



# Working Effectively with People who are Blind or Visually Impaired

## What is Blindness or Visual Impairment?

When we think of "blind," we think of total darkness. However, a person may be "legally blind" with either:

- 20/200 vision in both eyes with best correction, OR
- a field of vision restricted to 200 or less.

A person whose best corrected vision is 20/70 to 20/200 is often referred to as "visually impaired" or having "low vision."

Some people are born with no vision or significantly reduced vision. Others lose vision due to accidents or the natural aging process, usually starting in the 40s. For some, vision loss is sudden, while for others it may be gradual. Some conditions, diabetes, for example, cause vision to fluctuate from day to day.

Many people who have lost significant levels of visual functioning take time out from their careers to learn alternative skills, which allow them to live and work independently.

If a person who is blind or visually impaired applies for a job in your company, the resume and application may indicate experience and skills.

## What Types of Jobs Do people who are Blind Do?

With appropriate training and equipment, people who are blind or visually impaired have the same range of abilities as anyone else. There are no "jobs for blind people." To broaden your thinking, consider that blind people have been successful as:

artists  
machinists  
auto mechanics  
masseuses  
boat builders  
mayors  
computer programmers  
lawyers  
musicians  
fashion models  
production workers  
teachers  
story tellers  
word processing specialists

An employer's perception of inability limitation that visually-impaired and blind people face.

### **Accommodating the Person who is Blind or Visually Impaired During the Employee Selection Process**

In the hiring process, an employer seeks to determine whether an applicant has the necessary skills, experience, education, or other background to successfully perform the essential functions of the job. This is the same information all employers need about any applicant to help them make an effective hiring decision.

A visually-impaired or blind person who cannot see enough to read an application form may be discouraged from applying for a job, even if the job itself requires minimal vision.

Ask the applicant how he or she would prefer to meet the requirements of the hiring process. For example, if you require applicants to complete an application form, ask the applicant which would be most convenient:

- Mail the application to the candidate who requests it
- Offer the walk-in applicant an opportunity to take the form, have someone help complete it, and return it by mail or in person

is often the biggest

- Offer the services of someone in the office to assist in completing the form.

When you invite a person who is blind or visually impaired to an interview:

- Ask if he or she needs directions if someone is driving
- If the candidate is taking public transportation, indicate which stop is closest, then give directions from the stop.
- Offer assistance from the reception area to your office by asking, "Would you like to take my arm?" If the person needs to, he or she will lightly grasp your arm just above your elbow and will follow one step behind you. Don't insist on helping, and certainly, don't push the person ahead of you. If the person uses a dog guide, the dog will follow you. Do not pet or distract the dog.
- When you get to your office, ask if you may place the person's hand on the back of the chair you are offering. Do not push the person into a chair.

When a blind or visually impaired person is in your office:

- Be yourself. Use normal language. It's OK to say:
- "Do you see what I mean?"

- "Would you like to take a look at the work area?"
- "I hope to see you again."

## **Enhancing Productivity on the Job**

Velcro fasteners on protective clothing, hand trucks, and word processors allow us to do things that would otherwise be difficult. These tools enhance our productivity by reasonably accommodating our humanness.

The Americans with Disabilities Act (ADA) asks us to "reasonably accommodate" the limitations imposed by a person's physical or mental disability. Reasonable accommodation is defined as the modification or adjustment of a job, employment practice, or the work environment that makes it possible for a qualified person with a disability to be employed. The employer needs to consider reasonable accommodation from the first contact with the person with the disability, during the application process, on the job, in training, on the work site, and when considering promotions and layoffs. If job duties change, new accommodations may need to be made. The ADA requires an employer to accommodate the individual with a disability unless doing so would cause an undue hardship. If that cost is an undue burden, the employer may offer the person with the disability an opportunity to provide the accommodation or assist in finding

resources to pay for it. If we think of accommodations as "productivity enhancements" similar to others in the workplace, they become part of the cost of doing business.

## **Types of Productivity Enhancers**

The employer and employee should brainstorm and research equipment or job restructuring. The person who requests accommodation has lived, and perhaps worked, with the disability and may know what will enhance productivity most effectively. An assistive technology device is any item, piece of equipment, or product system, whether acquired commercially off-the-shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities. Assistive technology services are any services that directly assist an individual with a disability in the selection, acquisition, or use of an assistive technology device.

