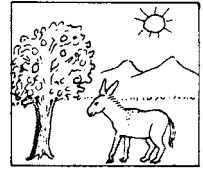


# Loss of Vision and Difficulty Seeing

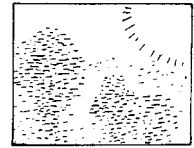
## CHAPTER 30

Difficulty seeing, also called vision loss or visual impairment, can be mild, moderate, or severe. Some children with vision loss have no vision (blindness). However, most can see somewhat. Some recognize the difference between light and dark or day and night. Others can see shapes or colors of large objects but not the details. A child's difficulty seeing may be related to a condition affecting their eyes, or to a condition affecting their brain. Some children are born with visual impairment while others develop this during early childhood or later. Some children may start seeing better as they grow older and have better health.



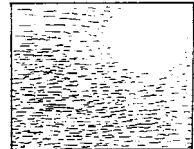
what a child with no vision loss can see

Many children have difficulty seeing clearly. For example, they may see fairly well for most daily activities, but have trouble seeing details. The family may not realize that the child has vision loss until they notice she has difficulty threading a needle, finding head lice, or reading letters on a blackboard at school. Often these children can see much better with eyeglasses, filter lenses or magnifying glasses, or training in how to best use their vision. (Children who are completely blind cannot see at all, even with eyeglasses.) By figuring out what a child with vision loss can see, and what helps them to see, we can help them use the vision they have to its full capacity.



what a child with some vision loss may see (large forms but no details)

**CAUTION:** Not all children who are blind have eyes that look different. Their eyes may look clear and normal. The damage may be behind the eyes or in part of the brain. So be sure to watch for other signs that can tell you if a child has difficulty seeing.



what a child sees who can only tell the direction a bright light is coming from

### SIGNS THAT COULD MEAN A CHILD HAS LOSS OF VISION

By 3 months of age

- The child's eyes do not follow faces or toys, or objects or lights moved in front of them.
- The child seems bothered by normal lighting in the room, or keeps their eyes open only in a darkened room.
- The child presses their hands against their eyes frequently.

In babies at any point

- The child's eyes or eyelids do not look like other children's.
- The child's eyelids do not open or close fully.
- The child's eyes seem to shake.
- The child squints (half shuts their eyes) a lot.
- The child has another condition like cerebral palsy or hearing loss.

In young children

- The child has headaches often.
- The child avoids work that involves looking at small details.
- The child falls often or seems clumsy.
- The child stops or moves very slowly and carefully when lighting changes.
- The child is unable to find a familiar object when it is in a group of objects.
- The child turns their head at unusual angles to see.



what a child with total vision loss (blindness) sees

If a child shows any of these signs, test their vision, and if possible, see a health worker or eye doctor. Sometimes eyesight can be saved by preventive steps or early treatment (see p. 245).

Ways to test if a baby sees and for measuring the vision of children are discussed with CHILD-to-child activities on pp. 452 and 453, and in *Helping Children Who Are Blind*, see p. 639.

## Loss of vision with other disabilities

Some children with cerebral palsy or other disabilities also have some loss of vision. Parents may not realize this and think that the child's delayed development or lack of interest in things is because he has physical disabilities or cognitive delay. In fact, vision loss, or visual impairment, may be a large part of the cause. Even if a child has no other disability, loss of vision can make development of early skills more difficult. If the child does not look at, reach for, or take interest in things around him, check if he can see (and hear).

**Note:** Some children with very severe brain injury or cognitive delay may appear not to see. They may look at things without really seeing them, because their brains are at the developmental level of a newborn baby. With lots of stimulation, little by little some of these children begin to become more aware of things, to follow them with their eyes, and finally to reach for them.

## Causes of loss of vision

Different people have different beliefs about what causes loss of vision. In some parts of the world, people think a child is born without sight as punishment for something the parents have done. In parts of Latin America, villagers believe that a bat's urine fell in the baby's eyes, or that a "black witch moth" flew by the baby's face. These things do not cause vision loss, and as people get new information, many leave these older beliefs behind.

We now know that vision loss in children is most often caused by poor nutrition or infection, and most often can be prevented.

### COMMON CAUSES OF LOSS OF VISION IN CHILDREN:

**1. "Dry eyes" (xerophthalmia, or nutritional blindness)** is the most common cause of child vision loss, especially in Asia and Africa. It results when a child does not get enough vitamin A, found in many fruits and vegetables and in milk, meats, and eggs. Dry eyes develops in children who do not eat enough of these foods. It often starts or gets worse when these children get diarrhea or have measles, whooping cough, or tuberculosis. It is much more common in children who are not breast-fed.

Dry eyes can be prevented by feeding children foods with vitamin A. Encourage families to grow and eat things like papaya, squash, carrots, and leafy green vegetables in a family garden. Be sure the child eats these foods regularly, beginning at 6 months old.

