
Types of Disabilities



Overview

An “individual with a disability” is defined by the Americans with Disabilities Act as a person who:

- Has a physical or mental impairment that substantially limits a “major life activity,” or
- Has a record of such an impairment, or
- Is regarded as having such an impairment.

The following pages identify and describe the more prevalent disabilities in society today. These are developmental disabilities (including cerebral palsy, mental retardation, epilepsy and autism), hearing impairments, learning disabilities, mobility impairments, and visual impairments. The definition and common characteristics of each disability are described in this section, along with tips or “etiquette” on what to do when you meet a person with a specific disability.

Two additional headings in this section describe people with limited English proficiency and older adults. While these are not considered disabilities, they are included in this handbook because they constitute a large number of park visitors who may benefit from simple modifications or additions to interpretive programs and facilities.

A Few Words About Terminology

The term “handicapped” is no longer appropriate. Today, “person with a disability” is more widely used. This phrasing reflects a positive approach by putting people first, not the disability. It is preferable to avoid reference to disability altogether; refer to a person by name, “Mr. Jones,” or by a general description that we might use for anyone, “woman in the blue dress.” Where reference to a disability is necessary, other more positive examples include “woman who uses a walker,” “boy who has epilepsy,” “man with down’s syndrome.” It is important to remember that people with disabilities are individuals, who do not all act, think, or move alike. Therefore, do not use group references such as “the disabled,” or “the mentally retarded,” etc. Do not use words that are degrading, such as crippled, defect, wheelchair-bound, confined to a wheelchair, invalid, victim of, or suffering from.

While generally unintended, terms such as “handicapped” and “disabled person” convey a label of less than equal. Although one’s approach to accomplishing tasks may vary, the goal of leading an enjoyable and productive life is universal. “Handicapped” and “disabled” are more appropriately reserved for, respectively, competitive games and non-functioning machinery. Use of these terms to mark parking and building entrances, while not ideal, presently remains in use, however, even this is subject to change.

Many physical barriers are caused by attitudinal barriers resulting from misconceptions and unfamiliarity. The following sections define and describe some of the more common disabilities. The intent is to increase knowledge and understanding of these disabilities so park staff can more effectively communicate with diverse audiences. A danger inherent in this

approach is that once a person learns more about a particular disability there may be a mistaken tendency to label and categorize individuals by their characteristics, after their disabilities have been observed and identified. When a person is “group-labeled,” many expect that his or her actions must conform to the perceived image of that group. People’s personalities are not consumed by their disabilities. A disability is only one aspect, and usually not the dominant one, of each individual. It must be emphasized that everyone wants to be treated as a person with unique feelings, thoughts, experiences, and abilities. Remember to treat each park visitor as an individual.

Developmental Disabilities

The term “developmental disability” is used to describe those conditions that affect, or appear to affect, the mental and/or physical development of individuals. Disabilities included in this category are mental retardation, cerebral palsy, autism, epilepsy, and, in some cases, head traumas. In order to be considered a developmental disability, an individual’s condition must manifest before the age of 18, continue indefinitely, and represent a significant limitation for the individual.

The first criterion states that the disability must originate sometime before 18 years of age. Developmental disabilities are caused by trauma to the developing brain and nervous system. Examples of such trauma include:

- Childhood accidents and trauma (falls, near drownings, burns, and child abuse);
- Genetic disorders (Down’s Syndrome, Tay-Sachs Disease);
- Toxic substance and drug poisoning (while pregnant or through ingestion during childhood);
- High-risk conditions in women and infants (these include pregnancy under the age of 15 or over age 35, infectious diseases during pregnancy, and delivery of very large or very small infants);
- Lead poisoning; and
- Metabolic disorders.

In many cases, it is difficult to determine the exact cause of the damage or the time the damage occurred.



The second criterion indicates that the condition will continue indefinitely, or can be expected to continue indefinitely. An individual may become more independent or acquire new learning skills and behaviors, but, nevertheless, the condition is still present.

Finally, a developmental disability constitutes a severe impairment in the individual's ability to function in daily life. Life activities that may be affected are communication, learning, mobility, self-care, self-direction, economic self-sufficiency, and the capacity for independent living.

According to the California Department of Developmental Services, mental retardation, epilepsy, and cerebral palsy are the most common of the developmental disabilities. Roughly 88% of people with a developmental disability have been diagnosed as having mental retardation, 26% have epilepsy, 24% have cerebral palsy, and less than 5% have autism. Obviously there is overlap among these disabilities. For example, a person diagnosed with autism may also have mental retardation; however, that does not mean that all people with mental retardation are autistic.

Autism is relatively rare and is characterized by extreme withdrawal, absence of speech, lack of responsiveness to other people, repetitive motor behaviors, and abnormal responses to sensations. If you are providing a program for visitors who are autistic, it would be helpful to refer to the sections on learning disabilities and mental retardation.

Epilepsy describes a condition of abnormal brain activity that results in a seizure. Seizures may last from several seconds to several minutes. Depending on the type of seizure, the individual may or may not lose consciousness. Signs that a person is having a seizure range from staring into space to whole body convulsions. Seizures are often controlled through the use of medications; however, it is important to be familiar with first aid procedures for seizures. Epilepsy alone does not inhibit communication; however, if combined with another disability, communication may be affected. Refer to those sections that may apply. For the purposes of this handbook, this section will focus on cerebral palsy and mental retardation.

Cerebral Palsy

Cerebral palsy is a group of movement disorders that results from damage to the brain. "Cerebral" refers to the brain. "Palsy" refers to paralysis which accounts for the lack of muscle control associated with this disability. It is caused by damage to the brain occurring before, during, or shortly after birth. Causes of brain damage may include, but are not limited to mother's illness during pregnancy (such as German measles), Rh incompatibility (a blood conflict between mother and fetus), Lesch-Nyhan disease (a rare genetic defect), or fetal oxygen deprivation during pregnancy or delivery. Cerebral palsy may also occur early in life (before age 5) due to an accidental head injury, an illness such as meningitis, lead poisoning, or child abuse (repeated beatings or shaking).

Cerebral palsy can be mild; for example, a slight limp. It can also be severe with the total inability to control body movements. There are five types of cerebral palsy, each displaying different symptoms, and each determined by where the damage occurred in the brain. It is possible for people to have a combination of these.

- **Spastic** - tense, contracted muscles. The most common type of cerebral palsy.
- **Athetoid** - constant, uncontrolled motion of arms, legs, head, and eyes.
- **Ataxic** - poor sense of balance, often causing falls and stumbles.
- **Rigidity** - tight muscles and inability to move them.
- **Tremor** - uncontrollable shaking, interfering with coordination.

These symptoms vary from person to person, can be mild to severe, and may change over time in the same person. Individuals with cerebral palsy may also have another disability such as a hearing impairment, visual impairment, learning disability, or mental retardation. Refer to other sections in this handbook for further information on these disabilities. **For program suggestions for people with cerebral palsy, refer to the tips for mobility impairments throughout the handbook.**

Many individuals with cerebral palsy have some degree of speech impairment, ranging from difficulty in expressing themselves, to trouble with speaking, to no speech at all. **There is no connection between the individual's speaking capabilities and the ability to understand.** Some people who cannot speak can understand everything they hear. For those with severe speaking difficulties, alternate forms of communication may be used. Such methods include simple gestures that demonstrate the person's needs and wants, communication boards or communication books containing words and symbols that can be pointed to by hand, and portable computers that are programmed with a comprehensive vocabulary that can be printed out or articulated by synthesized speech.

