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ALZHEIMER’S AND DEMENTIA

Brain Ischemia: Alzheimer’s Disease Mechanisms
Ryszard Pluta, M.D., Ph.D. (Professor, Head of Laboratory of Ischemic and Neurodegenerative Brain Research, Mossakowski Medical Research Centre, Polish Academy of Sciences, Warsaw, Poland)

In series: Neuroscience Research Progress
This new book presents a summary of Alzheimer’s disease-related ischemic protein changes and gene expression as risk factors for the late-onset of sporadic Alzheimer’s disease, and their role in Alzheimer’s disease ischemic etiology. Ischemic brain changes were noted in the staining of different parts of an amyloid protein precursor, presenilin 1 and 2, tau protein, alpha-synuclein, and apolipoproteins A1, E and J. Current advances in understanding the ischemic etiology of Alzheimer’s disease has revealed dysregulation of Alzheimer’s disease-associated genes including presenilin 1 and 2, beta-secretase, amyloid protein precursor, apoptosis, autophagy, mitophagy, and tau proteins. This book presents the relationship between these genes, dysregulated by cerebral ischemia, and the cellular and tissue neuropathology characteristic of Alzheimer’s disease. This book draws attention to the latest research confirming the theory that Alzheimer’s disease-related proteins and genes play an important role in ischemic brain damage, and ischemia is an essential and leading supplier for the onset and progression of sporadic Alzheimer’s disease. The above data comes from the latest research from leading and renowned scientists around the world, who present important information on the understanding of the ischemic etiology of Alzheimer’s disease. In the future, it is likely that the manipulation of ischemia and ischemia-activated Alzheimer’s disease-associated genes and their proteins will give new hope for the development of causal therapies urgently needed to prevent or treat neurodegenerative diseases such as Alzheimer’s disease. An innovative/modern approach to the etiology of Alzheimer’s disease in the chapter XII “Ischemic etiology of Alzheimer’s disease” will give the reader a glimpse of what is on the horizon.

CARDIOVASCULAR SYSTEM

Clopidogrel and the Newer P2Y12 Antiplatelet Agents: Pharmacology, Clinical Uses, and Adverse Effects
Michael P. Savage, M.D. (Thomas Jefferson University Hospital, Philadelphia, PA, US), David L. Fischman, M.D. (Thomas Jefferson University Hospital, Philadelphia, PA, US), and Mamas A. Mamas (Institute for Primary Care and Health Sciences, Keele University, UK)

In series: Cardiology Research and Clinical Developments
Cardiovascular disease remains the leading cause of death in the developed world. By preventing thromboembolic events such as heart attacks and strokes, antiplatelet drugs have become a cornerstone in the treatment of cardiovascular disease. Clopidogrel is a member of the thienopyridine family which inhibit ADP-induced platelet activation by irreversibly binding to the P2Y12 receptor. Clopidogrel is one of the most commonly used medications with over 9 million prescriptions written annually. It is utilized in the treatment of a wide variety of cardiovascular disorders including acute coronary syndromes (ACS), percutaneous coronary intervention (PCI) with stents, cerebrovascular disease, peripheral vascular disease, and structural heart interventions. Most often, clopidogrel is used in combination with low dose aspirin, providing dual antiplatelet therapy (DAPT). Newer, more potent P2Y12 inhibitors, prasugrel and ticagrelor, are now available as alternatives to clopidogrel. These newer agents have been shown to be more effective than clopidogrel in reducing ischemic events in patients with ACS. Recently a novel intravenous P2Y12 inhibitor, cangrelor, has become available for use during PCI in patients who have not been pretreated with an oral P2Y12 inhibitor. This book examines
virtually all aspects of P2Y12 inhibitors – pharmacology, clinical uses, randomized trial results, guideline recommendations, and adverse drug effects. Important fundamental issues are reviewed including comparative pharmacology of P2Y12 inhibitors, randomized trials of clopidogrel in patients with coronary artery disease, DAPT duration after PCI, and role of platelet function testing. The newer P2Y12 inhibitors (prasugrel, ticagrelor, and cangrelor) receive special focus. Use of antplatelet therapy in specific patient populations is discussed including patients with coronary bypass graft surgery, peripheral vascular disease, cerebrovascular disease, and structural heart disease. Management of antplatelet therapy in patients who require anticoagulation is a particularly challenging clinical setting and is the topic of a featured review. Finally, adverse drug effects and reactions are examined in a section highlighting clopidogrel resistance, clopidogrel hypersensitivity, and bleeding complications. This book is designed to provide a comprehensive review of clopidogrel and the newer P2Y12 inhibitors. Towards that end, the authors have enlisted an internationally renowned group of experts as contributors. It is intended to be a resource for clinicians, scientists, pharmacologists, and all healthcare professionals involved in the management of cardiovascular disease.