Vitamin A capsules or liquid can also prevent dry eyes, but should not take the place of a well-balanced diet. **For prevention**, give a single dose of vitamin A (retinol) every 4 to 6 months: 50,000 IU (15 mg) for children younger than 6 months, 100,000 IU (30 mg) for children 6 months to 1 year, and 200,000 IU (60 mg) for children older than 1 year. Do not give this large dose more often than 4 to 6 months, because too much vitamin A can poison the child. **For treatment of children over 1 year old**, use the same dosages as above, but give once on the first day, once the following day, and then once two weeks later. To treat children less than 1 year, use half the dose above. See a health worker.

### SIGNS OF XEROPHTHALMIA

First sign may be night blindness. Child has difficulty seeing when it is dark. Child may get fussy, fearful, or hesitant at dusk, may want lights turned on, may revert to crawling after dark.



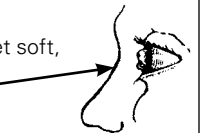
Next the eyes look "dry." The white part loses its shine, begins to wrinkle, and forms patches of little gray bubbles (Bitot's spots).



Later, the dark part (cornea) also gets dry and dull, with little pits.



Finally, the cornea may get soft, bulge, or burst, causing loss of vision.



### FOODS THAT HELP PREVENT IT

- breast milk
- dark green, leafy vegetables
- yellow, red, or orange vegetables
- whole milk
- egg yolks
- liver and kidneys
- fish



**2. Trachoma** is spread by touch or flies and is most common in poor, crowded living conditions.



Trachoma can often be prevented by keeping the child's eyes clean and keeping flies away.

To prevent vision loss from trachoma, treat early with erythromycin or tetracycline eye ointment or oral azithromycin (see a health worker, or *Where There Is No Doctor*, p. 220).

**3. Gonorrhea or chlamydia** in the eyes of newborn babies causes loss of vision if not treated immediately. Visual impairment can be prevented by putting erythromycin 0.5% to 1% ointment, tetracycline 1% ointment, or 1 drop of 2.5% povidone-iodine or silver nitrate in the eyes of **all** babies at birth. These infections can spread from the mother to the baby at birth, even if she has no signs of infection.

If the baby's eyes get red, swell, and have a lot of pus in them within the first month, he may have one or both of these infections. If you cannot test for which disease is causing the infection, give the baby medicines for both.

#### To treat chlamydia or gonorrhea or both:

If the baby is less than 7 days old

- Inject 125 mg ceftriaxone in the thigh muscle, 1 time only

If the baby is 7 to 28 days old

- inject 125 mg ceftriaxone in the thigh muscle, 1 time only, and
- give 50 mg azithromycin by mouth, 1 time a day, for 3 days, OR
- inject 125 mg ceftriaxone in the thigh muscle, 1 time only, and
- give 30 mg erythromycin by mouth, 4 times a day, for 14 days

Both parents must be treated for these infections too. See *Where There Is No Doctor* (pages 236, 237 and 359) or *Where Women Have No Doctor* (Chapter 16).

**4. River blindness** (onchocerciasis) is a very common cause of visual impairment in parts of Africa and Latin America. (See *Where There Is No Doctor*, p. 227.) It is spread by a black fly that breeds in rivers and streams. There is no cure, but the medicine Ivermectin can treat and prevent it (see *Where There is No Doctor*, p. 379).



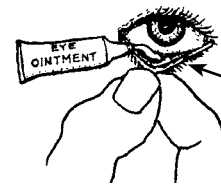
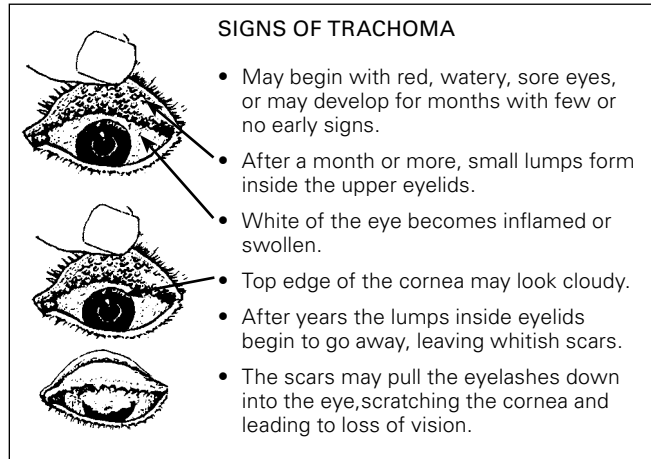
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**5. Measles**, which can injure the surface of the eyes, is a common cause of vision loss, especially in children who are malnourished.

**6. Brain injury** causes loss of vision in many children, usually along with cerebral palsy or other disabilities. Brain injury can happen before, during, or after birth (see p. 91). Causes include German measles during pregnancy, delayed breathing or feeding at birth, and meningitis.

