

## Safe at Home: Assistive Technology for Aging in Place with Alzheimer's and Dementia

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- Alzheimer's disease and other forms of dementia are not a normal part of aging
- It affects the brain's ability to transmit and process information
- It appears as simple forgetfulness and progresses to an inability to interpret and comprehend sensory information
- Access to remembered things is lost and the environment doesn't make sense anymore

Most people prefer to remain at home.

Few homes are accessible, safe and prepared.

### Principles to help us modify our homes for a family member with Alzheimer's disease

- Create *multiple* cues, landmarks and signals
- Remember that the most recent memories are lost first, followed by long-term memories
- Although there is an overall progressive decline, one day may be much better or worse than another
- A safe and loving environment are the first priorities

### This session

- Will not cover equipment and modifications needed for physical access—there are many excellent resources elsewhere: [adaptmy.com](http://adaptmy.com)
- Will identify useful strategies and assistive technology room by room
- Remember that Dementia and Alzheimer's are progressive—not all strategies are needed at the same time

Start as soon as possible

## Simplify



Encourage independence,  
inclusion and choices

## Identify the Zones of Your Home

- The **Danger Zones** (areas that will be off limits: garage, workshop, swimming pool, attic, etc.)
- The **Respite Zone** (sanctuary reserved for the caregiver)
- The **Safe Zone** (the rest of the house)

*The areas included in each zone may change over time*

## Bathroom: Door



- Change an in-swinging door to one that opens outward
- The bathroom privacy doorknobs with locks can be replaced with passage doorknobs
- Hide an emergency key close by
- The bathroom door can be replaced with a heavy shower curtain

## Bathroom: Tub/Shower

- Residential style fixtures are easiest to understand
- To improve perception of the bottom of the tub, use a slip resistant mat in a contrasting color
- If being immersed in the tub is frightening, consider a bathtub insert



### Bathroom: Tub/Shower

- If unsteadiness or falls are a problem, consider a cushioned or soft tub
- Replace sliding shower doors with a shower curtain
- Consider replacing the tub with a shower, roll in if possible
- Shower or bathtub seat, grab bars, non slip floor surfaces outside the tub



### Bathroom: Hand held showerhead

- Caregiver can aim and direct the source of water
- Person can remain seated
- Flow can be controlled if the person becomes upset
- Can protect bandaged areas, face, hair
- Can quickly redirect water if the temperature changes
- Use wash mitts so the person can be involved in bathing



### Bathroom: Toilet

Make it easy to see

- Use dark colored flooring for contrast
- Replace the toilet seat with one of a contrasting color
- Put colored electrical tape on the inside rim of the toilet bowl
- Consider colored toilet tablets



### Bathroom: Toilet

- Safety frame or grab bars on both sides of the toilet
- Elevate the toilet seat for ease of use
- Consider a call button or bell next to the toilet to maintain privacy and dignity
- Consider a child proof toilet lock if things are being flushed



### Bathroom: Sink

- If the water is not being turned off, consider an automatic faucet control or a faucet with an electric eye
- Add a grab bar here, too



### Bathroom: Safety

- Remove or relocate items that might injure during a fall (wall hooks, towel bars, decorative items)
- Replace towel bars with grab bars
- Remove glass and fragile items (shower doors, glass shelving)
- Replace clear cups with colored sturdy plastic cups



### Bathroom: Safety

- Reduce the maximum temperature on the hot water heater to 120 degrees
- Install anti-scalding devices in all faucets that have both hot and cold water, especially if water temperature is affected by flushing, etc.



### Bathroom: Safety

- Remove small electric appliances (hair dryer, curling/flat irons, radios or TVs, electric razors or toothbrushes, space heaters)
- Make sure you have GFI protected outlets
- Install childproof plug covers



### Bathroom: Safety

- Remove items that might be misunderstood and consumed: medications, shampoo, colognes, toiletries, cleaners
- Packaging and scents can make things tempting to taste
- Remove things meant to go in the mouth, but not swallowed: mouthwash, toothpaste



### Bathroom: General Suggestions

- Adequate lighting, complimentary lighting in warmer colors
- A chair to sit in while drying off
- Temperature—consider a heat lamp installed in the ceiling on a timer
- Bathroom acoustics can be upsetting, soften with shower curtains, carpeting
- Washer and dryer in this location can be a help

### Bathroom: General Suggestions

- Consider a monitoring device. like a baby monitor
- Cushion the edge of sinks and countertops
- If the mirror becomes confusing—cover it, turn it around or remove it, mirrored walls are especially confusing
- Remove wastebaskets, hampers and other items resembling toilets if they are being used as such



