

The value of eye examinations for older adults

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The role of an optometrist

- Optometrists are the primary health-care practitioners of the eye and visual system
- Specialize in the prevention, detection/diagnosis, and management of:
  - Eye diseases and disorders
  - The visual system
  - Associated structures
- Diagnose ocular manifestations of systemic conditions such as:
  - Diabetes
  - High blood pressure
  - Complications of the aging process (i.e. cataracts and macular degeneration)
- Prescribe medication to treat certain eye diseases
- Prescribe and fit spectacles, contact lenses and safety eyewear
- Provide vision therapy and low-vision rehabilitation
- Educate patients about vision health and how to maintain it

Adapted from CAO (https://opto.ca/about)
and WCO http://www.worldoptometry.org/en/about-wco/who-is-an-optometrist/

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Introduce a case here

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The statistics



- Only 43.3% of individuals 65+ get a regular optometric eye exam
- Yet 75% of vision loss is preventable or treatable



OHIP 2012/13, OAO http://on.doctorsofoptometry.ca/

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The statistics

Poor vision is associated with:

- Overall lack of wellness
- Two times the risk of falls
  - 1.57 – 2.34 times greater risk of death in 5 years
- 3 times the risk of clinical depression
- 3 times earlier admission to long-term care
- Social isolation
- Loss of independence and privacy
- Decreased cognitive function
- Decreased overall quality of life

Klein et al (1998) Ophthalmol, 105, 160-164, Xinzhi et al (2013) Ophthalmol. 131, 573-581,
McCarty et al (2001) Br J Ophthalmol 85 :322–326

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The statistics

- 46-57% of older adults attending ERs for a fall or hip fracture had visual impairment
- 66-79% of these visual impairments are correctable with spectacles or cataract surgery

Elliott (2014) Optom Vis Sci 91, 593-601

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Assisted living environment

In one US study:

- 70% had <6/12 in at least one eye (true for both distance and near VA)
- 39% had <6/12 in best eye at distance and 50% at near
- Nearly 90% had reduced CS
- 89% had at least one diagnosed eye disorder
- Possibly worse than nursing home residents, as there is no oversee of health care

Owsley et al Arch Ophthalmol. 2007; 125: 925-930.

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Nursing homes

- Rate of visual impairment is 3-15 times higher than in the community-dwelling population
  - 57% had BCVA <20/40
  - 10% <20/200
  - 66% had a record of an eye examination
- Mostly correctable conditions:
  - Refractive error
  - Cataract
- Other common conditions are:
  - Macular degeneration
  - Diabetic retinopathy
  - Glaucoma

Owsley et al Arch Ophthalmol. 2007; 125: 925-930

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Nursing homes

- Refractive correction of residents in nursing homes improved:
  - General vision
  - Reading
  - Psychological distress
  - Activities and hobbies
  - Social interaction
  - Depressive symptoms



Owsley et al Arch Ophthalmol (2007) 125, 1471- 1477

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Patients with dementia

- As many as 94% of people with Alzheimer's disease do not have the correct spectacles
- Cataract surgery improves behaviour as well as VA
- Cataract surgery maintains cognitive status in patients with dementia

Armstrong RA. Alzheimer's disease and the eye. J Optom 2009, 2, 103-111, http://www.medscape.com/viewarticle/854756?nlid=92224_450&src=wnl_edit_medp_opth&uac=9023PY&spon=36&impID=907102&faf=1

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Low vision or visual impairment

Reduced vision that cannot be corrected by spectacles or contact lenses, and possible surgical or medical treatment has been done.

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Low vision rehabilitation
Low vision care & low vision intervention

- The goal is to enable people with low vision to use their remaining vision to achieve the tasks which they want to perform, in order to achieve as independent a lifestyle as they desire



- We use magnifiers and other devices, change the task, suggest alternative methods, train in new techniques, adapt the environment or a use a combination of these



