Genetics, Embryology, and Development of Auditory and Vestibular Systems

Sherri M. Jones and Timothy A. Jones
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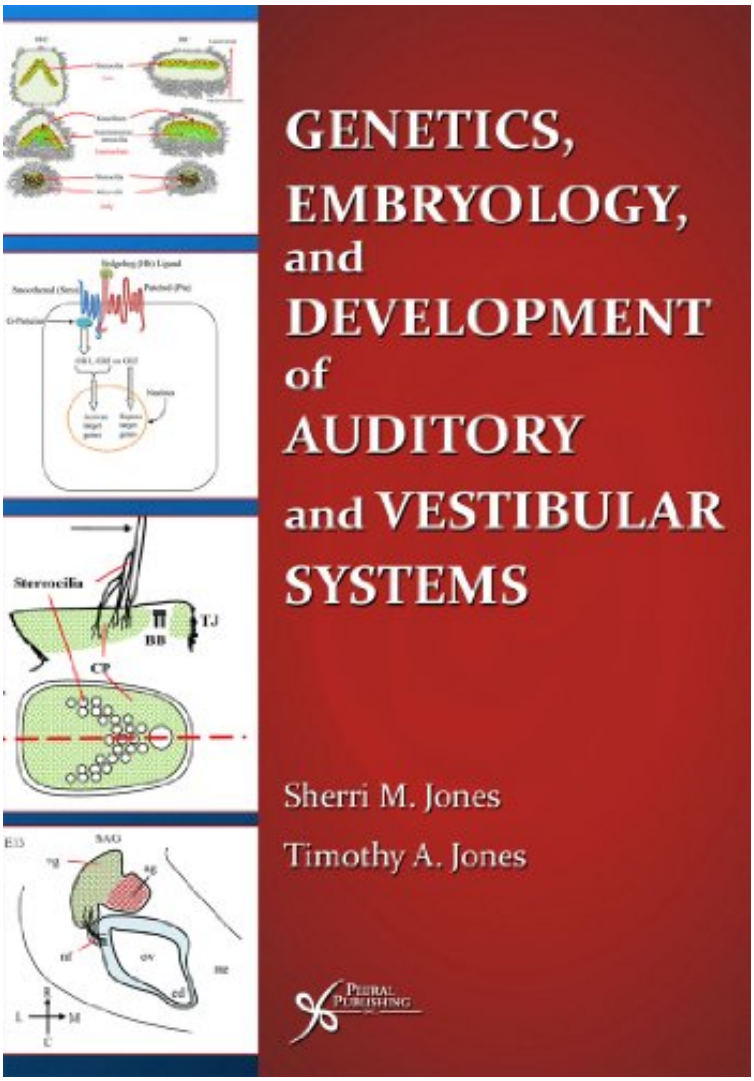

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Sherri M. Jones and Timothy A. Jones : Genetics, Embryology, and Development of Auditory and Vestibular Systems before purchasing it in order to gage whether or not it would be worth my time, and all praised Genetics, Embryology, and Development of Auditory and Vestibular Systems:

This textbook is a foundational, explanatory review of difficult concepts in genetics and embryology as they apply to the ear and sensory organs serving hearing and balance. The textbook provides a unique resource that brings

molecular, cellular and systems level mechanisms together to bear on understanding the ontogeny of hearing and vestibular senses. Numerous illustrations are used to help convey current ideas. An extensive collection of tables summarize genes and gene products associated with membrane channels, molecular signaling cascades, transcription factors and more. The reader is lead from introductory basic science foundations of anatomy and physiology, genetics, and embryology, to detailed accounts of developmental events found in the earliest embryo to functional and anatomical maturation. The authors explain the relevance of genes, molecular signaling and cellular interactions to normal development as well as to human inner ear disease including deafness and balance disorders. The exploding amount of new information on developmental molecular mechanisms is integrated with new and long established discoveries about functional and anatomical changes during ontogeny. The work will be useful to students and faculty of the basic hearing sciences, audiology, and otolaryngology, and as a reference resource for accomplished hearing scientists.

This book takes students through the basics of embryology, developmental processes, and genetics, while specifically relating the topics to the auditory and vestibular systems. The topics covered in the textbook provide a solid core for any course focused on developmental auditory and vestibular systems. . . . the book is a solid piece of work that fills a void in the literature on developmental biology for the audiology curriculum. --Lynne M. Bianchi, Ph.D. in Ear Hearing, July/August 2012 (Vol 33, Issue 4), (July 2012)About the AuthorDr. Sherri Jones is a Professor in the Department of Communication Sciences and Disorders at East Carolina University (ECU). She teaches courses in auditory physiology, embryology and genetics of hearing impairment, and vestibular assessment and management. She conducts basic research on genetics of inner ear dysfunction and genetic influences on aging of auditory and vestibular function. This research has been supported by the National Institute on Deafness and other Communication Disorders and the Deafness Research Foundation. She also sees patients at ECU Speech Language and Hearing Clinic specializing in vestibular assessment and has active clinical research in vestibular function following head trauma and blast injury. Dr. Timothy A. Jones is a Professor in the Department of Communication Sciences and Disorders at East Carolina University. He teaches courses in physiology, instrumentation, and advanced acoustics. He conducts basic research on the development of the inner ear. This includes evaluating the role of sensory experience and neural activity in developing auditory and vestibular circuits as well as sound transfer characteristics of the middle ear during development. His research has been supported by the National Institute on Deafness and other Communication Disorders, National Aeronautics and Space Administration, and the National Organization for Hearing Research.