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Establishing the ingredients and mode of delivery of an early therapy intervention in perinatal stroke

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Background: Perinatal stroke is the leading cause of unilateral cerebral palsy. There is currently no robust evidence-based therapy for affected infants in the first 6 months of life, a silent period during which motor asymmetries may be just emerging. Early intervention promoting activity of the potentially affected side of the body during this time of marked nervous system plasticity, could mitigate the effects of perinatal stroke more effectively than intervention at a later stage.

Method: Information derived from extensive literature review informed our initial design regarding ingredients and mode of delivery. An iterative, co-operative design process in consultation with parents of children with hemiplegia and health professionals further shaped the development of materials and logic model.

Results: The Early Therapy in Perinatal Stroke (eTIPS) intervention is aimed at infants in the first 6 months of life. The key ingredients are a pervasive, lateralized, home-based therapy addressing sensorimotor and visuomotor function which also models a positive parent-child relationship and can be simply incorporated into everyday life. The mode of delivery is through the parents, via specified activities, play and consideration of the physical environment of the infant. The activities were chosen to be fun, inspiring and motivating and to allow some flexibility whilst still delivering the key ingredients. Explanation of the approach and specific examples of implementation are provided through simple text, photographs and videos, accessed through a manual, a DVD and/or website. Contact with families is maintained through weekly texts and phone calls and monthly home visits.

Conclusion: Following MRC guidance on complex interventions, we have developed an evidence based, lateralised, homebased, parent-delivered therapy approach for perinatal stroke. We are currently evaluating user feedback of the materials as part of a NIHR funded pilot feasibility trial.