



BioMed Research International

Special Issue on

**Retrieval Research in Hip and Knee Arthroplasty**

# CALL FOR PAPERS

During the last two decades improvements in hip and knee designs, bearing materials, sterilisation techniques, oxidation stabilisation, and articulating surface treatments have led to superior performance of total hip and knee arthroplasties by reducing the prevalence of disastrous wear, delamination, and structural material fatigue and are expected to show substantial benefits in decreasing wear, osteolysis, and improve joint function in the next decade.

In contrast to that new implant design, articulating bearings, implant modularities, kinematic concepts, and surgical treatments came up, but not all of them were beneficial in regard to an appropriate service *in vivo* in the 2nd and 3rd decade, patient satisfaction, and clinical outcomes.

As total hip and knee arthroplasty today is being increasingly performed on younger, heavier, and more active patients, it appears desirable to further improve implant designs, prostheses modular couplings, bearing materials, and implant fixation methods to allow for a higher degree of function, patient satisfaction, and long-term survivorship. Due to an increasing number of hip and knee arthroplasty revisions, advanced revision technologies based on new concepts for bone reconstruction and periprosthetic fracture treatments have to be developed. Dedicated retrieval research programs are a main source to gain more knowledge about the complex implant-body-interactions and a deeper understanding on material degradation and adverse side effects *in vivo* to create sustainable arthroplasty technologies for the future.

For this special issue, researchers are invited to contribute original research papers as well as review articles that will stimulate discussion and the continuing efforts to understand all dimensions of primary, revision, and retrieval aspects in hip and knee joint replacement.

Potential topics include, but are not limited to:

- ▶ Articulations in hip and knee joint replacements
- ▶ Implant materials ceramics, polymers, metals, and coatings
- ▶ New bearing materials/material modifications
- ▶ *In vivo* retrieval failure modes compared to patterns of *in vitro* tests
- ▶ Impingement, microseparation, and subluxation conditions
- ▶ Implant behaviour und diverse patient activities
- ▶ Implant modularities, corrosion, ion release, and wear
- ▶ Clinical findings
- ▶ Retrieval research programs and analysis methods
- ▶ Particulate debris in retrieved tissues
- ▶ Implant allergy, metal ion, and bone cement constituents hypersensitivity
- ▶ Patient satisfaction as reason for revision

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/bmri/biomaterials/hka/>.

## Lead Guest Editor

Thomas M. Grupp, Aesculap AG  
Research and Development, Tuttlingen,  
Germany

[thomas.grupp@aesculap.de](mailto:thomas.grupp@aesculap.de)

## Guest Editors

Sandra Utzschneider, Ludwig  
Maximilians University, Munich,  
Germany

[sandra.utzschneider@med.uni-muenchen.de](mailto:sandra.utzschneider@med.uni-muenchen.de)

Steven M. Kurtz, Drexel University,  
Philadelphia, USA

[skurtz@drexel.edu](mailto:skurtz@drexel.edu)

## Manuscript Due

Friday, 22 April 2016

## First Round of Reviews

Friday, 15 July 2016

## Publication Date

Friday, 9 September 2016