Contents

Chapter 1  Introduction 7

Chapter 2  Differences in proliferation, differentiation, and cytokine production by bone cells seeded on titanium-nitride and cobalt-chromium-molybdenum surfaces 17

Chapter 3  No clinical benefit of titanium-nitride coating in cementless mobile bearing total knee arthroplasty 37

Chapter 4  Titanium-nitride coating of orthopaedic implants: a review of the literature 53

Chapter 5  High correlation of the Oxford Knee Score with postoperative pain, but not with performance based functioning 69

Chapter 6  Do refinements to original designs improve outcome of total knee arthroplasty? 83

Chapter 7  Osteocyte morphology in human tibiae of different bone pathologies with different bone mineral density – Is there a role for mechanosensing? 99

Chapter 8  Autosomal dominant type I osteopetrosis is related with iatrogenic fractures in arthroplasty 119

Chapter 9  General discussion 129

Chapter 10  Summary 141

Samenvatting 147

Appendices
List of publications 155
Dankwoord 157