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Low vision rehabilitation

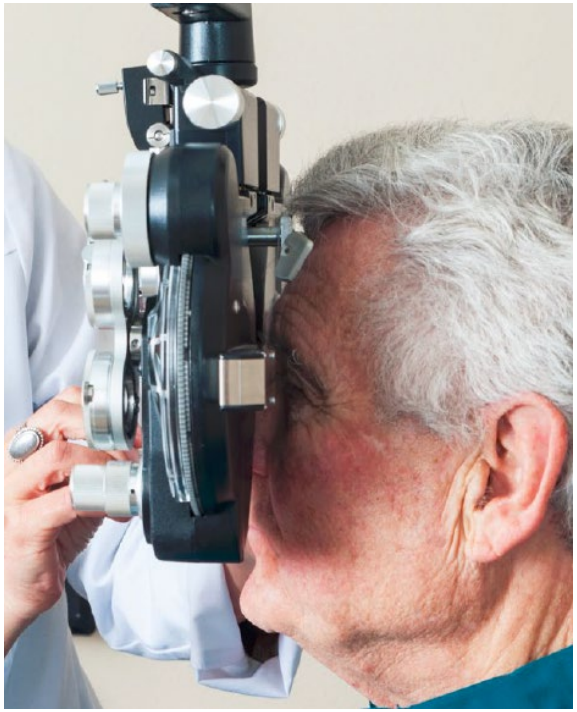
- In 2007, only 50% of hospital patients with low vision were referred to low vision services
- In 2010, only 26% of community dwelling adults with low vision were aware of low vision services
- Low vision rehabilitation is effective
  - It improves overall visual function, independence, quality of life and can lift depression

Nia and Markowitz (2007) *Can J Ophthalmol 42: 698,* Spafford et al (2010) *J App Ger*.:29: 579-602, Stelmack et al (2008) *Arch Ophthalmol* 126, 608

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The examination

- Undertaking an examination is possible in older adults, including nursing home populations and those with dementia
  - Albeit a modified examination



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The examination

- Case history
  - May rely on other's report or patient file
- Visual acuity
  - May rely on simpler charts



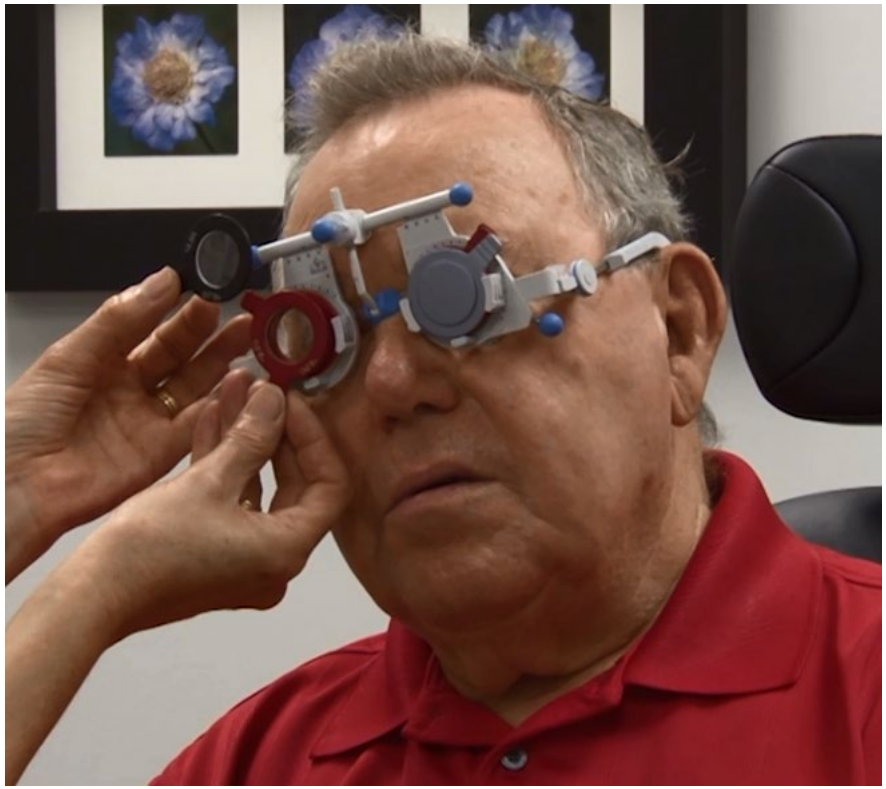
FIGURE 3-1 The Feinbloom Distance Test Chart (Designs for Vision, Inc., Ronkonkoma, NY) uses numerals and has a large number of optotypes beginning with a 700-ft optotype (A). As the size of the optotypes decreases, more numbers are added to each row (B, C).



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The examination

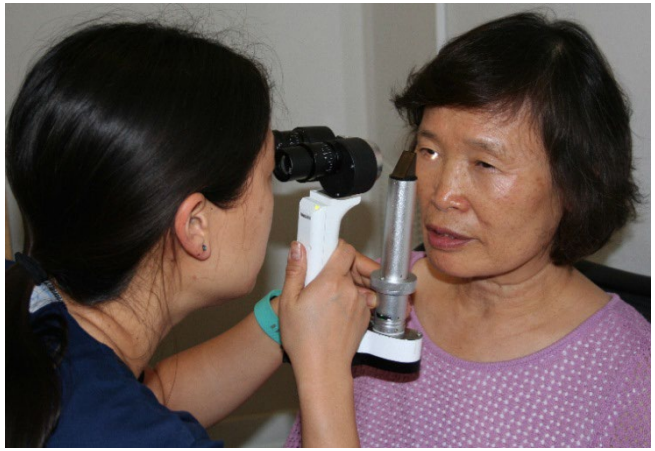
- Refraction
  - May use objective or simpler techniques