**Concepts, Mathematical Modelling and Applications in Heart Failure**

*Massimo Capoccia, M.D., MSc Eng (Manchester Heart Centre, Manchester University NHS Foundation Trust, Manchester, UK and Department of Biomedical Engineering, University of Strathclyde, Glasgow, UK) and Claudio De Lazzari, MSc Eng (National Research Council, Institute of Clinical Physiology, Rome, Italy and National Institute for Cardiovascular Research (I.N.R.C.), Bologna, Italy)*

In series: *Cardiology Research and Clinical Developments*


Hardcover: 978-1-53614-771-1, $230.00.


Although there are probably enough publications about mechanical circulatory support, they do not seem to address the theoretical aspects with sufficient details. A more detailed knowledge of the interaction between ventricular assist devices (VADs) and the cardiovascular system may help with their clinical management with a view to improve patients’ outcomes. The aim is a different approach based on the development of critical thinking that may generate further ideas in the context of current developments. We must understand the time-varying elastance theory, which has played a key role in cardiovascular modelling and is often used for numerical/hybrid simulations of a mechanically supported left ventricle. The limitations of the original concept have led to further modifications of the theory and alternative approaches worth exploring. Ventricular interactions have significant implications in cardiac mechanics and it is extremely important to understand their role during VAD support. We must understand the physiology of VAD support and their connection to the circulation. Aortic valve physiology during support with rotary blood pumps has important implications on device performance. The modelling approach to pneumatic pulsatile VADs and their current role is addressed. The principles behind magnetic levitation technology are explained in details in view of its contribution to the progress in this field. Trans-cutaneous external transmission energy system technology has great potential, but the physics behind it does not get explained enough. The potential of a simulation approach in the clinical environment is discussed in relation to optimization of device treatment, outcome prediction and training of medical and nursing staff. These are some of the key concepts being addressed in this book which biomedical engineers, clinicians and academics should hopefully find educational and helpful according to their needs. VADs have become the standard of care for patients in advanced heart failure, but we must understand their strengths and limitations in order to make further progress and achieve their full potential.

**Horizons in World Cardiovascular Research. Volume 16**

*Eleanor H. Bennington*

In series: *Horizons in World Cardiovascular Research*


Hardcover: 978-1-53615-606-5, $250.00.


The opening chapter of Horizons in World Cardiovascular Research. Volume 16 discusses the functions of the internal jugular veins, particularly how they are usually valveless except for a single valve situated just above the junction of the vein with the brachiocephalic vein. Additionally, the authors assess the frequency, nature, duration and significance of cardiovascular disorders associated with rotavirus infection in the human body. A careful analysis of electrocardiograms and other diagnostic tools is included with the goal of helping to early identify high risk beta-thalassemia major patients for arrhythmias and sudden cardiac death. The authors also examine the coronary vasospasm as a potential risk for thrombus formation in patients with drug-eluting stents implantation by showing several clinical studies and case reports in terms of mechanism and prevention. Following this, an overview of the structure of smooth muscle cells and their main functions in the human umbilical artery is presented. The anatomy and physiology of venous outflow from the brain is described. Since
physical effects play an important role in regulating this outflow, it is important to present some basic physical principles governing the flow in the tubes. Moreover, the authors review a transgenic mouse model to study its genetic contribution to Moyamoya syndrome, a cerebrovascular condition defined by the chronic progressive stenosis of the intracranial internal carotid arteries and their major branches, as well as describe a recently-developed surgical model. The closing chapter posits that it would be beneficial to describe the difficulties and challenges that occur during the implantation of permanent biventricular defibrillating systems in cases of Superior Vena Cava is Persistent Left Superior Vena Cava.

