significantly less falls.
 - <https://www.ncbi.nlm.nih.gov/pubmed/21226674> (2011)
- **Home Hazards Removal Program (HARP)** study upcoming
 - 300 individuals randomized to OT Home Safety Evaluation, home modifications, safety education, facilitating social support
 - Results still coming but initial pilot positive on all outcomes
 - <https://www.ncbi.nlm.nih.gov/pubmed/28427336>



What does the research say? (Cont)

- **Systematic Review** 36 studies, multiple diagnoses, community dwelling older adults
 - Strong evidence for single and multicomponent interventions that included home modifications for reduction in rate and risk of falls
 - OT primary interventionist
 - Moderate evidence for improved caregiving for persons with dementia
 - <https://www.ncbi.nlm.nih.gov/pubmed/28218595> (2017)
- **Scoping Review Home Modifications for persons with Dementia**
 - Review of home modifications available
 - Outcomes improved from client centered and caregiver focused approach
 - Improved client task performance
 - Improved caregiver self efficacy
 - <https://www.ncbi.nlm.nih.gov/pubmed/26709430>



What does the research say? (Cont)

- **HomeCare Re-ablement Study**

- RCT first phase 30 persons older community dwelling person with medical concern/recent hospitalization
- OT home safety evaluation, intervention and modifications vs trained enablement worker without OT input for 6 weeks
- Outcomes: personal and extended ADL, quality of life, falls and use of health and social care services
- Both improved but greater improvement in OT intervention group
- <https://www.ncbi.nlm.nih.gov/pubmed/27531732> (2017)



Conclusion

- Occupational therapy is a vital part of the team that allows a person to age successfully at home
- Evidence shows that a Home Safety Evaluation by an OT can:
 - Decrease health decline
 - Reduce falls
 - Increase participation
 - Increase quality of life
 - Reduce hospital readmissions
 - Decrease costs
- The evaluation is tailored to the individual client and their context



Thank you!

