

## Curriculum Vitae Istituto Neurologico Carlo Besta IEO

The Second Edition of this highly regarded text provides a current reference source on the clinical and research applications of Transcranial Doppler (TCD) ultrasonography. All of the chapters have been updated to reflect the rapid evolution that has taken place in the field. New information has been included on the increased use of TCD in the operating room, the introduction of contrast media, and the development of new softwares that permit the detection of microemboli. \* The most comprehensive resource for neurologists seeking information on the current applications of TCD \* Contains 38 color images and over 175 black and white photographs \* Written by a contingent of well-respected experts who have demonstrated leadership in the field for new applications

Birth defects are defined as abnormalities of structure, function, or body metabolism that are present at birth. These abnormalities lead to mental or physical disabilities which can be fatal. There are over 4,000 different known birth defects ranging from minor to serious, and although many of them can be treated or cured, they are the leading cause of death in the first year of life. This book presents leading research in this field from around the world.

Obesity is currently regarded as one of the major health challenges of the developed world. Excess body weight is an important risk factor for morbidity and mortality from cardiovascular diseases, diabetes, cancer, musculoskeletal disorders and even psychiatric problems and is estimated to cause nearly 3 million deaths per year worldwide. Obesity is not necessarily associated with comorbidities: there are indeed metabolically healthy obese individuals. Thus, we need to consider individuals presenting simple with obesity separately from those at risk of developing or who have already developed complex clinical states potentially leading to disability. Comorbidities can tip the balance of independence in patients who already have functional limitations mainly due to the excess of mass itself or who develop conditions such as diabetes, cardiovascular conditions, non-alcoholic fatty liver disease, where an abnormal metabolism of adipose tissue prevails. Morbid obesity with comorbidities leading to disability represents a real social and economic burden for National Health Systems worldwide. The presence of multiple and associated comorbidities often represents an obstacle to being admitted to hospitals for the treatment of metabolic diseases. On the other hand, clinical units with optimal standards for the treatment of pathological conditions in normal-weight patients are often structurally and technologically inadequate for the care of patients with extreme obesity. The aim of this book is to focus on the pathophysiological and rehabilitative aspects of disabling obesity, highlighting multidisciplinary rehabilitation interventions as key to counteracting the disabling aspects of complicated obesity.

This text addresses all aspects of patient evaluation and care. This includes new findings in imaging that provide a better understanding of the extent of the lesion as well as its relationship with critical neuroanatomic function. The evolution of intraoperative imaging, functional brain mapping, and technology to identify tumor from brain is covered. This has significantly improved the ability of surgeons to more safely and aggressively remove tumors. More importantly, a better understanding of tumor biology and genomics has created an opportunity to significantly revise tumor

classification and better select optimal therapy for individual patients. The text covers novel and innovative treatment options including immunotherapy, tumor vaccines, antiangiogenic agents, and personalized cancer treatment. In addition, novel agent delivery techniques are covered to offer the potential for increasing the effectiveness of treatment by delivering active agents directly where they are needed most. *Malignant Brain Tumors: State-of-the-Art Treatment* provides a comprehensive overview of treatment for malignant gliomas, and will prove useful by updating physicians on new therapeutic paradigms and what is on the horizon for the near future. This text will be informative for surgeons, oncologists, neurologists, residents and students who treat these patients, as well as those who are training for a career in managing patients with these challenging tumors.

This is a practical book on neurological therapy. It is aimed at giving concise and updated answers to busy practicing clinicians in the clinic, ward, or emergency department. An evidence-based approach is used, but when there is no evidence or the data are inconclusive, an expert opinion is always given in order to meet the expectations of the reader. All neurological conditions, common and less common, are discussed; each chapter has a similar format, and contains an initial brief introduction on the epidemiology and clinical features of each disease. The therapy is then discussed, including pharmacological and non-pharmacological, with wide use of Tables & Figures. Flowcharts are also included in most of the chapters.

This book is intended as a practical manual on the use of intraoperative ultrasound (IOUS) as a tool for imaging guidance during cranial and spinal neurosurgical procedures. Full account is taken of the emergence of novel clinical applications and recent technical advances, with extensive coverage of the impact of developments such as improved probe technology, fusion imaging and virtual navigation, 3D ultrasound imaging, contrast-enhanced ultrasound, and elastosonography. Basic principles of ultrasound are elucidated in order to assist in the optimal use of IOUS and clear guidance is provided on the interpretation of imaging findings in various pathologies. Informative comparisons are also made of the use of techniques such as fusion imaging and contrast-enhanced ultrasound in general radiology and neurosurgery. The aim of the authors is to enhance the general knowledge regarding intra-operative ultrasound brain imaging, standardizing its use and exploring new techniques, leading in some way toward compensating the lack of specific training in the application of ultrasound among the neurosurgical community. IOUS is a sensitive tool that can improve surgical precision and help to reduce morbidity.