Cerebral Palsy Etiquette

- Communicate directly with a visitor with cerebral palsy. Do not speak through a third person.
- Offer assistance if it appears to be needed, and if your offer is declined, do not insist. If your offer is accepted, ask how you can best help.
- Never take mobility aids away from individuals with a disability. Allow them to keep their crutches, walkers, canes, etc., close to themselves.
- If you have difficulty understanding a visitor who has a speech impairment, do not be afraid to ask them to repeat what they said. If you still do not understand, repeat the information you did understand, and ask them to repeat again.
- People with cerebral palsy may also have another disability. Refer to those sections that may apply.

Mental Retardation

In 1992, the American Association on Mental Retardation defined mental retardation in this way:

Mental retardation refers to substantial limitations in present functioning. It is characterized by significant subaverage intellectual functioning, existing concurrently with related limitation in two or more of the following applicable adaptive skills areas: communication, self-care, home living, social skills,

community use, self-direction, health and safety, functional academics, leisure, and work. Mental retardation manifests before age 18.

Hundreds of biological and clinical causes of mental retardation exist; however, for 75% of mental retardation cases a cause cannot be identified.

The majority of people with mental retardation have **mild** retardation. These people generally develop sufficient academic, social, and communication skills to live and work independently. By the time they reach adulthood, many individuals have successfully blended in with the general public with minimal or no supports.

Individuals who have **moderate** mental retardation generally develop self-care skills but have more difficulty developing academic, social, and job-related skills. Many individuals do have jobs, typically in sheltered employment situations. They may live independently or in supervised group homes.

Individuals who have **severe** to **profound** mental retardation are the most severely disabled. These individuals may have very limited communication and self-care skills. Often, they need to live in a highly controlled environment. The capacity for learning is there, usually for simple repetitive tasks.

Remember that individuals with mental retardation have varying abilities and limitations. **Do not assume that an individual cannot perform a specific task or cannot participate in a discussion. Always** attempt to include **all** visitors in your tour or activities. If they decide they do not want to participate, they won't. Some individuals have low self-esteem, a result of consistently being told that they are wrong or their answers are inappropriate. These individuals may be reluctant to try new or challenging activities for fear of failing. However, if they can be successfully guided through a somewhat challenging task, they may be inclined to keep trying more difficult activities.

Mental Retardation Etiquette

- Address and treat adults with mental retardation as adults.
- Communicate directly with the individual with mental retardation and not through a third person.
- Some individuals with mental retardation may have speech impairments. If you have difficulty understanding visitors, do not be afraid to tell them and ask that they repeat themselves.
- When giving directions or instructions, speak slowly and clearly. Keep your sentences short.

People with mental retardation may have another disability. Refer to those sections that may apply.

Hearing Impairments

Hearing impairments vary greatly from mild hearing loss to profound deafness. The term “hard-of-hearing” describes those who have mild to moderate hearing loss. Mild hearing loss includes those who are able to hear everything except very high-pitched sounds. Moderate hearing loss describes people unable to hear a conversation without amplification. “Deaf” includes people with severe to profound hearing loss, who are unable to hear anything but the loudest sounds, such as a jet airplane.

Hearing loss can occur before birth (congenital) or anytime after birth (adventitious). Factors contributing to hearing impairments include injury, medication, illness, aging, sudden or prolonged exposure to loud noise, and genetic factors.

People with hearing impairments are generally dependent on visual cues for communication. The degree of dependence is based on the severity of the hearing loss and whether or not they wear a hearing aid. Speech-reading, formerly known as lip-reading, involves watching lip movements, facial expressions, eye movements, and body gestures. These visual cues assist individuals with hearing impairments in understanding what is being said, and in what context. There are some people with hearing impairments who are excellent speech-readers; however, the majority are not. According to Nancy Sheetz, author of *Orientation to Deafness*, nearly 50% of speech sounds are not visibly detectable; for example, i, e, g, h, a, and k. Some sounds look the same when they are spoken, as is the case with p, b, and m. To better understand this, try watching yourself in the mirror as you talk to see just how many words are



hard to decipher. For individuals who are hard-of-hearing, speech-reading aids in the comprehension of the sounds they do hear.

Many people with hearing impairments communicate by reading and writing. Individuals who were exposed to language before their hearing loss usually are more proficient in reading, while those who were born deaf and who do not have a language base to draw from rarely become skilled in reading. When producing written materials for interpretive programs, refer to the *Publication Guidelines* section on page 165. ***It is important to remember that levels of intelligence are not related to reading abilities.***

According to the Americans with Disabilities Act, a public entity must provide appropriate auxiliary aids and services to ensure that communication with individuals who have a disability is as effective as communication with others. Auxiliary aids and services for people with hearing impairments include assistive listening devices, qualified interpreters, video captioning decoders, and telecommunications devices for deaf persons (TTY and TDD).

Various forms of amplification may be used to compensate for some hearing loss; however, for profound deafness, amplification is not helpful. Less than 5% of individuals with hearing impairments use a hearing aid. The majority of visitors with hearing impairments can benefit from provided assistive listening devices, which may or may not be used in conjunction with a hearing aid. Refer to the *Assistive Listening Systems* section on page 17, for more information.

People who are hard-of-hearing or who are educated in the “oral” method may request an oral interpreter. Oral interpretation is an art that involves inaudibly mouthing the words as they are presented by a speaker. Oral interpreters are able to communicate the visibly indistinguishable sounds previously mentioned.

People who are deaf may communicate with sign language. American Sign Language (ASL) is a visual-gestural language with its own vocabulary and syntax. Another type of sign language is Signed Exact English, in which the interpreter signs words exactly as they are spoken. Sign language interpreters may be hired to communicate to park visitors. However, they are legally required only when requested in advance. Planners of special events may also consider hiring a sign language interpreter when anticipated attendance is high. For more information, refer to the *Special Events* section on page 185. When working with a qualified interpreter there are some general rules to follow, which are discussed in the *Working with an Oral or Sign Language Interpreter* section on page 19.

A teletypewriter (TTY), or telecommunications device for the deaf (TDD), is a unit consisting of a typewriter-like keyboard and a coupler which hooks up to a standard telephone and converts it into a visual communication system. A TTY only communicates with other TTYs. The sender types a message on the keypad, and the letters are converted into high-pitched beeping sounds, which are transmitted through the telephone line. The receiver's

TTY converts the signal back to letters that are then displayed on the screen.
Facilities providing a TTY should display a sign containing the International TTY Symbol (shown here), along with directions to where it is located.



The telephone company offers a relay service for TTY users to call any telephone within the United States. It also allows a person without a TTY to call a TTY user. Call the California Relay Service at 711 for more information.

