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題目 (Title):

脊髓脊髓膜膨出嬰兒於跑步機跨步時之肌肉活化型態

(Muscle Activation Patterns in Infants With Myelomeningocele Stepping on a Treadmill)

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目的 (Purpose):

描述脊髓脊髓膜膨出嬰兒在出生後一年，未經練習，於電動跑步機跨步時之下肢肌肉活化特徵。

(To characterize how infants with myelomeningocele (MMC) activate lower limb muscles over the first year of life, without practice, while stepping on a motorized treadmill.)

方法 (Methods):

12 位脊髓脊髓膜膨出嬰兒於 1, 6, 12 月時接受長期的評估。以肌電圖收集脛前肌、外側腓腸肌、股直肌及股二頭肌的資料。

(Twelve infants with MMC were tested longitudinally at 1, 6, and 12 months. Electromyography was used to collect data from the tibialis anterior, lateral gastrocnemius, rectus femoris, biceps femoris.)

結果 (Results):

經過第一年，嬰兒於大約 50%的跨步週期中未出現肌電活性，當肌肉活化時，則伴隨呈現差的節律性與活化時間。單一肌肉的活化為主要形式；拮抗肌共同收縮較少。跨步時，個別肌肉活化的機率隨年齡增加而減少。

(Across the first year, infants showed no electromyographic activity for approximately 50% of the stride cycle with poor rhythmicity and timing of muscles, when activated. Single muscle activation predominated; agonist-antagonist coactivation was low. Probability of individual muscle activity across the stride decreased with age.)

結論 (Conclusions):

脊髓脊髓膜膨出嬰兒呈現高度變異之肌肉活化時間與收縮時間，少有複雜的組合，也非常少有隨時間的變化之狀態。

(Infants with MMC show high variability in timing and duration of muscle activity, few complex combinations, and very little change over time.)

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