Chiropractic Update

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Can Exercise Accelerate Wound Healing?

Older adults are likely to experience delayed rates of wound healing, impaired neuroendocrine responsiveness, and increased daily stress. Exercise activity, however, has been shown to have a positive effect on physiological functioning and psychological functioning among older adults. A recent study (1), by a group of researchers from the Ohio State University, Columbus, evaluated the effect of a 3-month long exercise program on wound healing, neuroendocrine function, and perceived stress among healthy older adults.

The researchers proceeded by randomly assigning 28 healthy older adults (mean age 61.0 +/- 5.5 years) to an exercise activity group (n = 13) or to a nonexercise control group (n = 15).

One month following baseline randomization, after exercise participants had acclimated to the exercise routine, all participants underwent an experimental wound procedure. Wounds were measured 3 times per week until healed to calculate rate of wound healing. All participants completed assessments of exercise endurance, salivary cortisol, and self-reported stress prior to randomization and at the conclusion of the intervention.

The authors found that:

1) Exercise participants achieved significant improvements in cardiorespiratory fitness, as reflected by increased oxygen consumption (VO(2)max) and exercise duration,
2) Wound healing occurred at a significantly faster rate in the exercise group [mean = 29.2 (9.0) days] than in the nonexercise group [38.9 (7.4) days; p =.012].
3) Exercise participants experienced increased cortisol secretion during stress testing following the intervention.
4) Group differences in wound healing and neuroendocrine responsiveness were found despite low levels of self-reported stress.

The authors concluded:

“A relatively short-term exercise intervention is associated with enhanced rates of wound healing among healthy older adults. Thus, exercise activity may be an important component of health care to promote wound healing.”

ASRF Chiropractic Update Editors comment:

Compared to sedentary older adults, older adults who were regular exercisers experienced faster healing of their wounds -- up to 10 days faster -- in the above study. In addition to faster healing, regular exercisers also enjoyed increased strength and physical fitness.

It needs to be added that although the study was too small to draw definitive conclusions about exercise and wound healing, other proven benefits of exercise remain, including increased cardiorespiratory fitness, muscle strength, and flexibility, and decreased depression risk. Previous research has suggested that healthy people should aim to get 30 minutes of physical activity (moderate level) on most days of the week to derive the greatest health benefits.

Furthermore, exploring the role of chiropractic adjustments, delivered as part of a preventive program of care, and aimed towards sustaining/optimizing patient centered outcomes (physical function, normal activity levels, health status and quality of life) might provide a fertile ground for growing further paradigm relevant chiropractic research.

Reference:

1.) Emery, CF, Kiecolt-Glaser JK, Glaser R, Malarkey WB, Frid DJ. Exercise accelerates wound healing among healthy older adults: a preliminary investigation. *Journals of Gerontology* 2005; 60:1432-36.