Hearing Impairments Etiquette

- Make sure you have the visitors' attention before beginning to speak. You may need to lightly tap them on the shoulder or wave to get their attention.
- Have pencils and paper handy to communicate with visitors who are hearing impaired.
- Speak directly to visitors with hearing impairments. Do not talk through a third person.
- When talking one-on-one with a visitor who is hearing impaired, maintain eye contact. If you turn away, speech-reading becomes difficult, or they may think the conversation is over.
- Speak clearly and in a normal volume unless you are asked to speak louder. Do not "mouth" your words, as this makes speech-reading difficult.
- Do not worry about using words like "hear" or "listen" around people with hearing impairments.
- If you know some sign language, use it. Your attempts will generally be appreciated. However, in situations when an interpreter has been requested in advance, a certified professional should be hired.
- Be aware that some visitors with hearing impairments may have a hearing guide dog accompanying them. These dogs are trained to alert their owners to sounds and situations. Hearing dogs are legal guide dogs and are allowed in park areas and facilities.
- As with all disabilities, there is a wide variation of abilities and limitations. Find out how you can best assist each individual.

Working with an Oral or Sign Language Interpreter

Arrange for a qualified oral or sign language interpreter, when one is requested in advance by a visitor. Listed in the *Resources* section, page 167, are organizations which offer services to people who are hearing impaired.

- Meet with the interpreter ahead of time to discuss the content of the tour.
- When presenting a program, allow the interpreter to stand up front and to the side of you. When moving from exhibit to exhibit, allow the interpreter enough time to return to this position before you begin to speak. Also, be sure to allow enough time for visitors to look at the exhibits after you finish talking. Remember, they were watching the sign language interpreter as you spoke about the exhibit.



- Have the interpreter stand in front of a solid background, under good light, in a place that provides an unobstructed view for the audience.
- Try to route your tour through areas with good lighting.
- Do not talk while you are walking. This creates difficulty for the interpreter.
- Try to place yourself so the object you are discussing is between you and the interpreter.
- Do not walk in front of the interpreter or make big movements, as this may distract visitors from watching the interpreter.
- Speak clearly and loudly enough so the interpreter can understand you. Do not turn away from the interpreter while speaking, as your voice may become inaudible to the interpreter.
- Talk directly to visitors with hearing impairments. The visitor may watch the sign language or oral interpreter as you speak, but you should continue looking at the person to whom you are speaking.
- An interpreter can usually keep up with your normal speaking pace. Specific names and words that do not have signs must be finger-spelled. This may cause some delay, so be aware of the interpreter as you talk. You may be requested to spell difficult words or names out loud.
- Ask the interpreter to alert you if your presentation is not being understood by your audience.
- During slide presentations, allow sufficient time for visitors to look at the slides after watching the interpreter. Also, a spotlight on the interpreter will be necessary in a darkened room.
- When hiring an interpreter, it is important to discuss fees and schedule breaks. Also, if the tour is expected to last for more than two hours, two interpreters should be hired to work in rotation.

Tips for Making Speech-Reading Easier

- Select an area of relative quiet and with few distractions.
- Be sure your mouth can be seen. Keep hands away from your face. Men with mustaches or beards may have difficulty being understood by visitors who are speech-reading.
- Get the visitor's attention.
- Face the visitor directly, and do not turn away while speaking.
- Your face should be adequately lighted. When outdoors, stand with your face towards the sun so the sun is in your eyes, not theirs.
- Speak normally, at a moderate pace.
- Re-phrase if you are not understood.
- Use pantomime to communicate your message. Or, write it down or draw a picture.
- Be patient.

Assistive Listening Systems

Assistive listening systems allow visitors with limited hearing to more fully participate in interpretive programs. See below for descriptions of the different types of systems available. Because most staff and volunteers will have limited, if any, familiarity with assistive listening systems, parks and/or districts are encouraged to establish regular training and maintenance programs. Additionally, it should be stressed that assistive listening systems are fragile and expensive and need to be treated with care (because these systems have the appearance of a portable radio, staff and volunteers may mistakenly assume they are in the same price range). Signage indicating the availability of an assistive listening system is required. An appropriate message should be displayed with the International Symbol of Access for Hearing Loss, shown here.



Portable FM Wireless System

This system is designed to be used alone or together with a hearing aid. The signal is sent directly from the sound source to the listener's ear, so there is minimal background interference. The device requires the speaker to wear a microphone/transmitter unit about 2" x 4", and the listener to wear a receiver/amplifier unit of the same size.

Advantages: Portable, variable for a large range of hearing losses. Disadvantages: Equipment is fragile and expensive. Possible Applications: Indoor and outdoor tours and facilities, campfire programs, and one-on-one interaction.

Audio Induction Loop System

A microphone is connected to an amplifier's audio input and a signal is then fed into a coil of wire placed around the perimeter of an indoor seating area. Listeners within the encircled area may pick up this signal if they are wearing a hearing aid equipped with a telecoil switch (represented by a "T" on the hearing aid). Listeners without hearing aids may use a receiver with a built in telecoil device.

Advantages: Low cost, low maintenance, easy to use, unobtrusive, possible to adapt to existing systems. Disadvantages: Signal travels into nearby rooms; susceptible to electrical interference; limited portability; variable signal strength. Possible Applications: Audio-visual areas, visitor centers, museums, amphitheaters, and other indoor facilities.

AM System

This is a wireless system that uses a selected AM radio frequency to broadcast signals to receiver devices and personal AM radios tuned to that frequency.

Advantages: Portable, inexpensive. Disadvantages: Subject to interference, limited range. Possible applications: Indoor and outdoor facilities.

Infrared System

A panel of emitters flood the seating area with harmless, invisible, infrared light rays which transmit signals. Listeners use receivers that pick up the signal and convert it into sound.

