Amyotrophic Lateral Sclerosis Progress And Perspectives In Basic Research And Clinical Application Proceedings Of The 11th Tokyo Metropolitan Tmin In International Congress Series

This book is devoted to all of the things that can be done to assist in the care of patients with ALS. Few diseases of the nervous system create as great a sense of hopelessness and despair on the part of patients and physicians as does ALS. Striking during the prime of life and selectively destroying the motor elements of the nervous system while leaving the senses intact, it inevitably progress to the point of total disability. At present, its cause, means of prevention, and cure are unknown.

Hardbound. Rapid progress has been made in both the research and clinical aspects of amyotrophic lateral sclerosis (ALS). There are striking achievements in many areas of ALS research.The contents of this volume will allow the reader to easily understand this progress, finding exciting advances in every section that could not have been imagined several years ago. This volume will bring great benefits to all researchers and clinicians involved with amyotrophic lateral sclerosis.

A flurry of recent research on the role of the RNA/DNA-binding proteins TDP-43 and FUS as well as a dozen other factors (e.g., C9ORF72 and profilin) has led to a new paradigm in our understanding of the pathobiology of the motor neuron disease, Amyotrophic Lateral Sclerosis (ALS). How these factors trigger neuromuscular dysfunction is critical for developing more effective ALS therapeutics. The 'gain-of-toxicity' or 'loss-of-function' of these etiological factors is a key question. Recent studies on the imbalance in genome damage versus repair have opened avenues for potential DNA repair-based therapeutics. This book highlights emerging science in the area of ALS and discusses key approaches and mechanisms essential for developing a cure for ALS.

Recent Advances and Therapeutic Challenges

Advances and Perspectives of Neuro-Nanomedicine

Symptoms, Treatment and Prognosis

New Research

Amyotrophic Lateral Sclerosis (ALS) or Lou Gehrig's disease is an adult-onset fatal neurodegenerative disease characterized by progressive apoptosis of upper and lower motor neurons in the brain, brainstem and spinal cord. This results in paralysis of bulbar, limb, thoracic and abdominal skeletal muscles, and death within 2-5 years of diagnosis. In this book, the authors present current research on the symptoms, treatment and prognosis of ALS. Topics include audiological profiles and hearing loss in ALS patients; the role of the lipid transcription factor and sterol regulatory element binding protein 1 (SREBP1) in ALS; molecular targeted therapy for ALS; physical and communication disabilities in ALS; psychological interventions for ALS patients and their caregivers; and a study of ALS progression and propagation.

Amyotrophic Lateral Sclerosis (ALS) is a devastating neurodegenerative disorder with a progressive and fatal course, with no known medical therapies that can reverse the disease or halt its progression. Palliative care is the mainstay of disease management, aimed at maximizing Quality Of Life (QOL) for the patient and caregiver. Clinicians caring for patients with ALS need to understand complex psychological issues in the patient and caregiver, including depression, anxiety, hopelessness, and wish for hastened death (physician-assisted suicide). They also need to confront the psychological implications of rapidly advancing genetic research, the impact of cognitive and behavioural dysfunction in a sizable minority of ALS patients, and caregiver burnout. Healthcare providers can optimize care by better understanding not only these factors, but by learning how to facilitate their management with problem-solving, coping techniques, and with psychologically-based approaches such as mindfulness and other non-pharmacological approaches aimed at maximizing QOL. Amyotrophic Lateral Sclerosis: Understanding and Optimizing Quality of Life and Psychological Well-Being provides a detailed review and evaluation of ALS, presented in a comprehensive and integrated fashion. The book achieves this through detailed and up-to-date information about the current state of knowledge in this field. It also offers new insights regarding future directions for research. This book will provide clinicians with a comprehensive description of the psychological aspects of ALS and their management, and incorporates chapters written by recognized scholars in their respective fields.

This volume provides an evidence-based guide to the care of people with ALS/MND, including the control of symptoms, the psychosocial care of patients and their families, and care in bereavement.

