

Transitioning from Driver to nondriver: How to Maintain Your Independence When You No Longer Drive

L. Penny Rosenblum, Ph.D.
The University of Arizona
Northern Rockies AER: July 2013

The First Step: Clinical Low Vision Evaluation

- "Clinical low vision evaluations should be recommended for all individuals with a visual impairment regardless of their ages or the severity of their additional disabilities."
Wilkinson, 2010, Foundations for Low Vision, p. 240
- "The optimum combination of optical, electronic, and nonoptical devices depends on the visual tasks a person wishes to perform, the person's visual capabilities, and his or her attitude toward both devices and visual disability."
Wilkinson, 2010, Foundations for Low Vision, p. 270

Sacks & Rosenblum Found...

- 32 teens had a CLVE
- 18 teens used optical aids
- 25 teens were shown optical aids
- By a TVI (n=7)
- By a COMS (n=3)
- By an eye care specialist (n=9)
- By multiple individuals (n=6)

Jack

Jack is a 10th grader who lives in the suburbs in Texas. He has aniridia and glaucoma and is legally blind. When it comes to discussing driving he indicated, "I talk to my parents, my TVI, my O&M specialist, friends, and my ophthalmologists. They say I probably won't be able to drive because of the field losses I have." Jack perceives he will have obstacles in his life as a nondriver including "I can't go on trips without planning. Where I work depends on where I live and transportation. It may limit what I do for fun, and I have to schedule everything in advance." Jack was one of the few participants who had knowledge about tools for low vision driving. He shared, "There are places, like in Houston, where there is special training...I know the person learns to use a telescope mounted on glasses to find objects in the distance."

Sacks, S. Z. & Rosenblum, L. P. (2006). Adolescents with low vision: Perceptions of driving and nondriving. *Journal of Visual Impairment and Blindness*, 100(4), 212-222.

Nonoptical Options

- Lighting
- Large print
- Felt tip pens
- Reading stands
- Color overlays
- Wide brim hats
- Sun filters (wrap-around or clip on)
- Talking or braille watch/clock

Quick Overview of Types of Optical Aids

- Relative Distance Magnification: Moving the object closer to the eye.
- Relative Size Magnification: The size of the object being viewed increases.
- Angular Magnification: Lens is used to increase the size of the object (e.g., hand held magnifier, telescope).
- Electronic Options: Through electronic means image is projected on a screen to increase its size.

Use of Magnification for Near Tasks

- Motivation
- Functionality
- Storage of device(s)
- Uses during actual travel
- Review schedules
- Read directions
- Uses at destinations
- Shopping
- Restaurants
- Museum displays

Laying the Foundation with Lindsey

- *Spotting*
- Localizing
- Shift of gaze
- Scanning
- Tracking

Telescopes

- The stronger the degree of magnification (e.g., power) the smaller the field.
- It is more difficult to view a moving object than a stationary one.

Bioptic Telescopic Systems

- Telescopes mounted into prescription lenses.
- Telescopes are positioned above or below the individual's direct line of sight.
- Users spot with the telescope and when driving primarily use the carrier lens.

Considerations

- Work with eye care specialists to identify the appropriate aid(s).
- COMS and TVIs DO NOT prescribe!
- Start early!!!
- Give individuals functional reasons to use aids.
- Teach skills including focusing, spotting, scanning, and tracking.
- Provide opportunities to use optical aids in many environments to promote generalization.
- Make it fun (even for adults) to use optical aids.
- Introduce role models who use aids.

Informational Sources Used

- Chuck Huss, COMS (chuck.huss@wvdrs.org)
- Huss C. & Corn. A. (2004). Low vision driving with bioptics: An overview. *Journal of Visual Impairment and Blindness*, 98(10), 641-653.
- Peli, E. & Peli, D. (2002). *Driving with confidence: A practical guide to driving with low vision*. River Edge, NJ: World Scientific.
- Noon, L. (2010). *Driving with low vision*. Presentation to University of Arizona graduate students.
- www.Lowvision.com
- www.biopticdriving.org
- www.BiOpticDriving.org

How is a Bioptic Telescopic Lens System (BTLS, BTS or Bioptic) Used?

- A BTLS is a small telescope (typically 1.7x to 10x) mounted in a prescription pair of lenses.
- It is mounted above or below the line of sight.
- The BTLS is used for "spotting" during approximately 5% of driving time.
- The user glances into the BTLS for approx. 1 second to obtain detailed information (e.g., signage).

True or False?

