

Technologic Innovations for the Elderly

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Authors and Disclosures

Information from Industry

How many other medications are your patients with chronic pain taking? Learn about drug-drug interactions. Emerging Technologies to Enhance the Safety of Older

People in Their Homes

Daniel KM, Cason CL, Ferrell S

Geriatr Nurs. 2009;30:384-389

Article Summary

Older adults are often in need of technology applications that will help them remain independent and live in their own homes for as long as possible.

This article describes various technologies designed to optimize home safety for the older adult. Safety devices should be reliable (do what they promise), and be minimally obtrusive and reasonably priced. Product reliability is often limited to testing by the manufacturer completed in laboratory settings designed to simulate potential end-user environments. When someone buys the product it gets its first real world test. Obtrusiveness is a user's evaluation of the characteristics or effects associated with the device or technology that are "perceived as undesirable and physically and/or psychologically prominent." Cost is always important and may depend on how an assistive technology is implemented.

An overview of some currently available devices and products that are intended to meet home safety needs of the elderly is presented. General adaptive technologies include lever door handles, amplifiers on doorbells and telephones, grab rails and handrails in appropriate locations, ramps, stair lifts, external lighting with passive infrared, lowered light switches, raised electrical outlets, level thresholds, wider doors and corridors, and electric window and door openers.

Passive environmental sensors are devices that monitor the safety features of the home as well as individuals in the home. These include devices to monitor gas leaks, carbon dioxide, and other potential hazards. Flood detectors, smoke detectors, and temperature extremes sensors notify the senior or caregiver of the need for corrective action. Motion and pressure sensors can alert caregivers of events such as falls, turn on bedside lights when the senior gets out of bed, activate an alarm if the person does not return to bed in a set time, or detect a person leaving the home. These devices not only help the senior, but can also be combined with alerting systems that send messages to caregivers.

Some applications allow caregivers to remotely monitor home appliance use or turn appliances off and on, turn lights off and on, and open and close blinds from a distance.

Assistive technologies aid the elderly in meeting their daily needs and particularly help individuals who are physically disabled but cognitively intact. Technologies include voice-activated cell phones and wireless transmitters to issue voice commands to activate various functions within the home. Other functions include alerts that inform the senior when the mail is delivered, show who is at the door, open and close windows, and, if doors or windows are left open, close windows and doors with voice commands. Technologies are available to alert caregivers if the senior wanders or leaves the home and assist in tracking the elderly individual. Advanced microwave technology can now recognize the type of food product selected for cooking, and based on the selection, show an instructional video indicating the steps for preparation. The "smart wave" can program itself for the appropriate cooking time, notify the person via audio and video that the food is cooked, and caution the user about safe food handling.

The purpose of the article is to share information about available products and services with nurses who care for elderly patients and their families. Data regarding acceptability and efficacy of these products are not included and still needed.

Viewpoint

This article provided just enough information to be thought-provoking and a tease. It would truly be helpful in educating the patients and their families if it went just a little further in describing different forms of technology in greater detail. The article does provide some Websites that the enterprising nurse could use to explore different products and thus be able to provide real counseling to patients about the things that may be of assistance to them. Sometimes patients know exactly what they need to help themselves, but they would benefit from knowledgeable appraisal and evaluation by a healthcare professional.