**7. Eye injuries** often cause visual impairment in children. Pointed tools, fireworks, acid, lye, and homemade bombs to dynamite fish are common causes.

**8. Vision loss** in children is sometimes caused by other conditions such as hydrocephalus (see p. 169), arthritis (see p. 136), leprosy (see p. 219), brain tumors, or certain medicines (see p. 246). Cataracts (clouding of the lens inside the eye) develop more often in children with Down syndrome, and may result from a mother's infections during pregnancy.



Put the ointment inside the lower lid.



Running with a pointed object is dangerous to the eyes.

### WARNING ON USE OF EYE MEDICINES

Only use modern medicines or home cures that you are **sure** cannot damage the eyes.

One modern medicine that should not be used often, and only with great caution, is **corticosteroid eye ointment**. Some doctors and health workers prescribe it for almost any eye irritation. **This is a dangerous mistake**. If the irritation is caused by a virus (tiny germ), this ointment could make the infection worse and lead to eye damage or vision loss!\* (See Note below.)

#### Some home cures for eye problems are safe and effective.

For example, in Mexico when villagers get a small piece of dirt or sand in the eye, to remove it they put a wet chia seed under the eyelid. The smooth seed has a layer of sticky mucus on it, to which the dirt sticks. Then they remove the seed. This is a safe, good home cure.



chia seeds—  
a helpful home cure

**Some home cures are dangerous.** Some villagers try to treat blurred vision by putting human feces (shit) around the eye. This is unsafe and does not help. It could lead to dangerous infection. It is also dangerous to put lemon juice, urine, pieces of abalone shell, or **Vicks** ointment in the eye.



putting feces  
around the eye—  
a dangerous  
home cure

**\*Note:** Corticosteroid drops or ointment are important medicine for preventing loss of sight from iritis (see "Arthritis" and "Leprosy"). But tests with fluorescein should be done first to be sure there is not a virus infection. Get medical advice.

### What is the future for a child with visual impairment?

With help and encouragement from family and community, a child with loss of vision can usually develop early skills as quickly and as well as other children. *Helping Children Who Are Blind* (see p. 639) shows ways children can learn to feed, bathe, dress, and care for themselves, and to find their way around the home and village without help. They can develop an outstanding ability to use hearing, touch, and even smell. And they can be helped to make the best use of whatever vision they have. These children can learn to read and write with special devices and will be able to learn as well as other children.

When children receive a good education, they can enter almost any profession open to others. They can work:

- with their hands, in the fields or repairing machines.
- with their minds, as teachers, lawyers, or scientists.
- with their talents, as musicians, artists or in sports.

Unfortunately, children with vision loss often are not given a chance to develop as quickly or as fully as they could. In some countries more than half of the children who are born with vision loss die of hunger or neglect before they are 5 years old. Following are 2 stories of children that will help you realize the difference that understanding and help from family and community can make.

## SHANTI\*

Shanti was born in a small village in India. When they found that she could not see, her parents and grandparents tried to hide the fact from the other villagers. They thought all blindness was sent to a family as a punishment for sin, and that people would look down on them.

Secretly her parents took Shanti to an orphanage and left her there.

Nobody in the orphanage had ever cared for a child with vision loss, and they did not know what to do. There were so many other children who needed care, that there was no time left for her.

Shanti was kept alive, but that was all. Nobody talked to her or held her lovingly or tried to stimulate her. Her blind eyes and unresponsive face made the nurses think she could not understand or recognize anything around her. So when other babies began to reach out for objects they saw, and then to crawl toward things they wanted, Shanti was left lying silently on her cot.

People got used to Shanti. She was picked up when necessary, and cleaned and fed. They fed her with a bottle, or pushed food into her mouth. But nobody tried to teach her how to feed herself or how to walk and talk.

As she grew older, Shanti spent most of her time sitting on the doorstep, rocking herself and poking her eyes (see p. 364). She never said a word and only cried when she was hungry. Other children stayed away from her; they were afraid of her dead eyes. Everyone thought she had cognitive delay and that nothing could be done about it.



In time, Shanti did begin to talk and walk. But the sad, stony look on her face never disappeared. Now, at age 7 she is in some ways still like a 2-year-old. And in other ways she is no longer a child. We can only guess at her future.

\*Story adapted from *How To Raise a Blind Child*.

## RANI

Rani was born in another village in India. Like Shanti's family, when her parents learned she had visual impairment, they were worried about what the villagers would say. But the baby's grandmother, who had slowly lost her sight 5 years ago, said, "I think we should do everything we can for the baby. Look at me. I, too, am now blind, and yet I still have all the same feelings and needs as I did when I could see. And I can still do most of the things I used to do. I still bring water from the well, grind the rice, milk the goats,..."

