

Moving Through Transitions in Lighting



SALUS
UNIVERSITY

Jamie Maffit, MS, COMS, CLVT

Kerry Lueders, MS, COMS, TVI, CLVT

Emily Vasile, MAT, TVI, MS, CLVT

IMPACT OF LIGHTING CONDITIONS ON TRAVEL

TYPE & SOURCES OF GLARE

- Type
 - Discomfort
 - Disability
- Sources
 - External
 - Internal
- Direct
- Indirect

ENVIRONMENTAL IMPACT OF GLARE

- Decreased impact in areas of higher illumination
- Increased impact in areas with low illumination

LIGHT ADAPTATION

- Dark or dim to light
 - Day
 - Night
- Light to dark or dim
 - Day
 - Night
- Reflections of glare

STRATEGIES FOR REDUCING GLARE

- Environmental modifications
- Non-optical accessories
 - Visors, hats, umbrellas
- Filters
 - Acetate Filters
 - Sun lenses



LOOKING TO IMPROVE

- Comfort
- Clarity
- Contrast
- Confidence

FILTER FEATURES

- Transmission level
 - The amount of light allowed to pass through the lens
- Absorptive filters
 - The amount of light blocked by the lens

FILTER FEATURES

- Transmission level
- Absorptive filters
- Color

FILTER FEATURES

- Transmission level
- Absorptive filters
- Color
- Frame



FILTER EVALUATION

- Start in a familiar area
- Assess transmission level using Gray tint
- Assess lens color with selected transmission level
- Address “Four C’s”
- Walk in and out of dark/shadowy areas
- Compare adaptation time with & without lenses
- Select frame

INSTRUCTIONAL TIPS & CONSIDERATIONS

- Have student:
 - Wear sun lenses prior to **dark/light** transition areas
 - Close eyes or turn away from bright lights if changing lenses outside
 - At night
 - Look down or to the side of headlights facing you
 - Walk with, not against the traffic flow
 - Wear a brimmed hat to tilt head to block glare source

INSTRUCTIONAL TIPS & CONSIDERATIONS, CONT'D.

- For areas with lighting transitions have student:
 - pause and step out of pedestrian flow while waiting for adaptation period to end
 - before going into a darkened area, advise students to close their eyes to shorten the adaptation time while moving into the darkened area
- Student may need more than one pair
 - Indoors, outdoors, bright, dim/dark
- Combine with additional glare remediation strategies
- Prescription sunglasses or tinted contacts
- Long cane use

LIVEBINDER RESOURCE

LiveBinder with you:

- Moving Through Transitions in Lighting
 - <http://www.livebinders.com/play/play/2223126>
 - Access key: glare control

REFERENCES

Brabyn, J. A., Haegerstrom-Portnoy, G., Schneck, M. E., & Lott, L. A. (2000). Visual Impairments in Elderly People Under Everyday Viewing Conditions. *Journal Of Visual Impairment & Blindness*, 94(12), 741.

Fazzi, D. L., & Naimy, B. J. (2010). Orientation and Mobility Services for Children and Youths with Low Vision. In A. L. Corn & J. N. Erin (Eds.), *Foundations of low vision: Clinical and functional perspectives* (pp. 706-708). New York: AFB Press.

Flom, R. (2004). Visual Functions as Components of Functional Vision. In A. Lueck (Ed.), *Functional vision: A practitioner's guide to evaluation and intervention*. (p. 44). New York: AFB Press.

Haegerstrom-Portnoy, G. (2004). Evaluation Methods and Functional Implications: Young Children with Visual Impairments and Students with Visual and Multiple Disabilities. In A. Lueck (Ed.), *Functional vision: A practitioner's guide to evaluation and intervention*. (p. 131). New York: AFB Press.

Smith, A. J., & Geruschat, D. R. (2010). Orientation and Mobility for Adults with Low Vision. In A. L. Corn & J. N. Erin (Eds.), *Foundations of low vision: Clinical and functional perspectives* (pp. 847). New York: AFB Press.

Smith, A. J., de L'Aune, W., & Geruschat, D. R. (1992). Low vision mobility problems: Perceptions of O&M specialists and persons with low vision. *Journal of Visual Impairment & Blindness*.

Quillman, R. D., & Goodrich, G. (2004). Interventions for Adults with Visual Impairments. In A. Lueck (Ed.), *Functional vision: A practitioner's guide to evaluation and intervention*. (p. 441). New York: AFB Press.

Whittaker, S., Scheiman, M., Sokol-McKay, D. A., (2016). *Low vision rehabilitation: A practical guide for occupational therapists*, 2nd Ed. (pp. 132-133). Thorofare, NJ: Slack Incorporated.

Williams, D. R. (1996). Functional Adaptive Devices. In R. G. Cole & B.P. Rosenthal (Eds.), *Remediation and Management of low vision*. (pp. 81-90). St. Louis, MO: Mosby Incorporated.

FILTER RESOURCES

- Irlen
 - <http://irlen.mybigcommerce.com/colored-overlays/>
- NoIR
 - <http://www.noir-medical.com/>
- Live Eyewear
 - <http://www.liveeyewear.com/>
- Eschenbach
 - <http://www.eschenbach.com/products-absorptive-filters-solar-shields.htm>

QUESTIONS?