Research Project
Funding Opportunity

Cerebral Palsy ALLIANCE RESEARCH FOUNDATION

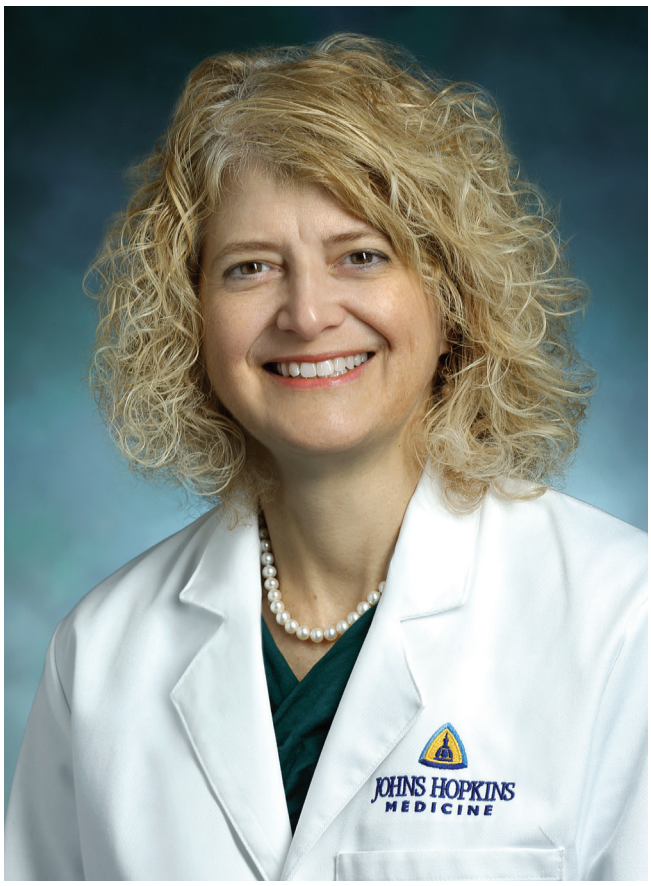
MAKING THE MOST OF MOTHER NATURE

Combining EPO and Melatonin in Babies At-risk for Brain Injury

Given that many children with CP have sensorimotor *and* cognitive deficits, there is a need to study strategies that address both functional pillars. The combination of erythropoietin and melatonin proposed here is directly translatable, given that both agents are currently administered to children in lower doses. Both agents are safe for use in infants, and capitalize on the central nervous system own repair mechanisms. Notably, due to inherent balances in signalling, exploitation of inherent repair mechanisms is not likely to derail neurodevelopment programming in infants.

PROJECT BACKGROUND

Neonates with perinatal insults suffer damage to the developing central nervous system (CNS) from several overlapping mechanisms of injury. Both erythropoietin and melatonin provide endogenous neurorepair, especially in the developing CNS. These agents support the genesis, survival and differentiation of neural cells, and they reduce toxicity from inflammation, free radicals, and excessive proteases. Our primary hypothesis is that these two agents in combination will act synergistically and more effectively to repair multiple pillars of neurological function, including spasticity and cognition. Using preclinical models that accurately replicate the human injury, we can address questions crucial to efficient clinical trial design, and better understand the opportunities and limits of endogenous repair. Once we can successfully repair the developing CNS, we plan to build on this knowledge to move forward with repair of gait, cognition and related deficits in the relatively mature CNS of childhood and young adulthood.



RESEARCHER

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FUNDING REQUIRED

$180,000 over 3 years