Thrombectomy 6 To 24 Hours After Stroke With A Mismatch

This book contains a compilation of the revolution of mechanical thrombectomy (MT) in the treatment of strokes. The initial chapters summarize information about the best medical management of acute ischemic stroke, imaging modalities and patient selection for MT. The book then focuses on the nuances of MT, providing detailed information about the best approaches for anesthesia during MT, access, intra-arterial thrombolysis, recent devices and catheters and technical pitfalls of MT. A specific chapter is dedicated to MT in the venous system. This is followed by a chapter about the most common complications of MT and post-procedural care of these patients. The last chapter covers different aspects of acute stroke care and MT in the developing world. The authors of this book comprise of a multidisciplinary group of world experts in the field and were encouraged to include teaching cases to deliver a book with a practical approach. Acute Stroke Management in the Era of Thrombectomy is intended for all healthcare providers who care for patients with stroke; with special emphasis for the proceduralists who are interested in technical tips to improve outcomes and minimize complications.

The Congress of Neurological Surgeons Essential Papers in Neurosurgery brings to the neurosurgical community a unique collection of critically appraised neurosurgical papers shedding light on some of the most impactful studies in the history of the field. Separating the signal from the noise, this text offers papers that have shaped the practice of neurosurgery, selected through a rigorous process, and commented on by editorialists to reconcile conflicting points and summarize the take-home message of each study. Each paper is reviewed by a panel of two experts who provide editorialists evaluating the strengths and weaknesses of the paper as well as the impact it had on the editorialist's personal practice of neurosurgery. This book is equally suited for neurosurgery residents, practicing neurosurgeons, and anyone interested in evidence-based clinical neuroscience. The body of literature covered in this book has in many ways defined the gold standards of neurosurgical practice and is a must-know for every student of neurosurgery.

Acute Stroke Management in the First 24 hours bridges the clinical application gap by offering a practice-based approach to treating ischemic and hemorrhagic stroke. The comprehensive text, written by international experts in the field of stroke care, covers all aspects of stroke care, including review of stroke systems, clinic features, neuroimaging diagnostic characteristics, and pre-hospital care and challenges. Practical clinical studies in each chapter engage readers in the discussion of common diagnostic pitfalls and work challenges. Chapters also include detailed figures and management algorithms, making this book an easy-to-use reference guide ideal for first responders and clinicians working in emergency medicine, neurology, neurosurgery, and critical care.

Significantly updated with the latest developments in diagnosis and treatment recommendations, Ferri’s Clinical Advisor 2020 features the popular “5 books in 1” format to organize vast amounts of information in a clinically relevant, user-friendly manner. This efficient, intuitive format provides quick access to answers on 1,000 common medical conditions, including diseases and disorders, differential diagnoses, and laboratory tests — all reviewed by experts in key clinical fields. Updated algorithms, along with hundreds of new figures, tables, and boxes, ensure that you stay current with today’s medical practice. Contains significant updates throughout, covering all aspects of current diagnosis and treatment. Features 27 all-new topics including chronic traumatic encephalopathy, medical marijuana, acute respiratory failure, gallbladder carcinoma, shift work disorder, radial tunnel syndrome, fertility preservation in women, fallopian tube cancer, primary chest wall cancer, large-bowel obstruction, inguinal hernia, and bundle branch block, among others. Includes a new appendix covering Physician Quality Reporting System (PQRS) Measures. Provides current ICD-10 insurance billing codes to help expedite insurance reimbursements. Patient Teaching Guides for many of the diseases and disorders are included, most available in both English and Spanish versions, which can be downloaded and printed for patients. This book is a comprehensive guide to critical care medicine for postgraduate medical students. Presented in a case-based, question and answer format, the text begins with guidance on patient examination in the intensive care unit (ICU). Each of the following chapters covers a different disorder, from acute severe asthma, pulmonary embolism and septic shock, to traumatic brain injury, acute liver failure and much more. The book concludes with cases examining out-of-hospital cardiac arrest, brain death and organ donation, as well as end-of-life care in the ICU. A large selection of Objective Structured Clinical Examination (OSCE) practice questions are included to assist students in their preparation for examinations. Nearly 300 clinical photographs, illustrations and tables further enhance learning. Key points Comprehensive guide to critical care medicine for postgraduates Presented in a case-based, question and answer format Includes numerous OSCE practice questions to help students prepare for examinations Highly illustrated with clinical photographs, diagrams and tables

This book, written by renowned experts from across the world, provides readers with a detailed and up-to-date understanding of posterior circulation stroke and its management. Anatomy, pathophysiology, clinical syndromes, and imaging findings are clearly and thoroughly described with the aid of illustrative cases and schematic drawings. The management-oriented chapters explain all forms of treatment, including the use of antiplatelet agents and anticoagulants, thrombolysis, mechanical thrombectomy, stenting, and surgical therapy, i.e., bypass and decompression. Throughout, full account is taken of recent significant advances in knowledge and clinical practice. Stroke affecting the posterior circulation continues to pose particular challenges for clinicians. This book will help readers to avoid misdiagnosis, which still occurs far too frequently, and to manage individual patients optimally. It will be an excellent learning resource for residents in neurology, neurosurgery, radiology, interventional radiology, and vascular surgery, as well as an ideal reference for more experienced practitioners in these specialties.

