

**Premature Babies Benefitting from Music Get Backing From Harvard University and The Jeffrey Epstein VI Foundation.**

A new study performed by The Institute for Music and Brain Science at Harvard University on the physiological benefits of music on premature babies has received substantial backing from science activist, Jeffrey Epstein and his foundation, The Jeffrey Epstein VI Foundation. The study was conducted with the Department of Neurology at Massachusetts General Hospital and Harvard Medical School.

Every year about 4 million babies (12.5%) in the US are born prematurely. Premature babies account for two thirds of infant deaths and the rates are increasing. The study looked at how vocal music can decrease pain and stress by analyzing autonomic and motor responses in 13 premature infants at the Massachusetts General Hospital Neonatal Special Care Unit. Using a case-control clinical trial design, the effect of blood test punctures on heart rate and respiratory rate was evaluated. Seven neonates then received auditory stimulation within 115 seconds after pain onset and six neonates were not stimulated. The punctures caused protracted increases in both heart and respiratory rates in all babies. Premature infants stimulated with vocal music after pain onset however, showed a greater decrease in heart rate over time (12% over 10 minutes) than unstimulated infants. Auditory stimulation had no significant effect on respiratory rates.

The results, though seemingly insignificant, suggest that auditory stimulation ameliorates pain and stress in premature infants via connections between the central auditory system and brainstem systems modulating autonomic outflow to the heart. This is particularly significant when one considers that many neonates are given multiple punctures every day for blood and other procedures.

“More vocal and sound studies need to be done to augment the decrease in stress and pain for prematurely born babies,” Jeffrey Epstein asserted. “But this study is a very important first step.”

The Jeffrey Epstein VI Foundation is a long standing supporter of science research at Harvard University. In 2003, it gave a \$30 million grant to Harvard to establish the Program for Evolutionary Dynamics, the first of its kind to study evolutionary biology from a mathematical point of view.

Founded by Dr. Mark Tramo, the Institute for Music and Brain Science seeks to advance knowledge about the neurological impact of music, to combat neurological and other diseases, using music as a lens into the brain and as a rehabilitator, and to develop music technology that enhances intellectual growth, brain recovery, and mental health. Dr. Tramo is an Associate Professor of Neurology at Harvard Medical School and Attending Neurologist at Massachusetts General Hospital. He is the recipient of numerous awards for original research on the neuroanatomy and neurophysiology of music perception and cognition, from the National Institute on Deafness and Communication Disorders, National Institute of Neurological Diseases

and Stroke, McDonnell-Pew Program in Cognitive Neuroscience and the National Organization for Hearing Research.