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| Altri autori (Persone)  | GuptaVivek<br>GuptaShubham  |
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| Nota di contenuto       | PART I. Skin and Burn Injuries -- Chapter 1. Introduction to Skin and Injuries -- Chapter 2. Worldwide Statistics on Skin Related Injuries -- Chapter 3. Prevalence of Burn Injuries in Specific Sectors -- Chapter 4. Types of Burn Injuries -- PART II. Traditional Skin Grafting Methods -- Chapter 5. Traditional Skin Grafts -- Chapter 6. Background on Skin Graft Meshers -- Chapter 7. Computational Analysis of Traditional Skin Grafts -- Chapter 8. Experimental Analysis of Traditional Skin Grafts -- Chapter 9. Clinical Testing and Applications of Traditional Skin Grafts -- Chapter 10. Disadvantages of Traditional Skin Grafting Technologies -- PART III. Modern Skin Grafting Methods -- Chapter 11. Current Trends in Expansion of Skin Grafts -- Chapter 12. Computational and Experimental Analysis of Different Auxetic Patterns -- Chapter 13. Computational and Experimental Analysis of Alternating Slits based Skin Graft Patterning -- Chapter 14. Computational and Experimental Analysis of Rotating Triangles basedSkin Graft Patterning -- Chapter 15. Computational and Experimental Analysis of I-Shaped based Skin Graft Patterning -- Chapter 16. Computational and Experimental |

This book discusses the different skin grafting methods, latest trends in graft designing, and its relationship with the burn injuries. An introduction to several conventional and modern skin grafting methods and how crucial the innovation is for recovery of large burns will be presented. The technologies involved in the development of skin grafts incisions, and study of their effect on the mechanical properties and systematically modified skin graft patterns, will be covered at length. The development of skin grafts using conventional, auxetic, and hierarchical patterns through computational and experimental frameworks will be discussed in detail. Also, the role of skin graft patterns on the mechanical stresses, expansion ratio or meshing ratio, will be presented. Additionally, the role of degree of burn, size of burn, and region of burn will be discussed, and its generalizability will be covered in detail. Finally, the challenges with the existing skin graft meshers and latest development in this niche area will be highlighted. This book is anticipated to serve as a key reference for medical and research professionals working in the skin grafting domain as well as the product manufacturing industries. For example, skin grafting plays an important role to cure the serious burn injuries. Current innovative skin graft patterns which cover higher area compared to traditional skin graft patterns are anticipated to help in surgery and faster recovery of larger burnt areas. Also, the current skin graft mesher, which is used to develop traditional skin grafts, cannot produce claimed expansions clinically. This book helps design novel mesher devices to reduce the difference between actual and claimed expansions clinically and increase the skin graft coverage area to recover burn sites with lesser available skin. This book is equally useful for students of medical practices, manufacturing engineering, and design engineering.