Palliative Care in Amyotrophic Lateral Sclerosis

Heterogeneity, Pathogenesis and Therapeutic Directions

Understanding and Optimizing Quality of Life and Psychological Well-Being

A Guide to Patient Care

SPECTRUMS OF AMYOTROPHIC LATERAL SCLEROSIS Discover state-of-the-art research findings on ALS from leading authors and editors in the field In Spectrums of Amyotrophic Lateral Sclerosis: Heterogeneity, Pathogenesis & Therapeutic Directions, distinguished researchers and editors Dr. Christopher A. Shaw and Jessica R. Morrice deliver a practical and powerful perspective on Amyotrophic Lateral Sclerosis (ALS) as a heterogeneous spectrum of disorders. This increasingly accepted point-of-view allows researchers and medical professionals to develop better t more precise therapies. In the book, readers will find chapters on a wide variety of critical issues facing ALS researchers and healthcare practitioners treating ALS sufferers, including animal models of ALS, neuronal support cells known to have a pivotal role in ALS, and current challenges in ALS clinical trials, among others. The authors describe pathologic features common to all cases of ALS and why animal models, though crucial, should be interpreted with caution. Finally, multiple genetic and environmental etiologies of the disease are discussed. Readers will also benefit f thorough introduction to ALS as a spectrum disease and the implications for models, therapeutic development and clinical trial design Explorations of the genetic basis of ALS, prospective sALS etiologies, and the involvement of microbiome in ALS Discussions of ALS-PDC and environmental risk factors, protein aggregation in ALS, defects in RNA metabolism in ALS, and the non-cell autonomous nature of ALS and the involvement of glial cells Examinations of animal models of ALS and perspectives on previously failed ALS therapeutics and current therapeutic strategies Perf healthcare providers and caretakers, clinicians, and researchers studying motor neuron disease, Spectrums of Amyotrophic Lateral Sclerosis: Heterogeneity, Pathogenesis & Therapeutic Directions is also an indispensable resource for the neurodegenerative research community, neurology residents, and graduate-level neuroscience students.

Amyotrophic lateral sclerosis: Understanding and optimizing quality of life and psychological well-being presents a comprehensive and up-to-date review of the enhancement of the lives of people with amyotrophic lateral sclerosis (ALS) and their caregivers. ALS is a progressive, fatal neurodegenerative disorder. No current medical therapy can reverse or stop its progression, and the promotion of quality of life and psychological well-being is a central component of ALS care. Health care professionals who work in this field should incorporate attention to psychological, emotiona the disease into their approach to care. This book provides some of the knowledge and direction necessary for optimizing the quality of care for individuals with ALS and their caregivers. Topics discussed include an ALS-centred view of quality of life, depressive features, anxiety, resilience, cognitive impairment, complementary and alternative medicines, and psychological research.

Our understanding of the pathology of amyotrophic lateral sclerosis is a continuously changing field. New hypotheses are generated with each new discovery; they are abandoned to be reanalyzed after some time under the light of new observations. This book present a series of reviews from experts in different aspects of the disease focus on these hypotheses. There are also a few review chapters providing clear examples of these new observations that make the field to reanalyze previous conclusions.

Progress and Perspectives in Basic Research and Clinical Application : Proceedings of the 11th Tokyo Metropolitan Institute for Neuroscience (TMIN) International Symposium, Tokyo, October 25-27, 1995

CBD Oil for Amyotrophic Lateral Sclerosis

Advances and Perspectives of Neuronanomedicine

Neurology in Clinical Practice

ALS, also known as Lou Gehrig's Disease, is the most common of the motor neuron diseases that cause muscle atrophy. ALS is a chronic, progressively debilitating disease characterised by progressive muscle atrophy starting in the limbs and spreading to the rest of the body, often accompanied by overactive reflexes. It usually manifests itself after the age of 40. The exact cause of ALS is unknown and there is no cure at this time. ALS may be fatal in one year or continue for 10 or more years. This new book includes leading edge research from around the world and covers the aetiology, pathogenesis, symptoms, diagnosis, and treatment of amyotrophic lateral sclerosis (ALS).

