Atlas Of Operative Microneurosurgery Volume 1 Aneurysms And Arteriovenous Malformations

Operative Neurosurgical Techniques

The Society of Neurological Surgeons

This atlas of pediatric neurosurgery describes and demonstrates the spectrum of operations to treat the major disorders, including congenital malformations, hydrocephalus, tumors, vascular and functional disorders, and trauma. The chapters present state of the art techniques and are written by nationally recognized authorities. The text serves as a companion to Principles and Practice of Pediatric Neurosurgery.

The Society of Neurological Surgeons, 75th Anniversary Volume

Considerable impetus was given to the study and understanding of cerebrovascular anatomy by Thomas Willis and his contemporaries in the seventeenth century, yet almost two hundred years were to pass before further significant advances were made in this field. Then, from the mid-nineteenth century onwards, the dark ages of cerebrovascular research gradually lifted through the efforts of such workers as Luschka, Heubner, and Wundt, whose pioneering anatomical studies formed the basis of the present-day understanding of the morphology of the cerebral circulation. The turn of the century saw an increasing influence of the early neurists in describing anatomy of cerebral vessels in relation to their areas of distribution and to the production of focal deficits through specific vascular lesions. As used then, the term 'spastic' still signifies a clonic and focal sensory deficit. As a result of the cerebral vascular studies of Luschka, Heubner, and Windle, clinical studies were remarkable enough to be made in this field. The keyhole concept in neurosurgery, this book offers a systematic overview of keyhole approaches in the daily work of a neurosurgeon. The approaches, strategies, indications and technical details included in this book are those which the authors have been using with success for the last two decades, with all its subsequent advances and refinements. This book features hundreds of high-quality figures, many color images, demonstrating established noninvasive Doppler and high resolution ultrasound imaging techniques, for the accu rate measurement of cerebral blood flow, CT scanning, PET scanning, and, most recently, imaging and metabolic fMRI scanning.

Color Atlas of Microneurosurgery, Volume 1: Intracranial Tumors

Color Atlas of Microneurosurgery

The idea for this treatise on the radiological anatomy of superficial and deep spinal cord vasculature evolved from daily routine neuroradiological work. This was also the reason for subdividing the monograph into a somatic and a spinal part. The actual importance of a clear conception of radio anatomic fundamentals was made clear by many clinical conferences with neurologists, neurosurgeons and orthopedists, who lack of knowledge about medullary syndromes of suspected vascular origin became evident. Also among neuroradiologists there is still widespread uncertainty in the interpretation of angiograms in the field of microneurosurgery. A keyhole approach to spinal cord and medulla oblongata is the most justified and necessary considering the vast number of descriptions of cerebrovascular anatomy and pathology. The clinical challenge posed by patients suffering from partial or complete transverse spinal lesions has grown to new diagnostic and therapeutic approaches. Helical scanning using water-soluble contrast media, (i.e. computed tomography, magnetic resonance imaging and spinal angiography today allow and require the provo
cer to study and understand cerebrovascular anatomy and pathology. This is the main purpose of this book. The challenge posed by patients suffering from partial or complete transverse spinal lesions has grown to new diagnostic and therapeutic approaches. Furthermore, this treatise concentrates on the major neurosurgical techniques that have been established to re-establish blood flow through the carotid and cerebral arteries. Information on tumors of the spinal cord and spinal vascular malformations, particularly cavernous and arteriovenous malformations is also included.

Atlas of Emergency Neurosurgery

Refinements in the neurosurgical armamentarium continue to push the borders of neurosurgery forward. Lesions considered inoperable a few years ago can now be resected, especially in the region of the skull base. These new developments, plus rapid technological innovations in microneurosurgery, have dramatically altered the scope of modern neurosurgery. Now, with Volume 2 of the acclaimed Color Atlas of Microneurosurgery, readers will find coverage of aneurysms, arteriovenous malformations, cerebrovascular malformations, and vascular compression - all derived from a wide range of etiologies. Divided into four sections on anatomy, surgical approaches, pathology, and imaging, the book demonstrates the most innovative new techniques, procedures and approaches as performed in hundreds of clinical cases. The result is the most detailed and comprehensive microneurosurgical atlas ever compiled, an ideal reference for practicing neurosurgeons and residents-in-training.

