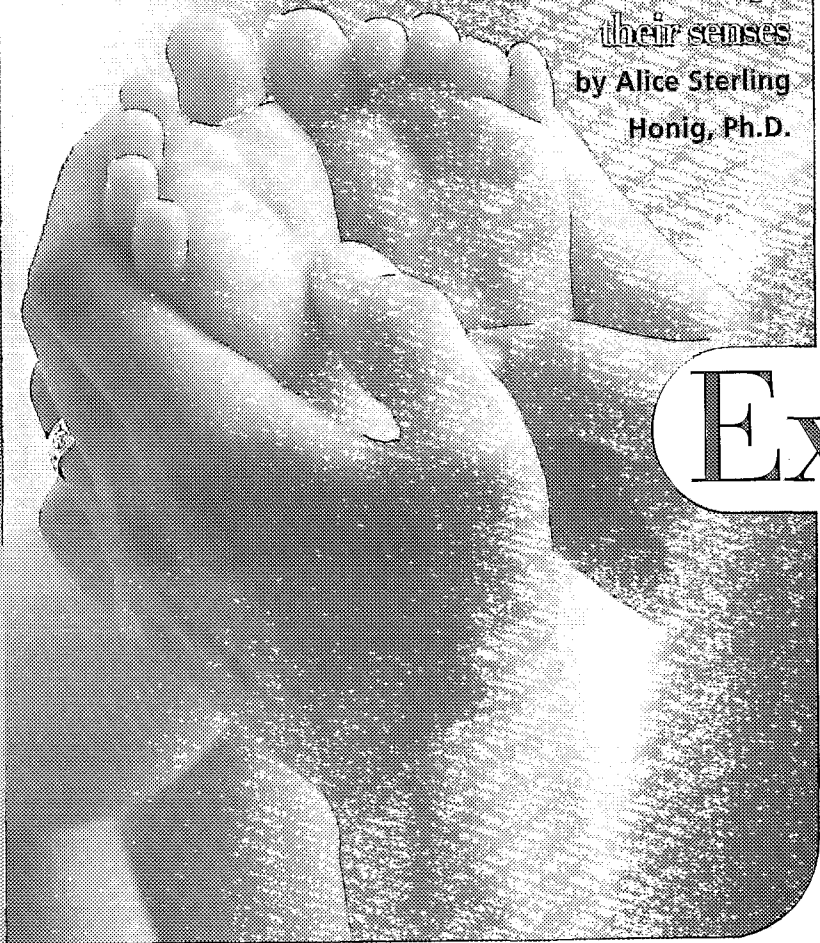


Understanding
how babies
learn through
their senses
by Alice Sterling
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The Power Of Sensory Experiences

Babies' earliest learning happens through their senses. Long before a newborn's clenched fist uncurls at about 3 to 4 months—allowing him to take hold of the world and grasp, pat, and bat at objects—a baby is learning through his sensory system: through touch, hearing, sight, muscle sense, taste, and smell.



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Exploring Through the Senses:

Touch. Touch is a powerful learning tool for enhancing a baby's early emotional learning. A baby's skin is very sensitive; stroke it gently and tenderly. He will wriggle his whole body and thrust his legs out. He may smile and look relaxed. All of a baby's skin is sensitive to touch. Caress him with gentle, swooping palmar strokes from the top of his head and down his back and legs. His sensory system will get a special message as well as a massage! He will feel safe, whole, and lovable.

Some of a baby's earliest responses to touch are reflexive. If you stroke the sole of a newborn's foot, his toes flare out in a Babinski reflex. Later, in neurologically normal infants, the toes curl when the sole is stroked. If you stroke a tiny baby's mouth

on one side, then he will turn toward that side in a rooting reflex.

Babies under one year respond to touch with an "all or nothing" response. If you tickle one foot gently, both the tickled foot and the other foot are likely to move. As babies develop, they gain more muscular control and begin to respond just to the touched foot or hand.

Vision. During the first weeks of life, babies usually prefer being turned to the right or left when lying down. The Tonic Neck Reflex (TNR) causes them to extend one fistful arm while the other flexes, in a "fencer" position. Until the TNR has mostly disappeared, any visual stimulation for a newborn should be presented on either side of the baby's body, but not directly overhead. A 4-month-old is delighted by

the visual stimulus of a mobile suspended in the crib directly over his tummy or feet. How he stares at the interesting, colorful objects safely attached to the hanging mobile! His legs start to kick. His whole body mobilizes as those swinging objects present an attractive visual display. At 4 months the baby can keep kicking for over 20 minutes in order to keep those mobile hangings making interesting visual patterns in the air. By providing this visual stimulus, you are not only serving the baby's sight system, but also convincing him of his efficacy as he mobilizes his limbs to keep that mobile moving.

