

# 5.1 A Bibliography of Published Literature on Bioceramics for THR: 1<sup>st</sup> Update

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## 1 Bioceramics in Orthopaedics

Since the 1970's when first it was realized that the properties of alumina ceramics could be exploited to provide better implants for orthopaedic applications, the field has expanded enormously. Initial applications depended on the fact that alumina ceramics were bioinert and provided wear characteristics suitable for bearing surfaces.

Resultant orthopaedic use has enjoyed more than 25 years' clinical success, e.g. BIOLOX®forte alumina femoral heads, sockets, and acetabular liners for total hip replacement. About 10 years ago zirconia was approved for use as femoral ball heads articulating against polyethylene cups.

The bioactive hydroxyapatite offers attractive tissue reactions. It is well established as coating on metal implants to enhance osseointegration. Hydroxyapatite (HA) is used for bone grafting, too.

The bioceramics mentioned are commercially used in Northern America, Japan, Australia, and Europe. There are lots of publications, reviews, and books about application of bioceramics. A bibliography has been published by G. Willmann.<sup>1</sup>

This bibliography was updated compiling latest papers, reviews, books and standards that became known to the author in 1998.

In 1999 there is the 25<sup>th</sup> anniversary of clinical use of BIOLOX®forte in total hip replacement. Some pioneer papers have been included.

## 2 Reviews, Proceedings, and Books

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<sup>1</sup> Willmann G (1998): A Bibliography of Published Literature on Bioceramics for THR. In: Puhl W (ed) *Bioceramics in Orthopaedics – New Applications*. ENKE Verlag Stuttgart, 132–136

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## 5 Some Pioneer Papers about Ceramics for THR

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