Annotation Chapters cover nutrition and swallowing; speech, communication, and computer access; mobility; breathing and sleeping; end-of-life care; and much more, including insurance issues and practical tips. Chapters from leading ALS organizations offer useful lists of- support services- publications- websites and other resources.

Amyotrophic Lateral Sclerosis: A Patient Care Guide for Clinicians is a practical reference for clinicians caring for ALS patients that brings together the collective wisdom of those at the forefront of patient-oriented research and practice. The book compiles recent findings of both evidence-based and experience-based research to provide clinicians with tools that improve quality and length of life for people with ALS. To present a truly multidisciplinary approach to ALS, this book mirrors the organization of a large clinic with separate departments working collaboratively. It begins with a review of current understandings of ALS including diagnostic criteria, genetic and sporadic subtypes, epidemiology, co-morbidities, and prognosis. From there the book is divided into chapters that include neurological assessment, nursing care and coordination, speech and swallowing interventions, nutrition and nutrition therapy, physical therapy, occupational therapy, respiratory therapy, assistive technology, social work practice related to ALS, and web-based resources. Each chapter is led by experts from that discipline who review evidence- and experience-based care options. In addition, the entire North American ALS Research Group (ALSRG) has had a chance to weigh in as well, making this a unique and well-rounded resource. The book addresses everything from breaking the news of an ALS diagnosis to end-of-life care and bereavement. By putting experts in conversation with each other, both within and across individual disciplines, Amyotrophic Lateral Sclerosis: A Patient Care Guide for Clinicians provides comprehensive, real-world care information that can í t be found anywhere else. Amyotrophic Lateral Sclerosis features: A practical reference for all members of the ALS care team, covering everything frombreaking the news to end-of-life care and bereavement Chapters that mirror the organization of large multi-disciplinary ALS clinics andinclude pertinent information for each member of the care team Evidence- and experience-based findings provide current scientific and clinical consensus and a forum for real-world care options

Amyotrophic lateral sclerosis

Amyotrophic Lateral Sclerosis: Diagnosis and Management

Investigating the Interplay of Intrinsic to Extrinsic Factors Influencing Amyotrophic Lateral Sclerosis Disease Progression

Amyotrophic Lateral Sclerosis

Amyotrophic lateral sclerosis (ALS) is a devastating neurodegenerative disorder affecting motor neurons in the spinal cord, brainstem and motor cortex. The disease induces paralysis, and death results from respiratory failure. The pathogenesis of ALS begins before a diagnosis can be made in the clinic. Analyzing processes influencing disease progression is an important strategy to elucidate disease mechanisms. We investigated factors influencing ALS disease progression, using the framework that the interplay of a range of extrinsic and intrinsic factors determine phenotypes. Our analysis of intrinsic, genetic factors focused on the H63D polymorphism in the HFE iron regulatory gene. Our results suggest homozygosity for H63D HFE is correlated with approximately 2-year longer disease duration and decreased levels of soluble superoxide dismutase protein in patients with ALS. We propose H63D HFE causes mild endoplasmic reticulum stress, which increases the risk for ALS but also promotes adaptive mechanisms that prolong survival in those who develop ALS. Studies analyzing intermediate factors focused on protein biomarkers. We measured 35 biomarkers in cerebrospinal fluid and plasma of patients with ALS, and created models predicting ALS prognosis based on biomarkers panels comprised of inflammatory cytokines, growth factors, and iron metabolism markers. We then focused on ferritin, which correlated with longer disease duration in our models. Our results suggest ferritin is elevated in the blood of patients with ALS versus healthy controls and those with non-ALS neurological diseases. We propose elevated ferritin in ALS patients is an adaptive response to oxidative damage. Studies analyzing extrinsic factors focused on pharmacotherapies. Our results suggest HMG-CoA reductase inhibitors (statins), which are commonly prescribed to manage cholesterol, adversely impact phenotype in ALS model mice. G93A SOD1 mice administered statins had accelerated disease progression and decreased survival, with double transgenic animals harboring both SOD1 G93A and H67D HFE, homologous to human H63D HFE, having the worst phenotype. This underscores the need for surveillance of disease progression in patients with ALS receiving statin therapy. Our results suggest strategies to stratify patients in clinical trials, enabling more precise evaluation of outcomes; as well as therapeutic approaches that may improve the clinical situation for patients with ALS.