First multi-year cumulation covers six years: 1965-70.

Impressive progress has been made in the field of laser-plasma acceleration in the last decade, with outstanding achievements from both experimental and theoretical viewpoints. Closely exploiting the development of ultra-intense, ultrashort pulse lasers, laser-plasma acceleration has developed rapidly, achieving accelerating gradients of the order of tens of GeV/m, and making the prospect of miniature accelerators a more realistic possibility. This book presents the lectures delivered at the Enrico Fermi International School of Physics and

summer school: 'Laser-Plasma Acceleration', held in Varenna, Italy, in June 2011.

This comprehensive review of scientific research supporting evidence of the relationship between cardiac disease and psychological condition offers practical suggestions for developing a clinical practice, and proposes directions for future research in the new field of "cardiac psychology". Every chapter is written by world-renowned researchers in the field. A theoretical and practical guide, it will interest physicians, clinical and health psychologists, and all professionals who seek to understand the mind-health link.

This open access book focuses on practical clinical problems that are frequently encountered in stroke rehabilitation. Consequences of diseases, e.g. impairments and activity limitations, are addressed in rehabilitation with the overall goal to reduce disability and promote participation. Based on the available best external evidence, clinical pathways are described for stroke rehabilitation bridging the gap between clinical evidence and clinical decision-making. The clinical pathways answer the questions which rehabilitation treatment options are beneficial to overcome specific impairment constellations and activity limitations and are well acceptable to stroke survivors, as well as when and in which settings to provide rehabilitation over the course of recovery post stroke. Each chapter starts with a description of the clinical problem encountered. This is followed by a systematic, but concise review of the evidence (RCTs, systematic reviews and meta-analyses) that is relevant for clinical decision-making, and comments on assessment, therapy (training, technology, medication), and the use of technical aids as appropriate. Based on these summaries, clinical algorithms / pathways are provided and the main clinical-decision situations are portrayed. The book is invaluable for all neurorehabilitation team members, clinicians, nurses, and therapists in neurology, physical medicine and rehabilitation, and related fields. It is a World Federation for NeuroRehabilitation (WFNR) educational initiative, bridging the gap between the rapidly expanding clinical research in stroke rehabilitation and clinical practice across societies and continents. It can be used for both clinical decision-making for individuals and as well as clinical background knowledge for stroke rehabilitation service development initiatives.

Even if the origins of regenerative medicine can be found in Greek mythology, as attested by the story of Prometheus, the Greek god whose immortal liver was feasted on day after day by Zeus' eagle; many challenges persist in order to successfully regenerate lost cells, tissues or organs and rebuild all connections and functions. In this book, we will cover a few aspects of regenerative medicine highlighting major advances and remaining challenges in cellular therapy and tissue/organ engineering.

Part of the Neurosurgery by Example series, this volume on surgical neuro-oncology 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 a number of different types of nervous systems tumors, including glioblastoma, medulloblastoma, skull tumors, 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, Surgical Neuro-Oncology is appropriate for neurosurgeons who wish to learn more about this subspecialty, and those preparing for the American Board of Neurological Surgery oral examination.

Includes entries for maps and atlases.

The World Health Organization supports tools and initiatives in Health Impact Assessment to dynamically improve health and well-being across different sectors. Human Impact Assessment (HuIA) is a relatively new concept. It describes an integrated process that encompasses both Health Impact Assessment and Social Impact Assessment and is used to anticipate the effects of programs, projects and decisions on human health and welfare. Sleep occupies approximately one-third of our lives, but its human impact remains largely unrecognized. The prevalence of excessive sleepiness is recognized to be increasing in industrialized societies. Without doubt, sleepiness and fatigue have high costs in terms of both lives lost and socioeconomic impact. For example, the National Highway Traffic Safety Administration estimates that up to 4% of all fatal crashes are caused by drowsy drivers and that as many as 100,000 deaths per year in the United States may be due to fatigue-related medical errors. Sleepiness and Human Impact Assessment provides a uniquely comprehensive exploration of many different facets of sleepiness in our 24-hour society from the new HuIA point of view. Among the covered issues are the physiology and pathophysiology of sleep, its relationship to daytime alertness, fatigue and drugs, the relevance of sleep-related fatigue in various occupational settings and public safety. This book will be of assistance to physicians, occupational health professionals, ergonomists, researchers and decision-makers as they strive to understand the full significance of sleepiness and to create a culture of accountability in everyday life without sleep-related risks. Metacognitive Interpersonal Therapy (MIT) remains unique in providing instruments for dealing with clients with prominent emotional inhibition and suppression, a population for whom treatment options are largely lacking. This book provides clinicians with techniques to treat this population, including guided imagery and re-scripting, two-chairs, role-play, body-oriented work and interpersonal mindfulness. Metacognitive Interpersonal Therapy is aimed at increasing clients' awareness of their inner world, fostering a sense of agency over their experience, and dismantling the core, embodied aspects of the schemas. The techniques included also provide clients with fresh instruments to overcome pain and act creatively in their everyday life. Using an improved