Practical textbook aimed at doctors beginning work on a stroke unit or residents embarking on training in stroke care. Plum and Posner's Diagnosis and Treatment of Stupor and Coma, 5th edition, is a major update of the classic work on diagnosing the cause of coma, with the addition of completely new sections on treatment of comatose patients, by Dr. Jan Claassen, the Director of the Neuro-ICU at Columbia New York Presbyterian Hospital. The first chapter of the book provides an up-to-date review on the brain mechanisms that maintain a conscious state in humans, and how lesions that damage these mechanisms cause loss of consciousness or coma. The second chapter reviews the neurological examination of the comatose patient, which provides the basis for determining whether the patient is suffering from a structural brain injury causing the coma, or from
a metabolic disorder of consciousness. The third and fourth chapters review the pathophysiology of structural lesions causing coma, and the specific disease states that result in coma. Chapter five is a comprehensive treatment of the many causes of metabolic coma. Chapter six review psychiatric causes of unresponsiveness and how to identify and treat them. Chapters seven and eight review the overall emergency treatment of comatose patients, followed by the treatment of specific causes of coma. Chapter nine examines the long term outcomes of coma, including the minimally conscious state and the persistent vegetative state, and how they can be distinguished, and their implications for eventual useful recovery. Chapter ten reviews the topic of brain death and the standards for examination of a patient that are required to make the determination of brain death. The final chapter eleven is by J.J. Fins, a medical ethicist who was invited by the other authors to write an essay on the ethics of diagnosis and treatment of patients who, by definition, have no way to approve of or communicate about their wishes. While providing detailed background for neurological and neurosurgical specialists, the practical nature of the material in this book has found its greatest use among Internists, Emergency Medicine, and Intensive Care specialists, who deal with comatose patients frequently, but who may not have had extensive neurological training.

You have just encountered a possible stroke patient. You ask yourself: what should I do first? How do I know if it is a stroke? Is it too late to reverse the damage? This book provides integral assistance in answering these critical questions. All content is arranged in chronological order, covering all considerations in assessing and treating patients in the emergency room, stroke unit, and rehabilitation facilities. This new edition offers readers the latest information on stroke treatment, and features brand new chapters on stroke radiology, endovascular therapy, the uncommon causes of stroke, cerebral venous thrombosis, stroke prevention, and the transition to outpatient care. The comprehensive set of appendices contains useful reference information, including dosage algorithms, conversion factors, and stroke scales.

This comprehensive, case-based resource provides the state-of-the-art knowledge that can help readers improve access and optimize delivery of stroke thrombectomy. Improving access to stroke is of particular importance because patients often misinterpret their symptoms or cannot speak for themselves if they have aphasia. More importantly, access needs to be organized because stroke therapies are all extremely time-sensitive. Scalable, often co-ordinated protocols are necessary for emergency medical systems to capture stroke patients and automatically transport and triage to time-sensitive treatments. Many of the chapters in the first section on Fundamentals and Systems provide valuable insight in improving access to stroke care. Replete with illustrative case studies and emphasizing that treatment approaches to stroke should not be comprised of a one-size-fits-all approach, this illuminating title provides the complete thought, detail, insight and organization that will help readers meet the needs of stroke patients with large vessel occlusions. 12 Strokes: A Case-based Guide to Acute Ischemic Stroke Management examines the primary technical principles that underlie the current thrombectomy approaches. Instead of continuing the conceptual dichotomy of stent vs. aspiration, many of the chapters look at underlying principles and then discuss ways in which the currently available devices and approaches can best exploit them. The variety, creativity and detail in many of these chapters will help the reader develop a deeper understanding that might assist their ability to successfully take care of their next patient that ‘doesn’t follow the textbook’. In addition, the anatomic and pathophysiologic classification of the core Twelve Chapters will help readers organize their thinking and approach. This knowledge, particularly because it is organized based on common, challenging syndromes, will arm the reader to quickly recognize patterns and deftly adapt their management approaches to the needs of the patient. An invaluable contribution to the clinical literature, 12 Strokes: A Case-based Guide to Acute Ischemic Stroke Management will be of great interest to not only neurosurgeons and neurologists but other specialists, primary care providers, and trainees as well.

