

# Impact Of Visual Impairment On Development

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## Sensory Development

For the infant born without sight, the other senses have intermittent input and may appear diminished. The child receives inconsistent, discrete, and generally unverified fragments of information.

Hearing is the only distance sense available to the blind infant, but the infant has no control over the presence or absence of sound in his environment. Sound without visual verification is only noise coming from nowhere. Only after much tactual, motor, and auditory interaction does sound acquire meaning. Only then can sound provide information about location, cause, or source.

Sound is not the strong motivator that vision is. Not until approximately 12 months - will a blind child reach for an object based on sound cue alone. Environmental exploration. is usually delayed until the child reaches this point.

Normally the incentive for tactile exploration is supplied by visual dimensions: color, pattern, shape, location. These dimensions are unavailable to a blind infant; therefore, purposeful tactile activity is minimal because the environment remains unknown and uninviting.

## Motor Development

### Hands

Although the hands are a major perceptual organ, a blind infant has significant developmental delays in his ability to employ his hands functionally.

Even at 5 months a blind infant's hands will be fisted and held at shoulder height. There will be no mutual fingering, no engaging at the midline. At this age, a sighted child is practicing coordinated reaching and transference of objects from one hand to another.)

This delay in hand utilization will result in delayed fine motor and gross motor development. .

Without vision, hand and eye do not work together. Instead, ear- hand coordination must occur. However this takes much experience and is achieved much later than normal eye- hand coordination.

### Body

A blind infant usually achieves control of his posture at approximately the same age as sighted infants through the following normal progression:

- sits alone momentarily
- rolls from back to stomach
- sits alone steadily
- takes stepping movements when hands are held
- stands alone
- bridges on hands and knees

However, the achievements that require self- initiated mobility are significantly delayed:

- elevated on arms in prone
- raising to a sitting position
- pulling to a stand
- walking alone

Until a blind child will reach out to grasp a sound cue (12 months), he will not move out in space either on hands and knees or feet.

The blind child's difficulty or reluctance in moving around the environment encourages passive behavior such as self- stimulating mannerisms.

## **Self- Concept**

The blind child has an unusual dependence on a sighted person to mediate and help integrate his environment. This notion of dependence must be considered as a major factor in the blind child s development.

The blind child has diminished control over his environment and can only control his inner world. As he withdraws into this world, he diminishes the need for social interaction.

He may not understand that there is a complex world outside of himself, that he is separate from it, that he can both act on it and be the recipient of action.

## **Cognitive Development**

### **Construct of World**

The blind child has limited ability to coordinate and organize elements into higher levels of abstraction, and to verify the information. Therefore, he constructs a reality that is different from the sighted child's. The process of establishing concept-defining attributes and relationships is more problematic for the blind child and less accessible to guidance. The blind child is continually involved in problem solving, but this process, which is essential to future development, is more difficult and less rewarding for him.

## **Object Permanence**

A stable visual field is the basis of object permanence and other conceptual tasks. Object permanence cannot be obtained by a blind child until he has the ability to reach for objects based on sound cue alone. It is acquired nearly a year later than in sighted children.

## **Causal Relationship**

Since the results of actions cannot be seen, the blind child may not be motivated to action. He may not understand his ability to cause things to happen or to retain pleasurable stimuli.

## **Constancy**

Understanding how to align blocks or orient his hands on a page in order to duplicate a pattern will be difficult if he hasn't observed objects in various orientations to know that an object is the same regardless of its position in space.

## **Classification**

Limited opportunities to explore objects and to see similarities are reflected in preschool blind children's classification errors. Concepts of same and different can evolve only if children identify the distinguishing variable on which to focus. A blind child has little difficulty generalizing across size, but numerous experiences with a variety of similar objects were required to expedite generalization and association skills.

## **Conservation**

A blind child exhibits delays in conservation of substance, weight, volume, length and liquids.

## **Social Development**

### **Relationships**

In a sighted child the mutual smile between infant and mother is the beginning of attachment, recognition, and communication. The blind child will smile at 2 months in recognition of his mother's voice, but only nuzzling or tickling will regularly elicit a smile.

In later years, the child appears to have ambivalent emotional involvement and appears disinterested, non-communicative, and uninformed about the rudiments of play with his peers. Consequently, he may be avoided by his peers and rejected or overprotected by strangers and relatives.

All in all, his social interactions are more complicated because subtle visual cues are missing and facial expressions are lost.

## **Self- Help**

Many self- help skills that are normally learned by watching are delayed in blind children.

Chewing, scooping, self- feeding skills may be delayed 2 years or more. Brushing teeth is difficult to accomplish since the child may reject the texture and has no opportunity to observe others performing grooming skills.

Fear of the unknown and inability to locate the bathroom may contribute to delayed toilet training.

## **Language Development**

### **Imitation**

Much of what is learned by the normal child is learned by imitating others.

Total communication; including signing and finger spelling, is rooted in the development of imitation. Imitation signals the beginning of symbolic meaning in a child.

The blind child needs planned, systematic instruction directed at the development of deferred imitation.

### **Use of Language**

The blind infant may jabber and imitate sooner than a sighted child, but may show delay when combining words to make his wants known.

The blind child primarily uses language to satisfy his immediate needs or to describe current activities.

He initiates few questions and his use of adjectives is sparse.

The blind child may take in the sounds which make up the language, but may not grasp the meaning intended by the speaker. His sensory experiences are not readily coded into language. He may store phrases and sentences in his memory and repeat them out of context.

The blind child often has a language that is echolalic preservative and meaningless.

The early language of the blind child does not seem to mirror his developing knowledge of the world, but rather his knowledge of the language of others.

### **Personal Pronoun**

To correctly use the personal pronoun "I", a child must have established a sense of himself as separate from the environment. Since the development of self- concept in a blind child is delayed, he tends to confuse the use of personal pronouns, extending the use of the second and third personal pronouns or his own name to refer to himself.

## **Experience**

The blind child is often hesitant to explore because of fear of the unknown. He is also often discouraged from exploration by adults who are overprotective. Without concrete experiences, the child will not develop meaningful concepts or the language to describe or think about them.

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