version of the MIT decision-making procedure, the authors have provided a set of techniques aimed at modifying mental imagery, body states, and behaviour, as well as at steering attention to avoid falling prey to rumination. The book is structured to gently push clients towards change, but also to always prioritize the clients' goals and needs. Metacognitive Interpersonal Therapy serves as an important guide for clinicians of any orientation.

I was pleased and at the same time filled with some misgivings when Professors Alberto Giotti and Ryan Huxtable asked me to introduce this book. The book is the outcome of the Symposium held in Firenze-San Miniato (PI), October 6-9, 1986. The symposium was entitled "Sulfur Amino Acids, Peptides and Related Compounds" and was the 7th international symposium on taurine and associated substances. It is always difficult to introduce, with the right brevity and emphasis, a topic which has been studied in depth by numerous experts. Nevertheless, I shall do my best to give a historical perspective of the subjects of the meeting which I consider to be very important for the frontiers of research on taurine. The following topics have also become coherent areas of study during the development of research on taurine: metabolism, nutrition, neurochemistry, cardiovascular regulation. Although taurine was isolated in 1821 by Wiedeman and Gmelin, its only biochemical role known at the time was the synthesis of bile salts in mammalian tissue. There has been an increasing interest in the biological action of taurine from metabolic aspects to other biological aspects (nutrition, development, etc.). In 1975 it was first demonstrated that taurine deprivation produced retinal degeneration in cats; more recent studies showed that a taurine-free diet or the administration of taurine transport inhibitors caused retinal degeneration in other mammals. More recent studies have pointed out the role of taurine in development, and the first part of this book is dedicated to these topics.

La primera edición de "Síndromes epilépticos en lactantes, niños y adolescentes" se publicó en 1984 y representa las actas de una reunión de la Comisión de Clasificación y Terminología de la Liga Internacional contra la Epilepsia. Este taller se realizó en el Centro de Saint Paul en Marsella, y fue decidido y organizado por Joseph Roger, en nombre de la Comisión. Peter Wolf, presidente de la comisión, y Fritz E. Dreifuss, su predecesor, habían acordado que la futura clasificación internacional de las epilepsias y síndromes epilépticos como la reciente clasificación de las crisis, ya no deberían basarse únicamente en la opinión de un grupo de expertos, sino más bien en datos científicos sólidos. Para todos los síndromes conocidos, los datos disponibles se presentaron y discutieron, y los síndromes que habían pasado esta revisión crítica se incluyeron en las clasificaciones de 1985 y 1989. Esta clasificación, con sus actualizaciones, y a pesar de los numerosos cuestionamientos, se mantiene oficialmente en 2013. El libro que reúne esta obra fue publicado gracias a André Perret, doctor de la industria farmacéutica, que proporciona el apoyo financiero indispensable. El término de "Guía Azul" se debe a nuestro sentido amigo Pierre Loiseau, y es prueba de su utilización universal. Su amplia distribución se vio facilitada por su publicación en inglés y francés. La epileptología se desarrolla. El enfoque sindrómico se complementa con un enfoque etiológico, basado sobre todo en los avances de la genética. Nuevas entidades han surgido, y un enfoque puramente "electro-clínico" no es ya suficiente en numerosas situaciones. Al igual que sus predecesores, la quinta edición de la Guía Azul incluye las recientes proyecciones que

hicieron progresar nuestra comprensión de las epilepsias. Nos pareció necesario justificar los enfoques fisiológicos, epidemiológicos, genéticos y terapéuticos, y colocarlos en el contexto de los recientes esfuerzos de reclasificación de las epilepsias. A pesar de todo, la descripción de los síndromes epilépticos constituye siempre el corazón de esta obra. La diversidad de los editores como de los autores garantiza la objetividad y la calidad de los distintos capítulos. Esperamos que la Guía Azul seguirá siendo una herramienta de referencia para la epilepsia clínica y teórica.

