







# MEND: a targeted perioperative musculoskeletal nutrition intervention to enhance outcomes

## Randomized Clinical Trials

-  • Supplementation is safe and reduces the loss of muscle volume in older adults recovering from total knee replacement.
-  • Supplementation attenuated muscle atrophy and accelerated the return of functional mobility in older adults following total knee replacement.
-  • Supplementation of amino acid prior to and for the first 2 weeks after surgery is a safe and easy way to improve patient recovery.
-  • Satellite cell numbers are elevated before surgery, cells maturing more quickly to differentiated muscle cells and reduced markers of inflammation post surgery.
-  • EAAs enhance hip function retrieval and improve plasma amino acid abnormalities.
-  • Improve hypoAlb and Hb in elderly patients with hip fractures. Anemia reduced in more than one third of patients.
- Publishing Soon • EAA supplementation associated with reduced mortality and complications following acute fracture fixation.
- Publishing Soon • EAA supplementation reduces postoperative muscle wasting in orthopedic trauma patients.
- MEND IP researched and published by Slocum, deployed in practice • MEND deployed in practice by researchers

## Summary of Clinical Outcomes

### Outcomes:

- Preserve muscle mass
- Improve muscle strength
- Enhance return to function
- Improve blood albumin and hemoglobin
- Reduce the risk of infection
- Enhance wound healing
- Reduce pain (primarily tryptophan studies)

### Mechanisms:

- Muscle satellite cells elevated at time of surgery
- Enhanced expression of myogenic genes (accelerated differentiation to mature muscle cells)
- Reduced inflammatory M1 macrophages and cytokines (TNA-alpha and IL-6)