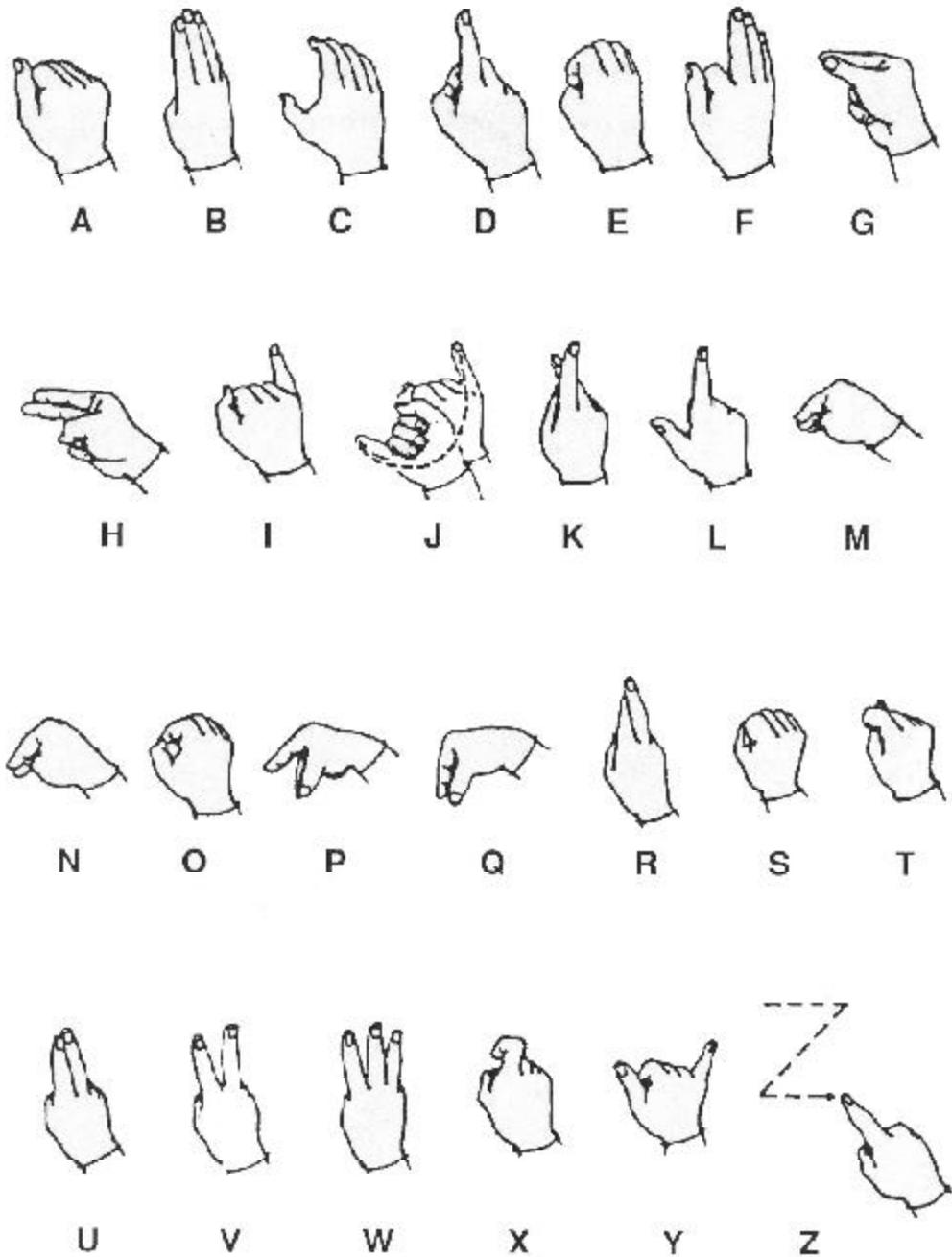
Advantages: Easy to use, moderate cost, easily adaptable to the existing sound system, ensures privacy. Disadvantages: Must be in line-of-sight of the transmitter, ineffective outdoors, limited portability, requires installation. Possible Applications: Audio-visual areas, visitor centers, museums, and other indoor facilities.

Hardwire System

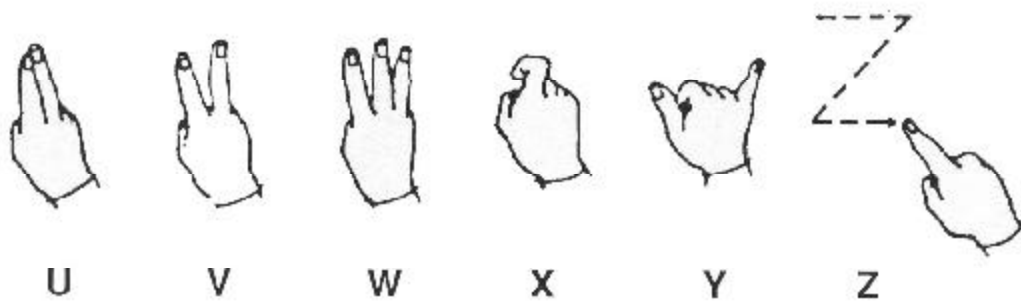
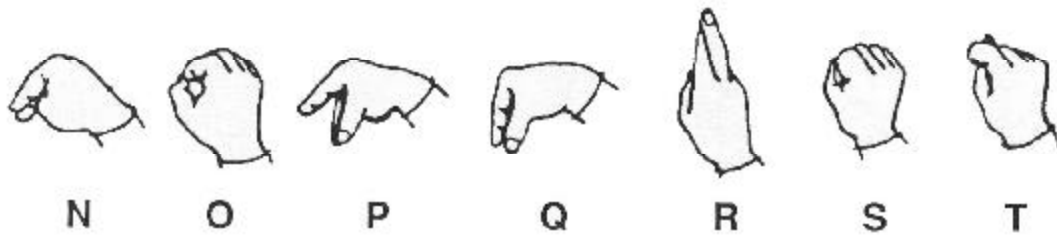
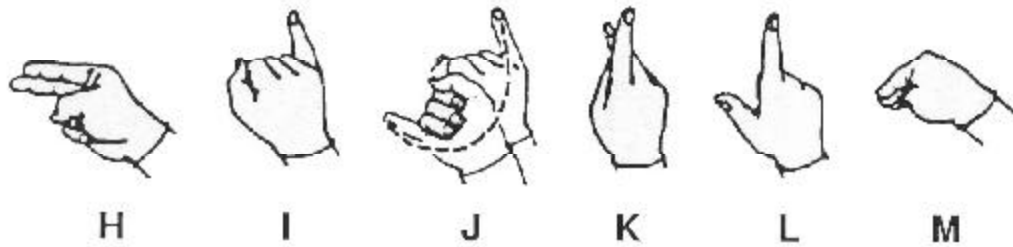
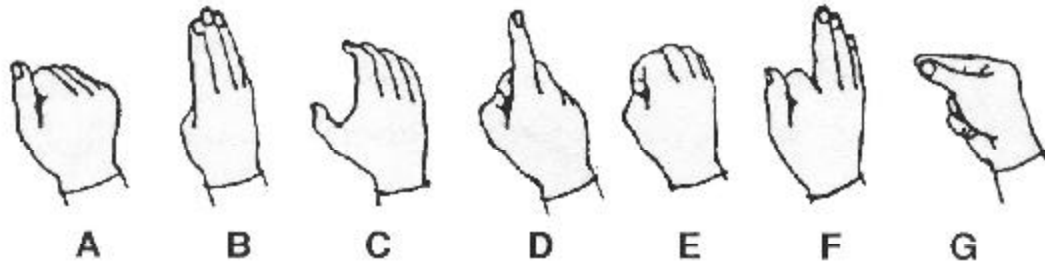
This system connects the listener directly to the sound source. A device with a volume control and an earpiece is permanently mounted at the designated area. More than one earpiece may be connected.

Advantages: Inexpensive, low maintenance, no interference. Disadvantages: Not portable, available to one listener or a small group of listeners at a time. Possible Applications: Exhibits, self-guided trails.

The Manual Alphabet as Seen by the Sender



The Manual Alphabet as Seen by the Receiver



Learning Disabilities

A Learning Disability, as defined by the National Center for Learning Disabilities, is “a neurological disorder that interferes with a person’s ability to store, process, or produce information, and creates a “gap” between one’s ability and performance . . . Learning disabilities can affect one’s ability to read, write, speak, or compute math, and can impede social skills. Learning disabilities can affect one or more areas of development. Individuals with leaning disabilities can have marked difficulties on certain types of tasks while excelling at others . . . Leaning disabilities are NOT the same as the following handicaps: mental retardation, autism, deafness, blindness, behavioral disorders. Nor are learning disabilities the result of economic disadvantage, environmental factors, or cultural differences.”

A person with a learning disability shows a significant discrepancy between learning potential and actual learning achievement. This lower achievement is caused by perception or memory disorders. Such problems include failing to see how two objects are alike or different, hearing or reading words or letters out of sequence (for example, seeing “was” instead of “saw”), or not being able to remember half of a sentence just spoken. Dyslexia is one example of a learning disability. The characteristics of dyslexia may include severe difficulty in remembering a printed word or symbol, improper letter sequencing or reversal of letters, unusual spelling errors, and illegible handwriting.