Stroke is a condition that predominantly affects older people, often leading to death, disability and dependency as well as occupancy of hospital and nursing-home beds. Older stroke patients are similar in many ways to their younger counterparts, but at the same time exhibit several key differences. Their outcome and care are long-complicated by delayed diagnosis, polypharmacy, difficult rehabilitation, ageism, false assumptions of poor outcome, multiple co-morbidity, social issues including implications for independent living, ethical dilemmas, and many others. The proportion of older people is increasing every day and with it the burden of disease and disability. The implications this has for health services are immense, especially for long-term conditions. Despite this there is limited literature available to clinicians on stroke with a particular focus on this age group. Traversing the whole stroke pathway, Stroke in the Older Person brings together key discussions on every aspect of the disease as it affects the older person, including its general aspects and those very specific to the older populations. All chapters are written by highly experienced clinicians that offer up-to-date evidence-based information as well as practical tips to promote excellent, empathetic care to older patients. Over 30 chapters, this resource addresses the epidemiology, aetio-pathogenesis, clinical presentation, diagnostic work-up (including imaging), primary and secondary prevention, and rehabilitation of older people. There is a special focus on intracerebral haemorrhage, carotid re-vascularisation, transient ischaemic attack, cognitive impairment, research, ethical and moral dilemmas including DNAR, advanced directives and end-of-life care.

Brain stroke is a leading cause of severe disability and mortality. The attempts for prevention of consequences have led investigators to the development of a vast majority of techniques for the achievement of reperfusion in the super acute phase. Among them mechanical thrombectomy stands out as the most effective method, which is beginning to affirm as standard in the international practice. Introduction: The stroke is an important social problem, leading to severe disabilities and mortality. It is the third cause of death in the population of industrial and developing countries. Due to the social importance, in the last decades we are becoming witnesses of breathless increase of interventional procedures for treating strokes. The evolution of the reperfusion era in management of acute vascular incidents has started in 1999 with development of the fibrinolytic therapy. In 2003 attempts for thromb-fragmentation with endovascular ultrasound sonds had been started. In 2005 the application of the first coil-retrievers entered in practice. In 2009 the thromb-aspiration technique marked the first success in endovascular treatment of these conditions. In 2012 thromb-extraction with stent-retrievers had began. Till now 3 generations of these devices has been worked out. Excluding fibrinolysis, thromb-aspiration and thrombectomy, other methods had not been applied in clinical practice and had been abandoned. Aims: Proving efficacy of the method for achievement of long-term reperfusion in treating strokes in acute phase. Publishing statistical data of the initial results in Bulgaria. Comparison with international experience data. Methods: The criteria for using mechanical thrombectomy in acute stroke patients are: 1)Prestroke condition according to modified Rankin Score (mRS 0-2).2)Oclusion of internal carotid artery, proximal medial cerebral artery or basilar artery3)Age > 18 y.4)NIHSS > 6 p.5)ASPECTS > 6 p.6)Beginning of procedure till 6 hours after symptoms2019 appearance17.7)Patients using anticoagulants (depends on INR). 8)Patients, received IV r-tPA under 4.5 hours, without clinical response or worsening of the symptoms. The endovascular protocol in University Hospital u201cSt. Annau201d includes:1)Sedation or anesthesia2)8 or 9 fr. Leading balloon catheter3)6 or 6 fr. Distal access catheter4)Microcatheter and guidewire, which passes through the thrombus.5)Supraselective angiography and subsequent mechanical thrombectomy.6)After procedure patients stay in Intensive Care Clinic for 24 hours.7)Next day Co422 till 24 hours.8)Double antiagregant therapy and statin for at least 3 months.Materials: During 2017, around 52 000 cases of stroke were registered in Bulgaria. Reperfusion therapy was done on around 450 patients (0,8%), including around 410 cases with fibrinolysis. From the beginning of February 2017 in our endovascular unit 49 mechanical thrombectomies was performed. 59% were men. Average age is 67 years (40-86). In 3 cases we had occlusion in basilar artery system (6%), in 17 cases right medial
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cerebral arteries were affected (35%), in 15 left medial cerebral artery (31%), in 14 cases we had stenosis or occlusion of internal carotid artery (28%) including 3 patients with tandem stenosis the internal carotid artery and distal occlusions of internal carotid artery and medial cerebral artery. Average NIHSS at presentation was 18. 8 patients had end-stage chronic co-morbidity (16%). 1 had mitral regurgitation, 1 lymphoma, 1 malignant melanoma, 2 heart failure, 1 peripheral artery disease and 2 chronic obstructive pulmonary disease with cyanotic respiratory insufficiency. 1 40-years old patient had Hb 87 after myoma metrorrhagy. 6 patients had been taking anticoagulants, 6 patients had been admitting antiagregants and 1 patient both. Results:Average number of runs has been 2.3. In 41 cases we achieved satisfactory reperfusion (84%). In 15 patients the outcome was lethal (31%). In 3 of them cause of death was uncompromised end stage heart failure-average ejection fraction was 24%, 3 died with brain edema, 4 had intracerebral hemorrhage, 2 pneumonia and 3 developed sepsis and septic shock. The average NIHSS at discharge was 6p. 23 patients were discharged with none or mild disability defined as mRS 0-2 (47%). 11 of them had not any neurological deficit (22%). The average patient who underwent mechanical thrombectomy is 67 years old male, medial cerebral artery affected, admitted in coma with NIHSS around 18p., discharged with moderate disability and functional independence 3 months after stroke. Conclusions: Mechanical thrombectomy is effective method for acute stroke treatment. It results better reperfusion of main brain vessels (ICA, MCo4010 u041c1 and BA) comparing to fibrinolytic therapy. Far outcomes are also good. In follow-up we have not registered re-stroke. End results are non-inferior and in some aspects are even better than leading international centers. Epilogue: 1.Efficacy of mechanical thrombectomy is increasing in time.2.Clinical results in last yearu2019s surveys are promising.3.1Keeping protocol requirements is crucial for getting good results.4.1Reducing symptoms onset-reperfusion time is important for getting good results.Although excellent results, significant potential for development of created algorithm still exists:1.1Optimizing of the health care system.2.1Improving of patients and relatives health knowledge. Education of the high risk patients. 3.1Faster reaction of out-hospital services. Adequate triage of hospitalized patients.4.1Telemedicine. 5.1Staff educating and training at all levels. 6.1Widening of indications for mechanical thrombectomy. 7.1Development of devices. Schmidek and Sweet has been an indispensable reference for neurosurgery training and practice for nearly 50 years, and the 7th Edition of Operative Neurosurgical Techniques continues this tradition of excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence! Gallaher has joined Schmidek and Sweet s team as chief editor. Dr. excellence!
increasingly complex situations. This structure is designed to create an authentic experience that mirrors that of an oral board examination. The discussion sections that follow offer a comprehensive approach to the chapter's subject matter, thus creating a modern, complete, and up-to-date medical review of that topic. This book is equally a solid reference compendium of neuroanesthesia topics and a comprehensive review to assist the general practitioner both in day-to-day practice and during preparation for certification exams. Its problem-based format makes it an ideal resource for the lifelong learner and the modern realities of education.

