


Home Modifications and Devices for Safety at Home





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Objectives

- Review home modifications and devices that can increase safety and independence in your own home
- Provide resources for reference
- Demonstrate a few devices that are especially helpful to all.







Why is it important to make home as accessible and safe as possible?

- Maintain independence
- Provide “visitability” to home for guests
- Provides security
- Improve quality of life
- Relieves worry from family members/ friends who care about you.
- **Prevents falls and injuries**

Lack of safety=Falls

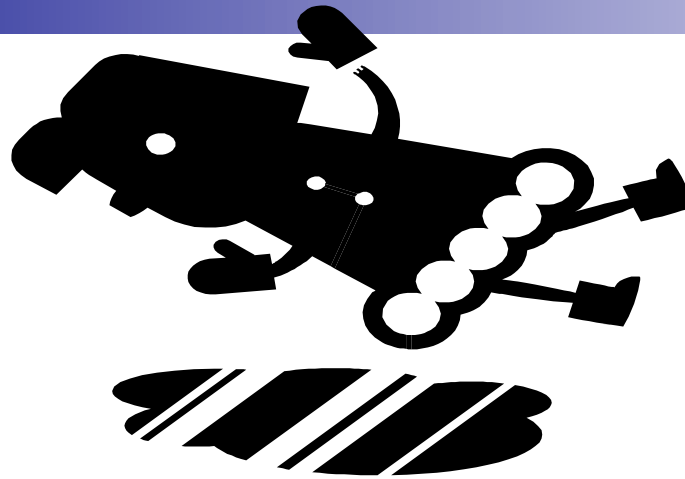




How common are falls and balance problems in older persons?

- Each year, falls occur in **over a third of persons over age 65**, and in **over half of persons over age 75**.
- About a third of the older population reports some difficulty with balance or ambulation, and this percentage also increases in frequency and severity after age 75.

AGS Foundation for Health in Aging (FHA) www.healthinaging.org/public_education/pef/falls_and_balance_problems.php



Falls are the fifth leading cause of death in older persons

Laurence Rubenstein, MD, co-chair of the Falls Expert Panel

AGS Foundation for Health in Aging (FHA)



PPS and Falls in the literature

- Fear of Falls, Risks and Practical Strategies-
Post Polio Health Fall 2005

www.post-polio.org/edu/pphnews/pph21-4p1-3.pdf

- How to Prevent Further Disability in Polio Survivors by Julie Silver, MD
www.skally.net/ppsc/silver2.html

Factors that contribute to falls for persons with PPS

- Fatigue
- Mobility/balance
- Independent personality/behaviors
- Equipment/modifications may need updating
- Medications
- Age
- History of previous falls





Dr. Kristen Legters, PT, DSc, NSC

Polio survivor

Specializes in research in area of fall prevention.

- 85% of people with PPS reported falling
- 95% reported fear of falling
- Fear of falling and restricted activity can lead to
 - Functional decline
 - Anxiety and depression
 - Decreased balance and strength
 - Decreased confidence and quality of life

What are the major causes of falls?

- environmental hazards (such as slippery floors and loose rugs)
- weak muscles
- unstable balance, dizziness
- vision problems
- side effects from medications (such as dizziness and confusion).
- Risky behaviors (climbing on ladders, hurrying, etc)



What can I do to decrease my chances of falling?

- Evaluate/improve your strength, balance, gait, vision
 - Doctor, therapists, medical professionals
- Review your entire medication list with your doctor
- **Make your home fall proof!**



Hip Protectors

www.hiprotector.com



**HIProtector® SafeHip®
SOFT Hip Protector**



HipGuard Protector

Home Assessment

- Entry/exit
- Hallways and doorways
- Kitchen
- Bathroom(s)
- Emergency exits/alert system
- Bedroom(s)
- Garage
- Laundry Room
- LivingRoom/Family Room
 - access to entertainment center
 - Home Office





Checklists

- www.cdc.gov/ncipc/pubres/toolkit/checklistforsafety.htm
- www.cdc.gov/ncipc/falls/FallPrev4.pdf
- www.healthyagingprograms.org

- www.mnsafetycouncil.org/seniorsafe/falls/index.cfm



Online checklist for home safety

Bedroom

Answer all 6 questions and press **GO!**

- 1. **Is there a long reach from the bed to a light?** Yes No
- 2. **Is it necessary to get out of bed or reach far to get to the telephone?** Yes No
- 3. **Is it necessary to get out of bed or reach far to get eyeglasses?** Yes No
- 4. **Are there telephone, light, or television cords running along the floor on the walkways?** Yes No
- 5. **Is there clutter (clothes, shoes, books, etc.) on the floor?** Yes
No
- 6. **Is it common to get up many times during the night to use the bathroom?** Yes No

