

CONTENTS

List of Contributors	vii
Preface	xiii
Introduction	xix
Section I: Anatomy	
Chapter 1 Anatomy of the Upper Limb	3
Chapter 2 Anatomy of the Lower Limb	25
Chapter 3 Anatomy of the Spine	42
Chapter 4 Anatomy of the Pelvis	51
Chapter 5 Anatomy of the Oral Maxillofacial Region	58
Section II: Matrix Biology and Physiology of Tissues	
Chapter 6 The Organisation of the Extracellular Matrix	73
Chapter 7 Histology of Bone	97
Chapter 8 Histology of Cartilage	115
Chapter 9 Basic Anatomy and Physiology of Human Skin	123
Chapter 10 Anatomy and Embryology of Human Placenta, Amnion and Chorion	139
Chapter 11 Electron Microscopy of Human Amniotic Membrane	149

Section III: Microbiology**Chapter 12 Introduction to Medical Microbiology 175****Chapter 13 Bioburden Estimation in Relation to Sterilisation 200****Chapter 14 Transmissible Diseases of Particular Importance in the Immunocompromised and Transplant Recipients 212****Section IV: Sterile Techniques****Chapter 15 Principles of Sterile Technique 235****Chapter 16 Sterile Procurement of Bones and Ligaments 265****Chapter 17 Sterile Preparation of Tissue Grafts During Transplantation 291****Section V: Radiation Sciences****Chapter 18 Radiation Sciences 309****Chapter 19 Effect of Radiation on Microorganisms — Mechanism of Radiation Sterilisation 342****Chapter 20 Effects of Ionising Radiation on Viruses, Proteins and Prions 358****Section VI: Biology of Healing of Allografts****Chapter 21 The Scientific Basis of Wound Healing 379****Chapter 22 Skin and Amnion Grafts 398****Chapter 23 The Role of BMP in Bone Incorporation 419****Chapter 24 Biology of Healing of Large Deep-Frozen Cortical Bone Allografts 434**

Chapter 25	The Biology of Massive Bone Allografts: Understanding Allograft Biology and Adapting it Towards Successful Clinical Application	455
Chapter 26	Effect of Growth Factors on Healing and the Clinical Applications of Autogenous Platelet Rich Plasma Gel to Enhance Bone Formation	473
Chapter 27	Biology and Biomechanics of Anterior Cruciate Ligament Allograft Reconstruction	491
Section VII: Biomechanics of Allografts		
Chapter 28	Some Principles of Biomechanics — Structural and Material Properties	507
Chapter 29	Biomechanics of Bone Allograft Transplantation	534
Section VIII: Immunology		
Chapter 30	Basic Principles of Transplantation Immunology	553
	Subject Index	567