Introduction

Physical and mental health affect each other. Age related changes in cognitive function include memory, reaction time, cognition, and sensation – the process of taking information in through our senses. The five senses – vision, touch, hearing, smell, and taste) do tend to become less sharp as we age, but this is an area where significant individual differences exists.

Main Content

Vision

The normal process of aging can bring real changes in vision. These include decreased sharpness of vision, decreased focusing ability (both near and at varying distances), decreases in the ability to distinguish colors, an increased need for illumination, particularly task lighting, slower responsiveness to changes in light levels, and decreased ability to adjust to shifts in light levels.

An example of how the eyes change as they age is seen in changes to the eye's lens. When a person is young, the lens of the eye is usually flexible and the muscles in the eye pull on the lens to change its shape to achieve a clear focus of images on the retina. Often, by the time a person is 40, the lens has hardened. No matter how hard the muscles operating the shape of the lens work, they cannot change its shape. The lens can still focus images at a certain distance, but the ability to adjust to different distances is diminished or gone.

*Please review the below light conditions to compare optimal and low light conditions.*

Optimal Light Condition



Low Light Condition



Reaction Time

We are not born with good reaction time – it in fact improves over time from infancy into the late twenties. Unfortunately, reaction time tends to increase slowly until late middle age and then lengthens more quickly as we enter our seventies and eighties. Reaction time also becomes more variable with age.

Reaction time is not solely affected by physical speed of nerves reacting and relaying information. Older people may also be making cognitive choices – such as being more careful in their response. Older people also tend to focus on one element of stimulus and ignore others more completely than younger people.

Hearing

Hearing loss is a major problem for older adults and impairments can range from slight tonal loss to total deafness. Over half of all Americans with hearing loss are older adults. Hearing loss makes it difficult or embarrassing to interact with others; interferes with the ability to receive and interpret information; and leaves a person vulnerable to danger and accidents. Hearing aids are the most common tool to address hearing loss, but they are not without their own problems.

Most environments have significant levels of background noise that, interfere with the sounds we want to hear. Examples of background noise are ventilation systems, other conversations, paper shuffling, computers, outside traffic or construction, and radios or televisions. These sounds, when amplified by a hearing aid, make hearing in noisy backgrounds very challenging.