CLUTTER and TRASH



Entry/exits





Important Outside Safety Tips

- Outside lighting
- Obstacles leading up to doorway
- Railings
- Threshold Ramps



Ramps

<http://www.access-board.gov/adaag/html/adaag.htm#4.8>

http://www.aarp.org/families/home_design/doors_floors/a2004-03-02-d-ramps.html

- One foot of ramp for every inch of rise 1:12 ratio
- 36 inches wide, gutters to avoid slipping off edges
- Landing at top of ramp and at every turn-60inx60in.
- Can be made from wood, aluminum, or concrete
- Custom or Commercially available
- Threshold ramps
- Railings on all but threshold ramps
- Weatherproof, non-slip surface-paint with sand, non-slip strips
- ADA requirements (www.access-board)

Other options for entry

- Elevators
- Decking at entry with ramp off platform
- Stair Glides





Universal Design

“The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design”.

Cook and Hussey 2008

Stepless entry



Stepless Entrance



Hallways and doorways

- Lighting
 - 32-36 inch wide doorways ideal
 - **No loose rugs**
 - Widen doors
 - Offset hinges
 - Remove door
 - Pocket door
- Door locks-remote, push button,
Automatic Doors

Kitchens



- 1 "Power sink" that raises and lowers
- 2 Space under stove and sink for seated users
- 3 Raised oven and dishwasher with storage below

- 4 Pullout workboard
- 5 Some switches and outlets at the outside edge of counter



Kitchens

- Counter Heights/work area
- Sink access-lever handles, automatic faucets
- Oven access-side opening ovens
- Refrigerator-side by side or freezer on the bottom
- Cabinets-
 - Pull out shelves, keep common items reachable
- Cooking tools
 - Cutting boards, knives, appliances, etc



