

**原作者及出處 (Original):**

Salazar R, Montes J, Dunaway Young S, McDermott MP, Martens W, Pasternak A, Quigley J, Mirek E, Glanzman AM, Civitello M, Gee R, Duong T, Mazzone ES, Main M, Mayhew A, Ramsey D, Muni Lofra R, Coratti G, Fanelli L, De Sanctis R, Forcina N, Chiriboga C, Darras BT, Tennekoon GI, Scoto M, Day JW, Finkel R, Muntoni F, Mercuri E, De Vivo DC. *Pediatr Phys Ther* 2018;30(3):209-215. doi: 10.1097/PEP.0000000000000515.

**翻譯者 (Translator):**

黃紫琇

高雄醫學大學附設醫院物理治療師，高雄，臺灣

**校閱者 (Reviewer):**

康琳茹

長庚大學早期療育研究所副教授，桃園，臺灣

**題目 (Title):**

脊髓性肌肉萎縮症的下肢關節攣縮的量化評估：對動作功能的影響。

Quantitative Evaluation of Lower Extremity Joint Contractures in Spinal Muscular Atrophy: Implications for Motor Function.

**摘要中文翻譯****目的：**

量化敘述第二型與第三型脊髓性肌肉萎縮症 (spinal muscular atrophy, SMA) 患者的下肢被動關節活動度，並建立初步閾值以鑑別出可能會在疾病特定的動作功能成效測驗表現不佳的個案。

**方法：**

80名第二型與第三型SMA患者參加一個國際多中心的自然史研究，接受下肢關節活動度測試以及漢默史密斯功能性動作量表延伸版 (Hammersmith Functional Motor Scale-Expanded) 的評估。

**結果：**

第二型 SMA 的髖關節伸直角度小於等於  $-7.5^{\circ}$  或第三型 SMA 小於等於  $0^{\circ}$ ，對於鑑別動作能力下降具有良好的敏感度。對於膝關節伸直，第二型 SMA 小於等於  $-9^{\circ}$  或第三型 SMA 小於等於  $0^{\circ}$  也有相似的敏感度。

**結論：**

微小的髖關節和膝關節攣縮與動作能力下降有關。臨床試驗設計應考慮攣縮對動作功能的影響。

## **Original Abstract**

### **PURPOSE:**

To quantitatively describe passive lower extremity range of motion in participants with spinal muscular atrophy (SMA) types 2 and 3, and to establish preliminary thresholds to identify individuals at risk for performing poorly on disease-specific motor function outcome measures.

### **METHODS:**

Eighty participants with SMA types 2 and 3, enrolled in an international multicenter natural history study, were evaluated with lower extremity range of motion testing and the Hammersmith Functional Motor Scale-Expanded.

### **RESULTS:**

A hip extension joint angle of  $-7.5^{\circ}$  or less for SMA type 2 and  $0^{\circ}$  or less for SMA type 3 identified diminished motor ability with good sensitivity. For knee extension, a joint angle of  $-9.0^{\circ}$  or less for SMA type 2 or  $0^{\circ}$  or less for SMA type 3 was similarly sensitive.

### **CONCLUSIONS:**

Minimal hip and knee joint contractures were associated with diminished motor ability. Clinical trial designs should consider the effect of contractures on motor function.

Lippincott Williams & Wilkins, a business of Wolters Kluwer Health and its affiliates take no responsibility for the accuracy of the translation from the published English original and are not liable for any errors which may occur.

威科集團醫療衛生業務部門之一：Lippincott Williams & Wilkins，及威科集團醫療衛生業務部門的其他附屬機構不承擔因從英文原文翻譯的準確性而導致的任何責任，也不承擔由於翻譯錯誤而導致的任何法律責任。