Introduction: Recent trials showed successful recanalization and clinical benefit from intravenous thrombolysis or endovascular treatment in patients with a major artery occlusion and a favourable imaging profile up to 24 hours from onset of symptoms. We sought to identify the proportion of patients presenting in the 4.5 to 24 hours window who would be eligible for inclusion in these trials. Methods: We undertook a prospective, observational, single centre study including patients with clinical diagnosis of stroke 4.5 to 24 hours after symptom onset. Patients were imaged using CTP and CTA at presentation and follow up MRI and MRA at 48 to 72 hours. CTP analysis was performed on both Mistar and RAPID software packages. Favourable imaging profile was defined based on meeting imaging selection criteria for DAWN and DIFFUSE 3 trials. Results: 20 patients are included in this pilot phase. 4 were excluded due to alternate final diagnosis leaving 16 patients (12 males, mean age 67.4 +/- 9.5 years), of whom 13/16 (81%) were imaged 12-24 hours after symptom onset. Hypoperfusion of any extent was seen in 6/16 by Mistar and 7/16 by RAPID, all of which included areas identified as penumbra. Three patients (19%) had ICA or M1 occlusion. One patient (6%) met DEFUSE 3 trial criteria for thrombectomy, and none met DAWN trial criteria. Conclusion: CTP detected tissue meeting penumbral perfusion criteria in 40% of patients scanned 4.5 to 24 hours after onset of symptoms but only 6% met selection criteria used in one recent mechanical thrombectomy trial.

Part of the Neurosurgery by Example series, this volume on cerebrovascular neurosurgery presents exemplary cases in which renowned authors guide readers through the assessment and planning, decision making, surgical procedure, after care, and complication management of common and uncommon disorders. The cases explore the spectrum of clinical diversity and complexity within cerebrovascular neurosurgery, including aneurysms, ischemic/occlusive disease, arteriovenous malformation, dural arteriovenous fistula, and more. Each chapter also contains 'pivot points' that illuminate changes required to manage patients in alternate or atypical situations, and pearls for accurate diagnosis, successful treatment, and effective complication management. Containing a focused review of medical evidence and expected outcomes, Cerebrovascular Neurosurgery is appropriate for neurosurgeons who wish to learn more about a subspecialty, and those preparing for the American Board of Neurological Surgery oral examination.

