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devices; 4.1 Introduction; 4.2 Importance of detection of biofilm; 4.3 Sites of biofilm formation; 4.4 Collection of samples for biofilm detection; 4.5 Examples of methods for the detection of biofilms associated with infections; 4.6 Future trends; 4.7 Conclusion; Acknowledgement; References; 5 Diagnosis and treatment of implant-associated infections; 5.1 Introduction; 5.2 Risk factors and prevention; 5.3 Diagnosis; 5.4 Treatment; 5.5 Future trends; References  
Part Two Technologies and materials for controlling biofilms  
6 Surface modification of biomaterials for biofilm control; 6.1 Introduction; 6.2 Principles of bacterial cell-biomaterial surface interactions; 6.3 Substrate specific biological response; 6.4 Looking at nature for inspiration; 6.5 Modifications to prevent initial stages of bacterial adhesion; 6.6 Methods to prevent irreversible attachment of microorganisms; 6.7 Mitigation of biofilm formation by attached organisms; 6.8 Future trends; References; 7 Surface nanoengineering for combating biomaterials infections; 7.1 Introduction  
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7.4 Surface functionalization with anti-adhesive polymers; 7.5 Immobilization of bactericidal moieties on surfaces; 7.6 Conclusion and future trends; 7.7 Sources of further information and advice; References; 8 Bioactive biomaterials for controlling biofilms; 8.1 Introduction; 8.2 Definition of medical device; 8.3 Biomaterials; 8.4 Biomaterial applications in medical devices; 8.5 Post-implantation device-associated infections  
8.6 Development of conventional antimicrobial biomaterials

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## Sommario/riassunto

Despite advances in materials and sterilisation, patients who receive biomaterials of medical device implants are still at risk of developing an infection around the implantation site. This book reviews the fundamentals of biomaterials and medical device related infections and methods and materials for the treatment and prevention of infection. The first part of the book provides readers with an introduction to the topic including analyses of biofilms, diagnosis and treatment of infection, pathology and topography. The second part of the book discusses a range of established and novel technolo

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