New edition, completely rewritten, with new chapters on endovascular surgery and mitochrondrial and ion channel disorders.

A condition that causes the death of neurons which control the voluntary muscles of the body is known as amyotrophic lateral sclerosis (ALS). It is also referred to as Lou Gehrig's disease or motor neurone disease. Patients with ALS exhibit signs of muscle stiffness, muscle twitching and muscle wasting. The person may experience progressive difficulty in speaking or swallowing, and weakness in the arms or legs. The diagnosis of ALS is based on a study of the clinical signs and symptoms, full medical history and neurologic examinations. Blood tests and MRIs can rule out the likelihood of other diseases. ALS has no medical cure. Its management is focused on providing supportive care, treating symptoms and improving quality of life. Medicines like riluzole prolong survival by 2-3 months, while edaravone slows functional decline to some extent but at the cost of quality of life. Respiratory failure is managed with non-invasive ventilation. For patients with advanced ALS, invasive ventilation is an option that can prolong survival even as the disease continues to progress and body functions decline. The various studies that are constantly contributing towards advancing diagnosis and treatment of amyotrophic lateral sclerosis are examined in detail in this book. It presents researches and studies performed by experts across the globe. This book will prove to be immensely beneficial to students and researchers in the field of neuroscience.

Developing Blood-based Biomarkers of Disease Progression in Amyotrophic Lateral Sclerosis

From Diagnosis to Bereavement

ScholarlyBrief

Amyotrophic Lateral Sclerosis: New Insights for the Healthcare Professional: 2011 Edition

ALS is not a curable disease, but it is a treatable one. Treatments are now available that can make a major difference in prolonging life and enhancing the quality of life for people with the disease, and there are treatments for many of the symptoms of ALS that can help ease its burden. Multidisciplinary teams in specialized ALS centers are providing top quality care and comprehensive rehabilitation for persons with ALS. In spite of the progressive nature of this disease and its clear tendency to shorten life, the momentum of research in this disease is expanding dramatically and numerous clinical trials are testing promising new therapies. Our understanding of the basic causes of ALS is expanding gradually. The substantial resources of patient advocacy groups such as the Amyotrophic Lateral Sclerosis Association and Muscular Dystrophy Association provide tremendous help and support for people with ALS and their families. Although the diagnosis of ALS can initially be devastating, the vast majority of people discovering new courage from within to battle this disease and live life with vigor and enthusiasm. The information in this book will prove useful to people with ALS and their families both in managing the disease and living within its limitations. "

Recently, the implication of biocompatible nanotechnologies has set the stage for an evolutionary leap in diagnostic imaging and therapy. In this scope, the book presents a comprehensive overview of the possible causes, diagnostic criteria, and treatment assessments of amyotrophic lateral sclerosis, and presents the recent findings using innovative

Amyotrophic Lateral Sclerosis: New Insights for the Healthcare Professional: 2011 Edition is a ScholarlyBrief™ that delivers timely, authoritative, comprehensive, and specialized information about Amyotrophic Lateral Sclerosis in a concise format. The editors have built Amyotrophic Lateral Sclerosis: New Insights for the Healthcare Professional: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Amyotrophic Lateral Sclerosis in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Amyotrophic Lateral Sclerosis: New Insights for the Healthcare Professional: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

The Management of Motor Neurone Disease

Biophysical Mechanisms Underlying Amyotrophic Lateral Sclerosis Disease Progression

Summary of Progress in Multiple Sclerosis (MS) and Amyotrophic Lateral Sclerosis (ALS)