Color Atlas of Microneurosurgery

Introducing the second volume in this excellent series of microsurgical atlases. Depicts in complete detail the current and evolving microsurgical techniques and their essential components from positioning to closure. Includes state-of-the-art coverage of all tumor surgery, including metastatic tumors.

Cerebrovascular Surgery

Wherever, whenever, or however you need it, unmatched procedural guidance is at your fingertips with the new edition of Schmidek & Sweet: Operative Neurosurgical Techniques! Completely revised under the auspices of new editor-chief Dr. Alfredo Quinones-Hinojosa, this comprehensive medical reference examines indications, operative techniques, complications, and results for nearly every neurosurgical procedure. Color illustrations, 21 new chapters, internationally-recognized contributors, surgical videos, and online access make it a “must have” for today's practitioners. Here are your skills for virtually every routine and specialized procedure for brain, spinal, and peripheral nerve problems in adult patients. Review clinical information on image-guided technologies and infections. Easily compare state-of-the-art, evidence-based guidelines with those of your colleagues. To ensure the best possible outcomes and results, apply the latest techniques and technology in deep brain stimulation for epilepsy, movement disorders, dystonia, and psychiatric disorders; surgical management of blast injuries; invasive electrophysiology in functional neurosurgery; and interventional management of cerebrovascular malformations. Our latest edition is available as an easy-to-use, downloadable image library, and more at www.expertconsult.com. With 337 additional expert contributors. Get procedural guidance on the latest neurosurgical operative techniques from Schmidek & Sweet on your shelf, laptop and mobile device.

Color Atlas of Microneurosurgery

This book is a guide dedicated to vascular pathologies affecting the central nervous system. It uses a multiple-choice format with more than 340 genuine MCQs in a convenient format that is ideal for self-study. Seven chapters provide comprehensive coverage of core concepts in vascular surgery. The questions are structured and organized so as to offer a step-by-step description of each disease process covered. From anatomy, pathology, clinical features, radiology to surgical decisions and operative tricks. Answers and explanations appear directly below the question to make reading easy. This book is essential for residents across neurosurgical disciplines as it includes most of the vascular neurosurgical information neurosurgeons need to prepare for their certification exam. It is also beneficial for those seeking a refresh or a refresher for those preparing for their certification maintenance.

Comprehensive Management of Arteriovenous Malformations of the Brain and Spine

Technological progress in neurosurgery - preoperative investigation of the exact anatomy of the patient, detailed planning of the procedure, and use of endoscopes and videoscopes - have made approaches for intracranial microsurgical procedures smaller compared to historically standard neurosurgical approaches. Building on the previous works “Endoscopic Anatomy for Neurosurgery” and “Keyhole Concept in Neurosurgery,” this book offers a systematic overview of keyhole approaches in the daily work of a neurosurgeon. The approaches, strategies, indications and technical details described here are complemented by anatomical pictures, schemes, and artists’ illustrations, and analyzed with regard to geometric boundaries and the topography of the target structures.

Atlas of Neurosurgical Anatomy

This two volume set is a comprehensive guide to surgical techniques in otorhinolaryngology and head and neck surgery. Beginning with otology and lateral skull-base surgery, the following sections discuss rhinology and anterior skull-base surgery, maxillofacial, plastic, cosmetic and reconstructive surgery, laryngology including airway and head and neck surgery including oncology. Each chapter describes a surgical specific procedure for the relevant region of the head and neck. Highly illustrated with more than 2700 colour images. Key points Comprehensive, two volume set describing
Read Book Atlas Of Operative Microneurosurgery Volume 1 Aneurysms And Arteriovenous Malformations

surgical techniques in otolaryngology and head and neck surgery features more than 2700 colour images and illustrations