**Horizons in World Cardiovascular Research. Volume 17**

*Eleanor H. Bennington*

In series: _Horizons in World Cardiovascular Research_

2019.

Hardcover: 978-1-53616-157-1. $250.00.


Atrial fibrillation is initiated by triggers in combination with underlying atrial substrate. Horizons in World Cardiovascular Research. Volume 17 discusses how innovations in cardiac magnetic resonance imaging techniques, especially late gadolinium enhancement imaging, have advanced our ability to better understand and accurately identify fibrosis in the atrial myocardium of atrial fibrillation patients. According to the nephron number hypothesis, individuals born with kidneys with fewer nephrons would be at increased risk for hypertension and renal disease later in life. Evidence supporting a role for preterm birth itself as a programming risk factor comes from observations demonstrating that the degree of prematurity impacts the severity of hypertension or renal dysfunction observed later in life, indicating a dose-response effect of preterm birth. As such, the authors review this effect in the context of consequences for the mother after pregnancy as well as individuals born during premature labor. This compilation goes on to discuss venous thromboembolism, a spectrum of disease that includes both deep venous thrombosis and pulmonary embolism. Venous thromboembolism affects 950,000 patients every year and is associated with significant morbidity and mortality. Superior mesenteric artery syndrome is a rare clinical entity resulting in partial or complete duodenal obstruction due to compression of the third part of the duodenum. Symptoms will vary depending on the severity, but can be very debilitating. The authors discuss the diagnosis of this rare condition, as well as treatment options. Next, the surgical anatomy of the superior mesenteric artery is schematized through a subdivision in three segments, each with a different method for surgical dissection, for a better understanding of its surgical anatomy. The final chapter focuses on the current development of zebrafish models for the screening for cardiotoxic and cardioprotective agents. The administration of endocrine disruptors, cigarette smoke, acrylamide, phthalates and phosphate, heavy metals, inoculation infectious agent, alcohol, surgery and laser light radiations are the major cause of cardiotoxicity in zebrafish.

**The Rediscovered Tricuspid Valve: Structure, Function and Clinical Significance in Health and Disease**

*Giacomo Bianchi, M.D., Ph.D. (Ospedale del Cuore – Fondazione "G. Monasterio", via Aurelia Sud, Massa, Italy)*

In series: _Cardiology Research and Clinical Developments_

2019.

Hardcover: 978-1-53616-098-7. $195.00.


Tricuspid valve disease has long been ignored as a surrogate for the left atrioventricular valve (the mitral valve) and mainly a benign, indolent disease. This concept is currently outdated, as we know that the pathology of the tricuspid valve, primitive or secondary, sometimes isolated, brings with it a poor prognosis if not treated. To date, the complexity is recognized not only of the valve itself, but also of its pathophysiology and the environment of the right heart and its interaction with the left heart. In order to better define the therapeutic path of a patient suffering from tricuspid valve disease, we have tried to offer a comprehensive overview to the reader, starting from historical considerations (Chapter 1) about the vision of the circulatory system and from the evidence accumulated over the centuries until the recognition of the continuum between signs and symptoms related to the valve. As the basis of a modern approach to the understanding of the valve itself, we have traced the embryological and morphogenetic stages towards the anatomo-clinical correlates (Chapter 2). Subsequently, the epidemiology and clinical approach to tricuspid valve disease (Chapter 3) were illustrated, followed by the diagnostic procedure, state-of-the-art imaging techniques (Chapter 4) and more advanced techniques (Chapter 5). In particular, I thought it was necessary to dedicate a chapter to the pathology of the tricuspid valve secondary (functional) to left heart disease (Chapter 6), probably the most frequent form encountered by the clinicians. We have not neglected to discuss about tricuspid valve infections (Chapter 7), with particular reference to the microbiology, diagnosis and treatment. We considered it necessary that the role of the valve in congenital adult disease should also be addressed (Chapter 8), whether in natural history, modified by surgery or as an acquired disease. Neoplastic pathology may also involve the valve and the pathologist provides (Chapter 9) the knowledge and systematization of the most frequent primary and secondary tumors. Coming to the therapeutic act, after dealing with special pathology of the valve, (Chapter 10) we present the pharmacological approach, a necessary act, sometimes as a sole therapeutic option and sometimes propedeutic to surgery. Tricuspid valve plays an absolutely primary role in two aspects of the advanced treatment of refractory heart failure, namely its clinical and prognostic impact on ventricular care systems (LVAD) and cardiac transplantation (Chapter 11) has been discussed. The last two chapters are dedicated to non-medical treatment, with a particular focus on indications, risk
selection and stratification as well as adequate surgical techniques (Chapter 12) and new perspectives of intervention through transcatheter techniques (Chapter 13). Overall, there is a need for an integrated and multidisciplinary approach to a complex nosological entity that is itself interdependent on pathophysiological systems, which the clinician, cardiologist, cardiac surgeon, internist and researcher cannot ignore.

