

Special Issue on
**Innovative Techniques to Enhance Musculoskeletal
Surgery Outcomes**

CALL FOR PAPERS

In the last decade, there has been a growing interest in the field of musculoskeletal diseases, in particular, regarding pathologies such as osteoarthritis, tendinopathies, and muscle injuries. Several advances have been made in terms of diagnosis, treatment strategies, and perioperative management. The most relevant research areas have been 1) biomarkers, with the aim of improving our diagnostic skills and providing prognostic indications to patients; 2) regenerative medicine strategies for bone, tendon, muscle, and cartilage; 3) peri- and postoperative management, with particular focus on technological and pharmacological approaches to minimize complications, predict outcomes, and accelerate functional recovery.

Tissues like bone, tendons, muscle, and ligament exhibit a limited healing potential when injured, and therefore there is a particular interest in finding novel strategies to stimulate tissue regeneration and improve surgical outcomes. This has been possible by acting on three different levels, that is, patient's profiling, regenerative medicine strategies, and improved peri- and postoperative management. In particular, the application of innovative biomaterials and biologic agents (growth factors and stem cells) represents a cutting-edge frontier of translational medicine, since human application of biotechnology is based on intense preliminary *in vitro* and *in vivo* testing.

The main purpose of the present special issue is to shed light on the recent advances in the field of biomarkers, regenerative medicine, and peri- and postoperative management to address musculoskeletal pathologies, in order to understand the way to follow to improve functional outcomes. Based on these premises, the present special issue is meant to attract both clinicians and preclinical scientists contributing to innovative techniques in orthopaedic practice: authors are invited to submit original research and clinical research, together with review articles.

Potential topics include but are not limited to the following:

- ▶ Diagnostic biomarkers for musculoskeletal diseases (both lab study and clinical trials)
- ▶ Studies on prognostic factors or biomarkers that could predict outcomes
- ▶ Application of growth factors and stem cells from different sources in osteoarthritis
- ▶ Application of growth factors and stem cells from different sources in meniscal lesions, tendinopathies, and muscle lesions
- ▶ Biomaterials for bone, chondral, and tendon regeneration
- ▶ Development of novel scaffolds for tissue regeneration (laboratory and animal trials included)
- ▶ Laboratory and animal studies exploring innovative biological functions of growth factors and stem cells
- ▶ Pharmacological and technological strategies that could help in predicting outcomes and accelerating functional recovery

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/bmri/orthopedics/item/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Berardo Di Matteo, Humanitas Research Hospital, Milan, Italy
berardo.dimatteo@gmail.com

Guest Editors

Elizaveta Kon, Humanitas Research Hospital, Milan, Italy
elizaveta.kon@humanitas.it

Peter Angele, University Medical Center Regensburg, Regensburg, Germany
peter.angele@ukr.de

Christian Lattermann, University of Kentucky, Lexington, USA
clattermann@gmail.com

Submission Deadline

Friday, 13 April 2018

Publication Date

August 2018