Cranial, Craniofacial and Skull Base Surgery

Forthcoming Books

There are relationships that exist between neuroanesthesia, neurosurgical procedures, individual patient pathology and the positioning of a patient for said procedure. A comprehensive examination of the individual patient's relationship with patient mortality/immortality and how to approach these issues in an evidence-based manner has yet to become available. Positioning related injuries have been documented as major contributors to neurosurgical/neuroanesthesiology liability. This text examines these relationships. It provides considerations necessary to the correct positioning of a patient for a neurosurgical procedure for each individual patient and their individual pathology. In other words, this text will demonstrate how to construct the necessary surgical posture for the indicated neurosurgical procedure given the individual case. Therapists of the patient within the environment of anesthesia and conforming to existing evidence-based practice guidelines. Sections will address physiological changes inherent in positioning in relation to anesthesia for neurosurgical procedures, assessment of patient for planned procedure, as well as considerations for managing prophylactic positioning. Additionally, the text will examine the relationship between neurosurgical positioning and the relationship between positioning devices and neurosurgical procedures. Neurosurgery and its patient population are in a constant state of change. Providing the necessary considerations for the neurosurgical procedure planned under the anesthesia conditions planned in the position planned, often in the absence of multicause study literature support, without incurring additional morbidity is the goal of this text.

National Library of Medicine Current Catalog

Volume IVA examines in detail the fields of functional and morphologic neuroanatomy, neuropathology, and neurophysiology, providing a comprehensive basis for the evaluation of findings from advanced neuroimaging techniques. The author and his collaborators on this volume show how innovative concepts in the areas mentioned above can be used to redefine the operability of CNS tumors.

Brain Tumors

Comprehensive, state-of-the-art review of the natural history, treatment, and outcomes of patients with vascular malformations of the brain and spine.

Color Atlas of Microneurosurgery, Volume 2: Cerebrovascular Lesions

Volume VB describes surgical strategies, and management techniques for specific tumors, and their major neurosurgical approaches to cerebrovascular lesions. You will find coverage of all major cerebrovascular topics, vascular malformations, and vascular tumors. Divided into three sections on anatomy, surgical approaches, and underlying pathology, the book demonstrates the most innovative new techniques, procedures and approaches as performed in hundreds of clinical cases. The result is the most detailed and comprehensive microneurosurgery atlas ever compiled, an ideal resource for practicing neurosurgeons and residents-in-training.

Vascular Anatomy of the Spinal Cord

Refrainments in the neurosurgical armamentarium continue to push the borders of neurosurgery forward. Lesions considered inoperable a few years ago can now be resected, especially in the region of the spine. These new developments, plus rapid technological innovations in microsurgery, have dramatically altered the scope of modern neurosurgery. Now, with Volume 2 of the acclaimed Color Atlas of Microneurosurgery, the distinguished authors provide detailed descriptions of surgical anatomy and the major neurosurgical approaches to cerebrovascular lesions. You will find coverage of all major cerebrovascular topics, vascular malformations, and vascular tumors. Divided into three sections on anatomy, surgical approaches, and underlying pathology, the book demonstrates the most innovative new techniques, procedures and approaches as performed in hundreds of clinical cases. The result is the most detailed and comprehensive microneurosurgery atlas ever compiled, an ideal resource for practicing neurosurgeons and residents-in-training.

A N

Brain Repair, addresses all relevant issues underlying the mechanisms of brain damage, brain plasticity and post-traumatic reorganisation after CNS lesions. This book is divided into three major sections: cellular basis of functional reorganisation, brain plasticity and reorganisation, and experimental and clinical approaches to brain plasticity. The book is written by a team of international experts who describe in detail the newest results from basic research and highlight new model systems, techniques and therapy approaches. Based on a careful analysis of the cellular and molecular basis of CNS repatterning, the book presents concepts that may help to develop new treatment strategies. It is intended as a valuable tool for basic scientists, neurosurgeons and clinicians interested in understanding the brain's capacity to cope with lesions and interested in learning about emerging new therapy concepts.

Color Atlas of Microneurosurgery, Volume 3: Intra- und Extracranial Revascularization and Intraspinal Pathology

From reviews of previous volumes: Ranks with the very best previous attempts at codifying neurosurgical operations. The attention to detail is excellent. -The New England journal of Medicine. A valuable addition to any library! Recommended for all neurosurgeons with an interest in cerebrovascular disease! The operative photographs are of extremely high quality. -Chicago Medicine. The final volume in the acclaimed series provides coverage of the anatomy, surgical approaches, and techniques involved in performing cerebral revascularization. Filled with over 2,000 vibrant images, it provides the visual instruction neurosurgeons need. Highlights include: A complete section on intracranial vasculature and anatomy of the spinal cord A case material section featuring a rich diversity of vascular malformations. Brain repair describes cellular basis of brain repair, as well as new therapies emerging from basic research, some of which have already been introduced into the clinics. This book is a unique bridge between basic and clinical research. It will be a valuable tool for all students, researchers and clinicians interested in understanding the brain's capacity to cope with lesions and interested in learning about emerging new therapy concepts.