This book provides detailed practical guidance on the management of acute ischemic stroke in the clinical settings encountered in daily practice. Real-life cases are used to depict a wide range of clinical scenarios and to highlight significant aspects of management of ischemic stroke. In addition, diagnostic and therapeutic protocols are presented and helpful decision-making algorithms are provided that are specific to the different professionals involved in delivery of acute stroke care and to differing types of hospital facility. The coverage is completed by the inclusion of up-to-date scientific background information relevant to diagnosis and therapy. Throughout, the approach adopted is both practical and multidisciplinary. The book will be of value for all practitioners involved in the provision of acute stroke care, and also for medical students.

Nervous System Drug Delivery: Principles and Practice helps users understand the nervous system physiology affecting drug delivery, the principles that underlie various drug delivery methods, and the appropriate application of drug delivery methods for drug- and disease-specific treatments. Researchers developing nervous system putative therapeutic agents will use this book to optimize drug delivery during preclinical assessment and to prepare for regulatory advancement of new agents. Clinicians will gain direct insights into pathophysiologic alterations that impact drug delivery and students and trainees will find this a critical resource for understanding and applying nervous system drug delivery techniques. Offers an up-to-date, comprehensive resource on drug delivery to the nervous system Provides a bridge for understanding across nervous system delivery-related physiology, drug delivery principles, and the methodologies that underlie the various methods of drug distribution (with clinical application) Written for a broad audience of researchers, clinicians and advanced graduate students in neuroscience, neurology, neurosurgery, pharmacology, radiology and psychiatry

This updated second edition of Acute Ischemic Stroke: Imaging and Intervention provides a comprehensive account of the state of the art in the diagnosis and treatment of acute ischemic stroke. The basic format of the first edition has been retained, with sections on fundamentals such as pathophysiology and causes, imaging techniques and interventions. However, each chapter has been revised to reflect the important recent progress in advanced neuroimaging and the use of interventional tools. In addition, a new chapter is included on the classification instruments for ischemic stroke and their use in predicting outcomes and therapeutic triage. All of the authors are internationally recognized experts and members of the interdisciplinary stroke team at the Massachusetts General Hospital and Harvard Medical School. The text is supported by numerous informative illustrations, and ease of reference is ensured through the inclusion of suitable tables. This book will serve as a unique source of up-to-date information for neurologists, emergency physicians, radiologists and other health care providers who care for the patient with acute ischemic stroke.

Stroke is the fifth leading cause of death in the United States and is a leading cause of adult disability and discharge from hospitals to chronic care facilities. Despite the frequency and morbidity of stroke, there is a relative paucity of “stroke experts,” such as vascular neurologists and neurocritical care physicians, to care for these patients. Clinical research in the diagnosis and treatment of stroke has grown exponentially over the past two decades resulting in a great deal of new clinical information for attending physicians to absorb. Grounded in cutting-edge and evidence-based strategies, Ischemic Stroke closes the gap in stroke care by providing a cogent and intuitive guide for all physicians caring for stroke patients. Key topics explored cover all elements of stroke care, including examinations of: emergent evaluation of the suspected stroke patient, clinical signs and symptoms of stroke, mechanisms of ischemic stroke, neuroimaging, cardiac-based evaluation, thrombolytic therapy, endovascular therapy, critical care management, rehabilitation, cardiac arrhythmias, and structural heart disease.

Purpose: To provide a practical overview of the evidence-based neuroimaging methods of evaluating thrombectomy candidacy in patients presenting with acute ischemic stroke in the early- and late-window. Methods: This educational exhibit provides a step-by-step discussion of how to utilize the latest neuroimaging techniques when evaluating a patient for
thrombectomy candidacy. The goal of the presentation is to provide a practical and clinically focused description of the following topics: 1. Mechanics of acute ischemic stroke and fate of ischemic tissue 2. Goals and methods of stroke management and reperfusion 3. Checklist for the evaluation of large-vessel ischemic stroke 4. Fundamentals of perfusion imaging 5. Pre-treatment imaging of early-window ischemic stroke 6. Pre-treatment imaging of late-window ischemic stroke

Findings: The goal of mechanical thrombectomy in the treatment of large-vessel occlusive acute ischemic stroke is to rescue the greatest volume of penumbral tissue. Pre-interventional neuroimaging evaluates patient candidacy on the basis of four critical parameters: (1) the presence of a large-vessel occlusion, (2) the presence of a small core infarct, (3) the presence of salvageable penumbral tissue, and (4) the absence of cerebral hemorrhage. Multiple methods are available to accurately evaluate each of these parameters using either CT or MRI, with differing requirements in the early- (0-6 hours) and late-windows (6-24 hours). Early-window evaluation can be safely performed in the absence of perfusion imaging, however all late-window evaluations necessitate the use of perfusion imaging, which is a unifying technique in the modern evaluation of large-vessel occlusive stroke. Each potential method is reviewed in detail in this exhibit.

