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Altri autori (Persone)	SinghGurpreet
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Nota di contenuto	Chapter 1: Introduction -- Chapter 2: Literature Review on Material Modeling of Diabetic Foot -- Chapter 3: Computational Modeling of Diabetic Ulcers Across Different Foot Types -- Chapter 4: Computational Modeling of Diabetic Ulcers Across All Possible Locations -- Chapter 5: Literature Review on Medical Interventions for Diabetic Foot -- Chapter 6: Development of Pressure Measurement technologies for Plantar Pressure analysis and offloading -- Chapter 7: Clinical Studies to Understand the Effectiveness of Plantar Pressure Off-loading in Diabetic Patients -- Chapter 8: Development of an Advanced Diabetic Foot Model with Detailed Hard and Soft Tissues -- Chapter 9: Experimental Study to Investigate the Pressure Loading Across the Ulcer Wall Regions -- Chapter 10: Conclusions and Future Scope.
Sommario/riassunto	This monograph offers an in-depth investigation of Diabetic foot ulceration through the lens of biomechanics and computational modelling. It addresses a critical healthcare challenge faced predominantly by elderly diabetic patients i.e. foot ulcers resulting from peripheral neuropathy, arterial disorders, and irregular plantar loading. Despite extensive clinical attention, the biomechanical mechanisms

behind ulcer progression remain inadequately understood, limiting the effectiveness of current prevention and management strategies. This book consolidates advanced research methodologies and experimental approaches to explore the onset and evolution of Diabetic foot ulcers. Key sections of the book focus on the development of computational models for different foot types (normal foot and flatfoot) and further discuss the ulceration progression and recurrence due to repetitive plantar loading. Based on the computational results and ulcer-prone regions, a modular pressure offloading insole was developed and clinically tested for the effectiveness analysis. The outcomes of this monograph are intended to guide clinicians, biomedical engineers, and researchers in developing improved diagnostic tools, orthotic interventions, and patient-specific monitoring techniques. Furthermore, it serves as an important resource for understanding the underlying mechanics of ulcer formation and progression, offering potential translational impact in diabetic foot care and preventative medicine.