## **Low-Tech Assistive Technology**

Productivity enhancers do not have to be fancy or expensive.

- A dot of silicon on a knob, switch, or button permits a person to align controls on a machine.
- Wide felt-tip marker may make file folder labels readable.
- Braille labels on the soft drink machine gives the Braille user equal access to flavor choice.

- Different size strips of masking tape identify parts bins for production employees.

Consult with your employee who is blind or has low vision for other simple solutions.

## **High-Tech Assistive Technology**

Adaptive programs or hardware can be used to provide enlarged screen display, speech output, or Braille output. Prices may vary from state to state, and are subject to change.

Optical scanners, also known as "reading machines," scan printed material and "read it" into a computer or voice synthesizer. Some scanners require only adding a card and an external monitor to an existing computer system. Many of the newer scanners, connected to a computer, may require only a Universal Serial Bus (USB) connection. Prices for the scanner may range from \$250 to \$700. The specialized software, designed for use by a person who is blind, will cost about \$995. A stand alone OCR system without a monitor costs about \$2,900. Many offices already have this equipment.

Screen enlargement programs use software to enlarge print on a computer screen from 2X to 16X. Using 17" to 21" monitors will also help employees who use these kinds of enlargement programs. ZoomText, the leading screen

enlargement manufacturer, costs about \$595.

A speech access system allows a person with a vision impairment to have voice output as a synthesized voice can read text that is on a computer monitor. Although some software that is mouse dependent or highly graphical can present problems, there are ways to address these problems. These programs give auditory feedback of menus, dialog boxes, text, and other messages commonly displayed in Windows. These programs typically cost between \$800 and \$1500, and the current state-of-the-art speech software (JAWS for Work Speech) costs about \$795. All speech output programs (screen readers and scanning & reading systems) use the computer sound card to produce the speech. No additional hardware is needed for speech output.

Braille output uses a refreshable Braille device to display up to 80 characters of text. This corresponds to text on a single line on the monitor. The user can scroll from line to line and the Braille cells change to the new information. Braille displays typically cost between \$3,400 to \$15,000.

Braille documents can be created using a Braille conversion program and a Braille embosser with special heavy Braille paper. The conversion programs typically cost about \$300

and the embossers average about \$3000.

A scanning and reading system can be used to read printed material. Such a system uses a standard scanner to scan a page of text into the computer. There, the adaptive program converts the image into computer text and reads the information out loud. The scanned text can be saved for later reading. A computer-based scanning and reading system typically costs \$1000 to \$1500 for the program and \$200 to \$400 for the scanner.

Closed circuit television (CCTV) systems use a modified motion camera to magnify printed material and display it on a 14" to 21" monitor. This device permits a person who has some usable vision to read memos and books and fill out forms. CCTV systems are often the best way for a person with some functional vision to read printed material visually. Black and white systems cost an average of \$2000. Color systems cost an average of \$2500. There are some systems that use a small, hand-held camera that can connect to a TV. These systems cost between \$500 and \$1000 but have some limitations because the person must hold the camera to use it. Also, if the person has a physical disability, s/he may not be able to use such a system.

All of these adaptive programs work on Windows 95/98 systems and

most work on Windows NT & 2000 systems. Most commercial programs (e.g., Office 2000, Quicken, etc.) work in conjunction with the adaptive programs without problems. If a commercial program has audio output, there may be conflicts with the speech output programs.

When considering costs of accommodations, review the cost of the company's entire computer system overall, the "overall financial resources of the facility..." and the "overall financial resources of the covered entity...." before deciding that the equipment needed to enhance a visually impaired worker's productivity is too expensive. Appropriately setting up any employee's workstation helps guarantee maximum productivity.

### **Tips for On-The-Job Training**

Employees who are blind or visually impaired need the same introduction to a job and initial training as sighted colleagues. Provide orientation to the company and the job. Ask the employee whether he or she learns best from verbal instruction or a combination of hands-on, written, and verbal learning.

Allow the person to organize the work area for greatest efficiency, even if it means organizing it differently than in the past. You may find that the new design would make other employees more productive as well.

