Record Nr. UNINA9910349446503321 The Handbook of Cuffless Blood Pressure Monitoring: A Practical Guide Titolo for Clinicians, Researchers, and Engineers / / edited by Josep Solà. Ricard Delgado-Gonzalo Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa **ISBN** 3-030-24701-5 Edizione [1st ed. 2019.] 1 online resource (245 pages) Descrizione fisica Disciplina 612.140287 Soggetti Biomedical engineering Cardiovascular system Cardiology **Biostatistics** Biomedical Engineering/Biotechnology Cardiovascular Biology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Cuffless blood pressure monitoring and the advent of a new era in medicine and society -- Clinical Relevance of continuous and cuffless blood pressure monitoring -- A Historical Journey on the Physiology of Blood Pressure Monitoring -- The definition and architecture of cuffless blood pressure monitors -- Pulse Arrival Time: History and Devices --Pulse Wave Velocity Techniques -- Concepts of Pulse Decomposition Analysis -- Pulse wave analysis techniques -- Machine Learning Techniques for Cuffless Blood Pressure Estimation -- Initialization of Pulse Transit Time-Based Blood Pressure Monitors -- Key Regulatory Aspects and the Importance of Consensus Standards in Bringing Devices to Market -- Design of Clinical trials to validate cuff-less blood pressure monitors -- Cuffless Blood Pressure Monitoring: The Future for the Evaluation and Management of Hypertension -- Index. This book is the first comprehensive overview of the emerging field of Sommario/riassunto cuffless blood pressure monitoring. Increasing clinical evidence proves

that longitudinal measurements of blood pressure allow for earlier

detection and better management of multiple medical conditions and for superior prediction of cardiovascular events. Unfortunately, today's clinical and industry standards for blood pressure monitoring still require the inflation of a pneumatic cuff around a limb each time a measurement is taken. Over the last decades clinicians, scientists and device manufacturers have explored the feasibility of technologies that reduce or even completely eliminate the need of cuffs, initiating the era of cuffless blood pressure monitoring. Among the existing literature, this book is intended to be a practical guide to navigate across this emerging field. The chapters of the handbook have been elaborated by experts and key opinion leaders in the domain, and will guide the reader along the clinical, scientific, technical, and regulatory aspects of cuffless blood pressure monitoring.