Summary: Evaluation of patient candidacy for endovascular thrombectomy can be performed using CT or MRI, requiring only parenchymal and vascular assessment in the early-window, while evaluation of all late-window patients requires perfusion imaging. This educational exhibit provides a simple, evidence-based methodological overview for the on-call radiologist to accurately evaluate patients presenting with large-vessel occlusive acute ischemic stroke.

Ischemic and hemorrhagic strokes are common neurological emergencies. In recent years, endovascular intervention has become a standard of care in treating acute ischemic stroke, aneurysms, and vascular malformations. As a result, noninvasive CT- and MRI-based techniques have been increasingly used in emergency settings. In this context, neurovascular imaging has become an essential part of the curriculum for training emergency radiologists, stroke neurologists, and vascular neurosurgeons. This book provides a comprehensive review of the entire spectrum of emergent neurovascular imaging, with the emphasis on noninvasive CT angiography (CTA), MR angiography (MRA), and perfusion techniques. It is organized into 11 chapters. The first three chapters address the topics of acute stroke imaging, including algorithms based on recent clinical trials and updated American Heart Association stroke guideline, vascular territories, and stroke mimics. These are followed by discussions of cerebrovenous thrombosis, vasculopathies, aneurysms, and vascular malformations. Remaining chapters are devoted to the traumatic neurovascular injury, as well as the relatively rare albeit important topics of head and neck vascular emergencies and spinal vascular diseases. The book has an image-rich format, including more than 300 selected CT, MRI, or digital subtraction angiography (DSA) images.

Atlas of Emergency Neurovascular Imaging is an essential resource for physicians and related professionals, residents, and fellows in emergency medicine, neuroradiology, emergency imaging, neurology, and vascular neurosurgery and can successfully serve as a primary learning tool or a quick reference guide. This open access book offers an essential overview of brain, head and neck, and spine imaging. Over the last few years, there have been considerable advances in this area, driven by both clinical and technological developments. Written by leading international experts and teachers, the chapters are disease-oriented and cover all relevant imaging modalities, with a focus on magnetic resonance imaging and computed tomography. The book also includes a synopsis of pediatric imaging. IDKD books are rewritten (not merely updated) every four years, which means they offer a comprehensive review of the state-of-the-art in imaging. The book is clearly structured and features learning objectives, abstracts, subheadings, tables and take-home points, supported by design elements to help readers navigate the text. It will particularly appeal to general radiologists, radiology residents, and interventional radiologists who want to update their diagnostic expertise, as well as clinicians from other specialties who are interested in imaging for their patient care.

This comprehensive resource covers a range of women's health issues and their intersection with neurologic and psychiatric disease. Chapters feature high quality, integrated information based on leading-edge research on gender-specific care and are grouped by reproductive years, pregnancy and health, and aging. Emerging science regarding sex differences in neurological and psychiatric illnesses, including anxiety, reproductive health, conversion disorders, depression and ethical issues in pregnancy, stroke risk factors, and successful aging strategies are covered along with clinical application of this knowledge to the delivery of care. In addition, in those medical problems that afflict both men and women, authors will point out the different risks, prevalence, presentations, and responses to treatments or outcomes in women. Written by renowned experts in the field, this textbook will thoroughly address the educational needs of physicians, nurse practitioners, and physician assistants in the areas of neurology, psychiatry, internal medicine, and obstetrics and expanding their understanding of concerns unique to female patients.

For more than 60 years, Merritt's Neurology has remained a trusted landmark text in clinical neurology, providing unparalleled guidance on neurologic protocols, treatment guidelines, clinical pathways, therapeutic recommendations, and imaging. The fourteenth edition reflects the state of today's practice, with fully updated content and timely new sections and chapters. With this edition, Dr. James Noble joins Drs. Elan Louis and Stephan A. Mayer as co-editor, all of whom trained at Columbia University where Dr. H. Houston Merritt wrote the initial editions of this book. Lauded for its comprehensive coverage, colorful and dynamic visual style, readability, and ease of use, this up-to-date reference is ideal for neurologists, primary care physicians, and residents alike.