### Medication

- Consider an automatic medication dispenser



## Kitchen

*Make it safe for as long as possible, rather than out of bounds*

- Put locks on drawers where knives, long forks, etc. are stored
- Put pet supplies somewhere else
- Remove step ladders
- Disconnect the trash compactor and install a child proof lock on the door
- Replace fragile dishware with non-breakable pieces in solid colors



## Kitchen: Simplify

- Remove items that are require skills not present
- Simplify choices—remove extra food and prep tools
- Place pictures or labels on drawers and cabinets
- Use clear plastic storage containers and open shelving
- Consider removing or replacing cabinet fronts with plexiglass or wire



## Kitchen: Simplify

- Put things where they will be used
- Use step shelving to make cans and boxes easier to see
- Group kitchen utensils and ingredients according to their use
- Hang pots and pans on the wall to make them visible and easy to find



## Kitchen: Sink

- Disconnect the garbage disposal AND put a disposal strainer into the hole
- Disconnect the instant hot water dispenser
- Have the plumber install an accessible trap in case something of value gets dropped down the drain (P trap with slip joints)
- Put a grab bar at the kitchen sink



## Kitchen: Refrigerator

- Remove knobs from inside the refrigerator
- Install an alarm to alert you of warm temperatures in the freezer
- Medications and potentially dangerous food items may need to be stored in a compact refrigerator in a locked Danger Zone
- Use a child lock, if necessary
- Raise the front legs of the refrigerator to help the door automatically swing closed



## Kitchen: Stove

- Remove knobs from the stove or use childproof knobs
- Turn off the stove's circuit breaker at night
- Use timers that limit the hours of use



### Kitchen: Stove

- Don't store extra dishes in the oven
- Install a child-proof lock on the oven
- Replace coil burners with solid burners
- Consider replacing a gas stove with safer electric
- If replacing, consider induction cooktop
- Get a handheld ABC fire extinguisher



### Kitchen: Microwave

- Unplug the microwave
- Turn off the circuit breaker
- Locate the microwave behind a lockable appliance garage door
- Install a child-proof lock on the door



### Kitchen: Small Appliances

- Look for small appliances that turn off after a period of time
- Unplug all small appliances (can opener, toaster, blender, etc.) when not being used
- Use Christmas light or lamp timers to limit when things can be turned on
- Do not store the tea kettle on the stove
- Consider a Sunbeam Hot Shot



### Bedroom

*Remember this is a private space*

- Paint the door a unique and recognizable color
- Simplify and clear the path to the bathroom
- Put nightlights along the way
- Consider an intercom system or monitoring device
- If the person needs supervision in their room, consider a Dutch door



### Bedroom: Bed

- Lower the bed by removing the frame and/or box spring to minimize injuries from falls
- Consider putting the bed against the wall
- Bed railings or bed handles
- Fall prevention alarms



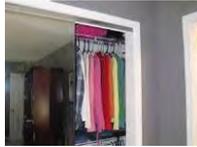
### Bedroom: Lighting

- Dimly lit rooms are confusing
- Install a wireless light switch where it can be reached from bed
- Consider installing a three way switch that will control the light from both the bed and the doorway
- Consider installing a touch switch—turns on by touching any metallic part of the lamp or the cord
- Use compact fluorescent screw in light bulbs that increase their brightness slowly



## Bedroom: Clothing

- Remove excess items, especially heavy items on the upper shelves
- Simplify to make decisions easier
- Use sliding doors that reveal only half the closet at a time
- Buy duplicates of favorite items so that a clean version is available
- Relocate off season clothing to another area
- Use a calendar with season pictures to cue clothing selections
- Label drawers



## To cue dressing:

- Use 2 or 3 grab bars or a towel rack that has multiple rods
- Hang the outfit in layers so that each layer hides the one beneath it
- Put the clothes in reverse order—underwear goes on top, then the shirt, at the bottom are the pants
- Having a chair handy makes it easier to put on pants



*Alternatively, make a sign listing proper order and tape it to the closet door*

## Bedroom: Grooming

- Consider moving grooming activities to the bedroom—the person can be seated and there is less time pressure
- Use a dressing table and chair
- Arrange for good lighting
- Simplify the selection of make up, cologne, etc.
- If the mirror is hard to understand, try a smaller mirror that just shows a portion of the face
- When going to the barber or hairdresser becomes too difficult, consider a visiting hairdresser



## Family Room

- Try not to change familiar furniture layouts
- Create a special place for the person to sit that encourages interaction and involvement
- Avoid chairs that swivel, rock or roll
- Remove chairs with wheels
- Select furniture without sharp edges or corners
- Leave space for a walker or wheelchair



## Family Room

- Soften the noise level with carpeting, curtains, wall hangings, etc.
- Paint the walls or baseboard a contrasting color from the floor
- Select furniture colors that contrasts with the floor
- Avoid too much pattern
- Keep paintings simple and understandable
- Surround them with subject matter that is familiar and understandable
- Do not store reminders of travel here: keys, hat racks, suitcases, garage door remotes, shoes by the door, etc.

