

Special Issue

Effects of Metal Ion Exposure from Joint Prostheses on Organ Systems

Message from the Guest Editor

All metal-containing joint replacement prostheses release metal debris into the local and systemic tissue environments. This debris arises as a result of wear and corrosion at the prosthesis surfaces. Local adverse tissue responses to this released metal have resulted in a substantially higher prosthesis failure rate in prostheses using cobalt–chromium at the bearing surfaces and other modular interfaces. Case reports of severe systemic illness involving cardiac, neurological, and other distant organ systems have also been associated with excessive wear or corrosion of cobalt–chromium alloy-containing prostheses. Despite this burden of clinical disease associated with metal ion exposure, the magnitude of the underlying risk associated with metal-on-metal bearings and interfaces remains unclear and the relevant molecular pathways are poorly characterized. This Special Issue will focus on recent advances in our understanding of “Adverse Reactions to Metal Debris”, including new insights into the epidemiology as it relates to disease mechanisms, pathogenesis, and molecular biology of ARMD.

Guest Editor

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