**DENTISTRY**

**Bioactive Materials in Dentistry: Remineralization and Biominerallization**

*Francine Benetti, Ph.D. (Department of Restorative Dentistry, São Paulo State University (Unesp), School of Dentistry, Araçatuba, São Paulo, Brazil)*

In series: *Dentistry and Oral Sciences*


Bioactive materials, or biomaterials, have the ability to interact biologically with the tissue to which it is inserted, and to stimulate the deposition of mineralized tissue. The calcium phosphate-based ceramics were the first known materials in dentistry to have bioactivity, and currently, these materials are the most used for biomedical purposes, with different morphological characteristics. In dentistry, these materials have achieved immense importance by stimulating the deposition of osseous tissue in injured bone, and by having the ability to remineralize hard tooth tissues (enamel and dentin). Furthermore, repair materials based on aggregated trioxides mineral or on calcium hydroxide are classic biomaterials and widely used in dentistry, mainly in contact with the pulp tissue or periodontal ligament, for repair processes. However, various formulations of these materials appear all the time, in search of the ideal material. In general, bioactive materials have been shown to promote the release of calcium, sodium, silicon and phosphate ions, which are metabolized by the body, having effects such as angiogenesis and antimicrobial action, which can be improved depending on the composition of the material. Pulp tissue is a highly specialized dental tissue and is the subject of intense studies about the response to biomaterials. It is also understood that some systemic alterations in individuals have an influence on the action of bioactive materials during tissue repair processes. Thus, this book will address the use of different bioactive materials in dentistry, considering the performance of these biomaterials in the hard tissues of the tooth, and the response of the dental pulp, as well as the influence of the composition of these materials and of the individual’s systemic alterations in bioactivity and in antimicrobial activity. The several in vivo and in vitro tests to evaluate the bioactivity of a biomaterial will also be addressed.

**Dental Considerations for Medication-Related Osteonecrosis of the Jaw (MRONJ)**

*Hani H. Mawardi (King Abdulaziz University, Faculty of Dentistry, Jeddah, Saudi Arabia)*

In series: *Dentistry and Oral Sciences*


Softcover: 978-1-53613-755-2. $95.00.

e-book: 978-1-53615-151-0. $95.00.

Dental Considerations for Medication-Related Osteonecrosis of the Jaw (MRONJ), First Edition provides a comprehensive review on MRONJ epidemiology, pathogenesis, clinical features, and diagnosis. In addition, it discusses detailed, up-to-date management protocols for patients with this fairly new condition. Considering the rapid increase in MRONJ prevalence, this book provides key information for dental practitioners and detailed dental considerations for almost every dental specialty to be applied upon an encounter with patients at risk or with MRONJ. It also provides guidelines for safe dental procedures to be delivered to MRONJ patients, and potential risks associated with more invasive procedures. In addition, it includes practical tips and procedures for application in both hospital and ambulatory settings. This book contains over 30 illustrations and images with 15 tables of clinical relevance as a handy reference and simplified application for daily practice. Dental practitioners engaged in the care of MRONJ patients are faced with questions on this condition’s nature, treatment, and long-term prognosis on a regular basis. Therefore, this book contains a dedicated section for common Q&A in a simplified language to be shared with MRONJ patients and their families. Dental Considerations for Medication-Related Osteonecrosis of the Jaw (MRONJ), First Edition is considered one of few references on MRONJ, and a must-have resource for every dental student, resident, and dental provider to ensure standards of care for all dental services provided to this category of patients.
**Molluscum Contagiosum: Epidemiology, Pathogenesis, Clinical Manifestations, Dermoscopy, Ultrastructure and Evidence Based Treatment**

*Yuping Ran, MD, PhD (Prof. Dermatology, West China Hospital, Sichuan University, Board Member of Chinese Society of Dermatology, Chair of Mycology Group of Chinese Society of Dermatology, Chengdu, China)*

In series: *Dermatology - Laboratory and Clinical Research* 2020.

