

Development of synergistic control of reaching movements in healthy and dystonic children

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The ability to reach targets or objects is central to activities of daily living. It has been known that reaching movements are subject to a childhood span coordination development, which refines the already innate motor abilities. I will initially present a brief overview of the synergistic kinematic and muscle control that characterizes the motor coordination growth of reaching in healthy children. Then, I will show some recent findings of the constrained reaching movements in childhood dystonia, with particular emphasis of the motor strategies attained during different accuracy requirements and perceived cost functions.

At the SangerLab the interest of studying the neurophysiological mechanics of reaching movements ensues from the clinical needs to design optimal assisted communication devices. Therefore, the understanding of the specific motor impairments, in children with dystonia, will determine the most favorable interface features that enhance the speed of communication.