Make sure that the workstation is adequately equipped, and that the employee knows where to get replacement supplies. If an outside organization has provided equipment, determine who is responsible for ownership, upkeep, upgrading, or replacement of the equipment.

## **Performance Management**

A supervisor's responsibility is to establish an atmosphere of quality and productivity. Appropriate on-going training is crucial. Assume that an employee who is blind or visually impaired has the same career aspirations as other employees and provide training, ensuring that materials are accessible to the person's visual limitations.

Supervise as you would for any other employee. Be sure that all employees understand performance expectations. Provide praise and constructive feedback. If a performance problem arises, deal with it openly. Do not automatically assume that it is disability-related. Do not avoid giving feedback. Employees who are blind or visually impaired, as all employees, want to know when they are performing well and when they need to do things differently. Occasionally, a supervisor will not provide feedback until a major problem arises, then dismiss the employee. No employee should be surprised with such actions!

Conduct performance appraisals, using the same criteria as with other employees. If a supervisor has provided feedback throughout the year, an annual performance appraisal should contain no surprises.

Periodically review any adaptive equipment to ensure that it is still working well and meeting the employee's needs. As technology evolves, prices and compatibility frequently change. Determine if it needs upgrading to keep the employee competitive. Consult with your local Vocational Rehabilitation Agency, Rehabilitation Center for the Blind, or rehabilitation service provider.

## **Training and Promotion**

As an employee grows in the job, provide the same opportunities for learning and taking on new challenges as for other employees. If this means attending out-of-town training, speaking at professional conferences, or training new workers, encourage these activities. Check with the employee, to identify any needed accommodations.

Assist the person to plan the next steps in a successful career. Promote qualified people who are blind or visually impaired using the same criteria as promotion for others.

## Resources

American Council of the Blind in Colorado  
2421 Orchard Avenue  
Grand Junction, CO 81501  
888/775-2221  
[www.acbco.org](http://www.acbco.org)

American Council of the Blind  
1155 15th St., NW, #720  
Washington, DC 20005  
202/467-5081  
800/424-8666  
[www.acb.org](http://www.acb.org)

Assistive Technology Partners  
601 E. 18<sup>th</sup> Avenue, Suite 130  
Denver, CO 80203  
303/315-1280 Main  
800/255-3477 within Colorado  
303/837-8964 TTY  
303/837-1208 FAX  
[www.uchsc.edu/atp](http://www.uchsc.edu/atp)

Assistive Technology Partners  
Western Slope Technical Assistance  
Center (WesTAC)  
2897 North Ave., Module 3A  
Grand Junction, CO 81501  
970/248-0876 Main  
970/248-0877 FAX/TTY  
[www.uchsc.edu/atp](http://www.uchsc.edu/atp)

Colorado Center for the Blind  
2233 W. Shepperd Ave.  
Littleton, CO 80120  
303/778-1130  
[www.cocenter.org](http://www.cocenter.org)

Job Accommodation Network  
West Virginia University

P.O. Box 6080  
Morgantown, WV 26506-6080  
800/526-7234  
[www.jan.wvu.edu](http://www.jan.wvu.edu)

National Federation of the Blind  
1830 S. Acoma St.  
Denver, CO 80223  
303/778-1130  
800/401-4632  
[www.nfb.org](http://www.nfb.org)

National Federation of the Blind  
1800 Johnson St.  
Baltimore, MD 21230  
301/659-9314  
[www.nfb.org](http://www.nfb.org)

Rocky Mtn. Disability & Business  
Technical Assistance Center  
3630 Sinton Road, Suite 103  
Colorado Springs, CO 80907  
800/949-4232 Voice/TTY  
[www.ada-infonet.org](http://www.ada-infonet.org)

U.S. Equal Employment Opportunity  
Commission  
1801 L Street NW  
Washington, DC 20507  
800/669-4000 Voice  
800/669-6820 TTY  
[www.eeoc.gov/docs/accommodation.html](http://www.eeoc.gov/docs/accommodation.html)

Workplace Health and Safety  
Program, Cornell University  
School of Industrial and Labor  
Relations  
237 Main St. - Suite 1200  
Buffalo, NY 14203  
716/852-4191

**For more information contact:  
Assistive Technology Partners  
601 East 18<sup>th</sup> Avenue, Suite 130  
Denver, CO 80203**

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