

Abstract: Mirror movements in typical and atypical development. First, I will present the different types of associated movements (or synkineses) observed in children. Then, I will focus on the presence of mirror movements (MM) of the upper limbs that are involuntary movements or contractions presented on the contralateral limb of the active limb. I will describe the development of MM across life span and explain the development of the central nervous system account for this development. I will also stress on the role of particular environmental conditions / constraints to observe MM. Inhibition of MM is crucial for independent control of manual movements, especially for many daily-life activities such as writing. This inhibition arises naturally through development but it can also be optimized by learning / rehabilitation. Thus, I will present the general principles of motor learning and conditions that optimize rehabilitation for independent control of manual movements.