"But you could already do all those things before you went blind," said the father. "How could a blind baby learn?"

"We must help her learn," said Grandma. "Just as I've learned to do things by sound and touch, so Rani must learn. I can help teach her, since I know what it's like. But we can also get advice from the health worker."

The village health worker came the next day. She did not know much about loss of vision, but she knew a little about early child development. She suggested they give the baby a lot of stimulation in hearing and feeling and smelling things, to make up for what she could not see. "And talk to her a lot," she said.

The family took the advice. They put all kinds of things in Rani's hands and told her what they were. They gave her bells and squeakers, and cans and bottles to bang on. Grandma, especially, took Rani with her everywhere, and had her feel and listen to everything. She played games with her and sang to her. At age 2, Grandma taught her to feel her way along the walls and fence, just as she did. By age 3, Rani could find her own way to the latrine and the well. When she was 4, the health worker talked with the neighbors, and did some CHILD-to-child activities on blindness with their children. After, a few children came to make friends and play with Rani. Sometimes they would all blindfold their faces and try to find something or tell different things apart. At these games, Rani usually won.

When she was 6, Rani started school. The neighbor children came for her every day. When the villagers saw them all walking down the road together, it was hard to guess which child had difficulty seeing.



## Early stimulation

As Rani's grandmother realized, a child with loss of vision has the same needs as any child: she needs to be loved, needs to get to know the members of her family, and needs to recognize other things by touch, sound, smell, taste, and using whatever vision she has. The whole family can help her become more aware of her home and the things going on around her, and engage her in activities that help her develop any vision she has.

A baby's first plaything is her own body. Since she cannot see her hands and feet move, you may need to help her to feel, taste, smell, and explore them.

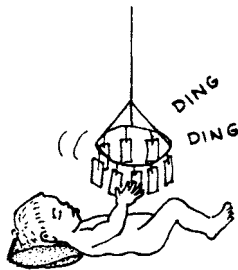


Have him compare by touch and sound his own and other people's faces so that he begins to recognize different people.



Activities to help children's early development are discussed in Chapter 35. Most of these activities can help children with loss of vision, and can be adapted to the amount and kind of vision a child has. Children with vision loss will need more stimulation in other areas, including sounds and touch, and in beginning to reach toward things and move about (see pp.468 to 476 and *Helping Children Who Are Blind*, described on p. 639).

At first you may need to place the toy in the child's hand, or guide his hand to it. Or hang different things near him so that when he moves his hands they touch them.



At each stage of the child's development, attract her attention with a noisy plaything. Have her reach for it and then try to move toward it.



Praise her when she does well or tries.

In addition to these activities, children with loss of vision benefit from situations where they can keep learning about people and things. Talk to them, tell them the names of things, and explain what you and they are doing. At first they will not understand, but your voice will let them know you are near. Listening to words and names of things will also help them learn language skills.

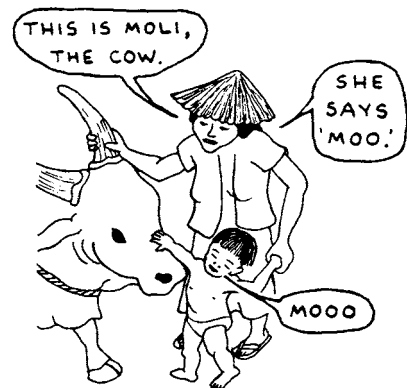
Talk to the child as you do housework. Tell her what makes the sound she hears.



Sing to the child and encourage him to move to music. Also encourage children with vision loss to make their own music.



For ideas on homemade musical instruments, see p. 469.



Take the child outside often: to the market, the river, the cowshed, the village square. Show and explain different things to him, and tell him what makes different sounds.

Many children with vision loss still have some vision that they can use. Help them to best use this vision, and further develop it. Try these ways to help children see more.

### Lighting

- Select a well-lit place for play so children can see objects more easily.
- Try using different kinds of light (daylight, regular electric or neon lights) and different lighting ideas (focusing light on just the play area, or making the whole room brighter).
- If the child is squinting, try dark colors (like a dark rug) on the floor where they play.

### Clutter and distraction

- Clear the play area so children can focus on one toy or object at a time.
- Use a surface that is a single solid color with no pattern underneath the toys or objects that children are playing with.
- Let children focus on one sense at a time—while they are looking at something, talking may be distracting.

### Contrast, color, and size of objects

- Choose toys that are a single color that contrasts with the background—for example, a yellow balloon against brown soil, or a red ball against a white bedsheet.
- Some children see smaller objects best. Do not assume bigger is better.

### Encourage independence

- Be patient and give children time to figure things out for themselves. When something is not seen clearly, they may need several minutes to focus and understand what they see.
- If a task is too difficult, change it so the child can do it without your help.