Atlas of Emergency Neurosurgery

This volume, part of the second edition of the classic Neurosurgical Operative Atlas series, presents the latest techniques for managing the full range of spinal and peripheral nerve problems. Each chapter addresses a different surgical procedure, guiding the reader through patient selection, preoperative preparation, anatomic techniques, patient monitoring, and surgical techniques and outcomes. The authors also discuss common complications and offer tips for how to avoid and manage them. Spine and Peripheral Nerves is ideal for residents to study and for established surgeons seeking a quick refresher in preparation for surgery. Neurosurgeons, orthopedists, and plastic surgeons will benefit from the wealth of information provided in this up-to-date clinical reference. Highlights: In-depth discussions in the field's share their clinical insights and extensive experience. Concise, step-by-step descriptions enable the reader to rapidly review techniques More than 750 illustrations and images demonstrate key concepts Organized by anatomical location to aid quick reference Series description: The American Association of Neurological Surgeons and Thieme have collaborated to produce the second edition of the acclaimed Neurosurgical Operative Atlas series. Edited by leading experts in the field, the series covers the entire spectrum of neurosurgery in five volumes. In addition to Spine and Peripheral Nerves, the series also includes Neuro-Oncology, edited by Behnam Badie Vascular Neurosurgery, edited by R. Loch MacDonald Functional Neurosurgery, edited by Philip Starr, Nicholas M. Barbaro, and Paul LarsonPediatric Neurosurgery, edited by James Tait Goodrich

Atlas of Operative Otorhinolaryngology and Head and Neck Surgery (Vol Set)

This volume, part of the second edition of the classic Neurosurgical Operative Atlas series, presents the latest techniques for managing the full range of spinal and peripheral nerve problems. Each chapter addresses a different surgical procedure, guiding the reader through patient selection, preoperative preparation, anesthetic techniques, patient monitoring, and surgical techniques and outcomes. The authors also discuss common complications and offer tips for how to avoid and manage them. Spine and Peripheral Nerves is ideal for residents to study and for established surgeons seeking a quick refresher in preparation for surgery. Neurosurgeons, orthopedists, and plastic surgeons will benefit from the wealth of information provided in this up-to-date clinical reference. Highlights: In-depth discussions in the field's share their clinical insights and extensive experience. Concise, step-by-step descriptions enable the reader to rapidly review techniques More than 750 illustrations and images demonstrate key concepts Organized by anatomical location to aid quick reference Series description: The American Association of Neurological Surgeons and Thieme have collaborated to produce the second edition of the acclaimed Neurosurgical Operative Atlas series. Edited by leading experts in the field, the series covers the entire spectrum of neurosurgery in five volumes. In addition to Spine and Peripheral Nerves, the series also includes Neuro-Oncology, edited by Behnam Badie Vascular Neurosurgery, edited by R. Loch MacDonald Functional Neurosurgery, edited by Philip Starr, Nicholas M. Barbaro, and Paul LarsonPediatric Neurosurgery, edited by James Tait Goodrich

Atlas of Operative Otorhinolaryngology and Head & Neck Surgery: Otolgy and Lateral Skullbase Surgery

Color Atlas of Microneurosurgery: Cerebrovascular lesions

Annals

The first volume of this updated and revised edition deals with the surgical resection of intracranial tumors. Individual chapters focus on specific intracranial regions, and provide neuroanatomical descriptions of all the major neurosurgical approaches in detail.