The American Pediatric Association advises that you do not use TV or video presentations for babies under 2 years. Mobiles that a baby can bat, swipe, or grab at (if they are firmly and safely attached) are wonderful grist for his visual system. In addition, the baby is learning to coordinate the sensory systems of touch and vision. Coordinating touch, vision, and taste will come near the end of the first year, when a baby feels the rattle you have placed in his hand while he is lying in the crib. He then brings the rattle up in his hand, looks at it, and mouths it.

Your face, with a loving expression, is a most welcome visual stimulus for a baby. Babies can see best about 12 to 18 inches from their eyes. Thus, the diapering table, when you are bending over a baby as you change his diaper, is a visual stimulation locale par excellence!

Hearing. Babies are quite sensitive to sounds even before they are born. (After birth, babies prefer to hear a mother's voice reading a story she has read while the baby was still in the womb.) Babies are also sensitive to harsh sounds. Even babies in a newborn nursery begin to cry when they hear another baby crying. Loud or harsh adult talk worries a baby. Often infants and toddlers burst into tears if an adult's voice rises in anger, exasperation, or scolding. Babies love crooning, gentle voices. Most babies love it when an adult speaks in "Parentese"—drawing out vowels, raising the voice an octave, and speaking slowly in short phrases with

loving tones. Cascades of chemicals and electrical impulses flow through the baby's brain when he hears "Parentese." This style of speaking with a baby wires words into the brain. Also wired in is the certainty of being loved and feeling like an especially important little person.

Taste/Smell/Texture. Tiny babies make upset faces when tasting bitter or sour substances. Most love sweet tastes. They have several hundred more taste buds for sweet in their mouths than adults do. Because it is naturally sweet, strained applesauce is a hit with babies as a first solid food, along with rice cereal, which is the least allergenic of early solid foods. Older babies often reject certain tastes and textures. They may not like the grainy texture of strained liver. When starting to feed an older baby solid foods, realize that the taste of a cold metal spoon may not be comfortable. At first, offer small tastes of new foods on a warm spoon.

Offer sensory experiences in careful doses, accompanied by careful observations of babies' responses.

When feeding toddlers, remember that they take pride in their budding autonomy and often want to feed themselves. Put out an assortment of small portions; research shows that older babies often choose a healthy diet all on their own—as long as they can pick up foods and taste them at their own pace.

For some toddlers, strong smells are not comfortable. Some do not like the smell of boiled cauliflower, although the texture and taste may be fine. Make the vegetable more interesting to children by shaking some red paprika "sprinkles" over it to interest them and produce a positive response.

The Muscle Sense. Babies get interior stimulation signals as well as the usual outer sensory signals. If a baby is whirled around too much, he may become

upset and cry. Gentle movements are best for babies. Even a brave toddler may not enjoy being pushed too vigorously in a baby swing. Although their legs are not long enough to reach the pedals, most older babies love being given a ride on a tricycle that an adult pushes around. They grin with joy at the lovely sensations from kinesthetic stimulation.

Stimulation Combinations. Babies enjoy it when you croon to them and caress them at the same time. They vocalize happily. They wriggle with pleasure. But babies do become distressed when there is a sensory stimulation overload. Be careful not to combine too many sensory stimulation activities at the same time. A baby may turn his head away, close his eyes, and start to cry. Or he may shut down and curl his body inward in order to avoid overstimulation. Watch a baby's body for signs that too much information, whether music or fast sen-

sory stimulation, is being offered, which doesn't allow the baby to peacefully process all the input.

It's helpful to combine sensory stimulation with opportunities for developing bodily skills. A mobile allows a baby to watch with great interest and to learn to kick so that the mobile keeps dancing in the air. A teacher of toddlers can put on dance music whose familiar words and rhythms the children already love and then encourage them to dance to the music as well as enjoy listening to it.

You are the gatekeeper for a young child's sensory stimulation. By offering sensory experiences in careful doses, accompanied by careful observations of babies' responses, you will help them manage sensory input in order to experience pleasure and interest in new experiences. **ECT**



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