Individuals with learning disabilities can learn; however, they need to be taught in a variety of ways that allows them to use their abilities to compensate for their weaknesses. This is one reason why it is important to incorporate hands-on activities or objects that may be touched into a tour.



Because there is no distinct visual handicap, learning disabilities are often referred to as the “invisible disabilities.” Although the signs of a learning disability are not obvious, there may be some visual clues. Many different characteristics are possible. They may appear alone, or in conjunction with another, and in varying degrees. Here are a few of the more common characteristics:

- **Hyperactivity** - A hyperactive individual may have difficulty staying in one place and may not attend to one task for any length of time.
- **Hypoactivity** - Hypoactivity is the opposite of hyperactivity. An individual will act slowly and will be difficult to motivate. Often, he or she will appear uninterested in the tour or activity.
- **Memory Disorder** - An individual may have either auditory or visual short-term memory disorders. This individual may have difficulty answering questions on material he or she just heard or saw.
- **Over-Attention** - This individual may stare for long periods of time at one object.
- **Perceptual Difficulties** - This describes individuals who have poor sensory perception, even though their sensory organs are functioning correctly. Information coming in audibly, visually, or tactually may be garbled, and the person may hear or see letters or words out of order or cannot differentiate between two textures. People with this disorder may have difficulty following an interpretive talk, locating a specific object in a collection, or feeling the difference between polished marble and volcanic rock.
- **Poor Coordination** - This individual shows awkwardness and has spatial problems, as well as fine-motor and gross-motor problems. He or she may have difficulty navigating through cluttered areas; using scissors, pencils, and small objects; or making large movements such as catching a ball.
- **Withdrawn Behavior** - This individual seldom interacts with others. Unlike people who are shy and may have one or two friends, this person avoids any involvement with others.

The exact percentage of the population with a learning disability is unknown; however, it is estimated by the Learning Disabilities Association of California that the figure could be about 5% of school-age children. There is no estimate for adults. People with learning disabilities are thought of as “lazy,” “not listening,” or “not trying hard enough.” Not understanding their own problem, many people drop out of school because they cannot keep up, or they are convinced that they are stupid. **The fact is that learning disabilities are not related to IQ.** The majority of people with learning disabilities have average or above-average IQ scores. Some very intelligent people in our history had learning disabilities—Thomas Edison, Albert Einstein, and Winston Churchill, to name a few.

Learning Disabilities Etiquette

- If you are notified beforehand that one or more persons with a learning disability will be on your tour, try to find out what kinds of characteristics are represented, if any, and how you can best assist them.

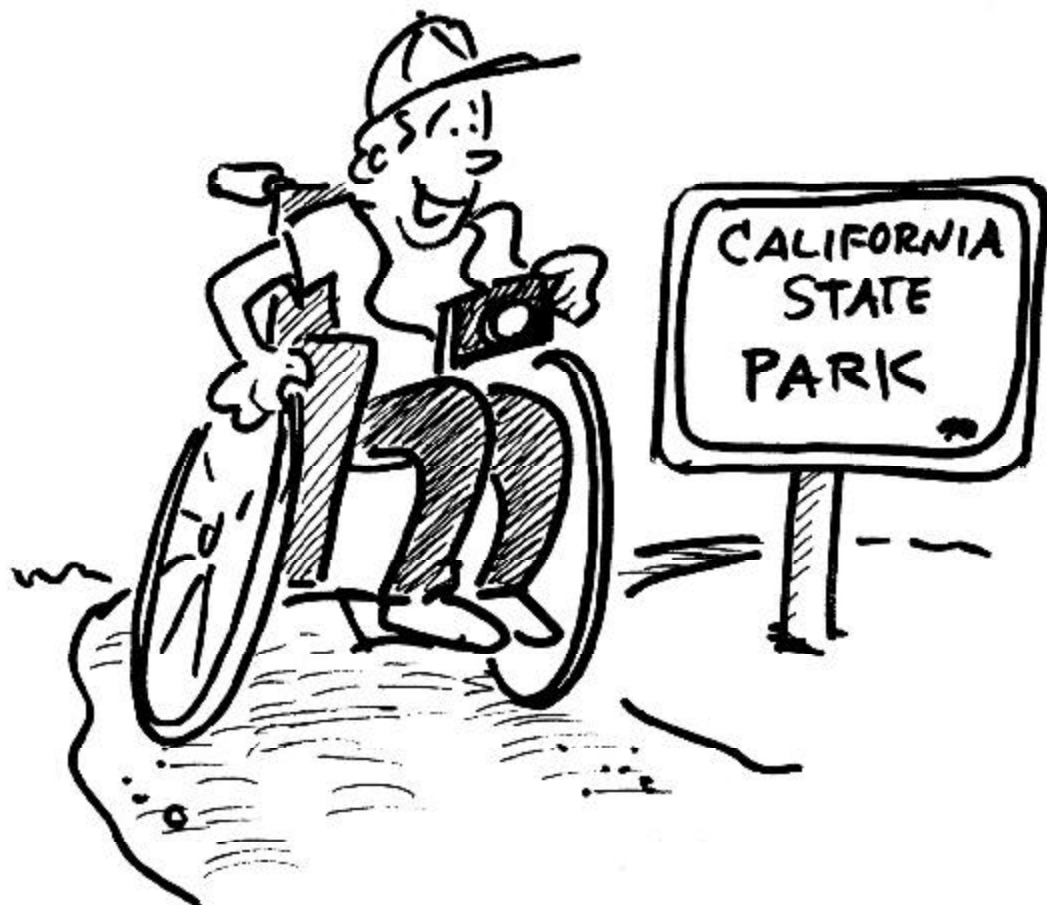
- When giving directions, make sure you give them from the visitors' point of view. For example, do not say, "The restroom is to my right"; instead, say, "The restroom is to your left." It may also be helpful to point in the direction to which you are referring, or draw out a map.
- Directions or information should be provided step-by-step. Be sure the information is fully understood. If necessary, repeat information using different words, or a draw a map or diagram.
- Some visitors with learning disabilities may have speech impairments. If you have difficulty understanding what they are saying, do not be afraid to ask them to repeat it. If you still do not understand, repeat the information you did understand, and ask them to repeat again.
- Be aware that an individual with a learning disability may stare at you or stand close to you when you speak. This individual may be displaying over-attentiveness, or may be trying to block out competing noises.
- If inappropriate behavior is displayed, the problem should not be ignored but instead discussed calmly. Accusations may only cause stress and make the situation worse.

Mobility Impairments

The term “mobility impairments” is used to describe numerous disabling conditions which affect movement and ambulation. Conditions range from chronic pain to quadriplegia. Mobility impairments may be caused by accidents or other traumatic events; or chronic events, such as disease or a condition that proceeds slowly from birth. A mobility impairment may occur before, during, or after birth.

Listed below are some examples of common disabling conditions resulting in a mobility impairment:

- **Arthritis** - Millions of Americans are affected by this condition, caused by inflammation of the joints. Many different types of arthritis exist, with symptoms ranging from swelling, pain, and stiffness, to permanent changes in joint shape.
- **Cerebral Palsy** - “Cerebral” refers to the brain. “Palsy” refers to paralysis which accounts for the lack of muscle control associated with this disability. Cerebral palsy is caused by damage to the brain occurring before, during, or after birth, up until the age of five. Effects of this disability range from difficulty grasping objects to total inability to control body movements. Cerebral palsy is considered a developmental disability, and more information is provided in the *Cerebral Palsy* section, beginning on page 10.