## Helping the child learn to move about

The child with loss of vision often takes longer to learn to move about and will need extra help and encouragement. Some of the activities in Chapter 35 for creeping, crawling, standing, and walking will help. Here are some other suggestions.

When the child begins to crawl, leave toys in places where he will find them. This will encourage him to explore and discover.



When the child begins to walk, do not move things around without showing her. By not bumping into things, she will gain confidence moving around.

Exercises and games will help a child gain confidence in moving his body.

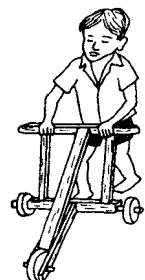


Encourage the child to be adventurous, explore, and do all the things a child usually does. Protect her from hurting herself—but do not protect her too much. Remember, all children learning to walk sometimes fall. A child with vision loss is no different.

The child can learn to feel the edge of the path with her feet, and to feel plants with her hands.



Do not force the child to walk alone before he is ready. He might want to start by pushing a simple walker or cart. One day he will start walking alone.



## Helping the child find her way without holding on

When outside the home, holding the hand of a child with vision loss lets them set the pace and stay more in control of their own body.

To help her begin to walk alone, first lead her over the area where you want her to walk. Show her and let her feel the different landmarks (posts or fences, trees or bushes, brightly colored doors and houses) along the way.

A good way to guide a child by the hand is to let her hold one finger and walk a step behind you.



Now walk over the same path, but this time walk backward in front of her, and talk to her while you are walking.



When she feels comfortable with your walking in front of her, start walking behind her. Have her tell you the landmarks.

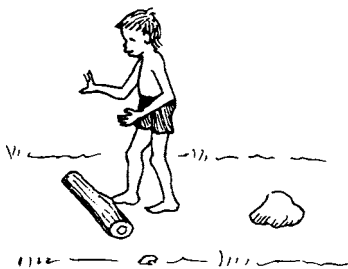


Little by little make yourself less and less needed. Speak less and let her go farther away from you.

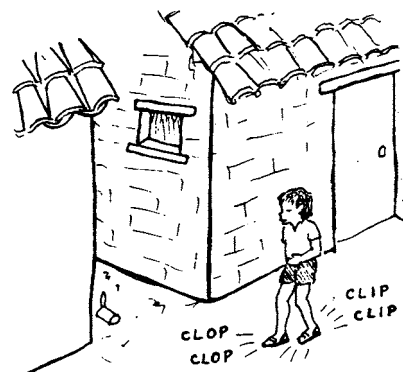
Finally let her go the whole way alone. Start by having her walk short distances. Then gradually go farther, with more turns and other things to remember.

When she has progressed this far, the child will have the joy of knowing she can solve some problems alone. She will be ready to learn new things, meet other difficulties, and explore new areas.

Sometimes the child will fall. Have her practice this by falling on soft ground. Teach her to put out her hands and bend her knees as she falls. She will be less likely to hurt herself.



The child needs to learn to “see” with her feet, and to be prepared for unexpected things in her way. Play games with her. Tell her you have put some things in her path. See if she can get past them without slipping or falling.



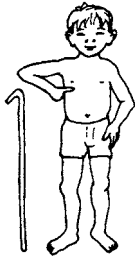
Help the child to recognize how the sound of her footsteps (or her stick) changes when she is near a house or wall, and when there is open space. With practice, she can learn to tell the distance from things by the sounds.



## Learning to use a stick

Using a long stick can help a child find his way and give him more confidence, especially for walking in places he is not familiar with. With practice, it can also help him to walk faster, with long, sure steps. This is because he can feel farther ahead of him with his stick than with his feet. The best age to start teaching a child to use a stick is probably about 6 or 7.

The stick should be thin and light, and tall enough so that it reaches half way between the child's waist and shoulders. The top of the cane can be curved or straight.

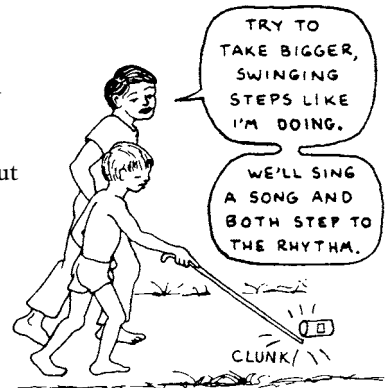


At first just give the child the stick and have him lightly touch the ground in front of him as he walks. His arm should be straight.

Play games letting him feel his way. But do not hurry him. Stop before he gets tired of it. At first, 5 or 10 minutes is enough.

After he gets used to the stick, walk beside him and encourage him to take smooth, even steps.

Have him swing the stick from side to side, and see if he can find things in his path.