1. A BTLS is the "cure all " to being a safe low vision driver.
2. Low vision drivers need not use a BTLS in familiar driving environments.
3. BTLS are used continuously v. intermittently during driving; and as a result, a BTLS user drives blind to traffic.
4. Approach magnification, or moving closer to an object to see it, is safer than using a BTLS because the field of vision and depth perception are not affected and there is no need to change fixation.

5. The only way we can determine the safety of BTLS drivers is over prolonged periods of time and field experience.
6. Legally-blind BTLS drivers have higher at-fault accident and violation rates than BTLS drivers with milder forms of central visual acuity loss.

Low Vision Driving with a BTLS

According to Peli & Peli (2002) since the mid-1980's there has been a gradual yet significant transition in the determination of fitness to drive; from an impairment level (defined as limitation in overall function of the eye, i.e. reduced visual acuity) to a disability level (defined as a limitation in the ability to perform a task, i.e. driving).

Chuck Huss, COMS

What Does it Take to be a Bioptic Driver?

- Skills that impact driving go beyond acuity:
- Visual field
- Color perception
- Contrast discrimination
- Photosensitivity and glare recovery
- Oculomotor skills
- Cognitive Factors

Your Role as a TVI or COMS

- Don't make assumptions on whether a person will or will not be able to drive with a BTLS.
- Get the individual a clinical low vision evaluation.
- Have the individual research BTLS options (e.g., get catalogs, look at systems used by others).
- Introduce the individual to drivers who use BTLS.
- Have the individual research laws for low vision driving in any state they may choose to move to.
- Work with the individual on the pre-requisite functional tasks (Huss & Corn, 2004 – see handout).

Five Prerequisite Functional Tasks for Bioptic Driving (Huss & Corn, 2004)

- Receive, retain and follow route directions
 - Ex: block distance, compass directions, reverse versus alternate routes
- Travel a designated route
 - Ex: eye lead (looking far ahead), scanning, visual memory
- Detect, identify, decide about and react quickly or in time to critical objects or conditions in one's travel environment
- Awareness acuity, identification acuity & sure acuity
- Visual fields – both static and dynamic
- Detect, analyze and cross intersections
 - Ex. Intersection analysis, scanning
- Be proficient with handheld monocular telescopes (these promote success with bioptics)
 - Ex: aligning, fixating and focusing on an object, distance usage (e.g., seeing a traffic light in the distance)

If an Individual has a BTLS:

Long Before Getting Behind the Wheel

- Use BTLS to spot stationary targets while stationary.
- Use BTLS to spot and track moving targets while stationary.
- Learn to spot moving targets with the BTLS while moving (e.g., sit in the back left passenger seat).

What's the Connection Between Nondriving and Social Skills?

From Sacks & Rosenblum: Feelings and Frustrations

- "I'm going to be really sad when I turn 16 and cry really bad when all my friends drive and I don't. But, I'm still getting a car anyways."
Freshman who is legally blind due to ROP
- "I think it stinks, not being able to drive when I am supposed to and all my friends get their learner's permit and licenses before me."
Sophomore with myopia and nystagmus with acuity better than 20/150

Sacks, S. Z. & Rosenblum, L. P. (2006). Adolescents with low vision: Perceptions of driving and nondriving. *Journal of Visual Impairment and Blindness*, 100(4), 212-222.

From Sacks & Rosenblum: Future Frustrations of Not Being Able to Drive a Car

- Explaining to others why I can't drive.
(M=1.59, n=17)
- Not being able to travel where I want to go.
(M=1.72, n=18)
- Depending on my family for transportation.
(M=2.00, n=19)
- Not being able to date someone because we don't have transportation.
(M=2.00, n=8)
- Using public transportation. (M=2.08, n=12)
- Asking people for rides. (M=2.13, n=23)
- Waiting for ride. (M=2.18, n=17)
- Not being spontaneous. (M=2.18, n=17)
- Not being able to find a job. (M=2.43, n=7)

Recommendations

- Help students develop a concise disability statement and ways to respond to questions.
- Work to minimize and replace stereotypical and/or inappropriate behaviors.
- Don't answer for your student, get the person in the community to redirect the question/comment to the person with a visual impairment.
- Role play beginning at an early age.
- Introduce nondrivers to other nondrivers, including those who don't drive for different reasons.

Learning from Other Nondrivers

- How much do I tip a taxi driver?
- Where do you meet a taxi?
- Where are some safe places to be dropped off at night?
- How do you get a taxi at the airport?
- What do you do if your taxi isn't there at the ordered time?

