



Understanding Visual Perceptual Deficits; The Importance of Color and Contrast

As we get older, the lens of our eyes thickens, resulting in changes that alter the way we see and even perceive color.

For someone living with dementia, other changes take place that affect vision. Two significant changes that progress with dementia are:

- **Peripheral vision diminishes** - All that is visible to the eye outside the central area of focus is one's peripheral vision. For example, if someone walks up beside you, someone with normal peripheral vision will see the object (or person) come into focus. Because someone living with dementia loses the peripheral vision over time, they begin to have tunnel vision, sometime referred to as binocular or scuba vision.
- **Depth perception changes** - An example of this may be a person walking down a hall, and the flooring changes from a hard surface to another color of carpet. If one of these happens to be patterned, it can be disorienting and frightening and can attribute to falls. Even a shadow or throw rug can appear to be a hole, and this can result in misidentification and even a fall.

Visual perceptual deficits often progress with dementia because the brain actually has difficulty registering movement and objects surrounding the person a vision field. Processing the information it receives and turning it into a meaningful message or perception becomes progressively more challenging. Sometimes the conclusions the brain arrives at are not correct and can result in illusions, misperceptions or even misidentification of faces.

Visual distortion and weakness poses significant challenges for persons living dementia and their caregivers. By experiencing these challenges first hand, it helps caregivers determine what changes can be made to accommodate for vision and brain changes taking place.

Key Considerations:

- Try not to make too many changes to the person's environment (ex: keep furniture and other items in the same place). This can help the person feel confident and reduce their fear of tripping or falling.
- Use color. For example, having a different color toilet seat to the bowl (ex: a black toilet seat on a white toilet). A red plate on a white tablecloth is easier to see than a white plate.
- Color can also be used to highlight important objects and orientation points (ex: the toilet door), or for camouflaging objects the person doesn't need to use (ex: light switches or doors).

- Improve lighting levels around the person's home. This can reduce visual difficulties and help to prevent falls. Lighting should be even around the home and should minimize shadows – some people resist going near dark areas in corridors and rooms.
- Try to avoid 'busy' patterns (ex: on the walls or floors) and changes in floor patterns or surfaces. They may be seen as an obstacle or barrier and the person may avoid walking in these areas.
- Reduce the risk of trips and falls by removing clutter and obstacles.
- Remove or replace mirrors and shiny surfaces if they cause problems.
- Close curtains or blinds at night.
- Consider assistive technology products such as automatic lights.

If a person fails to recognize an object, don't draw any unnecessary attention to the mistake. Avoid asking questions that might make them feel 'put on the spot'. If appropriate, give the object to the person and explain how it is used. If they do not accept this explanation, try not to argue with them. Ignore the mistake and listen to what they are trying to say. Being corrected can undermine a person's confidence and they may become reluctant to join in conversations or activities. Therefore, it is important to focus on the emotions behind what is being said, rather than the facts or details.

- If the person struggles to recognize people, ask friends and relatives to introduce themselves. If the person doesn't recognize somebody, it can be distressing for them as well as for those around them. If this happens, try to reassure the person and find tactful ways to give them reminders or explanations.
- Try to make activities accessible for the person. For example, if the person enjoyed reading but is no longer able to, think about audiobooks instead.
- Consider adapting activities to make the most of the person's abilities, ex: cooking using pre-chopped vegetables and ready-made sauces.
- At mealtimes, it may help to describe the food and drink, where it is on the table and where cutlery is, if appropriate.
- After you've used something, try to leave it where it was or in a familiar place, ex: keys in a fruit bowl.
- Let the person know where they are, who they are with and what is going on.
- Tell the person when someone enters or leaves the room.
- If you're giving the person medication, explain what it is, what it is for and what you are doing.