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Nota di contenuto	Intro -- Introduction -- Contents -- Lifestyle Intervention to Prevent Age-Related Hearing Loss: Calorie Restriction -- 1 Introduction -- 2 Effects of Age on Auditory Function -- 3 Effects of Calorie Restriction on Aging -- 3.1 Types of Calorie Restriction Regimens -- 3.2 Effects of Calorie Restriction on Hearing Loss in Laboratory Animals -- 4 Mechanisms Underlying the Beneficial Effects of CR on AHL -- 4.1 Oxidative Stress -- 4.2 Apoptosis -- 4.3 mtDNA Mutations -- 5 Conclusion -- References -- Noise-Induced Hearing Loss and Drug Therapy: Basic and Translational Science -- 1 Introduction 2 Cochlear Pathology -- 2.1 Oxidative Stress -- 2.2 Cochlear Blood Flow Changes -- 2.3 Apoptotic Cell Death -- 2.4 Mechanical Damage and Stereocilia Injury -- 3 Noise-Induced Deafferentation -- 3.1 Consequences of Synaptopathy -- 4 Auditory Threshold Shift as a Measure of Noise-Induced Hearing Loss -- 4.1 Extended High-Frequency Audiometry -- 5 Effects of Noise on Suprathreshold Measures of Hearing -- 5.1 Speech-in-Noise Testing -- 6 Pharmaceutical Otoprotection from

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Sommario/riassunto

This volume focuses on new molecular therapies that aim to prevent specific pathologies of the ear, like age-related hearing loss, noise-induced hearing loss and ototoxicity. The book discusses the regenerative capacity of hair cells in the inner ear, exploring the idea that hair cells' capacity to regenerate appears "repressed" in adult mammals, but that it will be possible to re-activate regeneration with an appropriate therapeutic approach. The book provides an overview of inflammatory and immune cells in the cochlear lateral wall, the pathways involved in cochlear damage, and their potential as therapeutic targets. It also describes the significant advances in animal models which play an important role in revealing the underlying mechanisms and treatment for tinnitus and hyperacusis. Finally, the book describes two new automatic and robust measures to evaluate hearing loss and tinnitus in preclinical models.