Softcover: 978-1-53616-436-7. $82.00.
e-book: 978-1-53616-437-4. $82.00.

Molluscum contagiosum is a common but always unvalued poxvirus infection of skin disease. The clinical, pathogenic, epidemiological and therapeutic aspects have not been widely and thoroughly understood. This book analyzes a wide variety of pathogenesis, epidemiology, and clinical manifestations of molluscum contagiosum virus in detail. The development process of molluscum contagiosum virus observed in transmission electron microscopy has also been described and discussed. It would help the clinician understand the pathogen’s ultrastructure and the change of different images in the process. Evidence-based treatment methods play a significant role in evidence-based practice for molluscum contagiosum virus. Interventions include topical agents, physical interventions and lasers for molluscum contagiosum virus. Each chapter is focused on enhancing the clinician’s knowledge on molluscum contagiosum based on review and research, provided by the good sets of references to introduce updated information on each topic. One of the greatest highlights of the book is the addition of a large number of dermoscopic images of molluscum contagiosum lesion, including typical and atypical, under polarized and non-polarized light characteristics, as well as the special localization, including eyelids, ears etc. In addition, its different developing stages greatly enriches the clinical understanding of molluscum contagiosum skin lesions. This book helps clinicians understand the distribution, transmission routes, replication to the human epidermis and characterization of molluscum contagiosum more precisely. It also focuses on the challenges of treatment strategies for molluscum contagiosum virus. This book comprises a wide spectrum of topics related to the molluscum contagiosum virus. Each chapter challenges readers by providing insights into the pathogenesis, epidemiology, clinical manifestations, development process undergoing transmission electron microscopy and evidence-
based treatment methods of molluscum contagiosum virus. The different chapters related to molluscum contagiosum virus provides the latest information to clinicians and readers on its clinical manifestations and treatment modalities.

**ENDOCRINOLOGY**

**Diabetes**

**Diabetic Foot: Prevention and Treatment**

*Gianni Romano*

In series: *Endocrinology Research and Clinical Developments*

2019. 188 pp.

Softcover: 978-1-53616-266-0. $95.00.


Diabetic Foot: Prevention and Treatment first proposes a noninvasive screening method for diabetes based on the thermoregulation of the peroneal vessel. Since diabetes affects the proneal vessel of the patients significantly, the thermoregulatory behavior of peroneal vessel is studied for induced hot and cold stress in this work. Next, the authors highlight recent findings in the area of human mesenchymal stem cells sources, their differentiation ability, immunogenicity, adaptation to the microenvironment, as well as use in human clinical trials. The authors also propose that, given the increasing prevalence of antibiotic resistant pathogens and the failure of antibiotic-exclusive therapeutics in the treatment of diabetic foot infections, combinations of antimicrobial peptides and antibiotics may be a potential treatment alternative. Advanced diabetic foot ulcer therapies are explored based on current research. Recent studies show that diabetic patients have a 25% risk of developing diabetic foot ulcers in their lifetime. Lastly, a study was carried out to investigate the effects of social support on the reduction of wound size after four weeks of treatment with standard care in patients with Grade B, Stage I diabetic foot ulcer.

**Metabolic Disorders**

**Mitochondrial Respiratory Chain Disorders: From Clinical Presentation to Diagnosis and Treatment**

*Iain P. Hargreaves (Principal Clinical Scientist, National Hospital)*

In series: *Metabolic Diseases - Laboratory and Clinical Research*


Softcover: 978-1-53615-053-7. $95.00.

e-book: 978-1-53615-054-4. $95.00.

