

Impact of Vision Impairment on Learning & Development

Early intervention for children with visual impairments

The magical transformation of the helpless infant into the curious, assertive and capable little three year old, is fascinating to observe. To anyone who has watched an infant in the first three years of life, the important role of vision in leading, motivating and clarifying experiences and interactions will be evident.

So what then, if the infant cannot see?

If a child cannot see, it is important to find other ways to interest him in the world around him and help him make sense of what he is experiencing. Few children are totally blind and most have some visual capacity. Ask your ophthalmologist to help you understand what your child can see. Simple changes to the object (for example, using a larger or a smaller ball, using a reflective ball or one with black and white stripes) or to the environment (for example, placing a contrasting, single coloured sheet behind the ball, focusing a light so that it is on the ball) can help your child see things more clearly. Many children will have refractive errors and will benefit from wearing spectacles. A good eye exam is an important first step in helping your child. A rehabilitation teacher can help you understand how to help your child use and develop his vision. Encourage him to explore objects with all his senses – touching it, banging and shaking it to hear the sounds it makes and even putting it in his mouth to taste and feel it with his tongue and lips – will help him later as he learns to recognize it visually.

Unless you help them understand and interact with their environment, infants with visual impairments often do not learn to hold their heads steady, crawl, or walk as quickly as other children. Many among them may learn to sit or stand at the age we expect these skills to emerge, but do not know how to move from one position to the other by themselves. Similarly, babies may not seem interested in toys, and when older, if given something in their hands, may only play with it only by banging it, shaking it, or putting it in their mouths. Many children may show understanding of language, especially commands – take this, touch your nose, clap your hands – but do not speak or may use words in a repetitive and meaningless manner. Often, children can become very passive, not moving around, not picking up things they drop or searching for toys when bored. They may play with their own bodies, or simply bang or suck on objects they come across. While they recognize their parents or other adults who care for them, some children may not respond to them with the smiles and affection that mark typical parent-child relationships.

Why does this happen?

Just by keeping their eyes open, an infant starts to make sense of the world – they see where things come from, what they are used for, and what sounds like the telephone ringing or someone knocking on the door signify. Very early in life, infants will smile at a familiar face, leading us to spontaneously respond, to reach out and touch and talk to the baby. This response from the child lays the foundation of intimacy and caring between infants and those adults that care for them. Another example of the role of vision in development is evident in how children learn to move in the first place. Usually, infants are fascinated with things that they can see– a flapping curtain, a toy or a person. At first, they move their entire body, wriggling and kicking in an uncoordinated way as they keep their eyes on the object. Over time, they see their hands, learn that they are part of their own bodies and try to use them to reach out to the object. Soon, they gain strength and after a lot of practice, they get better at reaching the target. As they gain better control over their limbs and as they grow in strength, they will try to move their entire bodies toward things they see in the environment. As they

move around and explore things with their hands, they learn many things about the world. Words, matched with expressions and actions begin to take on meaning and they start to imitate gestures and sounds in the beginnings of language. As words and sentences make sense, the child experiments with his first words and sees the power they have in getting him access to the world.

Are these problems inevitable for the child with visual impairments?

Certainly not! Spend half an hour in a new place with your eyes closed and you will experience some of the bewilderment and irritation your child will be feeling. Pay attention to what helped you make sense of what was going on around you; what made you comfortable; how you knew what you had to do. This will be your guide in working with your child. Here are some things I have learnt that help immensely –I am sure you will have more to add to this list as you interact with your child.