Working with Drivers: Social Skills on Overtime!

- Where to advertise?
- How to interview?
- What to pay the driver?
- Who pays for gas?
- Whose car do you use?
- Who plans the route?
- What does the driver do when a destination is reached?
- If it is a long period of time what do you do about meals?

- How do you “fire” a driver?

A Few Thoughts on Teens Transitioning to Adulthood

- Look at the skills and tasks needed in the next environment.
- Plan lessons that build on previous skills and incorporate new ones.
- Ensure families provide opportunities to practice skills.

Maureen’s 9th Grade IEP Goals

- Will become familiar with new high school campus.
- Will construct a map of the city of Tucson that includes street names and addresses.
- Will plan and travel 2 routes on the city bus.
- Will maintain her street crossing skills by crossing at a variety of lighted intersections.

Maureen’s 10th Grade IEP Goals

- Use her understanding of the address numbering system in her city to locate 2 places of interest.
- Plan and travel 2 routes on the city bus, which includes transfers.
- Use blocker cars to cross safely at driveways and quiet residential streets with walking along busy parallel streets.
- Practice safe parking lot skills.

Maureen’s 11th Grade IEP Goals

- Use a map of Tucson when planning travel.
- Use her understanding of the address numbering system to locate 2 places of interest.
- Plan a taxi ride to a place of interest.
- Take a taxi ride to a place of interest.
- Plan and travel 2 routes on the city bus, which includes transfers.

Maureen’s 12th Grade IEP Goals

- Use the internet to research the address numbering system and make a map of the city of her choice.
- Use the internet to research public transportation and plan a route for her chosen city.
- Use her problem solving skills to get to a predetermined location on a “drop off” lesson.

Working Age Adults: Supporting Them in Their Busy Lives

Sacks and Corn, 1994

- Examined the transportation experiences of 110 working age adults in the US.
- If mass transit was used it was primarily to go to school or work.
- Few people used paratransit, and if they did it was to go to work.

Ways participants reciprocated for rides:

- Paying for gas or rides
- Bartering for services
- Giving of treats
- Found that women were more frustrated being nondrivers than men and those with low vision were more frustrated than those who were blind.
- Advantages to nondriving
 - Lower cost to travel
 - Less stress than those who drive
 - No parking problems
- Frustrations of nondriving
 - Lack of spontaneity
 - Not being able to go where mass transit does not go
 - Waiting for late rides

Corn, A .L. & Sacks, S. (1994). The impact of non driving on adults with visual impairments. *Journal of Visual Impairment & Blindness*, 88, 53-68.

Adventitiously Visually Impaired Adults

- How to understand the diagnosis.
- When to give up driving.
- How to get connected with services.
- How not to feel dependent.
- How not to feel isolated.
- What tools can help me?
- What skills do I need to learn?

Meet Scott and Anita

- Scott has RP, color blindness and cataracts
- Scott is 50 years old.
- Scott has relatives who also have RP.
- Scott and Anita have been married for 18 years.
- Scott is an avid cyclists.

Parents who are Visually Impaired Raising Children

- 56 parents ages 24 to 60 (m=40)
- Parents had at least one child at home who was a senior in high school or younger
- 34 parented with a spouse, 16 alone and 10 in other arrangements
- 67% of parents worked outside the home
- The parents had 106 children, 25% of whom had a disability

Rosenblum, L. P., Hong, S., & Harris, B. (2009). Experiences of parents with visual impairments who are raising children. *Journal of Visual Impairment & Blindness*, 103(2), 81-92.

Challenging Aspects of Being a Parent with a Visual Impairment

- “The biggest challenge is probably transportation....One of the causes of anxiety for me is that I have had to arrange for transportation.”
A 52 year old married mother who is Caucasian and blind raising a 15 and 19 year old
- “When Sandy was 18 months old I put them against a fence and told them to stay. I was opening the stroller and Holly told me calmly that Sandy was in the street in front of the bus. After that she was attached to me by a type of leash [harness to keep the child near].”
A 43 year old married mother who is Jamaican and blind and is raising a 15 and 19 year old
- “For the girls they used to be mortified that I squint and look different than the other moms. I couldn’t drive them to the mall like other moms. It is getting less now. But they were not happy campers.”
A married mother who is 47, Caucasian, has low vision and is raising a 17, 14 and 11 year old
- We don’t have that spontaneity. He says, “mom can I...” He didn’t tell me before and I didn’t budget for the taxi...Everything takes some planning.”
A single mother age 35 who is Hispanic and blind raising a 10 year old

Maria’s Thoughts...