After a time he can learn to use the stick better:

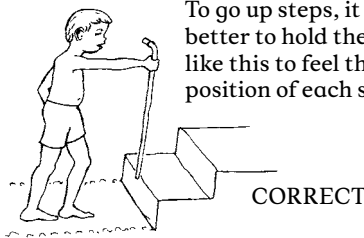
Move the stick from side to side, lightly touching the ground. The width of the swing should be a little more than the width of his shoulders. As the stick touches to one side, move the foot on the other side forward.



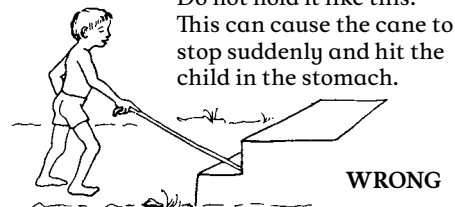
On a narrow path or rough ground, someone can lead the child by the stick. Or the child can hold the person's elbow or wrist.



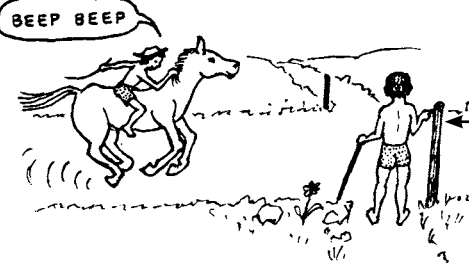
The child can learn to feel the height of steps and curbs, and then to climb them.



To go up steps, it is better to hold the stick like this to feel the position of each step.



Do not hold it like this. This can cause the cane to stop suddenly and hit the child in the stomach.



Teach the child to listen carefully before he crosses a path or road where cars or other traffic pass.

Putting posts or other markings where roads or paths cross can help the child find his way or know where to turn.

But whenever possible, **teach him to find his way using landmarks that are already there.**

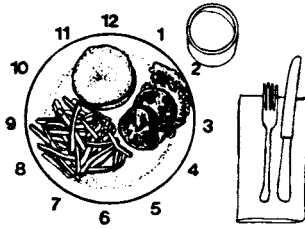


Sometimes putting a guide rope or rail can help the child find his way.

## Helping the child to use his hands and to learn skills

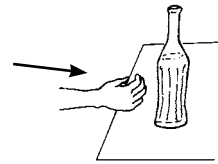
Help the child with loss of vision to do all kinds of things with her hands, including daily care of herself: eating, dressing, bathing, and toileting. Ideas for learning these skills are in Chapters 36 to 39.

At first you may need to help the child feel things by guiding his hands.



To help the child know where to look for the different foods on her plate, try to always put them in the same place. As the child gets older and learns to tell time, have her think of the plate or bowl as a clock. Tell her at what time each type of food is put on her plate. Here the glass of water is at 2 o'clock. Always put it at 2 o'clock.

Help the child learn to put in the same place glasses, cups, bottles, and other things that can be easily spilled or broken. Teach her to remember where she puts things, and learn how to reach out for something and find it without knocking it over. Reaching out with the back of the hand causes less spilling. (This will take practice and there will be accidents, but that is the way she learns. Do not hand her everything or do everything for her, just to avoid a mess. Making a mess is part of learning.)



Help the child learn to recognize different shapes, sizes, and the feel of things with her fingers. Let her play with toys and puzzles so that she learns to put different pieces together in a certain pattern or order. Ideas for toys and puzzles are on pages 468 to 476.

Teach the child about things he must be careful with or keep a distance from, to not get hurt: things such as fire, hot pans and dishes, sharp knives, dogs and mules that might bite or kick, deep holes, wells, cliffs, deep ponds or rivers. Do not just tell him "No!" Help him to understand the danger.



**CAUTION: Whenever possible, keep dangerous things out of reach or put fences around them, and take other precautions to protect the child—especially while he is too young to understand or be careful.**

Give children opportunities to begin to help in different ways around the house. This will both increase their skills and give them a sense of being part of the life and action of the family.



Abdul helps rock his baby brother.

Rani's mother teaches her how to cook by guiding her hand and explaining each step.



When the child has learned to handle bigger things fairly well, help her learn to feel and handle smaller things. For example:

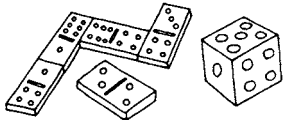
She can help sister pick the little stones and bits of dirt out of the rice.



If someone takes the time to teach him, a child can begin to help in a lot of things around the home, and also in village crafts. Weaving of mats, rugs, clothing, and baskets are things many children with vision loss can learn to do well, and it helps them learn to use their hands skillfully.



Also, look for games and toys that help the child develop her ability to feel fine details and small shapes with her fingers.



For example, you can make dominos and dice out of wood. For the dots, hammer round-headed nails into the wood, so she can feel them. Or drill holes.

The child can learn to feel the dots with her fingertips. At the same time, she will begin to learn to count and use numbers.