- **Multiple Sclerosis - MS**, as it is commonly called, is a disease of the brain and spinal cord. Myelin, a coating on the nerve fibers that assists in the transmission of nerve impulses, is randomly destroyed, resulting in interruptions of messages being sent between the brain and the rest of the body. MS tends to affect control of movement, sight, and sensation. Symptoms will vary from person to person, but may include weakness or numbness in the lower limbs, blurred vision or temporary blindness, and slurred speech.
- **Muscular Dystrophy** - Muscular dystrophy is a genetic disease which causes an individual's (usually a child's or adolescent's) muscles to degenerate. As the disease advances, the individual loses more muscle capabilities and will eventually require a wheelchair to aid in mobility.
- **Spinal Cord Injury** - Spinal cord injuries may cause total or partial loss of sensation and muscle control, muscle spasms, and/or lack of control over other bodily functions. The location on the spinal cord where the injury occurs determines the type and severity of the disability. If the spinal cord is damaged around the neck area, then the entire spinal cord is affected, and quadriplegia (paralysis in both arms and legs) can result. When the injury is located in the chest area or below, then paraplegia (paralysis in lower body) can result.
- **Stroke** - A stroke is caused by a sudden loss of circulation in one or more of the blood vessels supplying the brain. This loss may be due to a blood clot blocking the brain artery or a cerebral hemorrhage (ruptured artery). A stroke may only affect one side of the body. For example, if the left side of the brain is damaged, then the right side of the body is affected. A stroke can result in death. However, some people can fully recover from a stroke, others may lose muscle control over some of their body, while others may experience total paralysis on one entire side of their body. Additional effects of a stroke may involve memory, speech, and sensory functions.

Misconceptions

Years of special institutions and separate facilities have formed generalities and placed stereotypes on people with disabilities. Here are some common misunderstandings and informative facts about people with mobility impairments.

False: All people who use wheelchairs are chronically ill or contagious.

True: Wheelchairs may be used for a variety of reasons. The majority of people who utilize a wheelchair use it as a mobility aid, which allows them independence and freedom to move around.

False: All people who use a wheelchair are bound to it for life.

True: Some individuals do use a wheelchair for life; however, for many individuals, a wheelchair is a convenience. People's capabilities vary, and many people use a wheelchair to conserve energy, or use it to move around more quickly.

False: Never use words like "running" or "walking" around people with mobility impairments.

True: Do not worry about using these words; they are a part of everyone's vocabulary.

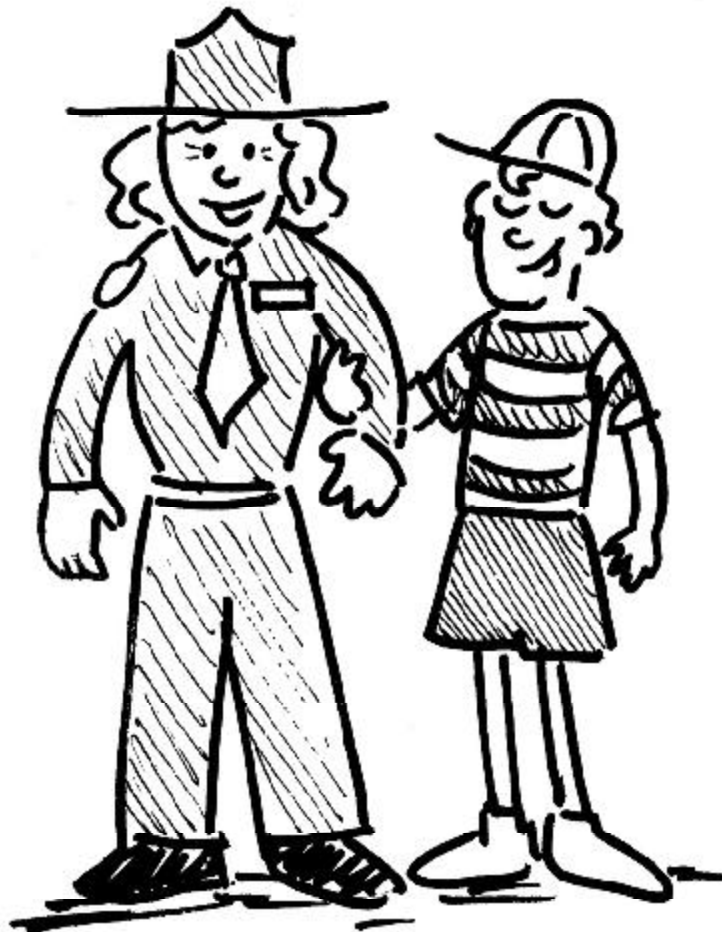
Mobility Impairments Etiquette

- Offer assistance to visitors with mobility impairments, if it appears to be needed. Assist only if your offer is accepted, and ask how you can best help. **Never** pick up or carry a person with a mobility impairment unless they have requested it and you have had specific training on how to do so, except in cases of emergency. Make sure all other options have been exhausted.
- Speak directly to visitors with mobility impairments not through another person.
- Do not lean or hang on a visitor's wheelchair or other mobility aid. These are considered part of their body space.
- When speaking for more than a few minutes with individuals using wheelchairs, consider kneeling or sitting down so they do not have to look up at you.
- Do not worry about using words like "run" or "walk" around people with mobility impairments. These words are used by everyone.
- Do not take mobility aids away from the users unless they request it. Having their mobility aids nearby makes individuals feel more independent and secure. This includes people using crutches.
- Slippery or uneven surfaces may pose problems for people walking with assistive devices. If a wheelchair is available, offer it to them. If not, offer assistance, or show them an alternate route.
- Do not make general assumptions about the abilities or limitations of an individual with a mobility impairment. Let the individual decide what he or she can and cannot do.
- Some individuals in wheelchairs may have a "Canine Companion" accompanying them to the park. This is a dog that has been trained to assist individuals in reaching objects, seeing peripherally, or other such services. Canine Companions are legal service dogs and are allowed in park areas and facilities.
- Refer to the *Interpretive Facilities* section, beginning on page 189, and the department's *Access to Parks Guidelines* for information on wheelchair accessibility requirements. For additional information on accessibility guidelines, refer to *The Americans with Disabilities Act Accessibility Guidelines (ADAAG)* and *California State Accessibility Standards; Title 24 (CA)*. Copies of these documents can be found at your local library, or by calling the U.S. Department of Justice or the California Office of the State Architect.

Visual Impairments

The term “visual impairment” is used to describe many degrees of vision loss, including low vision, legally blind, and totally blind. The definitions of what constitutes “low vision” vary, but generally low vision is defined as an uncorrectable visual impairment that interferes with a person’s ability to perform everyday activities, or as having 20/70 acuity in the best eye, with correction. (With 20/70 acuity, one would see at 20 feet what a normal sighted person sees at 70 feet.) The term “legally blind” encompasses individuals whose central visual acuity does not exceed 20/200 in the better eye with corrective lenses or whose visual field is less than an angle of 20 degrees. The individual with 20/200 sees at 20 feet what a normal sighted person sees at 200 feet. “Total blindness” is the complete absence of vision and light perception.

