

Muscle inflammation susceptibility predicts THA recovery

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(HealthDay)—Muscle inflammation susceptibility (MuIS) status seems to be able to predict recovery after total hip arthroplasty (THA), according to research published in the April 15 issue of the *American Journal of Physiology, Endocrinology and Metabolism*.

Marcas M. Bamman, Ph.D., from the University of Alabama at Birmingham, and colleagues presented the results of two integrated studies to examine local MuIS as a factor in poor recovery and long-term mobility impairment after THA. In study 1 they compared [muscle inflammation](#) and protein metabolism signaling in elective THA (15 [patients](#)) versus hip fracture/trauma (11 patients) versus nonsurgical controls (19 patients). In study 2 they compared two subgroups of patients who were characterized as MuIS⁽⁺⁾ or MuIS⁽⁻⁾ based on muscle expression of tumor necrosis factor-like weak inducer of apoptosis receptor.

The researchers found that there was overt systemic and local muscle inflammation and hypermetabolism in patients with hip fracture/trauma. In elective THA patients there was no [systemic inflammation](#). Compared with MuIS⁽⁻⁾ patients, in MuIS⁽⁺⁾ patients there was profound local muscle inflammation in the perioperative limb, which was accompanied by suppressed muscle protein synthesis. In MuIS⁽⁺⁾ patients, muscle from the contralateral limb was unaffected.

"We suggest MuIS status assessed at the time of surgery may be a useful prognostic index for muscle recovery potential and could therefore provide the basis for a personalized approach to postsurgery rehabilitation," the authors write.

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