A Patient Care Guide for Clinicians

Significant advances have increased our understanding of the molecular mechanisms of amyotrophic lateral sclerosis (ALS), yet this has not translated into any greatly effective therapies. It appears that a number of abnormal physiological processes occur simultaneously in this devastating disease. Ideally, a multidrug regimen, including glutamate antagonists, antioxidants, a centrally acting anti-inflammatory agent, microglial cell modulators (including tumor necrosis factor alpha [TNF-alpha] inhibitors), an antiapoptotic agent, 1 or more neurotrophic growth factors, and a mitochondrial function-enhancing agent would be required to comprehensively address the known pathophysiology of ALS. Remarkably, cannabis appears to have activity in all of those areas. Preclinical data indicate that cannabis has powerful antioxidative, anti-inflammatory, and neuroprotective effects. In the G93A-SOD1 ALS mouse, this has translated to prolonged neuronal cell survival, delayed onset, and slower progression of the disease. Cannabis also has properties applicable to symptom management of ALS, including analgesia, muscle relaxation, bronchodilation, saliva reduction, appetite stimulation, and sleep induction. With respect to the treatment of ALS, from both a disease modifying and symptom management viewpoint, clinical trials with cannabis are the next logical step. Based on the currently available scientific data, it is reasonable to think that cannabis might significantly slow the progression of ALS, potentially extending life expectancy and substantially reducing the overall burden of the disease.In the United States, ALS also is called Lou Gehrig's disease, named after the Yankees baseball player who died of it in 1941. In the United Kingdom and some other parts of the world, ALS is often called motor neurone disease in reference to the cells that are lost in this disorder.Amyotrophic lateral sclerosis (a-my-o-TROE-fik LAT-ur-ul skluh-ROE-sis), or ALS, is a progressive nervous system (neurological) disease that destroys nerve cells and causes disability.ALS is often called Lou Gehrig's disease, after the famous baseball player who was diagnosed with it. ALS is a type of motor neuron disease in which nerve cells gradually break down and die.Doctors usually don't know why ALS occurs. Some cases are inherited.ALS often begins with muscle twitching and weakness in a limb, or slurred speech. Eventually, ALS affects control of the muscles needed to move, speak, eat and breathe. There is no cure for ALS, and eventually the disease is fatal.

Amyotrophic Lateral Sclerosis: A Patient Care Guide for Clinicians is intended as a practical reference for clinicians caring for ALS patients, and will bring together the collective wisdom of those at the forefront of patient-oriented research and practice. This will be an official project of the ALS Research Group (founded by Dr. Mitsumoto and currently headed by Dr. Bedlack), and provides both an evidence-based and experience-based guide to multidisciplinary ALS care. The book will begin with a brief review of current concepts of ALS including diagnostic criteria, genetic and sporadic subtypes, epidemiology, co-morbidities and prognosis. Individual chapters then tackle the gamut of specific issues that arise in caring for people with ALS, from breaking the news all the way through end-of-life care and bereavement. Amyotrophic Lateral Sclerosis: A Patient Care Guide for Clinicians is divided by disciplines, mirroring the way large multi-disciplinary ALS clinics operate and includes pertinent material for each member of the care team. Each section will has one primary author from that discipline (an expert ALSRG member), who will review the specific issues they have seen arise and review the evidence-based options presented for each issue. Each section will also has a group of secondary authors, other experts from the same discipline who offer counterpoints or other ideas about how to handle clinical problems (i.e. use of lipids and statins, screening for driving, etc.)—essentially what has or hasn't worked for them—thus capturing the variety of opinions across experts in the field and providing real-world care information that isn't available or documented anywhere else.

Highlights the full text of a fact sheet entitled "Amyotrophic Lateral Sclerosis," provided by the National Institute of Neurological Disorders and Stroke (NINDS) of the National Institutes of Health in Bethesda, Maryland. Notes that amyotrophic lateral sclerosis, also known as Lou Gehrig's disease, is a progressive fatal neurological disease. Discusses treatment, prognosis, and research.

