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Blottner, Dieter, Salanova, Michele

# The NeuroMuscular System: From Earth to Space Life Science

**Neuromuscular Cell Signalling in Disuse and Exercise**

- Provides an overview on structure and function of the NeuroMuscular system
- Discusses in detail the mechanisms of subcellular communication over neuromuscular junctions
- Methods to counteract loss of neuromuscular activity in space and during the ageing process are discussed

The book provides fundamental new insights in the structure and function of the healthy NeuroMuscular system. Recent findings suggest that the musculoskeletal system that supports movement control on Earth is controlled by unique principles of structural, biochemical and molecular characteristics. Mechanical loading by working against normal gravity helps to support principal structures in bone, muscle and associated subcellular scaffold components. Disuse or immobilization of the body in bed rest on Earth or in microgravity in Space result in considerable loss of bone, muscle and force with downregulation of neuromuscular activity resulting in impaired performance control. The goal is to develop exercise prescriptions to maintain postural control in normal life, aging and rehabilitation on Earth as well as for an adequate human performance management in Space.

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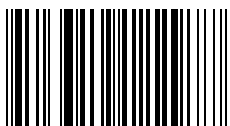
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