This book aims to provide a comprehensive and clear review of the current knowledge of the relationship between obstructive sleep apnea (OSA) and cardiovascular and metabolic diseases, a subject of concern to a wide range of specialists and general practitioners. Separate chapters describe: the definition, symptoms and sequelae of OSA, and the diagnostic strategies and treatment options for adults with OSA according to the American Academy of Sleep Medicine; pathogenic mechanisms, by which OSA may contribute to the development and progression of cardiovascular and metabolic disorders, including inflammation, oxidative stress and thrombosis; links between OSA and obesity, alterations in glucose metabolism, metabolic syndrome and liver injury; relationships between OSA, endothelial dysfunction, autonomic dysfunction and cardiovascular disorders, and the results of studies investigating the effect of treatment for OSA on the concomitant cardiovascular disease.

Each chapter summarizes the essential information and is illustrated by tables and figures, which will aid the readers in their understanding of the complex systemic interactions involved in this disease.

Reviewed by internationally recognized experts, this publication will be of benefit to clinicians and scientists in the fields of pulmonology, cardiology, endocrinology and neurology as well as to sleep specialists and general practitioners.

Fields of Interest: Cardiovascular System; Respiratory System; Arteriosclerosis, Metabolism, Obesity, Sleep Research
Obstructive Sleep Apnea in Adults: Epidemiology, Clinical Presentation, and Treatment Options

Chapter 1
Obstructive Sleep Apnea in Adults: Epidemiology, Clinical Presentation, and Treatment Options
• Definitions
• Prevalence and Incidence of Obstructive Sleep Apnea
• Risk Factors for OSA
• Obstructive Sleep Apnea Symptoms and Signs
• Characteristic Clinical Features of Obstructive Sleep Apnea in Patients with Metabolic or Cardiovascular Disorders
• A Brief Presentation of the Strategies and Tests to Identify Obstructive Sleep Apnea and Treatment Options According to the American Academy of Sleep Medicine Guidelines
• Conclusion
• References

Chapter 2
Inflammation, Oxidative Stress, and Procoagulant and Thrombotic Activity in Adults with Obstructive Sleep Apnea
• Inflammatory Response to Chronic Intermittent Hypoxia
• Inflammatory Response to Sleep Loss and Fragmentation
• Hypercoagulability and Thrombosis
• Systemic Inflammation
• Conclusions and Future Perspectives
• References

Chapter 3
Metabolic Disorders Associated with Obstructive Sleep Apnea in Adults
• Obesity and Obstructive Sleep Apnea
• Alterations in Glucose Metabolism and Obstructive Sleep Apnea
• Dyslipidemia and Obstructive Sleep Apnea
• Metabolic Syndrome and Obstructive Sleep Apnea
• Liver Injury and Obstructive Sleep Apnea
• Conclusion and Future Perspectives
• References

Chapter 4
Endothelial Dysfunction in Adults with Obstructive Sleep Apnea
• Obstructive Sleep Apnea May Alter Vascular Structure
• Obstructive Sleep Apnea May Adversely Affect Endothelial Regulation of the Peripheral Vasomotor Tone
• Potential Mechanisms Leading to Endothelial Dysfunction in Obstructive Sleep Apnea
• Conclusion
• References

Chapter 5
Hemodynamic and Autonomic Changes in Adults with Obstructive Sleep Apnea
• Control of Cardiovascular Function during Normal Sleep Stages
• Hemodynamic and Autonomic Changes during the Apnea-Ventilation Resumption Cycle
• Chronic Autonomic Cardiovascular Dysfunction Conclusion
• References

Chapter 6
Cardiovascular Disorders Associated with Obstructive Sleep Apnea
• Limitations of Studies Found in the Literature
• Obstructive Sleep Apnea and the Risk of Mortality from Cardiovascular Systemic Hypertension
• Heart Failure
• Stroke
• Coronary Artery Disease
• Pulmonary Hypertension and Right Ventricular Dysfunction
• Arrhythmias
• Conclusions and Future Directions
• References

Subject Index