Visual impairments are caused by injury or disease, or are congenital. Congenital blindness occurs at birth or within the first five years of life. An individual who is congenitally blind does not have visual memory and therefore does not learn by visual image or picture. This individual relies on his or her remaining senses for orientation. Adventitious or accidental blindness is that which has occurred after the age of five. This individual may use the visual memory of his or her environment and of objects for orientation.



There are many variations of visual impairments; individuals have their own abilities and limitations. Some persons may be able to see an object clearly, but only if it is very close to them. Others may have central vision and see only a narrow field, as if they were in a tunnel. Some may have only peripheral or side vision, and cannot see in front of them; while others may see the entire field, but only shadows of objects. Visitors with visual impairments may need bright, even light to see; however for others, too much glare from a bright light may hurt their eyes. For example, people with cataracts are sensitive to glare and strong light. This wide range of visual abilities stresses the importance of treating people with visual impairments as individuals with individual needs. **It is always best to ask the visitors how you can assist them.**

Many people with visual impairments use low vision devices or mobility aids to assist them to live independently. Low vision devices include pocket magnifiers, flashlight magnifiers, and monocular telescopes. Mobility aids include canes, sighted guides, or guide dogs. You may at some point be called on to guide a visitor with a visual impairment. It would be helpful to be familiar with *The Sighted Guide Technique*, explained on page 40.

Visual Impairments Etiquette

- When greeting people with visual impairments, talk in a normal voice; it is not necessary to shout.
- Look directly at visitors when speaking to them, do not talk through an intermediary. Try not to turn away while you are talking to them, as this may cause disorientation.
- Do not be afraid to ask, “May I help you?” You may want to lightly touch the individual on the shoulder as you begin speaking, so he or she is aware that you are talking to them.
- Provide visitors with a general orientation to the area by describing its prominent features.
- Tell visitors with visual impairments if you are leaving briefly; they may not be aware that you have walked away. Conversely, note when you have returned, and with whom.
- Before you begin walking with the visitor, say where you are going. For example, “We are going into the library, and there are five steps leading to the door.” Be prepared to move more slowly through an area than you might ordinarily.
- Be very specific when giving directions or describing an area. Be sure to discuss any obstacles that may be encountered.
- Be familiar with guiding a visitor who is visually impaired. Refer to *The Sighted Guide Technique* section on page 40 for information.
- Do not worry about using words like “look” or “see.” They are part of everyone’s vocabulary.
- Be aware that people with visual impairments may be accompanied by guide dogs or seeing-eye dogs. Guide dogs are legally allowed in parks and buildings. Guide dog users generally prefer that their dogs not be petted, led, or spoken to.

The Sighted Guide Technique

- When approaching visitors with visual impairments, touch them on the shoulder as you speak to let them know you are talking to them. Be sure to identify yourself as a member of the park staff.
- Ask visitors if they would like assistance, and if so, what type of assistance.
- If a visitor requests to be guided, touch his or her forearm with the back of your hand—this will let him or her know where you are. The individual should grip your arm just above the elbow. Some visitors may simply need to maintain some sort of contact with you (touching elbows or forearms for example) rather than actually gripping you. Let the visitor determine what type of contact works best for him or her.
- When assisting a visitor with a guide dog, offer your left arm to the visitor. The dog is still “on duty,” and acts as a safety officer.
- When assisting a visitor with a cane, offer your arm on the individual’s free side.
- Keep your arm close to your body, and walk slightly ahead of the visitor. Walk at a normal pace. If the visitor grips tighter or pulls back, you may be walking too fast.
- Never try to push or steer the visitor ahead of you.
- Let the visitor know what is ahead, especially when you are approaching stairs. Stop before going up or down stairs, and assist the individual in finding the handrail. Tell the visitor if you will be proceeding up or down and when you have reached the last step.
- Let the visitor know when you have come to a door and which way it opens. When you open the door, allow the visitor to hold it as you both pass through.
- When guiding the visitor to a seat, place his or her hand on the back or arm of the chair and allow the individual to be seated. If it is a bench, guide their hand to the seat of the bench.

Methods of Description

The following are suggestions of how to assist visitors with visual impairments in “seeing an object through their hands or through their imaginations.” With the assistance of park staff, visitors are able to enjoy and appreciate some of the state’s historic objects and structures, and the beautiful scenery of our parks.

Describing Objects

- Ask the visitors how much of the object they can see. Then, point out additional features of the object.
- Provide an overall description of the object. Include the historical or natural history background and its significance to the collection.
- For paintings, photographs, and sculptures, include the artist, title, period, and style.
- For a large object, you may want to walk the length with the visitors, and then relate the height of the object to their height.

- Try to relate the object to something more familiar in size and shape. For example, “It is as big as a refrigerator, but it has round corners.”
- For touchable objects, encourage visitors to feel the object with both hands before you tell them the details. Visitors can feel many things for themselves—like textures and shapes—and do not need that information repeated. Rather, let them ask questions, or tell them the color or design of the object.
- For objects that may not be touched, or are very large, try to provide a touchable replica or model. When creating a model, be creative! Experiment using the same materials of which the object is actually made. Make it as detailed as possible. Include roads and trails when duplicating a landscape. If a replica is not possible, describe the object and provide samples of the textures. Be aware of any fragrances the object may have.
- For paintings or photographs, offer visual descriptions. Begin with the general depiction—size, setting, subject—and move to specific details, like color, texture, and more interesting features.
- Allow visitors to ask questions as you describe the object. Check periodically with them to make sure they understand your descriptions.
- Go ahead and describe the color of the object. Some visitors may have a visual memory, and will want to hear that detail.

Describing Historical Rooms

- Provide a physical description of the room, beginning with its size, lighting, windows, and furnishings. You may want to walk the length of the room with the visitor.
- Discuss the significance of the room, what it was used for, and who used it.
- Beginning with the background of the room, describe the style of furniture and other objects in the room. Make sure visitors understand any architectural terms you use in your description.
- Describe any significant objects in the room, such as a bed or a desk, and where they are located.
- For rooms that are not accessible, enlarged photographs or a video of the room should be available for visitors to see. Offer magnifying glasses to visitors with visual impairments.

Describing Natural Settings

- Provide a relief model of the park or a specific area. Use as much detail as possible, including natural materials with textures representative of the area you are interpreting.
- When out in the natural setting, be aware of all the sounds and smells around you. Identify these, and discuss them. It is likely that the visitor will notice the sounds and smells before you do. You may want to ask them to describe what they hear or smell.
- For a specific object, such as a giant redwood, relate the size and shape to something more familiar. For example, say, “The tree is as tall as a ten-story building and as big around as a car.”

- Go ahead and describe the color of the area. Some visitors may have a visual memory, and will want to hear that detail.

Audiodescription

Audiodescription has been defined as the “art of talking pictorially.” By describing all visual and nonverbal cues during pauses in the scripted dialogue of films, television programs, and plays, audiodescription allows people who are visually impaired to hear what they cannot see. For example, characters’ costumes, body language, facial expressions, and other visual cues important to the understanding of the movie or play are described in detail so people who are visually impaired can enjoy the program in its entirety.

During live performances, descriptions may be heard through an earphone connected to an FM transmitter. For films, a pre-recorded description on tape can be played in synchronization, and the description will occur during pauses in dialogue. “Descriptive Video Service” (DVS) is the term used for the service of audiodescription for television. DVS is provided via the second audio program channel, available on all stereo televisions.