## Dining Room

- Create a place at the table that is clearly defined and distinctive
- Make sure the chair is sturdy and comfortable
- Decorate the dining room with pictures that reinforce the purpose of the room—pictures of food, eating, entertaining
- Avoid non-edible table decorations
- Replace chandelier bulbs with frosted bulbs that are easier on the eyes



## Dining Room

- Choose a dining room table and chairs that contrast with the flooring
- Outline edges with colored electrical tape
- Simplify place settings and replace clear glassware with more stable colored ones
- Choose dishes that contrast with the color of the tabletop
- Metal forks will eventually need to be replaced by spoons



## Dining Room

- Use “grippy” placemats to prevent spilling, Dycem
- Anticipate spills by having the carpet and upholstered chairs treated with Scotchgard
- Consider a protective mat that is flat and not conducive to tripping or sliding
- Get a compact carpet cleaner that will clean up liquid messes
- Tables with perimeter lips can contain spills



## Offices, workshops, hobby rooms

- If at all possible, modify the hobby room so the person can continue to enjoy past pleasures
- Remove items that exceed present abilities
- Provide tasks and projects they can complete



## Offices, workshops, hobby rooms

- For the office worker--an “office” with desk, phone, filing cabinet, calculator and plenty of mail
- For the mechanic—nuts and bolts to put together, something to take apart
- For the woodworker—blocks that need to be sanded
- For the handyman—PVC pieces that can be fit together
- For the gardener—plants to be watered, tended

## Laundry Room

- Remove dangerous laundry tools to a new location (ironing board, etc.)
- Install anti-scalding devices in faucets
- Use premeasured cleaners
- Provide lockable cabinets for bleach, fabric softener, detergent, etc.
- Make sure outlets are GFI
- Make sure the sink has an accessible drain trap



## Laundry Room

- Remember the washer and dryer can be hiding places. Check before using.
- Consider a small chair and table for folding
- Install a flood alarm to alert you to water on the floor
- Eventually the laundry room may become off limits and may need to be locked
- At this point, hide the dirty laundry from view



## Cleaning

- Provide simple, complete-able tasks such as dusting, straightening, sweeping, watering plants
- If equilibrium is a problem, put the vacuum cleaner out of sight so that it is not used as a rolling walker
- A cleaning service can be upsetting for some, plan an outing for the time they are there

## Attics, Basements, Cellars

- Should be protected with locks alarms and gates
- Check outside for dangerous window wells and install strong covers that will support a person's weight



## Hallways

- These areas need to be kept clear of furniture and decorations
- Lighting should be adequate and continuous
- Place signage to direct to specific areas

## Stairs

### *Flights of stairs or a single step*

- Make sure lighting is good
- Install highly visible, colored, slip resistant strips and treads on the front edge of steps
- Install a handrail
- Place a "watch your step" sign nearby
- Install secure gates at the top AND the bottom of staircases, outdoors stairs too



## Stairs

- Use three-way light switches at both the top and bottom of your stairs
- Consider closing "open" stairs by adding plates to the back of each step
- Stairs are most visible if the color of the risers contrasts with the treads



## Railings

- The person's hand should be able to wrap fully around them for a secure grip
- Put them on both sides of hallways and stairs
- Extend at least 12" beyond the top and bottom steps
- Continue railings across locked doors
- Choose railing returns that curve into the wall to prevent clothing from getting caught and as a cue that the stairs are coming to an end



## Exterior and Yard

- Address numbers should be clearly visible from the street, night and day
- 4" high, illuminated, contrasting color
- Post them in the same place as your neighbors
- Consider posting them in more than one location
- Make your home unique, a landmark
- Use a flashing light adapter for your porch or front light



## Exterior and Yard

- Make sure pathways are in good repair
- Remove thorny plants from pathway
- Remove yard sculptures that seem a little too real
- Consider removing reminders of tasks that are now too complex—barbeque, pool cleaners, lawn mower
- Put outdoor chairs and benches where they can be seen from the house
- Do not use lightweight lawn furniture that can be moved and used to climb
- Remove toxic or poisonous plants
- Consider a simple raised bed or container garden

## Exterior and Yard

- Create wandering paths that loop back to the entrance of the home
- Make sure the fence is high enough—a minimum of six feet high
- Make sure there are no foot holds on the yard side
- Gates should be locked and alarmed
- Put latches high and low beyond the person's field of vision
- Consider outdoor floodlights to eliminate areas of darkness



## Exterior and Yard

- Put a secure lock on the storage shed
- The door to the garage should be locked and alarmed
- Install additional horizontal railings on balconies to increase the railings height



