**A Review of Bilateral Arm Movement Approach for Upper Extremities Treatments in Stroke**

**雙側上肢動作對於中風病患的上肢康復治療之探討**

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***Abstract***

***Purpose:*** Bilateral arm movement training has been used increasingly in these recent years, especially for the bilateral robotic therapy, which got fewer study focus on the effect of the bilateral protocol. It is necessary to have a more comprehensive and updated review.

***Methods:*** This review was conducted among 2 electronic databases to identify all peer-review journal articles which tested the effectiveness of bilateral arm movement training for patients with stroke.

***Results:*** The results based on 16 studies on the effectiveness of bilateral arm movement training on patients with stroke. 4 types of approaches were indentified and it was found that there were certain studies showed positive effects. Although it is very difficult to compare and find out which type of approach is the most effective, bilateral task with robotic therapy is quite a flexible approach that provides different training mode for grading training

***Conclusions:*** It is recommended to use bilateral arm movement for patients with lower upper extremity motor function because assistance is provided in most of the approaches. However, there are still some studies could not find any additional improvement after bilateral arm training. Besides, prolonged treatment effect of bilateral arm movement approach is not clear. Further study with randomized controlled trials is required to assess its effectiveness.