

Special Issue

Exercise and Dietary Interventions for Skeletal Muscle Health: From Translational Strategies to Mechanistic Regulation

Message from the Guest Editor

This Special Issue explores how exercise and dietary interventions optimize skeletal muscle health across molecular, cellular, and applied domains. As muscle dysfunction underlies aging, metabolic disease, and impaired recovery, understanding how lifestyle strategies promote regeneration, hypertrophy, and metabolic resilience is essential. We invite submissions that span mechanistic studies on muscle protein synthesis, mitochondrial function, inflammation, and satellite cell activation, as well as translational trials evaluating training regimens, nutrient timing, and personalized interventions in clinical or athletic populations. By bridging disciplines—exercise physiology, nutrition science, regenerative biology, and precision medicine—this Special Issue will highlight the integrative pathways through which lifestyle inputs regulate skeletal muscle structure and function. Contributions emphasizing sex-based differences, aging trajectories, or performance optimization are especially welcome. Ultimately, this Special Issue aims to inform individualized approaches for maintaining and restoring muscle health across the lifespan.

Guest Editor

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Message from the Editorial Board

Nutrients is an on-line open access journal that was first published in 2009. *Nutrients* adheres to rigorous peer-review and editorial processes and publishes only high quality manuscripts that address important issues related to the impacts of nutrients on human health. The Impact Factor of *Nutrients* has risen rapidly since its establishment and it is now ranked in the first quartile of journals publishing in the field of nutrition and dietetics research.

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