You can start with "giant" dominos and dice, and when her fingers learn to feel more skillfully, change to small ones. This will be good preparation for doing many kinds of fine work and perhaps for learning to read braille.

**SCHOOL**

Children with loss of vision should have the same opportunity as other children to go to school. Ideas for how children in the community can help a child with vision loss get to school, and help her in the classroom and with her studies are discussed in the CHILD-to-child activity on blindness (see p. 449).

In most countries there are schools that teach children with vision loss to read and write braille. Braille is a system of raised dots that represent letters and can be read with the fingertips. It was invented many years ago by a French boy with vision loss named Louis Braille.

Most village children do not learn braille in school. However, there are many other ways that they can learn in school.

For the village schoolchild with loss of vision, one of the best aids for taking notes and reviewing lessons is a small tape recorder or a mobile phone. The family should try to save money to buy one. Or perhaps the schoolchildren can hold a raffle or collect money to buy one. Other children can help record lessons from school books, and stories and information from other books.



**THE BRAILLE ALPHABET**

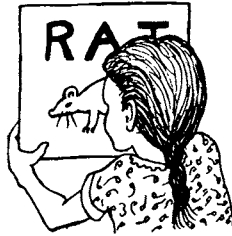
a	b	c	d	e	f	g
h	i	j	k	l	m	n
o	p	q	r	s	t	u
v	w	x	y	z		

Louis Braille invented this dot alphabet at age 14. The dots are pressed into a thick paper from the opposite side with a pointed tool called a "stylus."

**IMPORTANT:** In order to keep up with her studies, a child with loss of vision will need help. In school another child can read to her from her books. The child may also need extra help after school. An older brother or sister, or another schoolchild, can perhaps spend time teaching her at home.

Remember, **most children with vision loss have some useful vision. Encourage the child to use whatever sight she has.** If she can see big letters on the blackboard, write big and clear, and be sure she sits in the front. **Be sure the light is good, and that dark letters and things stand out against a light background.**

If she can see at all, to help her learn the letters, make them very **BIG**. Use white paper and dark ink.



To help the child learn the shape of letters by feel, you could make them in one of these ways.



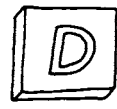
rope glued or pinned to wood or cardboard



grooves cut into wood



letter cut out of cardboard and glued to thick paper



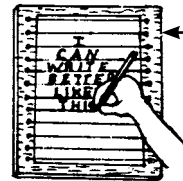
letter in plaster or clay



In the schoolroom, a pan with soft clay or mud is helpful for learning to write and feel letters.



Children can practice writing outside in sand, mud, or clay.

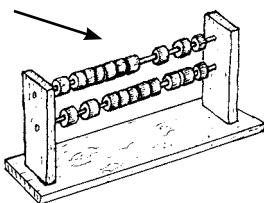


board with string stretched through holes

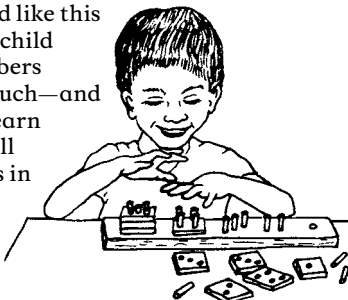
When the child begins to write, you can stretch string lines across the paper to help her write in straight lines. Or draw extra dark lines.

To help the child begin to count you can make a simple counting frame. The child can slide the beads or rings from one side to the other to count, add, and subtract.

wood beads, or rings of bamboo

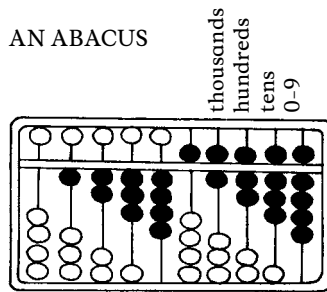


A pegboard like this can help a child learn numbers through touch—and help him learn to feel small differences in things.



When the child becomes more skilled with numbers, she can learn to use a counting frame called an abacus which has beads on wires. The beads slide up and down to form numbers. With practice, a child with vision loss can learn to add and subtract on the abacus as fast or faster than other children can do it on paper.

AN ABACUS



(All the beads are really the same color. Here we have made some black to make it clearer how to count.)

0 1 2 3 4 5 6 7 8 9

The beads in the positions shown give these numbers.