Mitochondrial respiratory (MRC) disorders are a phenotypically and genetically diverse group of diseases which have an estimated incidence of 1 in 5000, and can manifest at any age with virtually any symptom. These disorders are generally progressive and multi-systemic, typically affecting organs with high energy demands, although potentially any organ can be affected. In view of their wide spectrum of clinical symptoms, together with their complex genetics, the diagnosis of these disorders presents a real challenge and usually requires a multidisciplinary approach involving clinical, genetic, histological, and biochemical investigations. In addition, an MRC defect may also occur as a secondary consequence of disease pathophysiology, as well as drug toxicity, further complicating the diagnostic algorithm for these disorders. The accurate diagnosis of MRC disorders is also hindered by the lack of reliable and validated biomarkers or surrogates for evaluating evidence of MRC dysfunction. Treatment options for MRC disorders are quite limited with no actual cure as yet in sight. Currently, apart from supportive therapies to manage the various clinical presentations of these diseases, patients can receive a host of antioxidants, vitamins, and cofactors in an attempt to maximize residual MRC function, and to combat the oxidative stress associated with these diseases. However, at present there appears to be a distinct lack of consensus on the appropriate treatment regime to instigate in patients with these disorders. Although, it is hoped that the establishment of national and international cohorts of patients with MRC disorders will allow the development of a unified approach to the development of candidate strategies for the treatment of these patients. In recent years, pharmacotherapies aimed at enhancing mitochondrial biogenesis have received a lot of attention, with some of them now being used in phase II clinical trials to assess evidence of their therapeutic efficacy in patients. The purpose of this book is to outline the clinical presentation and the genetic and non-genetic causes of MRC disorders, as well as highlighting evidence of secondary mitochondrial dysfunction in disease. In addition, the current biochemical methods used in the diagnosis of MRC dysfunction will be
discussed together with the potential future developments in this field. The current treatment options available to patients with MRC disorders will also be discussed together with novel, biochemical, therapeutic strategies which have yet to reach clinical application.

**Obesity and Syndrome X: A Global Public Health Burden**

*Mithun Das, Ph.D. (Department of Anthropology, Sree Chaitanya College, Habra, West Bengal, India) and Kaushik Bose, Ph.D. (Department of Anthropology, Vidyasagar University, West Bengal, India)*

In series: *Public Health in the 21st Century*


Hardcover: 978-1-53614-669-1. $195.00.


Obesity is a major risk for both cardiovascular disease (CVD) and type 2 diabetes mellitus (T2DM). Obesity has reached epidemic proportions globally, and evidence suggests that the situation is likely to get worse in both developed and developing countries. It is considered to be a predisposing factor for several chronic diseases which include CVD, ischemic stroke, hypertension, T2DM, vascular dysfunction, and proinflammatory and prothrombotic state. This is where Syndrome X intersects with obesity and plays the role of a common denominator for CVD and T2DM. Persons with Syndrome X are more susceptible to CVD & T2DM. It is particularly relevant to recognize that variation in disease susceptibility among individuals in the population at large is a consequence of the intersection of the distribution of genotypes with the distribution of past environmental exposures and future environmental trajectories. For instance, many individuals who have a genotype that is found in those with disease will remain healthy because of the compensatory effects of a different environmental history on the same initial conditions. Similarly, individuals who do not have a high risk genotype may develop a disease of an adverse environmental history. That is, interaction between a particular genotype and particular environmental exposures.

In the thrifty genotype hypothesis as proposed by Neel (1962), entire populations have an increased predisposition to T2DM due to genetic selection. They are better adapted to different nutritional circumstances than those they experience today. In the thrifty phenotype hypothesis (also known as Barker’s Hypothesis), maladaptive responses occur as a result of environmentally induced alteration of physiology in the early life of the individual. Both hypotheses offer explanations of why the frequency of diabetes and obesity may differ in different populations and why predisposition to diabetes is common, albeit by very different mechanisms. A third hypothesis called the “common soil” hypothesis as mentioned by Lebovitz (2006) that diabetes and CVD might share an underlying cause(s) is also described. Insulin resistance is central both to the progression from normal glucose tolerance to T2DM and to a constellation of CVD risk factors known as Syndrome X or Metabolic Syndrome. Then there is the epigenome that directly impacts gene expression and can be modified by both genetic and environmental factors. It is the potentially heritable changes in gene expression that does not involve changes to the underlying DNA sequences – a change in phenotype without a change in genotype. The epigenotype is dynamic and varies over time and tissues as a result of environmental exposure, aging, and diseases and other factors.

