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Nota di contenuto	Chapter 1 Evolution of Non-invasive Prenatal Screening (NIPS) Past to Present -- Chapter 2 Fetal origin circulating cell-free nucleic acids (cfNA) in maternal circulation and their clinical importance in fetal diagnosis -- Chapter 3 Cell-free fetal DNA (cffDNA): Genesis to clinical utility -- Chapter 4 Methods and protocols for extraction of cell-free fetal DNA (cffDNA) from the maternal circulation -- Chapter 5 Scope of cell- versus cell-free –based detection approach in Non-invasive Prenatal Screening (NIPS) -- Chapter 6 Advanced genomic approaches in Non-invasive Prenatal Screening (NIPS) The road from conventional Karyotyping to Next-Gen Sequencing (NGS) -- Chapter 7 Proteomic biomarkers of maternal plasma and their use in Non-invasive Prenatal Testing (NIPT) -- Chapter 8 Non-invasive Prenatal Screening (NIPS) of chromosomal abnormalities -- Chapter 9 Non-invasive Prenatal Detection (NIPD) of fetal sex and RhD blood type -- Chapter 10 Detection of monogenic disorders using Non-invasive Prenatal Screening (NIPS) -- Chapter 11 Screening of Placental dysfunction utilizing cell-free nucleic acids (cfNA) of maternal plasma -- Chapter

12 Non-invasive Prenatal Detection (NIPD) of Copy number variation (CNV) and sub-chromosomal variations -- Chapter 13 Circulation transcriptome of maternal plasma and its use in Non-invasive Prenatal Screening (NIPS) -- Chapter 14 Challenges and ethical issues surrounding Non-invasive Prenatal Screening (NIPS) -- Chapter 15 Implementation of Non-invasive Prenatal Screening (NIPS) in clinical practice: Comparison of developed versus developing countries -- Chapter 16 Sequencing: A promising path in the detection of fetal health.

Sommario/riassunto

The book provides a comprehensive overview of the use of non-invasive prenatal screening (NIPS) in clinical practice. It covers advanced genomic approaches and operational strategies related to NIPS. It aims to fill a gap by offering a thorough historical background and genesis of NIPS technology, including its methodology, clinical utility, challenges, and future directions. The book is divided into three sections: Section I discusses the advent of NIPS, Section II addresses detection strategies and clinical implementation, and Section III explores the challenges and prospects of NIPS technology. The book benefits specialists who practice prenatal medicine as well as reproductive specialists, genetic councilors, research scholars and postgraduate medical students of obstetrics and gynecology.