Vascular Neurosurgery

This volume describes the most relevant and cutting-edge technological news on the complex surgical procedure of acoustic neuroma. The clinical-radiological diagnosis and surgical indications are briefly presented and the surgical technique is illustrated step-by-step: video clips show the latest means of treating these patients. All these indications were prepared by highly experienced experts from all over the world. The authors also discuss common complications and offer tips for how to avoid and manage them. Spine and Peripheral Nerves is ideal for residents to study and for established surgeons seeking a quick refresher in preparation for surgery. Neurosurgeons, orthopedists, and plastic surgeons will benefit from the wealth of information provided in this up-to-date clinical reference. Highlights: In-depth discussions in the field's share their clinical insights and extensive experience. Concise, step-by-step descriptions enable the reader to rapidly review techniques More than 750 illustrations and images demonstrate key concepts Organized by anatomical location to aid quick reference Series description: The American Association of Neurological Surgeons and Thieme have collaborated to produce the second edition of the acclaimed Neurosurgical Operative Atlas series. Edited by leading experts in the field, the series covers the entire spectrum of neurosurgery in five volumes. In addition to Spine and Peripheral Nerves, the series also includes Neuro-Oncology, edited by Behnam Badie Vascular Neurosurgery, edited by R. Loch MacDonald Functional Neurosurgery, edited by Philip Starr, Nicholas M. Barbaro, and Paul LarsonPediatric Neurosurgery, edited by James Tait Goodrich

Atlas of Operative Otorhinolaryngology and Head & Neck Surgery: Otolgy and Lateral Skullbase Surgery

Color Atlas of Microneurosurgery: Cerebrovascular lesions

Operative Techniques in Pediatric Neurosurgery

A state-of-the-art guide to evolving functional neurosurgery approaches from world-renowned innovators. Functional neurosurgery focuses on improving the lives of patients with epilepsy, movement disorders, pain, and psychiatric illnesses. In recent years, approaches ranging from open surgery to minimally invasive techniques have been leveraged to improve daily functioning and quality of life in people struggling with painful, highly disruptive, and/or treatment-resistant symptoms. New approaches focus on reducing or eliminating seizures, alleviating pain, decreasing abnormal
movements or lessening debilitating symptoms associated with specific psychiatric disorders. Neurosurgical Operative Atlas: Functional Neurosurgery, Third Edition, by renowned functional neurosurgeons Robert Gross, Nicholas Boulis, and esteemed contributors reflects the latest advances in functional and stereotactic neurosurgical approaches. The entire atlas has been streamlined and updated with new content, including the use of stereotactic surgery to treat obsessive compulsive disorder, Tourette syndrome, and major depression. Key Highlights A full spectrum of epilepsy treatment techniques, including intracranial monitoring with stereo-electroencephalography, selective amygdalohippocampectomy, MRT-guided stereotactic laser ablation, vagus nerve stimulation, and more Deep brain stimulation (DBS) for Parkinson’s disease, tremor, dystonia, epilepsy and medically intractable pain syndromes, with in-depth implantation guidance The use of neurosurgical and intervention techniques to treat pain including percutaneous ablation, peripheral nerve stimulation, spinal cord and motor cortex stimulators, and pumps. More than 300 high-quality color illustrations detail anatomy and surgical procedures This is the ultimate guide on functional neurosurgery for managing a wide range of incapacitating neurological conditions. Neurosurgical residents, fellows, and veteran neurosurgeons specializing in this rapidly evolving subspecialty will find this state-of-the-art book invaluable reading it cover to cover will ultimately benefit patients. Series Description The American Association of Neurological Surgeons and Thieme have collaborated to produce the third edition of the acclaimed Neurosurgical Operative Atlas series. Edited by leading experts in the field, the series covers the entire spectrum of neurosurgery in five volumes. In addition to Functional Neurosurgery, the series also features: Spine and Peripheral Nerves, edited by Christopher E. Wollf and Daniel K. Resnick Vascular Neurosurgery, edited by R. Loich Macdonald Neuro-Oncology, edited by Behnam Badie and Mike Y. Chen Pediatric Neurosurgery, edited by James Tait Goodrich and Robert F. Keating

Keyhole Approaches in Neurosurgery

Like the ten preceding volumes in this series Tumors of the Central Nervous System, this book is distinguished for its comprehensive approach, its distinguished roster of some 93 contributors representing 8 different countries and its embrace of leading-edge technology and methods. Volume 11: Imaging, Glioma and Glioblastoma, Stereotactic Radiotherapy, Spinal Cord Tumors, Meningioma, and Schwannomas concentrates on the diagnosis, prognosis and therapy of four types of tumors, namely Glioblastoma, Meningioma, Schwannoma and Spinal Tumors. The book offers an in-depth survey of a range of new technologies and their applications to tumor diagnosis, treatment and therapy assessment. The contributors explain in thorough detail a range of current and newly developed imaging methods, including molecular imaging and PET scan. Also covered is molecular profiling of brain tumors to select therapy in clinical trials of brain tumors. Discussion includes a review of such surgical treatments as resection and the application of non-invasive stereotactic radiosurgery for treating high-risk patients with brain metastasis. Additional discussion is devoted to tumor seeding.

