

系所組別：職能治療學系

考試科目：臨床生理職能治療學

考試日期：0224，節次：1

※ 考生請注意：本試題不可使用計算機

1. 解釋名詞：（每題 5%，共 25%）
 - (1). Occupational Functioning Model
 - (2). constraint-induced movement therapy
 - (3). heterotopic ossification
 - (4). trigger finger
 - (5). everyday memory
2. 試述腦傷個案可能遭遇之記憶障礙類型，並分別說明其對日常職能活動的影響。（20%）
3. 請分別試述如何促進腦傷個案之動作學習的成效和認知訓練的概化（generalization）效果。（10%）
4. 對一位罹患雙側腕隧道症候群之 30 歲女性美髮師的職災個案而言，試述職能治療師如何進行相關的評估和介入，以協助其重返職場。（15%）
5. 試就以下個案的情況，擬定兩項你認為最重要需優先處置的職能治療目標和介入計畫；並說明所依據的理論或參考架構，以及你所運用的臨床推理。（15%）

Mrs. A., a 75-year-old nursing home resident, has three children who live different cities from her. Her husband has suddenly died when she was 51. Mrs. A. worked as the secretary of the dean of a college for 25 years. She had a variety of interests, including reading, cooking, and baking; participating in church and local theater; and gardening. Mrs. A.'s medical history is typical for a person her age. She had osteoarthritis in both knees and had received two total knee replacements. She has presbyopia but well corrected with eyeglasses. She has severe hearing loss in both ears that is partially corrected with hearing aids. Mrs. A. also had a stroke when she was 70. The stroke left her with mild spasticity, about 50% of proximal upper extremity AROM, and mass grasp in her left hand. She had full use of lower extremities except for a loss of about 15° of right active knee flexion and mild spasticity and weakness in the left leg. She lost approximately 25% of the visual field on the left side. Mrs. A. was hospitalized a year ago for an attempted suicide and major depression as result of the breaking of her legs. She received psychiatric services and a long rehabilitation stay after the knee replacement. Although her recovery from the surgery was good, her ADL abilities declined, including walking, transferring, and personal care. She could walk with a wheeled walker used a wheelchair for most activities, but she had several falls recently. Mrs. A. rarely smiled, and the nursing home staff reported difficulty getting her to participate in group activities or trips, even though she was physically able to do so. Mrs. A.'s family was supportive.

（背面仍有題目，請繼續作答）

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6. 請閱讀下列研究摘要，並回答問題。(15%)

Kang, Y. J., Park, H. K., Kim, H. J., Im, S. J., Ku, J., Cho, S., Kim, S. I., & Park, E. S. (2012). Upper extremity rehabilitation of stroke: Facilitation of corticospinal excitability using virtual mirror paradigm. *Journal of Neuroengineering and Rehabilitation*, 9, 71.

BACKGROUND: Several experimental studies in stroke patients suggest that mirror therapy and various virtual reality programs facilitate motor rehabilitation. However, the underlying mechanisms for these therapeutic effects have not been previously described. Objectives We attempted to delineate the changes in corticospinal excitability when individuals were asked to exercise their upper extremity using a real mirror and virtual mirror. Moreover, we attempted to delineate the role of visual modulation within the virtual environment that affected corticospinal excitability in healthy subjects and stroke patients.

METHODS: A total of 18 healthy subjects and 18 hemiplegic patients were enrolled into the study. Motor evoked potential(MEP)s from transcranial magnetic stimulation were recorded in the flexor carpi radialis of the non-dominant or affected upper extremity using three different conditions: (A) relaxation; (B) real mirror; and (C) virtual mirror. Moreover, we compared the MEPs from the virtual mirror paradigm using continuous visual feedback or intermittent visual feedback.

RESULTS: The rates of amplitude increment and latency decrement of MEPs in both groups were higher during the virtual mirror task than during the real mirror. In healthy subjects and stroke patients, the virtual mirror task with intermittent visual feedback significantly facilitated corticospinal excitability of MEPs compared with continuous visual feedback.

CONCLUSION: Corticospinal excitability was facilitated to a greater extent in the virtual mirror paradigm than in the real mirror and in intermittent visual feedback than in the continuous visual feedback, in both groups. This provides neurophysiological evidence supporting the application of the virtual mirror paradigm using various visual modulation technologies to upper extremity rehabilitation in stroke patients.

- (1). 請說明本研究的實驗設計。(5%)
- (2). 請說明本研究的主要結果和臨床應用價值。(5%)
- (3). 試評論本研究，包括優點及主要限制。(5%)