Early Predictors of Survival and Disease Progression in Amyotrophic Lateral Sclerosis (ALS) and Their Value in Designing New Clinical ALS Trials

Navigating Life with Amyotrophic Lateral Sclerosis

Everything You Need to Know about How ALS Is Treated and Cured Using CBD Oil

Advances in Amyotrophic Lateral Sclerosis

ALS, also known as Lou Gehrig's disease, cannot be cured but it can be treated. A great deal can be done to treat the symptoms of ALS, to improve an individual's quality of life, and to help families, caregivers, and loved ones to cope with the disease. This extensively revised and rewritten new edition of the bestselling Amyotrophic Lateral Sclerosis: A Guide For Patients and Families addresses all of those needs, and brings up-to-date important information to those living with the reality of ALS. The book is completely revised throughout and contains NEW information on: Recently developed approaches to treating ALS symptoms Use of non-invasive ventilators Multidisciplinary team care New guidelines being developed by the American Academy of Neurology for patients with ALS The use of riluzole (Rilutek) to treat ALS Amyotrophic Lateral Sclerosis covers every aspect of the management of ALS, from clinical features of the disease, to diagnosis, to an overview of symptom management. Major sections deal with medical and rehabilitative management, living with ALS, managing advanced disease, end-of-life issues, and resources that can provide support and assistance in this time of need.

Navigating Life with Amyotrophic Lateral Sclerosis provides accessible, comprehensive, and up-to-date information about the challenges patients, family members, and caregivers face when confronted by ALS, a disease that affects approximately 5,600 Americans every year, with as many as 30,000 people managing the disease at any given time. ALS is a difficult disease for the patient and is also challenging for the caregiver and family as there are many questions, issues relating to care, and problems to manage. This guide covers all aspects of managing ALS, from the onset of symptoms, diagnosis, treatments, and coping strategies, to the use of home health care or hospice, and new research in the field. The book also sheds lights on difficult topics, such as end-of-life care and managing legal affairs. Navigating Life with Amyotrophic Lateral Sclerosis is unique because it covers two perspectives: one author is a neurologist with 30 years of experience treating ALS patients, and the other author experienced first-hand the issues in providing care for a parent with ALS. Formatted in a question-and-answer style, peppered throughout with patient stories, and with sections devoted to family members and caregivers, this compassionate resource provides guidance to those seeking to understand how to live with this disease.

Though considerable amount of research, both pre-clinical and clinical, has been conducted during recent years, Amyotrophic Lateral Sclerosis (ALS) remains one of the mysterious diseases of the 21st century. Great efforts have been made to develop pathophysiological models and to clarify the underlying pathology, and with novel instruments in genetics and transgenic techniques, the aim for finding a durable cure comes into scope. On the other hand, most pharmacological trials failed to show a benefit for ALS patients. In this book, the reader will find a compilation of state-of-the-art reviews about the etiology, epidemiology, and pathophysiology of ALS, the molecular basis of disease progression and clinical manifestations, the genetics familial ALS, as well as novel diagnostic criteria in the field of electrophysiology. An overview over all relevant pharmacological trials in ALS patients is also included, while the book concludes with a discussion on current advances and future trends in ALS research.

Spectrums of Amyotrophic Lateral Sclerosis

A Guide for Patients and Families:Third Edition

Current Advances in Amyotrophic Lateral Sclerosis

Recently, the implication of biocompatible nanotechnologies has set the stage for an evolutionary leap in diagnostic imaging and therapy. In this scope, the book presents a comprehensive overview of the possible causes, diagnostic criteria, and treatment assessments of amyotrophic lateral sclerosis, and presents the recent findings using innovative, highly sensitive, and novel diagnostic molecular imaging approaches. In addition, the book offers new perspectives of an innovative and recently developed approach in neuroimaging using surface-enhanced nanoimaging microscopy, which can be a promising technique for early diagnosis and treatment assessments.