Kitchen safety gadgets



Vidalia Chop Wizard
Target



High Stool



Utility cart

Kitchen safety

- Lighting
- Large number timers
- **NO FLOOR RUGS**



Kitchen



EZ faucet
Target or Home Depot



Jar openers
Sammonspreston.com

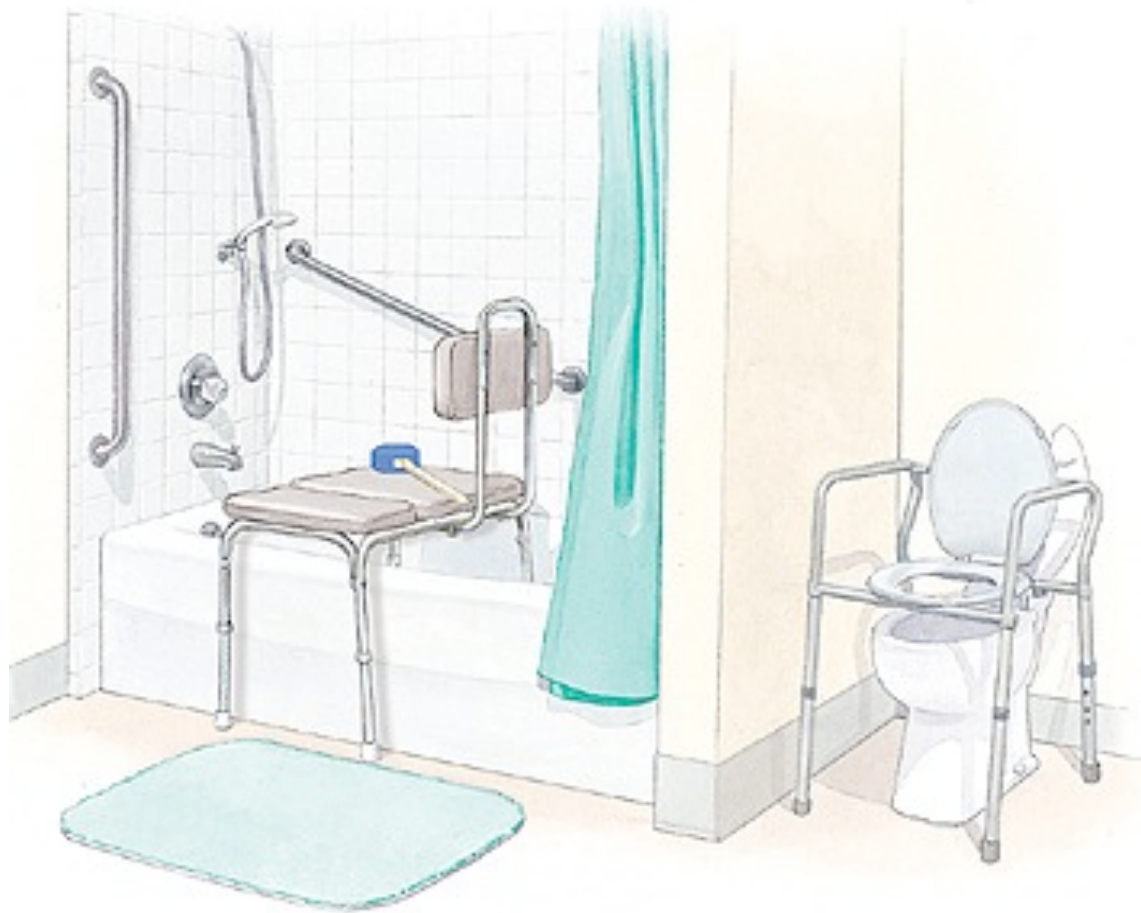


One touch jar opener
Target

Reachers



Bathrooms





Bathroom

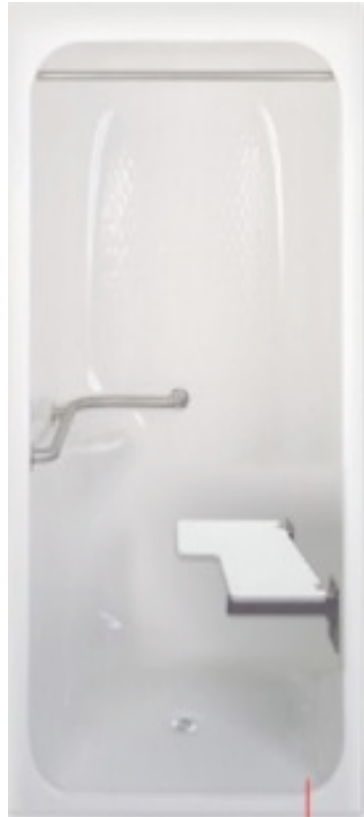
- Toilet Height: 15-19 inches high
 - grab bars/rails
 - Raise toilet seats in variety of ways
- Bath Benches
 - Simple shower chair
 - Transfer tub bench
 - Sliding tub bench system
 - Rolling shower chairs







Stepless shower and accessories





Bedrooms

- Bed height-will vary for individual
 - Bed rails
 - Room around bed for lifts/transfers
 - Closets/Storage
 - Bed transfer systems
 - Hoyer type of lifts
 - “Track” lifts
- Electronic Aids for Daily Living (EADL's)

Lifts/Transfer Assist



Bed Transfer Aids



Closets/organizers





Laundry Room/Garage

- Raised washer and dryer
- Side opening doors
- Threshold ramps/landing
- Soaps and other items in reach
- Rolling laundry basket or cart for transporting clothes
- Automatic Garage Door openers
- Entry/Exit to cars/van



Family/Living Room

- Access in/out
- Chair or couch
 - Raised up for easy access
- TV area accessible
- EADL's/remote controls
- Tables
- Home Office





Ultimate System

BEST VALUE

\$99⁹⁹ Save \$110

- X10 system-
- Radio Shack, x10.com
- Controls lights, appliances, infrared (TV, DVD, stereo, etc)
- No special wiring required

Voice Recognition EADL's



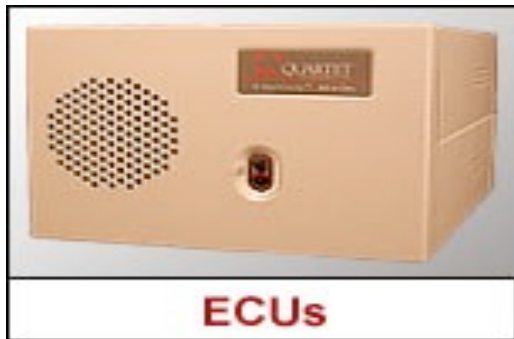
SciCare Light II
Ablenetinc.com
\$2100.00



Voice IR EADL
[broadenedhorizons.com/
voiceir.htm](http://broadenedhorizons.com/voiceir.htm)
\$500.00 and up



Saje Powerhouse
Saje-tech.com
Call for pricing



Quartet Technologies
<http://www.qtiusa.com/faq.aspx>



Imperium 200
 Ablenetinc.com
 \$3800.00



Primo by Possum
 Ablenetinc.com
 \$2700.00

Integrated EADL Devices




- Can use all methods of access: Voice, switch, mouse, joystick, etc.
- Easy to set up and use
- Can operate multitude of functions
- Easy to mount on wh/chair
- Computer based: has a Windows operating system and can be used as a computer also.

