

## **Say NO to fibromyalgia and chronic fatigue syndrome: an alternative and complementary therapy to aerobic exercise.**

**對纖維肌痛及慢性疲勞症狀說不：一項有氧運動的輔助性治療**

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Increased shear stress to the endothelium increases activity of endothelial nitric oxide synthase (eNOS) with subsequent release of small quantities (nMol) of nitric oxide (NO) into the circulation. It occurs during moderate aerobic exercise mostly as a result of laminar shear stress and with whole body, periodic acceleration as a result of pulsatile shear stress. The latter is administered by means of a new, non-invasive, passive exercise device. Moderate exercise has long been known to alleviate the symptoms of fibromyalgia and chronic fatigue syndrome and in the current study, whole body, periodic acceleration did as well. Since NO through action of eNOS has potent anti-inflammatory properties mainly by suppressing nuclear factor kappa beta activity, it is hypothesized that both diseases have chronic inflammation as their basis. Whole body periodic acceleration can be applied separately or supplementary to aerobic exercise in the treatment of fibromyalgia and chronic fatigue syndrome.

內皮中增加抗剪應力，增加內皮細胞一氧化氮合酶(eNOS)的活動力，隨後釋放小量(nMol)的一氧化氮(NO)到血液循環中。大部分發生於適度的有氧運動期間，是由於層抗剪應力，以及全身周期性加速度所產生的脈搏抗剪應力。後者是由一項新的、非侵入式的、被動運動的機台來執行。適度運動長久以來被認為可以減輕纖維肌痛症及慢性疲勞的症狀，在目前的研究中，全身周期性加速度治療也可以達到。因為一氧化氮透過內皮細胞一氧化氮合酶(eNOS)的作用，藉由抑制核因子 kappa beta 的活動，具有有效抗炎的特性，這是假設這二種疾病有慢性發炎為基礎。對於纖維肌痛症及慢性疲勞症狀的治療，全身周期性加速度治療可以個別運用，或輔助有氧運動使用。