Disabling Obesity From Determinants to Health Care Models Springer Science & Business Media

This book offers clear, detailed guidance on all aspects of prognostic evaluation in patients who have been involved in a serious accident with neurological consequences or have been diagnosed with a severe neurological illness. It covers the full range of disorders of the central and the peripheral nervous system, not only providing very accurate prognostic estimates but also addressing relevant clinical issues, differential diagnosis, and the role of imaging. The book is practically oriented and designed for use on a daily basis when assessing prognosis and discussing the outcome with patients, their families, and other interested parties. It will support patient–doctor partnerships by ensuring that the most professional answers can be given to patients' and doctors' questions and by promoting realistic expectations of the effect of medical interventions. In addition, it will enable doctors, lawyers, and other professionals to understand relevant issues when an estimate of prognosis and life expectancy is the subject of legal dispute.

This book offers a comprehensive approach to the wide range of movement disorders, an important specialty in the field of neurology, guiding readers from the phenomenology to diagnosis and management. Reflecting the latest developments in the field, it offers a unique summary of this dynamic area by pursuing a uniform approach to movement disorders curricula. Divided into three parts, Movement Disorders Curricula provides an authoritative overview of this growing branch of neurology. The first part presents the basic elements of movement disorders, including descriptions of the anatomy and physiology of the basal ganglia. It also features sections on clinical trials for movement disorders, practical skills, and rating scales. The second and third part examine in detail hypokinetic and hyperkinetic movement disorders, respectively. Equipping readers with the practical and research skills needed in the movement disorders field, the book offers a valuable tool to help them prepare for board examinations on general neurology, as well as for fellowships in movement disorders.

The authors of this book address all individuals approaching the study of nanomedicine for the first time ever, as well as those already profitably working in the field either as scientists, doctors, lawyers, or entrepreneurs. Teeming with accurate, up-to-date, and enjoyable content, the book describes some enlightening facts and figures pertaining to the growing field of nanomedicine. Open problems and potentialities are identified and discussed, offering a series of forecasts regarding its global impact on healthcare systems in the coming two decades. This introduction is followed by three different sections: (a) one purely scientific, which delves deep into areas as diverse as proteomics or delivery

systems for nanodrugs, demonstrating how nanotechnology is reshaping the way diagnosis and treatment of diseases are made; (b) one focused on the ethical challenges that governments and companies are facing or will have to face in order to protect patients' rights; and (c) one entirely dedicated to the legal and entrepreneurial issues that are driving this entire medical revolution. In the pages of this lucidly written book, scientists and managers will certainly find the need-to-have tool on their desk to thrive and succeed in the commercialization of nanomedicine.

Divided into two convenient sections, *Protein Kinase Technologies* collects contributions from experts in the field examining recent methodologies and techniques generally applicable to protein kinase research as well as to individual protein kinases which require special attention in neuroscience. These chapters will not only be practical instructions useful for readers' daily work in setting up and performing research but also thought-provoking and enjoyable reviews of recent advancements of individual protein kinases in neuroscience. Written for the highly successful *Neuromethods* series, this work contains the kind of detailed description and implementation advice that is crucial for getting optimal results. Authoritative and accessible, *Protein Kinase Technologies* seeks to foster cross-talk among investigators who study different protein kinases, and will also be beneficial for the entry of new investigators into this pivotal field.

The book covers areas of cellular physiology and metabolism that are of interest to scientists involved in research in diabetes and metabolic diseases. Some chapters of the book are specifically research-oriented, as all the authors are actively practicing either bench or clinical research in the area. Nonetheless, since the work is fully comprehensive of the discipline, it is also suitable for university classes of graduate and undergraduate students. In particular, the book discusses classical aspects of cellular physiology and the metabolism of physical exercise, as well as novel topics like exercise in transplantation and exercise in beta-cell failure, which mark the frontiers of research in sport-related sciences and research. Exercise physiologists, biologists and physicians are the specific professional and academic targets of this work. The team of authors together with the editor are world-renowned experts in the field of physiology and metabolism applied to sport sciences.

The availability of powerful genome-wide association study technology, during the last five years, has shown that most of the "new" MS susceptibility loci are immune-response genes. It is clear that there is much novelty in the field of MS immunology, which has served as an impetus to invest in new therapies. Notably, most if not all of these are immunotherapies. Even the equally exciting field of cell-based therapies and neuro-regeneration may well rely on cells or growth factors that are no less immunomodulators than restorative of myelin and neural cell function. *Multiple Sclerosis Immunology* looks at MS immunology as the basis for the present and—even more—the future of treatments for this complex autoimmune condition. Both editors are immunologists, as well as clinical

neurologists, and appreciate the importance of a sustained dialogue between basic and clinical scientists to ensure that “translation” is real and not just virtual.

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