REACH

breakboundaries.com/

\$6450.00



Integrated EADL and Home Security Systems

- Should be installed professionally if possible
- Can operate a multitude of devices and functions.
- Tech savvy caregivers/family needed

EADL Control through Wheelchair Controller



Q-Logic by Quantum Rehab

Iphone/ipad control

- **Rē Accessory turns iPhone into a universal remote**
- <http://www.newkinetix.com/>
- **\$69.99**



- **i-Got-Control iPhone Universal Remote**
- www.thinkgeek.com
- **\$69.99**



Iphone/Ipad Controller

- Control4myhouse App: Whole house audio, video, lighting & HVAC control from your iPhone or iPod Touch. This requires a Control4 home automation system
- www.control4.com.



Smart Home Control

www.control4.com



- **Imagine having one remote that can:**
- control your home theater and dim the lights as the opening credits roll
- turn off all the TVs in the house when the kids are supposed to be doing their homework
- alert you that you left the garage door open, which you can close from the computer in your office
- manage your lights, window coverings and thermostats to reduce your energy bills
- monitor your door locks, lights and security cameras for a little extra peace of mind
- choose music from nearly 5 million tracks offered by Rhapsody in any or every room of the house



Emergency Call systems

- Call Bells

- Wireless doorbells to hospital systems

- Telephones

- Adapted phones
 - CTAP
 - Monitored Systems and Auto dialers

- Security Systems

- Room Monitors



Wireless Doorbell
Home Depot or other hardware store

Emergency Call Systems







Telephones

■ California Telephone Assistance Program (CTAP)

- <http://www.ddtp.org>
- Provides free evaluation and provision of phones for people with variety of disabilities

■ Cell Phones

- Check features before purchasing cell phone
- Should have voice activation
- Bluetooth hands free function
- Switch adapted Bluetooth

Telephones



"The device is incredible! It is giving my husband a new sense of independence. Thanks!"

SAJE Easyblue switch adapted Bluetooth headset. \$299.00



Ameriphone 200
\$299.00
Free from CTAP



Vocally voice dialer
\$199.00
Free from CTAP

Cell Phones

- Jitterbug- www.jitterbug.com





Aging in Place

- Research
- Products and ideas
 - Sensors on floors, toilets, kitchen items
 - Use routines to trigger alert
 - Caregivers



Home Automation

- Monitoring with viewing
 - ☐ ADT
 - ☐ Rest Assured
 - ☐ Xanboo
- Medication monitoring
 - ☐ Pills dispensing-www.managemypills.com
 - ☐ www.rxtalks.com

How the Philips Medication Dispensing Service Works

1. Load



You put the senior's medications into individual cups and load them into the dispenser. Provide the medication schedule to Philips Lifeline and we will program the dispenser for you.

2. Dispense



The senior presses the button when they hear the reminder. The dispenser will dispense the medication that you have loaded for the senior, at the programmed times.

3. Alert



The dispenser is connected to the senior's telephone line, so if the senior misses a dose, the dispenser can contact you or another family member. You can then check on the senior to make sure they are getting their medication.

With the development of Rex-The Talking Bottle, MedivoxRx ® has met its original goal: To manufacture a disposable talking bottle that provides audible label information and thus makes information about their medications more accessible to people who are elderly, visually and cognitively impaired, illiterate, or speak a different language. After testing several prototypes, Rex-The Talking Bottle was the overwhelming choice. www.rxtalks.com



Robots



Georgia Tech Healthcare Robotics Lab has a solution: EL-E, a robot that can see, hear, push, pull and twist in order to perform basic household tasks for its disabled commander.

Popular Mechanics, Oct. 2009

JACO by KINOVA (montreal)

- lightweight, very quiet, discreet, safe, and waterproof robotic arm that attaches to any powered wheelchair.
- It is powered directly by the wheelchair's battery or, with its adapter, through a wall outlet, and it consumes less energy than a standard light bulb.
- <http://www.kinovarehab.com/>



FRIEND-Care Providing robot



Care Providing Robot FRIEND
<http://www.amarob.de/>

Household Robots



Security Robots



Robots that clean



Roomba by i-robot



Scum buster by
Black and Decker



Robocleaner
by Karcher

Robots that mow the lawn



Robomow by Karcher



General Safety

- Remove Throw rugs
- Electrical
 - Outlet strips
 - Extension cords
- Smoke detectors
- Stairs and handrails
- Lighting
- Emergency Exit and evacuation plan



Most falls can be prevented!

- Slow Down
- Avoid fatigue/overdoing
- Be aware of surroundings at all times
- Think about the risk/consequences of a task before doing it
- Respect your health. Don't take risks!