Interventional Neuroradiology, Volume 179, provides a basic outline of the field of interventional neuroradiology that is accessible to fellows, residents, clinicians and researchers in various disciplines, from diagnostic and interventional radiology to vascular neurology, general and vascular neurosurgery, and vascular biology. This volume offers a timely update to experienced clinical practitioners in a logical, easy-to-follow format. Content includes neurovascular anatomy, vascular biology, neurovascular physiology, vascular
imaging, as well as sections on the diagnosis and therapeutic treatment of neurovascular disease. Explores the general scope of current clinical interventional neuroradiology, both for endovascular and percutaneous image-guided diagnosis and interventions in a variety of pathologies Defines basic physiological principles (e.g., cerebral perfusion pressure, intracranial pressure, vasospasm, tissue osmolality) with reference to those most essential to the management of neurovascular diseases Discusses pathophysiology and the unique challenges of pediatric cerebrovascular diseases, as well as endovascular and surgical therapies
This issue of Neurologic Clinics, guest edited by Drs. Joseph D. Burns and Anna M. Cervantes-Arslanian, will focus on Neurologic Emergencies. This issue is one of four selected each year by series consulting editor, Dr. Randolph W. Evans. Topics include—but are not limited to—Coma and depressed level of alertness; Post-arrest Neuroprotection; Headache Emergencies; Acute dizziness, vertigo, and unsteadiness; Neuro-ophthalmologic emergencies; Intracerebral hemorrhage; Acute ischemic stroke; Seizures and status epilepticus; Movement disorders emergencies; Neuromuscular respiratory failure; Neuroinfectious disease emergencies; Severe traumatic brain injury; Acute myelopathy; Neuro-oncologic emergencies; Autoimmune neurologic emergencies; Brain herniation and intracranial hypertension; Aneurysmal subarachnoid hemorrhage; Anesthesia considerations in neurosurgical emergencies; Neurological emergencies during the COVID pandemic; Neurocritical care and the COVID pandemic; and Neurologic Emergencies during Pregnancy.
Clinically focused and evidence-based, Harwood-Nuss' Clinical Practice of Emergency Medicine, Seventh Edition, is a comprehensive, easy-to-use reference for practitioners and residents in today's Emergency Department (ED). Templated chapters rapidly guide you to up to date information on clinical presentation, differential diagnosis, evaluation, management, and disposition, including highlighted critical interventions and common pitfalls. This concise text covers the full range of conditions you're likely to see in the ED, with unmatched readability for quick study and reference.
This issue of Anesthesiology Clinics, guest edited by Drs. Jeffrey Kirsch and Cindy Lien, focuses on Neuroanesthesia. This is one of four issues each year selected by the series consulting editor, Dr. Lee Fleisher. Articles in this issue include, but are not limited to: Degenerative Spine Disease, Craniosynostosis, Supratentorial tumors (including awake craniotomies), Suboccipital Procedures, Acute Stroke, Acute Spinal cord injury, Decompressive surgery for patients with TBI, Neuromonitoring and more.
This truly comprehensive title addresses all aspects of the evaluation and management of carotid artery disease. The extracranial carotid artery is an area of confluence for both medical and surgical specialists. Given its unique position and function in the body, disease states that involve the carotid artery require a unique approach to ensure the best outcomes for patients. Developed by a multidisciplinary team of thought leaders from across medical, surgical, and radiological disciplines, Carotid Artery Disease: Evaluation and Management provides a diverse resource where readers can find presentation, evaluation, and management recommendations for any process involving the extracranial carotid artery, be it related to atherosclerotic, traumatic, inflammatory, or even oncologic disease. Indeed this title is a unique offering in that one can find traditional, and even exclusively medical, conditions within the same binding as surgical or interventional ones. Typically, access to this type of information requires the purchase of multiple different texts, but this complete title distills the evaluation and management of carotid artery disease into a one-of-a-kind, practical, accessible reference. A much-needed and invaluable contribution to the clinical literature, Carotid Artery Disease: Evaluation and Management will be of great interest to anyone early in his or her career and needing an introduction to the field, as well as seasoned clinicians in need of state-of-the-art, refresher information.
**CHANGING TIMES - STROKE SYMPTOM ONSET AND SERVICE IMPROVEMENT IN A TERTIARY STROKE CENTRE**
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Galway University hospital- Ireland, Geriatric and Stroke Medicine, Galway, Ireland.Background and Aims: Emerging research has demonstrated that the time window for treatment with mechanical thrombectomy may be up to 24 hours in selected patients. To implement this into clinical practice, access to modern imaging techniques to identify those patients who will benefit from treatment is essential. Method: Over a 3 month period (October 2019-17-January 2019-18), data was prospectively collected on all acute stroke presentations to a tertiary stroke centre serving a catchment area population of 314,718. All acute ischemic stroke patients presenting within 24 hours of symptom onset were included. We assessed what proportion of patients received advanced imaging, such as CT angiograms (CT-A). Results: There were 53 acute ischemic stroke presentations within 24 hours of symptom onset during the time period. 65.4% (n=34) of patients had CT angiograms performed. 27 (51%) of patients presented within 6 hours of symptom onset. Patients presenting within 6 hours of symptom onset were more likely to have CT-A performed than those presenting between 6 and 24 hours (74% vs 46%). Conclusion: Not all patients presenting within 24 hours of symptom onset are receiving advanced imaging. Resource allocation, education and refinements in our stroke pathway are essential to ensure that all cases that may benefit from advanced imaging so potential mechanical thrombectomy candidates are detected. This area is subject to ongoing departmental audit.
The ESC Textbook of Intensive and Acute Cardiovascular Care is the official textbook of the Acute Cardiovascular Care Association (ACVC) of the ESC. Cardiovascular diseases (CVDs) are a major cause of premature death worldwide and a cause of loss of disability-adjusted life years. For most types of CVD early diagnosis and intervention are independent drivers of patient outcome. Clinicians must be properly trained and centres appropriately equipped in order to deal with these critically ill cardiac patients. This new updated edition of the textbook continues to comprehensively approach all the different issues relating to intensive and acute cardiovascular care and addresses all those involved in intensive and acute cardiac care, not only cardiologists but also critical care specialists, emergency physicians and healthcare professionals. The chapters cover the various acute cardiovascular diseases that need high quality intensive treatment as well as organisational issues, cooperation among professionals, and interaction with other specialities in medicine. SECTION 1 focusses on the definition, structure, organisation and function of ICCU's, ethical issues and quality of care. SECTION 2 addresses the pre-hospital and immediate in-hospital emergency cardiac care. SECTIONS 3-5 discuss patient monitoring, diagnosis and specific procedures. Acute coronary syndromes (ACS), acute decompensated heart failure (ADHF), and serious arrhythmias form SECTIONS 6-8. The main
other cardiovascular acute conditions are grouped in SECTION 9. Finally SECTION 10 is dedicated to the many concomitant acute non-cardiovascular conditions that contribute to the patients’ case mix in ICCU. This edition includes new chapters such as low cardiac output states and cardiogenic shock, and pacemaker and ICDs: troubleshooting and chapters have been extensively revised. Purchasers of the print edition will also receive an access code to access the online version of the textbook which includes additional figures, tables, and videos to better illustrate diagnostic and therapeutic techniques and procedures in IACC. The third edition of the ESC Textbook of Intensive and Acute Cardiovascular Care will establish a common basis of knowledge and a uniform and improved quality of care across the field.

