Infants who are born early or at low birthweight can be at risk for cerebral palsy, a group of disorders that affect a person's ability to move and maintain balance and posture, caused by brain damage often before birth.

The standard of care is early intervention, but that can mean a number of different things, said Stacey Dusing, associate professor and director of the Motor Development Lab. "Intervention tends to be very 'wait and see:' monitoring how delayed the kids are," Dusing said. "We are identifying that this is probably not the best practice for kids."

"Cognition for free"

In practice, the biggest difference is how therapists use things like toys in the session, Dusing explained: If a therapist is helping a child crawl, she'd typically show the child a toy and then move it further away, to coax the child into extending the movement. But when incorporating cognitive learning alongside movement, a therapist would use the same toy, engage with it, and then encourage the children to do something harder with the toy, like putting the toy inside a container. That way, the child is learning something about how to use the object in addition to how to move.

Since both interventions focus on movement, Dusing said she expects the infants' motor skills will be similar at the end of the study—but she expects there will be more improvements in the cognitive
skills of the group getting the START-Play therapy. "We describe it as getting cognition for free in this therapy, since we get equal motor gains," she said.

In an earlier study of START-Play, the gains persisted beyond the intervention timeframe.

The ultimate goal, Dusing explained, is to understand better what type of physical therapy is the most effective for children who have motor delays and cerebral palsy. Dusing has worked as a pediatric physical therapist for 23 years, and one of the biggest questions in the field is what interventions are actually backed with strong evidence. "There are a lot of interventions for young kids that don't have a lot of evidence behind them," she said. "We don't know right now what is effective in these groups, and we want to provide that information to clinicians and parents."

Provided by University of Southern California