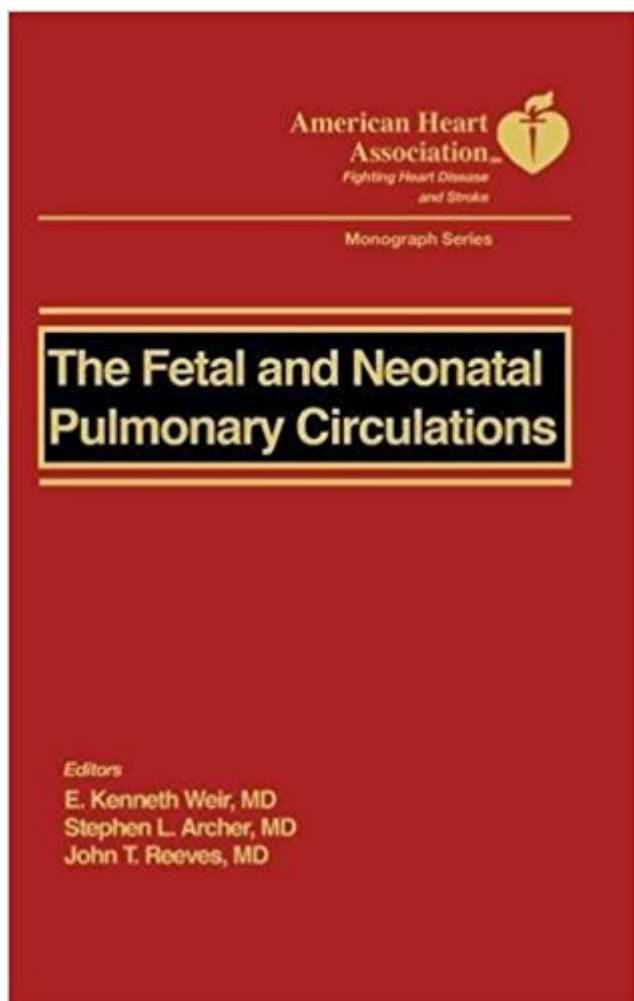


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The Fetal And Neonatal Pulmonary Circulations



Synopsis

Birth is a sudden, traumatic transition of environments. Once the placental oxygen supply ceases, the foetus has only minutes to establish pulmonary oxygen transport, which requires not only inflation of the lungs, but also sudden and sustained changes in the lung circulation. Not long ago, research in this field was largely restricted to morphology and physiology. Now the powerful new tools of cellular and molecular biology have begun to shed light on the physiological processes in the developing lung and its supporting vasculature. In 22 chapters, three main sections explore lung growth and development, vascular cell growth and differentiation, and the mechanisms of hemodynamic control in the neonate; extensive illustrations give a comprehensive picture of pulmonary circulatory development. Factors controlling vasculogenesis and angiogenesis are described by the scientists who pioneered the field. Similarly, the intracellular signaling cascades that determine proliferation or growth inhibition of fibroblasts, smooth muscle cells, and endothelial cells are also presented in an understandable manner. Finally, the role of substances, such as nitric oxide and endothelin, that control the hemodynamics of the fetal and neonatal circulations are discussed in detail, particularly in relation to the changes occurring at birth. This book will inform basic scientists as well as the clinician and student, and should be of particular interest to pediatric cardiologists, pulmonary medicine physicians, and vascular biologists.

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"Four Stars! **** "The Contributors are all top-notch experts in their respective fields...In each

section a topic is examined in exceptional detail. "...a unique and valuable text, providing the investigator and clinician with a 'one-stop shopping'™ for timely, detailed, and important information about pulmonary vascular development during fetal and newborn life." Doody's™ Review Service "...a most excellent work, The Fetal and Neonatal Pulmonary Circulation aims to "inform the basic scientist as well as the clinician and student, and to provide a benchmark in the field as we approach the next millennium." The resulting text serves these ambitions superbly. "The editors have selected an impressive group of experts to contribute chapters which cover a wide range of topics, from the history of fetal and neonatal pulmonary vascular physiology, to vascular-cell growth and differentiation, to the factors and disorders, including congenital diaphragmatic hernia, which affect pulmonary hemodynamics in the newborn. "...In an era in which the distance between the basic scientist and busy clinician seems to be ever wider, I am particularly impressed by the way in which basic science and clinical medicine fuse into a continuum in this excellent book. The Fetal and Neonatal Pulmonary Circulation shows that when we try to work together, we can. It must be the definitive work in the area. More of the same in other areas of medicine please." *The Lancet*

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