Background: DAWN trial recently established the benefit of mechanical thrombectomy (MT) for patients with occlusion of intracranial internal carotid (ICA) or middle cerebral artery (M1 or M2), last known to be well 6 to 24 hours earlier with deficit-infarct mismatch. We aim to determine outcomes for MT performed at our centre in similar patients with ASPECTS ≥ 7 instead of deficit-infarct mismatch.

Method: Analysis of extracted data, between 2013 and 2017, from local Safe Implementation of Treatment in Stroke (SITS) registry. ASPECTS were calculated by a neuro-radiologist blinded to clinical outcome. Primary endpoint was functional independence (modified Rankin score ≤ 2) at 90 days.

Results: We identified 43 patients with occlusions at the M1-segment (n=24, 55.8%), M2-segment (n=12, 27.9%) and intracranial ICA (n=7, 16.3%). Mean age at stroke onset was 69.7 years (SD±12.9). Median admission NIHSS was 14 (IQR 9-19). Stroke onset time was unknown in 20 patients: 14 (32.6%) ‘wake-up strokes’ and 6 (14.0%) ‘daytime unwitnessed-onset strokes’. Median interval between time last known to be well and groin puncture was 575 min (IQR 400-730 min). Rate of functional independence at 90 days was 60.5%. Rate of symptomatic intracranial haemorrhage was 2.3% and 90-day mortality 9.3%.

Conclusion: In our series, patients with ischemic stroke last known to be well 6 to 24 hours earlier and an ASPECTS ≥ 7 treated with MT, functional independence rate at 90 days was similar to DAWN trial result (60.5% vs. 49%). Further research is needed to determine reliability of the ASPECTS in assessing favourable outcome for this time-window.

THROMBECTOMY 6 TO 24 HOURS AFTER STROKE USING THE ALBERTA STROKE PROGRAM EARLY CT SCORE (ASPECTS)