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The examination

- Ocular health examination is objective
  - Use portable equipment
  - Have patient return if not cooperative



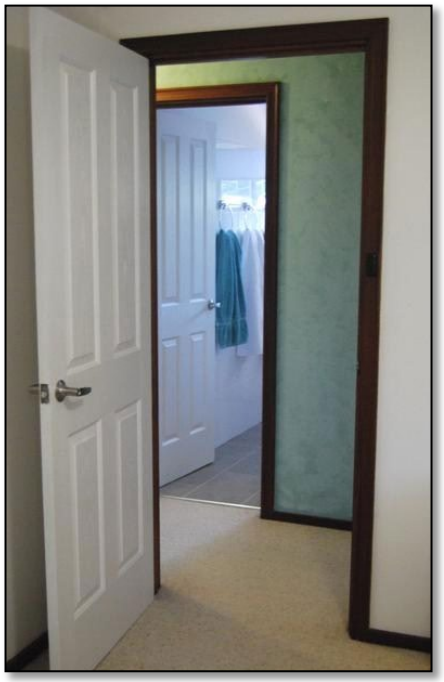


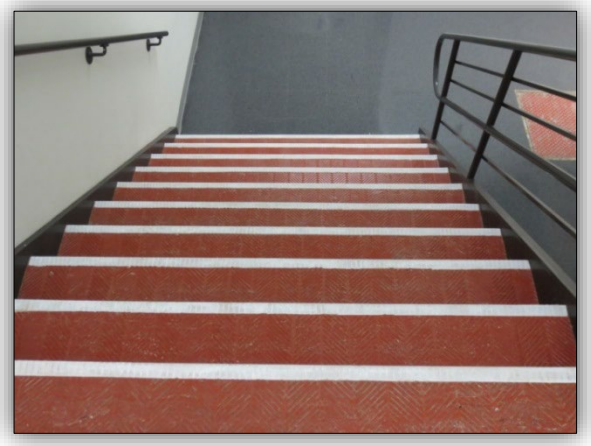


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Environmental modifications can always be implemented

- Improve the contrast
  - AFB Vision Aware Resources for Independent Living with Vision Loss http://www.visionaware.org/section.aspx?FolderID=11&SectionID=125&TopicID=504&SubTopicID=282&DocumentID=3236





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Environmental modifications can always be implemented

- Improve the lighting







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Environmental modifications can always be implemented

- Decrease busy patterns and clutter





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Environmental modifications can always be implemented

- Avoid flooring that runs up the wall
- Avoid sudden changes of flooring colour or carpet strips
- Avoid patterns with flecks







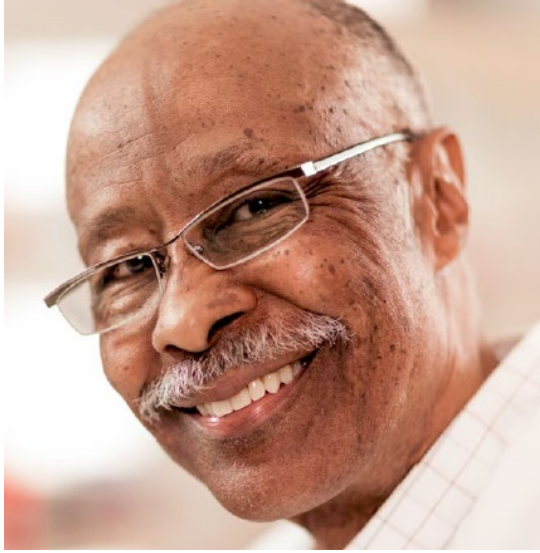
Dementia enabling environments,
http://www.enablingenvironments.com.au/AdaptaHome/Colour/ColourPerceptionandContrast.aspx

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Case examples: management and conclusion

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Call for action



- Recommend or refer for eye examination:
  - Ask patients how long ago they had an eye examination
    - Every year is recommended in older adults
    - Nearly 80% of asymptomatic patients ≥65 years had a spectacle change, new diagnosis or new management after 1-2 years.
  - Ask if patient has difficulty with:
    - Reading
    - Seeing faces
    - Distorted vision
    - Glare sensitivity
    - Decrease in vision
    - Ocular discomfort

Irving et al (2016) Optom Vis Sci

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Call for action

- Spectacles in bad shape, lost or broken
- No spectacles for near work (almost all those >55 will require them)
- Patient is at risk for falls

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Acknowledgments

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