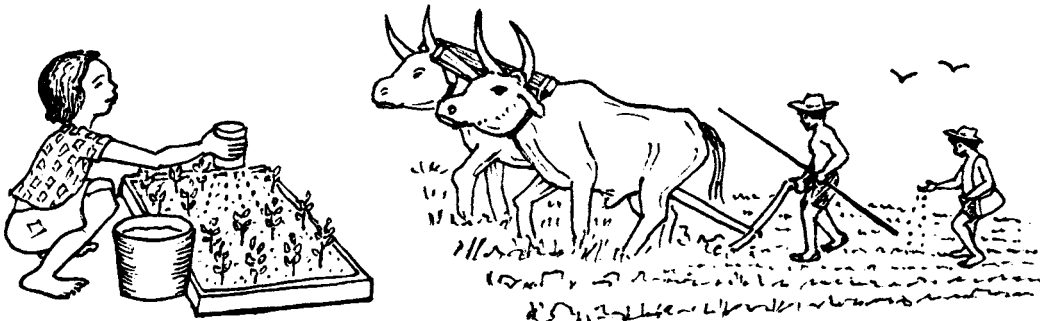
These 4 wires now read 6789. Notice that each bead above the center bar equals 5 times each bead directly below it.

## Work

As a child with loss of vision grows up, they can learn to do many different kinds of work. On page 509 in Chapter 54 we list many of the different kinds of work that people with disabilities can do. Those types of work marked with a \* have often been done by people with vision loss.

A village child with loss of vision should be given many opportunities to help with work around the home and with farm work. **The child should be invited and expected to help in a wide range of daily activities, just like other children.** What starts out as play and imitation ends up as learning of useful skills.

A family that farms the land can begin to include a child with loss of vision in gardening and farming activities from an early age.



To get an understanding of the whole process of growing the family food, the child can start by planting seeds, watering them, caring for them as they grow, and finally harvesting, cooking, and eating the product.

Later, the child can go with his father or mother to the fields and help with the planting. With his feet he can follow the furrows, or grooves made by the plow.

Try to involve the child with each aspect of housework and farm work. At first show her and guide her as much as is necessary. Then help less and less until finally the child can do the whole job alone.

## Social life

A child with loss of vision should have all the same opportunities in the community as other children do. Take her with you, and then send her, to the market, well, river, school, and temple. Introduce her to the people you meet. Explain to them that she is an active little girl like any other, except that she cannot see. Ask them, when they see her, to make a point of speaking to her first (since she cannot see them), of answering her questions, of helping her to find what she is looking for. Ask them not to do everything for her, but instead to help her figure out how to do more for herself. Little by little people will begin to realize that a child with vision loss can do a lot more than they would ever have dreamed possible. And they will begin to respect and appreciate her. For the next child with vision loss in the village, it will be easier.

Take the child to meetings, movies, puppet shows, and town events. Explain to her what she cannot see.

When children with visual impairment grow up, they can marry and have children of their own. They can be good parents.

## PREVENTION of loss of vision

The best way to prevent visual impairment is to try to keep children well fed, clean, and healthy. During pregnancy, mothers also need to eat enough nutritious foods and to avoid medicines that might injure the baby. For more information, see a book like *Helping Children Who Are Blind* or contact the groups on page 639.

In brief, **steps to prevent vision loss in children include:**

- When pregnant, keep away from persons with German measles and other infectious diseases, avoid unsafe medicines, and try to get enough to eat.
- Protect the eyes of all newborn babies with erythromycin or tetracycline eye ointment at birth (see p. 245).
- Vaccinate children against all the infectious diseases you can.
- Breastfeed the baby, and continue to breastfeed as long as possible.
- Good nutrition for mother and child—especially foods rich in vitamin A. Children often get diarrhea and then “dry eyes” after they are taken off the breast. So, when the baby starts to eat other foods, give him mashed papaya, mashed cassava leaves, or other foods with vitamin A, every day.
- Keep the home and child clean. Build and use latrines, and keep them covered. Try to protect against flies. Wash hands with soap and water, especially before eating and after using the latrine (toilet).
- Keep the child’s eyes clean. When they get infected or have pus, clean them often with a clean cloth that is wet with clean water, and see a health worker.
- Give children with measles vitamin A rich foods (or vitamin A capsules, see p. 244) because danger of “dry eyes” increases with measles.
- Treat all persons with signs of trachoma early. For treatment of different eye conditions, see a health worker or get information from a book like *Where There Is No Doctor*.
- Keep sharp and pointed objects, bullets, explosives, acids, and lye away from children and teach them about their dangers. Warn them about the danger of throwing closed bottles, cans, or bullets into the fire. Also warn them about local plants that can injure the eyes. (For example, the juice of “hiza,” a poisonous fig tree in Mexico, can burn the eyes like lye.) Get good early treatment for any eye injury.
- Warn children about throwing rocks and sticks, or shooting slingshots toward other persons.
- Check babies and children for early signs of eye conditions or difficulty seeing. Test how well they can see at 2 months of age and before they begin school.
- Organize older children to test the sight of the younger children at home (see CHILD-to-child, p. 452).
- Help everybody understand that most vision loss in children can be prevented. Teach people what they can do.
- For precautions to protect the eyes of persons who have a loss of feeling in their eyes, see Chapter 26 on Leprosy, p. 223.