Currently, audiodescription is being incorporated in some television programs broadcast on public television and cable. Audiodescription has also been developed for a few motion pictures. At this time, only a small number of movie theaters have the audio equipment to provide the service. Because the technology to provide audiodescription at this level can be expensive, park staff should be prepared to offer sight impaired visitors live, in-person audiodescription of any videos, slide shows, or performances shown to the public.

For more information on audiodescription, contact:

Audio Description, Inc.
The Metropolitan Washington Ear, Inc.
35 University Blvd. East
Silver Spring, MD 20901
(301) 681-6636 (voice)
(301) 681-5227 (fax)
information@washear.org
www.washear.org

This organization trains guides and docents in audiodescription, publishes a newsletter for individuals interested in audiodescription, and helps other organizations in obtaining the service.

Limited English Proficiency

California's population is growing at an enormous rate and becoming more culturally diverse. Many people living in California are unable to proficiently read or speak the English language. Language barriers present a growing challenge for verbal and written communication in state parks. Although not considered a disability, individuals with limited English proficiency are discussed in this handbook because they too can benefit from simple modifications or additions to interpretive programs and facilities.

There are a number of techniques you as park staff can use to improve communication with visitors who have limited English proficiency. Some of the suggestions in this handbook may work well for foreign visitors, as well as children and individuals with severe communication difficulties.

In addition to applying the techniques to your program, park units should focus on recruiting docents and volunteers who are bi- or multi-lingual to serve as language translators at a program, or who can give the program in English and repeat it themselves in another language.



Limited English Proficiency Etiquette

- Be aware of cultural differences. Gestures or body movements do not universally communicate the same meaning or may be considered disrespectful. For example, in Germany, it is considered impolite to talk with your hands in your pockets. For additional information on this subject, author Roger E. Axell has written *Do's and Taboos Around the World* (New York: John Wiley & Sons, Inc., 1990).
- Speak slowly and clearly.
- Make an effort to correctly pronounce visitors' names.
- Arrange to have a language translator present during your program or available at the park site, if visitation warrants it. When speaking for translation, use simple sentences, pause for the interpreter after each thought, and avoid the use of colloquialisms, idioms, and slang, as they are not easily translated. Sarcasm, puns, and witticisms, mainstays of American humor, also do not translate well.
- If necessary, pantomime your message. This may be the only way to communicate with some visitors who have limited English proficiency. Use facial expressions and hand and body movements. Draw pictures, if needed, to communicate your message.
- Be patient with visitors who are limited English proficient. Do not embarrass them by interrupting or finishing their sentences.

Older Adults

Not only are people living longer, but people over the age of 65 are also more active than ever before. Older adults constitute a large number of park visitors and volunteers. Most are healthy, alert, and energetic, but many experience mobility and sensory changes, which limit their ability to fully enjoy park interpretive programs. Although not considered a disability, older adults are discussed in this handbook because they too can benefit from simple modifications or additions to interpretive programs and facilities.

If you have a group of older adults visiting your site, they are likely to have a wide range of abilities and limitations. Some may have a variety of conditions, while others may have no limiting condition at all. In order to make existing interpretive programs more enjoyable for your entire audience, become familiar with the program tips listed for each of the different disabilities mentioned. For example, an older adult with hearing loss may benefit from the information provided in the *Hearing Impairments* section, beginning on page 15.

Not all older persons are infirm and confined to nursing homes. In fact, many older persons today are choosing to live on their own and are quite capable. Also, remember to treat older adults as individuals. Not all older adults like to play bingo or knit. Some older adults would love a horseback ride or a brisk walk on the beach. Do not assume that they cannot do an activity; always attempt to include them in all aspects of a program.



The most common condition significantly affecting an older person's mobility is arthritis. Arthritis is a term that describes inflammation of the joints. Many different types of arthritis exist, with symptoms ranging from swelling, pain, and stiffness, to permanent change in joint shape. Individuals with arthritis may need to use canes, walkers, wheelchairs, or three- or four-wheel motored devices for mobility assistance.

Older individuals can experience decreased hearing, vision, taste, smell, and to some degree, touch. When one of these senses decreases, others may compensate for that loss. For example, an individual with decreased vision may have increased attention to sounds and tactile experiences.

Changes in Hearing

Three types of hearing loss are common in older adults. The first type, a mild hearing loss, may be caused by middle ear infection or wax blockage in the outer ear. This condition causes voices to become muffled and the location of noises less obvious. The second type of hearing loss is caused by lesions in various parts of the auditory pathway resulting in difficulty perceiving tones. Often, a hearing aid is prescribed for this type of hearing loss. The third and most recently recognized type of hearing loss is a problem in the transmission of sound along the auditory nerve between the inner ear and the brain. An individual with this type of hearing loss may hear every word but may not understand the message. Speaking clearly and in a moderate tone of voice along with a reduction in background noise will help older adults and others with hearing impairments.

Changes in Vision

Many people notice changes in their vision early in life. The process of aging alters the structure of the eye, which, in turn, may distort visual information.

As early as mid-life, individuals may have difficulty focusing on objects close to their eyes. This occurs when the optic muscle becomes less efficient at contracting the lens. This condition is usually corrected by prescription glasses, but not necessarily to perfect 20/20 vision.

Some older individuals may experience a decrease in the size of their pupils, which impairs their ability to function in lowered light levels and to see at night. Approximately one-third less light reaches the retina in the eyes of older adults as compared to younger people. Older adults with a decrease in pupil size may also have difficulty adjusting to drastic changes in levels of lighting. Remove potential barriers which may cause accidents in areas where extreme changes in lighting levels occur. Also, allow sufficient time for visitors' eyes to adjust to extreme changes in lighting levels before asking them to move on to another exhibit or activity.

Another possible change in vision for older adults is in the increased density of the lens. A thicker lens can cause entering light to scatter, creating problems with glare. With increased

glare, edges of counters, stairways, and porches seem to blend in to the background, making them hard to decipher. Colors like blue and green, while appearing to fade away, actually are absorbed by the lens—similar to the way the ocean absorbs the colors of red and orange.

To assist individuals with these kinds of visual impairments, be sure the edges of stairs and countertops contrast with their background. Signs should be lettered in large, dark print on a contrasting, light-colored, matte-finished background. Also, be aware of lighting conditions to minimize glares on glass.

Changes in Taste and Smell

There may be a biological basis to explain why certain foods taste delicious to adults and why children will stubbornly avoid the same foods. During the normal aging process, a reduction of the fibers in the olfactory nerves causes many individuals to become less capable of identifying pungent odors. A decrease in taste may begin around age 50, but it is more common in people over 70.

Changes in Touch

The decrease in the sense of touch is thought to be minimal for older adults. For example, some older individuals may have difficulty feeling the difference between rough granite and volcanic rock. Generally, older adults differ little from younger persons in their touch sensitivity.

Older Adults Etiquette

- When talking with an older visitor, speak directly to that person rather than through a third person.
- Offer assistance, and if accepted, ask how you can best assist them.
- Avoid using the word “elderly” because it implies frailty and helplessness, which most older adults are not.
- Older adults may have one or more disabilities mentioned in this handbook, or none of them. Refer to those sections that may apply.
- Be patient.