- ✓ Remember, most children with visual impairments, have some amount of vision – they may see light, reflective objects like mirrors or high contrast patterns like black and white stripes. Understanding what your child can see is important as you can select items they will be able to see easily and arrange the environment so that the child can easily see toys and things near him. Make a baby mat with a single colour and a highly contrasting border. Incorporate colours and patterns your child can see and include textures and sounds to make it interesting. It will encourage your infant to explore and if you take it with you when you go out, it will help your infant feel more secure.
- ✓ Most children with visual impairments will not be able to see an entire room clearly. Help them know where they are by using textures, sounds or something easily visible to the child to distinguish one room from the other. One mother whose baby sees light, hangs different single- coloured curtains in each room on the sunny side of her house so the sun coming in fills the room with a distinct colour through most of the day. She added wind chimes to one room, incense sticks to another, and a bead curtain at the door of the third to add another easily identifiable feature to the rooms.
- ✓ Help your child anticipate what is going to happen. Even when they are just a few days old and have not learned the meanings of words, tell them what you are going to do before you do it, and accompany your words with a little touch that will give them a clue about what is to come (like tapping her cheek before you feed her, or pressing her arms gently before you lift her). This will not only help her anticipate what is going to happen, but over time, will help her make sense of the words you are using. Anticipation allows a child to develop a sense of control over the world. This sense of control will give the child the courage to explore, experiment and actively discover and develop their capacities.
- ✓ Imagine waiting and wondering when the next mug of water will be poured over you at bath time when it is in fact ended! Without an understanding of the beginning and the end of activities, children become resistant to anything you want them to do or become very passive, allowing anything to be done to them, but not trying to learn to do things themselves. Make sure he knows when something is over – tell him and until he is old enough, use some action to signal to him that the activity is done (for example, running your hands over the child’s back while saying “soaping is over!”). Predictable routines, clear language and clues through touch help the child feel secure and able to make sense of his world and experiences.

- ✓ Guide your child gently when exposing her to new experiences. She will be more willing to try if we do not push her and she feels that her fears are respected. Place your hands under hers so she can hold you while you touch the toy or object that is new to her. Over time, allow her hand to touch the object and then guide her to feel it.
- ✓ Remember he cannot see what is happening around him. Talk to him, telling him about the sounds he hears. Show him from where things come and where things go. The more complete his experience, the better he will be able to engage with the world.
- ✓ Engage your child with things other children her age are doing. It is easy to under challenge our children! Remember learning with little or no vision is normal to them. Before you teach your child how to do them, blindfold yourself and go through the steps so that you may be better able to anticipate how to guide her best. Guide her from behind so that she will experience your movements as she herself would do them.

More suggestions available at <http://www.chetana.org.in>

INFANTS & TODDLERS

Some typical areas of difficulty

Knowing their own body

Infants spend a lot of their early months in constant movement. Initial wriggles and snuggles & stretches become more and more purposeful as they watch themselves & start to realize that they have control over these movements & that through them they can make things happen in their environment. The infants with visual impairments neither see themselves nor the effect their movements have & as a result have a poor understanding of their own body & its potential as compared to their peers. This can lead to unwillingness to move, poor development of their body tone, & as they grow, delays in crawling & walking.

Awareness of people and things around them

With the advantage of sight, babies quickly learn to sort things & people out by storing faces & experiences in their memory. They see people as sources of information; for example, they look at the expressions of familiar people to assess new situations, things, & people. They see things around them, how they are used, what they look like from different angles & what they feel or sound like as they explore them further.

Unless things in their environment are brought to their attention, infants with visual impairments will miss a lot of experiences exploring or learning about them. Although they are quick to recognize the touch & the sounds of voices of those who provide them consistently with care, if there is no warning about the approach or interaction, it may become overwhelming & the children withdraw.

Awareness of spaces and places

Very early, infants are drawn to key factors in their environment – the lit windows, the curtained doorway, the fan on the ceiling. As they develop visual capacity, they start to focus on key features near them – the pattern on their pillow, the toy on their bed, the cupboard in the corner of the room. The relationship of the child's position to objects & the objects to each other are absorbed as the child begins to move around in this already familiar area. Vision allows the child to see the whole room & the things within it all at the same time. For the young child relying purely on touch & movement through unreachable space, these relationships of spaces & things within it, is learnt with much greater difficulty.

Namita Jacob, 2003. Written originally as an article for parents at eyeway.org

Participating in life

Children take pride in doing things for themselves; they love watching what adults do & pretending to be like them. Their own routines like bathing, dressing & eating, & family routines like shopping, or cleaning up, allow a child to use his newly developing motor dexterity to start learning to care for himself & contribute to family life. This period sets the foundation not just of skill learning, but also helps a child perceive himself as an independent being & one able to care for himself & others. Delays in development, limited exposure to what other family members do, & the perceptions of those around them as being in need of help rather than one able to give help, often lead to delays in the development of independence in caring for self & others.

