1. 以下摘要取自 Valentin-Gudiol M, Bagur-Calafat C, Girabent-Farrés M, Hadders-Algra M, Mattern-Baxter K, Angulo-Barroso R. Treadmill interventions with partial body weight support in children under six years of age at risk of neuromotor delay: a report of a Cochrane systematic review and meta-analysis. European Journal of Physical and Rehabilitation Medicine 2013, 49(1):67-91. 請回答以下問題: 【本題佔 50%】

(a) 請將本摘要重新整理，書寫成 300 字以內的中文摘要（非直接原文翻譯）(20%)。

(b) 請針對 Down Syndrome、Spastic Diplegic Cerebral Palsy 以及 Preterm Infant 三類孩童，分別設計一項最佳的跑步機訓練實驗，並說明所依據的學術理論或神經機轉，以及適合的預後測量(各 10%)。

BACKGROUND AND PURPOSE: Delayed motor development may occur in children with Down syndrome, cerebral palsy or children born preterm, which in turn may limit the child's opportunities to explore the environment. Neurophysiologic and early intervention literature suggests that task-specific training facilitates motor development. Treadmill intervention is a good example of locomotor task-specific training. The aim of this paper was to assess the effectiveness of treadmill intervention on locomotor motor development in pre-ambulatory infants and children under six years of age who are at risk for neuromotor delay.

DESIGN: A Cochrane systematic review with meta-analysis.

METHODS: We employed a comprehensive search strategy. We included randomized, quasi-randomized and controlled clinical trials that evaluated the effect of treadmill intervention in children up to six years of age with delays in gait development or the attainment of independent walking or who were at risk of neuromotor delay. We searched CENTRAL, MEDICINE, EMBASE, PsycINFO, CINAHL, Science Citation Index, PEDro, CPCI-S and LILACS; and also ICTRP, ClinicalTrials.gov, mRCT and CenterWatch. Four authors independently extracted the data using standardized forms.

RESULTS: We included five studies, which reported on treadmill intervention in 139 children. Of the 139 children, 73 were allocated to treadmill intervention groups. The studies varied in the type of population studied, the type of comparison, the time of evaluation and the parameters assessed. Due to the diversity of the studies, we were only able to use data from three studies in meta-analyses and these were limited to two outcomes: age of onset of independent walking and gross motor function. Evidence suggested that treadmill intervention could lead to earlier onset of independent walking when compared to no treadmill intervention (effect estimate -1.47; 95% CI: -2.97, 0.03), though these trials studied two different populations: Down syndrome and children at risk of neuromotor disabilities. Children with Down syndrome seemed to benefit while it was not clear if this was the case for children at high risk of neuromotor disabilities. Two other studies, both in children with Down syndrome, compared different types of treadmill intervention (high versus low intensity training). Both were inconclusive regarding the impact of these different protocols on the age at which children started to walk. There is insufficient evidence to determine whether treadmill intervention improves gross motor function (effect estimate 0.88; 95% CI: -4.54, 6.30).

CONCLUSION: The current review provided only limited evidence of the efficacy of treadmill intervention in children up to six years of age. Few studies have assessed treadmill interventions in young children using an appropriate control group. The available evidence indicates that treadmill intervention may accelerate the development of independent walking in children with Down syndrome. Further research

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is needed to confirm this and should also address whether intensive treadmill intervention can accelerate walking onset in young children with cerebral palsy and high risk infants, and whether treadmill intervention has a general effect on gross motor development in the various subgroups of young children at risk for developmental delay.

2. 近年來，世界衛生組織所提出的國際功能與身心障礙分類系統-兒童版(International Classification of Functioning, Disability and Health - Children and Youth Version; ICF-CY) 顯著的影響研究與臨床人員看待與服務身心障礙兒童。
   (a) 請敘述何謂 ICF-CY，說明其概念以及所依據的理論基礎。(20%)
   (b) 針對下列個案，請依 ICF-CY 架構列出並敘述評估時應包含的內容，並請適當使用標準化評估工具。(20%)
   一位 4.5 歲的女孩，診斷為痙攣型腦性麻痺，粗大動作功能分類系統 (Gross Motor Function Classification System) level II，主要影響雙側下肢與軀幹。此外，因出生時早產並合併有慢性肺疾病 (chronic lung disease)，她的呼吸功能仍不佳，劇烈活動時易喘。她目前白天上一般幼稚園，晚上和父母與姐姐同住。她可以短暫獨立站立或放手行走 3-5 步，日常生活裡許多活動都需要他人協助。
   (c) 呈上題，試說明根據 ICF-CY 如何影響物理治療師對個案的介入目標與計劃的訂定。(10%)

試題隨卷繳回