Journal of Neurosurgery

Advances in Vestibular Schwannoma Microneurosurgery

Color Atlas of Microneurosurgery

The author John L. Fox shares his many years of teaching and surgical practice through more than three hundred illustrations and photographs (including over one hundred in color). Dr. Fox has published many works on neuroscience and clinical neurosurgery and is well-known for his color images of live neurosurgical anatomy as viewed through the operating microscope. Historic techniques, instrumentation and positioning, photographic techniques, cranial anatomy and the cranial flap, and intracranial anatomy as seen from the frontolateral or pterional approach are clearly discussed and illustrated from the operating (right sided) surgeon's perspective. The operations seen in this atlas for the main part involve aneurysms and some tumors. Directed toward neurosurgeons, neuroscientists, and anatomists, the book is intended to serve as an atlas of anatomy as well as a guide to clinical neurosurgery.

Atlas of Operative Neurosurgical Technique: Cranial operations

This volume provides an overview of new concepts in neurovascular interventions based on clinical and scientific knowledge of cerebrovascular disorders. It emphasizes on subarachnoid hemorrhage and cerebrovascular malformations, e.g. aneurysms, arteriovenous malformations, and cavernomas. A separate part addresses cerebral revascularization for both complex aneurysms and AVMs. All chapters were written by respected neurosurgical experts and cover original papers presented at the 7th European Japanese Stroke Surgery Conference, held in Verona, Italy in June 2014. The authors present new trends and strategies for managing emerging problems, as well as in-depth discussions on controversial issues in the field.

Perioperative Considerations and Positioning for Neurosurgical Procedures

Spine and Peripheral Nerves

The Fruits of Reinvention Surgery related to the human head, its compartment and contents has been reinvented over the past 40 years. A number of instruments, most notably the sophisticated medical imaging device and the operating microscope, have principally fueled this evolution. Along the way, endoscopy and sophisticated navigation capabilities have added to the realization of a unique comprehension of normal and abnormal microanatomy permitting corridors and manipulations that allow novel strategies for surgery in these highly vital functional areas. Cappassano, Calffano and Iaconetta have created a detailed and fully modern review of methods and strategies related to complex surgery and therapies associated with this robust re-invention. Technical innovations abound! Distinguished practitioners of these unique developments in the history of surgical enterprise present these amazing technical exercises. The catalog of these approaches, instrumentation, techniques, strategies and manipulations is inspiring and stands as a testament to the remarkable progress that we have witnessed in recent decades. The presentation in truly “modern” and represents in many aspects pinnacles of operative achievement. We must ask ourselves, what will be next? Los Angeles, November 2008 Michael L.J. Apuzzo, M.D., Ph.D. (foreword) Preface We belong to a lucky and happy generation, living during a period of many dramatic, if not revolutionary, technical and technological innovations, such as the digital era, which have changed and improved our routine surgical practice, together with the quality and quantity of life of our patients.

Neurosurgical Operative Atlas: Functional Neurosurgery

Atlas of Operative Microneurosurgery: Aneurysms and arteriovenous malformations

Brain Repair

From reviews of previous volumes: Ranks with the very best previous attempts at codifying neurosurgical operations. The attention to detail is excellent - The New England Journal of Medicine A valuable addition to any library! would recommend it to all neurosurgeons with an interest in cerebrovascular disease. The operative photographs are of extremely high quality! Chicago Medicine The final volume in the acclaimed series provides coverage of the anatomy, surgical approaches, and techniques involved in performing cerebral revascularization. Filled with over 2,000 vibrant images, it provides the visual instruction neurosurgeons need. Highlights include: A complete section detailing intracranial vasculature and anatomy of the spinal cord A case material section featuring a rich diversity of clinical situations to illustrate a variety of microsurgical techniques Thorough coverage of bypasses, reconstructions, and the use of endarterectomy to achieve revascularization Presentation of both surgical and endovascular techniques for re-establishing blood flow through the carotid and cerebral arteries Information on tumors of the spinal cord and spinal vascular malformations, particularly cavernous and arteriovenous malformations

Copyright code: 8d6886a6c5e3563c4c8335e2704d60c