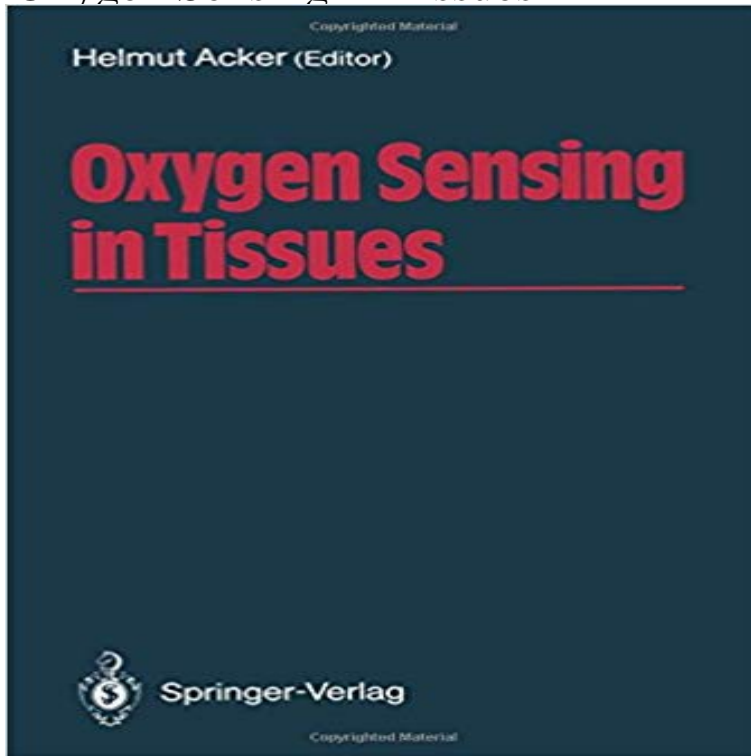


Oxygen Sensing in Tissues



Since oxygen is mainly transported by diffusion within tissue, the oxygen pressure field reflects the local balance between oxygen supply and oxygen consumption and characterizes the state of oxygen supply. Despite large physiological variations (e. g., hypo-and hyperoxia, hypo-and hypertension, change of energy demand), this oxygen pressure field can remain remarkably constant, demonstrating that very effective mechanisms must exist that guarantee the adequacy of oxygen supply. Today, it is possible to describe in detail the responsible effector mechanisms that produce such a stable state of oxygen supply, but our knowledge of the reactions that sense tissue oxygen supply and trigger the regulatory responses is still incomplete. Since such knowledge is essential for understanding the system of oxygen supply and the way in which it has developed during evolution, even small progress is important. In this book the important O₂ sensor reactions are discussed as they occur in 2 cells, organs, and organ systems. This broad approach gives an excellent picture of the actual state of knowledge in this field. Professor Dr. D. W. Lubbers

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