Biomaterials Associated Infection

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Biomaterials associated infection (BAI) is one of the most common complications associated with implantation of any biomaterial regardless of form or function. These infections usually involve bacterial colonization and biofilm formation on the biomaterial itself, rendering the infection impervious to antimicrobials and host defenses. In addition, it is becoming increasingly clear that infection of the surrounding tissues also plays an important role in BAI, and that the infection may be influenced by the composition and design of the implanted biomaterial. In this book, worldwide leaders in the field address this critical problem in the translation of biomaterials research into clinical practice. The book begins with an emphasis on the latest research in the pathogenesis of BAI from microbiological, immunological, and materials science perspectives. The current state of the art in antimicrobial activation of biomaterials through surface modification and the incorporation of antimicrobial agents is then discussed. In the concluding chapters, successful translation of a selection of antimicrobial technologies from preclinical research into clinical use is described alongside a discussion of the utility of these devices and perspectives for future development. This book is essential reading for researchers and clinicians who are interested in understanding the fundamentals of BAI, the latest in antimicrobial materials research, and the state of the art in clinically available antimicrobial containing medical devices. EAN/ISBN : 9781461410317 Publisher(s): Springer, Berlin, Springer, New York Format: ePub/PDF Author(s): Moriarty, T. Fintan - Zaat, Sebastian A. J. - Busscher, Henk J.

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