## Doors

- Doors are landmarks and points of orientation
- They also provide opportunities to exit the house
- Make sure glass doors are tempered glass
- Make the glass door as visible as possible with decals or fake mullions
- Install devices on windows and sliding doors to limit how far they may be opened



## Doors

- Use signage to discourage entrance
- Camouflage doors to make them "disappear"



### Doors

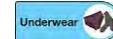
- Make unlocked doors in the safe zone easy to use with lever handles
- Install locks and alarms on all doors that provide access to dangerous areas—pool, balcony, stairs, exits



### Signage

*For some people, the ability to read and understand written words lasts way beyond their ability to reason and follow instructions. Signage may not work for others.*

- Involve the person and family members in creation of signage
- Lettering should be large and bold enough to read
- The message should be clear and brief
- If appropriate, use terms from the past, for example “potty”, “bano”
- Locate signs in logical places
- Do not put labels on doors, cabinets or drawers that are locked or out of bounds



### Telephone

- Consider phones with large buttons or amplified phones to accommodate hearing or vision loss
- Voice dialing can be confusing
- Consider a Photo Dial Phone
- Simplified cell phones
- Put a photo album of callers near the phone to put a face with the voice. Label them.
- The “Hot Line” dials one number the moment you pick up the receiver



### Telephone

- Phones that automatically dial 911 can be problematic
- Some emergency alert phones can be programmed to dial family members or friends rather than the police
- When buying a phone with a pendant alert, purchase extra pendants to put in key locations—by the bed, by the stairs, in the bathroom



### Rummaging, Hiding and Hoarding

*Hoarding happens when the person loses the ability to tell what should be kept and what should be tossed*  
*Rummaging happens when one feels that something is missing*

- Protect your own valuables (mail, paper records, jewelry, etc.)
- Put your mailbox outside the fence or get one that locks
- Have back up keys and remote controls
- use a key tracker or put a battery operated doorbell in your purse
- Keep things simple so that you notice changes
- Always check the trash before setting it out for pick up
- Consider an inexpensive surveillance camera to help find food, etc.
- Create safe places for rummaging and hiding things—personal junk boxes or drawers
- A family pet can help find food that has been hidden



### Wandering

- Define the safe perimeter of your home. The safe perimeter may change over time.
- Install locks AND alarms on windows, doors, and gates
- Include door to the garage
- Add child proof gates AND alarms to limit access to areas inside the home
- Use motion detectors to alert you to wandering in certain areas
- Consider a wireless security system



## Wandering

- Consider the sound the alarm makes
- Electronic locks that require keypad entry or finger print recognition
- Some devices automatically lock the door when the wearer gets too close
- Make sure there is an override system outside
- Travel alarms that hang on a doorknob



## Emergency Locator Systems

- Emfinder EmSeeQ uses cellular networks to locate a person wearing their locator watch (has an option to receive alerts when the person leaves home)
- Other systems use FM radio waves (Lojack Safety Net, Project Lifesaver)



## Emergency Locator Systems

- LifeWatch Cellular Medical Alarm with GPS—caregiver can locate using the internet, the person can push an SOS button to send messages to 2 people, can NOT be used to make or receive calls



## Emergency Locator Systems

Alzheimer's Association Comfort Zone—uses GPS through cell towers and satellite, locator is worn or mounted in the car, you can view the person's location on secure website or call the service, you can preset zoned boundaries with text/email alerts



## Just In Case

- Alzheimer's Association's Safe Return Program—bracelet or necklace ID with their name and ID number, phone number, clothing labels, and 24 hour access for law enforcement. ID and guidance for caregivers, also.
- the Medic Alert Program—bracelet with medical info, ID number and 24 hour emergency response center

- Notify your 911 service that a person with Alzheimer's lives at your address and ask them to enter it into their computer files so that it will come up if someone calls from your number
- Notify your alarm service
- Get to know your neighbors and their children
- Fill out the missing person report form ahead of time with a current photo or video

## Great Resources

- [thiscaringhome.org](http://thiscaringhome.org)
- [AdaptMy.com](http://AdaptMy.com)
- The Complete Guide to Alzheimer's Proofing Your Home (2000, Mark L. Warner)

## Accessible Home Checklists

- Aging in Place and Universal Design  
<http://students.rockhurst.edu/OTUD>
- Home Accessibility Checklist  
[www2.ca.uky.edu/HES/fcs/FACTSHTS/HF-LRA.018.PDF](http://www2.ca.uky.edu/HES/fcs/FACTSHTS/HF-LRA.018.PDF)
- Is Your Home Accessible? [www.mobilitymgmt.com](http://www.mobilitymgmt.com)
- Senior Housing Options  
[www.archhousing.org/current\\_residents/senior-house.html](http://www.archhousing.org/current_residents/senior-house.html)