“They were born into it. Since they were newborns I’ve always taken them places. From an early age [a visually impaired parent should] teach your child about safety and staying with mom. By the time they are 2 they know how to get on the bus, sit next to mom etc. They were little and they would tap on the seat of the bus to tell me where they were sitting.”

Ideas Parents Shared for Keeping Children Safe During Travel

- Keep the child in a stroller or on a leash.
- Take another adult to monitor the child (e.g., at the park).
- Teach children to respond when they are called.
- Maintain physical contact with the child at all times
- Have set rules, and if violated, immediately go home (e.g., when you exit the car you must touch the car until parent gets out stroller).
- Dress the child in clothing the parent can see.
- Use a remote control beeper device pinned to child's clothing.
- Use optical aids to monitor the child.

Transportation Issues

- Issues around fitting car seats and storing them
- Trip planning
- Lack of spontaneity
- Challenges using a cane or dog and having young children.
- "I have a little red wagon I use. I use a guide dog so I pull the wagon behind me and the baby in a front backpack."

Transportation Creativity

- Mother who took her child to work via paratransit and then paid a co-worker to drive her child to daycare
- Parent who got services through an agency that provided transportation to seniors
- Parent who had multiple car seats to use in different drivers' cars

Impact on Children of Having a Parent who is a Nondriver

- Not getting to do everything they or their parents would like them to do.
- Feeling embarrassed.
- Having to grow up faster.
- Having a higher level of maturity, acceptance of others and independence.
- Feeling like one has to care for the parent.
- Needing to learn to drive.

Reclaiming Independence: Video and Resource Guide

Leading Up to the Video...

- 1994: Corn & Sacks, JVIB article
 - Experiences of 110 adults ages 16 to 60 and older
- 2000: Corn & Rosenblum, Finding Wheels: A curriculum for non-drivers with visual impairments for gaining control of transportation needs

- 2002: Corn & Rosenblum, 3 JVIB articles
 - Experiences of 162 adults 60 or older

Who is the Video for?

- The target audience is older adults transitioning from drivers to nondrivers.
- The “stars” share with the audience strategies they use to meet their transportation needs.
- Through watching the video and reading the Resource Guide new nondrivers can broaden their own knowledge base about:
 - Transportation options
 - Orientation and Mobility
 - Low Vision
 - Vision Rehabilitation Therapy

Ideas for Using The Video & Resource Guide

- The video can be shown to individuals and groups by:
 - Blindness agencies
 - Eye care specialists
 - Senior centers
 - Social workers
- The resource guide could be used by individuals or groups at home or in an instructional course

Section One: Understanding Your Visual Impairment

- Typical vision changes that occur with aging
- Eye conditions/diseases that cause significant vision loss in older persons
- Types of eye care professionals
- Symptoms of significant visual problems that affect driving
- The meaning of “legal blindness”
- Discussion points when seeing your eye care specialist
- Discussion points when talking with family and friends
- Notifying the department of motor vehicles or other license issuing agency

Section Two: Services for Adults with Vision Loss

- Clinical low vision specialist
- Low vision therapist
- Vision rehabilitation therapist, also called rehabilitation teacher
- Orientation and mobility specialist
- Assistive technology used by persons with visual impairments
- Support groups and counseling

Section Three: Transportation Options and Strategies for Using Them Successfully

- Transportation options used by older adults with visual impairments in the United States
- Strategies for being an effective pedestrian
- Strategies for using public transportation including buses, subways, and light rail
- Strategies for using paratransit
- Strategies for using taxis and hired drivers
- Strategies for using transportation with a specific focus
- Strategies for negotiating transportation with family and friends
- Strategies for using long distance transportation including buses, trains, and planes

Section Four: Finding Resources that Work for You

- Locating rehabilitation services for people with visual impairments
- Locating providers of clinical low vision evaluations
- Locating appropriate assistive technology
- Finding transportation in your part of the United States
- Finding useful organizations and agencies for people with visual impairments

Others Beyond Adults with Vision Loss Can Learn

- Family members
- Friends and neighbors
- Residents of senior communities (many of whom may not realize they are in the beginning stages of vision loss)
- Professionals who have not received training to work with older adults who have vision loss
- Individuals preparing to be professionals in the vision field or related fields

THANK YOU!!!

L. Penny Rosenblum, Ph.D.
The University of Arizona
rosenblu@u.arizona.edu
520-621-1223