Principles of Geriatrics Assessment
for NIH Toolbox
NIH Toolbox Geriatrics Working Group

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Preamble

The literature on technology use for the elderly is rapidly expanding. Specifically designed software programs for computer use by elderly participants are already available on the web. Guidelines for testing older participants have been developed by government-related and academic institutions. The following document represents a distillation of these guidelines and incorporates specific advice from experts in administering computer based interventions with the elderly. It is in 3 sections: **Working with the Elderly**; **The Concept of Universal Design**; and **Specific Advice Relating to Computer Use in the Elderly**.

The first section, Working with the Elderly, addresses general issues relating to clinical assessment of elderly participants and would be of use not only for the development of the measurements but also for the training of the testers. The second section, The Concept of Universal Design, addresses the concept of developing products, communication, and the built environment to be usable by as many people as possible and is supported by the National Institute on Disability and Rehabilitation Research. The third section, Specific Advice Relating to Computer Use in the Elderly, addresses particular issues to be aware of with computer use in the elderly. Reference sources are included for each section.

During pre-testing and validation, domain teams applied these principles as well as those found in the original sampling scenario document and provided quantitative documentation of adequate instrument performance in older subjects.

Working with the Elderly

Talking With Your Older Patient: A Clinician's Handbook, National Institute On Aging
http://www.nia.nih.gov/sites/default/files/talking_with_your_older_patient.pdf

1. Establish respect
    -Use formal language in addressing the older person
    -Promote rapport by using conversational icebreakers
    -Introduce yourself clearly
2. Avoid hurrying older people
    -Try not to interrupt
    -Speak more slowly-avoid rapid-fire questioning
3. Avoid jargon
    -Check to make sure the terms are understood
4. Make sure that older adults are told to wear comfortable clothing and appropriate footwear
5. Be alert for sensory impairment
    a. compensate for hearing deficits:
        -make sure you can be heard
        -speak slowly and clearly

-face the person directly
-keep your hands away from your face
-reduce background noise
-be careful with letters and numbers, be careful with letters that sound alike

-indicate when you are changing the subject
-lower the pitch of your voice
b. compensate for visual deficits:
-provide adequate lighting
-check to see if he/she normally wears glasses
-make sure handwritten instructions are clear
-make sure type is large enough on printed materials
-have alternatives such as tape-recording instructions available
6. Be alert for signs of stress and fearfulness
a. Older adults may be apprehensive of tasks that raise concerns about loss of independence and function.
b. Frustration and fear may manifest as withdrawal, irritability, etc.
c. Provide positive reinforcement, encouragement
d. But do not minimize concerns or patronize older adults – they are likely acutely aware of declines
e. Reassure older adults of confidentiality and non-diagnostic nature of findings should concerns arise.
7. Be alert for signs of fatigue and physical distress
a. Establish clear safety cut points for motor function and balance tests
b. Create a safe environment to minimize risk of falls
c. Do not push older adults beyond physical tolerance and capacity
d. Allow breaks when necessary
8. Take into consideration that performance may be affected by medication use or time of day

The Concept of Universal Design

Instrument design should follow the **principles of universal design** as outlined below.
http://www.ncsu.edu/ncsu/design/cud/about_ud/udprinciplestext.htm

(see also **"Keys to a Successful Kiosk Application"** from Tyco Electronics at www.visi.com/~keefner/pdfs/**Kiosk-Tips.ppt**)

1. Equitable use
-design is useful and marketable to people with diverse abilities
2. Flexibility in use
-design accommodates a wide range of individual preferences and abilities
3. Simple and intuitive use
-use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level
4. Perceptible information
-design communicates necessary information effectively to the user
5. Tolerance for error
-design minimizes hazards and the adverse consequences of accidental or unintended actions
6. Low physical effort
-design can be used efficiently and comfortably and with minimum fatigue

7. Size and space for approach and use

-appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility

Specific Advice Relating to Computer Use in the Elderly

The elderly can learn to use a computer effectively even when an individual has limited previous experience.

Presentation
1. a touchscreen would probably be a better option than a computer with a pointer
       -it's fast, intuitive, and easy to use for non-computer users
       -it would be good for a large majority, only a very small number would have problems
2. use a 19 inch screen to improve viewing
3. use a large text size
4. use large "buttons" on a touchscreen or large icons on a computer screen that are well-spaced so that selection of a particular option is easy
5. have one question per screen and repeat methods from screen to screen (use the same types of buttons throughout testing)

Input
1. if using a computer, a trackball would be easier to use than a mouse
2. to adapt to older people who might have physical problems looking up, the monitor can be moved down low and be tilted
3. give the person the ability to move to the next page or previous page at their own pace
4. for a touchscreen setup, put the buttons directly on the screen instead of having permanent, physical buttons for each screen placed next to the screen (e.g., some ATMs)

Other potential resources:

Making Your Website Senior Friendly, National Institute on Aging
http://www.nia.nih.gov/health/publication/making-your-website-senior-friendly

National Institutes of Health
Helping Older Adults Search for Health Information Online: A Toolkit for Trainers
http://nihseniorhealth.gov/toolkit/toolkit.html

Journal of Gerontechnology
http://www.gerontechnology.info/index.php/journal/index

National Library of Medicine:

-www.spry.org/new_items/Foundation_Trains.html A program funded by the National Library of Medicine taught high risk seniors with no prior computer skills how to use the Internet to learn about health information. Upon completion of the project, the partners will evaluate this method of teaching computer skills to high risk seniors, as the National Library of Medicine is seeking to find effective ways to communicate reliable health information to all Americans.