Some suggestions for intervention

Discovering his body

At three or four months, a baby who can see, will start to look at his hands, holding them in front of his eyes & watching as he moves his fingers & shakes his hands. He is beginning to discover that they belong to him & that he has control over them. Soon, his awareness extends to his toes & you will often find your child grabbing his feet & even pulling them toward his head. Apart from discovering his own body, the child is also getting good exercise, building his muscles & learning to control his movements better. Babies who cannot see may be passive at this age, & are slow to discover their bodies & understand how they can use it.

Some things you can do:

While you play with your baby, hold his arms & gently guide them toward each other.

Help draw his attention to the different parts of his body – walk your fingers up his arms & legs, blow on his palm & under his feet, pat his tummy & his back.

Changing the baby & bath time are great opportunities to work on this skill.

Most of us massage our babies with oil & this is another great opportunity to draw his attention to the parts of his body. Remember that routine & predictability help your child learn, so follow one order of massage with your child, always signaling with a tap before you start with a body part & firm pressure to indicate that you have finished with it.

Place anklets on his feet & bangles on his hand. Guide his hands to feel & explore them.

Select bright bangles or arm bands in colours that your child sees best– bright colours, reflective objects, stripes. Direct your child's attention to it by helping him first touch & explore it. Then help him attend visually to it by bringing it close to his eyes or shining a light on it to attract his visual attention. Bright socks or the same arm bands on his feet should work to get him excitedly exploring his toes as well!

Reading his signs; developing a relationship

The sighted infant learns early to recognize familiar faces. Although your child may not see you, he will quickly learn to recognize your voice & your touch. As you come near, he will often get very quiet & still. Parents imagine that the child is not interested or responsive, when, in fact, he is so quiet because he is listening to your voice & waiting for your touch. Here are some signs to tell you he is happy you are there:

- When you place his hand on your body, his fingers wiggle as they try to feel you.
- He may move his hands & legs excitedly, smile, or wiggle his fingers a few moments *after* he hears your voice.

We are used to infants looking wide eyed into our eyes & it will feel strange to have a child who doesn't do this. Often we respond by talking less & playing less with our baby. This can delay the development of that warm, secure bond between parent & child that influences the attitude with which children take on the world. This early talking with the infant also lays the foundations of language, another area that can be delayed in children with visual impairments.

Some things you can do:

Hold your child in your lap, so that he is facing you. Let him feel your face as you talk or sing to him.

Faces offer a good visual stimulus to a child. If your child has some vision, you can help him see you more easily by making sure light falls on your face; wearing a single coloured blouse that contrasts with your skin colour & sitting so that the wall behind you puts your face in higher contrast. Black hair framing your face will make it easier for your child to focus on it, similarly, eyes outlined in black eye liner or darkened eyebrows will help your child find & focus on your eyes. You may need to bring your face much closer to get your child's visual attention. If your child has a very marked squint, it may be hard for him to see directly in front of him & easier if you are on one side.

Preparing for action

Many children arch away when you try to carry them & seem happiest when left alone on the bed. Most of them do this because they are startled, finding themselves in the air & not having realized what was about to happen to them. We tend to respond by getting more abrupt & more forceful when we need to pick them up. Soon they learn that when people come near them, something unpleasant is about to happen. They may tolerate their parents or regular caregivers but do not seem to enjoy most interactions. We, in our turn, begin to dread picking them up & begin to do so only when absolutely necessary.

Some things you can do:

Next time, tell the child what you are going to do, then touch him gently but firmly at his shoulders & only then lift him, change him, feed him or begin any new activity with him. Spend a few seconds talking to him or holding him & singing gently to him until he is calm. Over time, he will understand what is about to happen & be more relaxed.

Exploring spaces

To be willing to explore spaces, a child must first feel secure where he is & recognize a variety of familiar areas. Exploring within a small space, helps a child learn where things are in relation to himself, so that as soon as he is placed anywhere on the bed, for example, he knows exactly which end his pillow or favourite toy is kept. The child must also be comfortable with movement even in new spaces.

Some things you can do:

Create a tactile & visually contrasting boundary that the infant can easily reach to give the child a sense of security & familiarity.

Do not crowd the space with many things, but instead pick one or two things that will become additional markers of where a child is.

As you move from room to room carrying your baby, draw her attention to features in each room that she will be able to appreciate – a shiny bell, the smell of candles, a scratchy wall.

Expose the child early to a variety of movement experiences – carry your child, swing them, twirl them, roll with them on the floor. Very early, we must encourage them to think of movement as fun & “normal”.