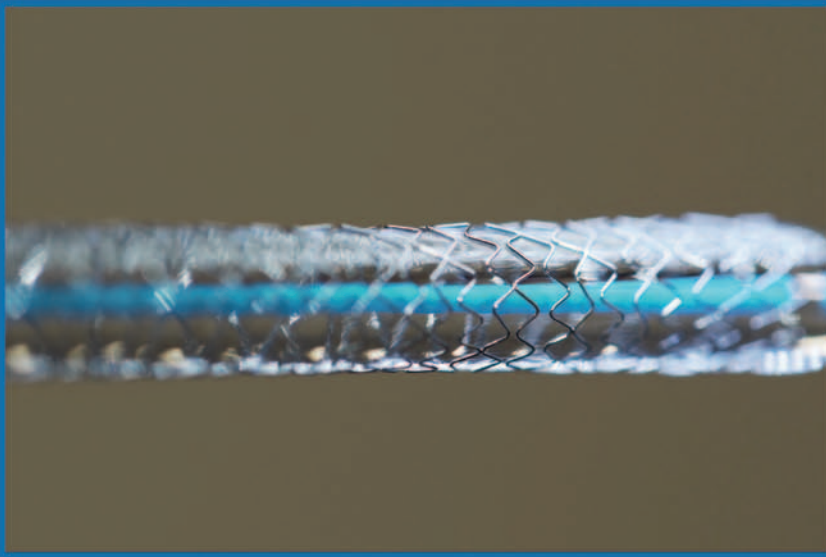


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BIOINTEGRATION OF MEDICAL IMPLANT MATERIALS

SECOND EDITION



Edited by
CHANDRA P. SHARMA

Biointegration of Medical Implant Materials

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**Woodhead Publishing Series in
Biomaterials**

Biointegration of Medical Implant Materials

Second Edition

Edited by

Chandra P. Sharma



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Interface biology of stem cell–driven tissue engineering: concepts, concerns, and approaches

2

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2.1 Introduction

End-stage organ failure resulting from disease and/or trauma relies on various therapeutic approaches to activate repair response, replacement, and/or regeneration (O'Brien, 2011). Major strategy adopted for most of the end-stage clinical conditions is the transplantation of organ or tissue from healthy donors. However, the shortage of organ donors and lack of proper techniques for organ storage hurdle the life expectancy of the millions of sufferers across the globe. According to a recent report by World Health Organization, more than 90% of the global organ transplantation remains unaddressed. In United States alone, roughly a million deaths occur because of end-stage organ failure; however, approximately 5% of them are being added to