Treadmill training could help tots walk

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Using a treadmill could help infants with prenatal complications or who were injured at birth walk earlier and better, according to a University of Michigan researcher.

Prenatal injuries can often result in self-correcting or fixable neuromotor delays, but sometimes toddlers get a more serious diagnosis, such as cerebral palsy, says Rosa Angulo-Barroso, associate professor of movement science at the U-M School of Kinesiology. Some of those diagnoses may come much later, or in mild cases, never, she says.

Angulo-Barroso and colleagues followed 15 infants at risk for neuromotor delays for two years and tested their changes in physical activity and treadmill-stepping in their homes. The infants were assisted using the treadmill by their parents.

The researchers looked at the frequency of steps and also the decrease in toe-walking over the two-year period. For those infants who were still not walking, they followed up by calling families to see if infants were walking by age 3.

They found that kids with neuromotor delays using the treadmill were on the same improving trajectory as normal kids. Of the 15 children, six were diagnosed with cerebral palsy.

"We found that in those with neuromotor delays, the pattern of development through time was parallel (but less) than normal kids." said Angulo-Barroso, who is also a research associate professor at the U-M

Center for Human Growth and Development. "We also found less toe-walking, so foot placement improved."

The study also suggests a critical intervention window. Both children without a diagnosis and kids with cerebral palsy improved the most between 10 months and 18 months.

So what does this means for parents of children at risk for neuromotor delays?

"We are putting words of caution here," Angulo-Barroso said. "This is a feasibility study only and the results show it seems viable to do treadmill intervention."

A feasibility study merely shows that it warrants more work to see how much treadmill intervention helps. However, Angulo-Barroso stresses that in the meantime, parents should take other interventions seriously.

"Early interventions are really, really critical, so at this point I wouldn't tell them to go find a treadmill, but I would say make sure you get a good physical therapist and work with the physical therapist to see if your kids would be a good candidate for that kind of (treadmill) intervention," said Angulo-Barroso, who noted that the next study is a randomized sample of children to see how they respond to a formal treadmill intervention.

More information: The current study, "Treadmill Responses and Physical Activity Levels of Infants at Risk for Neuromotor Delay" appears in the journal *Pediatric Physical Therapy*.

Provided by University of Michigan

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