Rae Pica

Babies on the Move

"He's so quiet; I hardly ever hear a peep from him." "She's such an easy baby, so nice and quiet." **These are typical of comments heard frequently among and from the parents and caregivers of babies. They're indicative of society's inclination to restrict, rather than encourage, young children's activity, beginning in infancy.**

DO YOU CARE FOR INFANTS? Have their parents asked what you do to make movement part of your program? Have you given it a lot of consideration? Perhaps not. After all, an infant's movement capabilities are extremely limited even when compared with those of a toddler. But the fact is that movement experiences may be more important for infants than for children in any other age group. And it's not all about motor development either.

Not long ago, neuroscientists believed that the structure of a human brain was genetically determined at birth. They now realize that although the main "circuits" are "prewired" (for such functions as breathing and heartbeat), the experiences that fill each child's days are what actually determine the brain's ultimate design and the nature and extent of that child's adult capabilities (Hannaford 2005).

Researchers now know that early movement experiences are essential to the neural stimulation needed for healthy brain development (Gabbard 1998). There is a "use-it-or-lose-it" principle at work in the keeping or pruning of brain cells; movement can promote more connections in the brain.

At birth, an infant's brain, it turns out, is chock full of brain cells called neurons. Over time, each of these brain cells can form as many as 15,000 connections (synapses) with other brain cells. And it is during the first three years of life that most of these connections are made (Gabbard 1998). Synapses not used often enough are eliminated. On the other hand, those synapses that have been activated by repeated early experiences tend to become permanent. And it appears that physical activity and play during early childhood have a vital role in the sensory and physiological stimulation that results in more synapses (Gabbard 1998).

Neurophysiologist Carla Hannaford (2005), in her book *Smart Moves: Why Learning Is Not All in Your Head,* tells us that, beginning in infancy, physical movement plays a vital role in the creation of nerve cell networks that are actually the core of learning. She then goes on to relate how movement, because it activates the neural wiring throughout the body, makes the entire body—not just the brain—an instrument of learning.

In infancy, you can see the relationship between a baby's motor development and the resultant learning. As a baby moves from a lying to a sitting to a creeping and finally to a standing position, his perspective changes, as do his perceptions of the world and its possibilities. The more mobile he becomes, the more he increases his knowledge about himself and the people and things around him, acquiring information through his tactile (touch), kinesthetic (muscular), proprioceptive (body awareness), and vestibular (motion awareness) senses. With each new experience, new neural connections are made.

According to Rebecca Anne Bailey and Elsie Carter Burton (1982), authors of *The Dynamic Self: Activities to Enhance Infant Development,* whenever babies move any part of their bodies, there exists the potential for two different kinds of learning to occur: learning to move and moving to learn. Still, today many infants are spending too many of their waking hours *in* things—high chairs, carriers, car seats, and the like. (One of my colleagues refers to these babies as "containerized.") Because babies are meant to move, being confined may have serious consequences for their motor and cognitive development.

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This column is available in an online archive at **www.naeyc.org/yc/columns**.

To do more

Although infants have limited motor abilities, there are many possibilities for movement activities. Here are some ideas to get or keep babies moving!

Rolling over: Babies' first movements are reflexive, or involuntary. Rolling over is a voluntary movement, typically seen between 6 and 12 months of age—and one you can encourage by providing a little incentive. When a baby is lying on her back, sit behind her, holding a small toy over her head. Once you have her attention, move the toy very slowly to one side, all the while encouraging her to get it. If she rolls over, present her with the toy. You can repeat the game on the other side.

Blowing bubbles: Blow bubbles for the baby to watch (making sure they're far enough away so they don't pop in his face). When he's old enough (between 6 and 12 months), encourage him to reach for the bubbles or for any other object you place above him. Such games promote visual tracking and eye-hand coordination.

Crossing the midline: To encourage crossing the vertical midline of the body (the invisible line running from head to toe and dividing the body into left and right sides), hand a baby desirable items in such a way that she has to reach across her body to retrieve them from you. Later, when she's crawling and creeping (between 6 and 12 months), place a brightly colored object or favorite toy on the floor, just out of reach, encouraging her to go get it. Then, as long as she seems to enjoy the game (she's laughing instead of fussing), keep moving it.

Pat-a-cake: Games like pat-a-cake have lasted through the years because they work so well with infants. They offer opportunities for social interaction, imitation, touch, and rhythmic awareness—and yet another chance for a baby to cross the body's vertical midline.

Splish-splash: When a baby is able to sit unassisted, make him comfortable on the grass or on an old vinyl tablecloth or large piece of plastic you've placed on the floor. Put warm water in a large, unbreakable bowl in front of him and encourage him to touch and splash the water! This is a great activity for eye-hand coordination and upper torso exercise.

Early manipulative skills: To provide opportunities for kicking, place a stuffed animal or a small pillow by a baby's feet, close enough to touch, and encourage her to kick away! Also give her plenty of soft objects to throw, retrieving them for as long as she stays interested. Once she's walking (typically between 12 and 18 months), place an empty laundry basket or box on the floor and suggest she toss soft balls, rolled-up socks, or similar items into it.

Cruising: Hurrying skills like standing or walking is never a good idea. Babies will get to these skills when they're developmentally ready, but you do need to give them opportunities. Toward that end, you can be sure a baby has chances to pull herself up on sturdy furniture, like a sofa or a heavy, low table. (Babies usually pull themselves up to a standing position between 6 and 12 months of age.) If you notice he's trying to pull himself up with something that's not sturdy, you can simply pick him up and put him someplace more appropriate. (Be aware, however, that once he's up, he may need your help getting back down!)

Eventually a baby will begin to "walk," using the furniture for support. Once he's walking unassisted, the baby will enjoy pushing, pulling, and carrying objects while walking. Not only do these activities provide practice with this important locomotor skill, but they also help develop understanding of cause and effect.

To learn more

If you'd like to learn more about the role of movement in the development of the whole child, Carla Hannaford's *Smart Moves* (Salt Lake City: Great River, 2005) is the perfect choice. For more information and activity ideas, look to Gryphon House books by Jackie Silberg, including *Games to Play with Babies* (2001), *125 Brain Games for Babies* (1999), and *Baby Smarts: Games for Playing and Learning* (2009). Also, Jackie hosts a radio program about infants and toddlers on the BAM Radio Network (www.bamradionetwork.com) called "Ones, Twos, & Threes."

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References

Bailey, R.A., & E.C. Burton. 1982. *The dynamic self: Activities to enhance infant development.* St. Louis, MO: C.V. Mosby.

Gabbard, C. 1998. Windows of opportunity for early brain and motor development. *JOPERD—Journal of Physical Education, Recreation, and Dance* 69: 54–55, 61.

Hannaford, C. 2005. *Smart moves: Why learning is not all in your head.* Salt Lake City: Green River.