

Leg movement training in preterm infants demonstrates positive changes in motor skills

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Preterm infants who receive leg movement training display feet-reaching behaviors similar to that of full-term infants, according to a randomized controlled trial reported in the October issue of *Physical Therapy* (PTJ), the scientific journal of the American Physical Therapy Association (APTA). This finding supports feet-reaching play as an early intervention strategy to encourage interaction with physical objects in preterm infants who have movement problems within the first months of postnatal life.

Previous studies have shown that full-term infants make contact with toys using their feet before reaching with their hands. Studies also have shown that movement training advances feet reaching in full-term infants. Certain populations of preterm infants are known to be delayed in hand reaching; however, no studies have looked at feet-reaching in preterm infants.

"The presence of feet reaching and a positive training effect in this population would suggest a novel and easily implemented intervention strategy to encourage early object interaction in infants with special needs," said Jill C. Heathcock, PT, PhD, assistant professor in the Division of [Physical Therapy](#) at Ohio State University, and lead author of the study.

In this study, 27 preterm infants who were born at less than 33 weeks of gestational age and weighed less than 5 lbs 8 oz received either movement training or social training by their caregivers 5 days a week for 8 weeks. Movement training consisted of three feet games: general leg movement, moving the leg across the midline of the body, and distinct leg movements, such as holding an infant's hip at 90 degrees and encouraging knee motion to contact the toy with the foot. Caregivers of infants in the social training group positioned their infant

supine on the floor and sat near the infant's feet. The caregiver interacted with their infant visually and verbally, but did not touch or present objects to their infant.

During the 8-week training period, all infants were tested and videotaped for a total of five sessions. Infants were seated in a custom-made chair with a strap placed around the chest, allowing for free movement of the arms and legs. A toy was presented to the infant at his or her midline at hip height for 30 seconds. After each trial, the toy was removed from the infant's view and then repositioned in the midline for the next trial.

Both groups of infants showed an equal number of foot-toy contacts over each session. However, infants in the movement training group outperformed infants in the social training group over time and during the last session.

"Our results suggest that preterm infants display a new and potentially important ability to contact objects with their feet before their hands," said Heathcock. "This finding, coupled with a positive effect of training, provides clinicians with a new intervention strategy for encouraging object interaction within the first months of life in [infants](#) at risk for long-term motor impairments."

Source: American Physical Therapy Association ([news](#) : [web](#))

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