The present book is an assembly of the vast knowledge that has been generated in the last decade worldwide in the field of obesity and metabolic syndrome related disorders, and an attempt to translate research findings into a clinically useful tool for better diagnosis, intervention, and prevention of this global public health burden. We hope this book will not only expand the practice in the coming years, but that it will create new avenues for future research as well.

**Regucalcin: Metabolic Regulation and Disease**

*Masayoshi Yamaguchi, PhD (Department of Hematology and Medical Oncology, Emory University, School of Medicine, Atlanta, Georgia, US)*

In series: *Endocrinology Research and Clinical Developments*

2019.

Softcover: 978-1-53616-172-4. $95.00.

e-book: 978-1-53616-173-1. $95.00.

This book, which is entitled “Regucalcin: Metabolic Regulation and Disease”, introduces the recent topics regarding the involvement of regucalcin in metabolic regulation and its related diseases. Cell signaling system may be potent interest in the fields of biomedical research. Regucalcin, which was discovered as a calcium-binding protein in 1978, is demonstrated to play a potential role as a suppressor in manifold intracellular signaling process linked to transcription activity. With growing studies, regucalcin has been demonstrated to play a multifunctional role in the regulation of the function of various types of cells and tissues, including the regulation of intracellular calcium homeostasis, various enzymes activity, cell signal transduction, nuclear function and gene expression, cell proliferation, apoptosis, and other cellular events. Regucalcin plays a pivotal role in maintaining cell homeostasis and protecting from disorders with ageing. This book focuses recent highlighted information regarding the role of regucalcin in metabolic regulation and its related diseases with aging. This book is constituted of 6 chapters as described in the following. This book will be of interest to graduate students, researchers, scientists and physicians focused on the fields of molecular and cellular biology, biomedical sciences, and clinical challenges.
Candida Albicans: Symptoms, Diagnosis and Treatment  
Nayira.S.S (Associate Professor, Majmaah University, Saudi Arabia)

In series: Immunology and Immune System Disorders
Softcover: 978-1-53615-560-9. $82.00.
e-book: 978-1-53615-561-7. $82.00.

Candida albicans is an opportunistic pathogenic yeast and it is a common member of the human gut flora. It does not proliferate outside the human body. It is found in the gastrointestinal tract and mouth in 40–60% of healthy adults. It is usually a commensal organism but can become pathogenic in immunocompromised individuals under a variety of conditions. Yeast infection is caused by a specific strain of yeast known as Candida. Although a small amount of yeast is found in the body, yeast infection occurs when there is an overgrowth of Candida. Most yeast infections is caused by Candida albicans. Fungal that affects different areas of the body like skin, mouth, genitals, throat and blood. The yeast Candida albicans lives inside every one of us. Normally it presents no problems, but today’s widespread use of broad-spectrum antibiotics, antacids, contraceptive pills, and steroids, as well as the all-too-common sugar-rich diet, can lead to a proliferation of this parasitic yeast within the body. Often overlooked by doctors, overgrowth of Candida has been linked to a wide variety of physical and mental problems such as: 
- acne 
- heartburn 
- muscular pain 
- anxiety 
- irritable bowel syndrome (IBS) 
- fibromyalgia 
- bloating and constipation 
- chronic fatigue 
- migraine 
- cystitis 
- irritable bowel syndrome (IBS) 
- allergies 
- menstrual problems 
- irritableity

Candida albicans is the most common fungal species isolated from biofilms either formed on (permanent) implanted medical devices or on human tissue. C. albicans, C. tropicalis, C. parapsilosis, and C. glabrata are together responsible for 50–90% of all cases of candidiasis in humans. A mortality rate of 40% has been reported for patients with systemic candidiasis due to C. albicans. Invasive candidiasis contracted in a hospital causes 2,800 to 11,200 deaths yearly in the U.S. C. albicans is commonly used as a model organism for biology. It is also known as sweet fungus and sugar inhibitor because it grows both as yeast and filamentous cells. However, it has several different morphological phenotypes. C. albicans was for a long time considered an obligate diploid organism without a haploid stage. This is, however, not the case. Next to a haploid stage C. albicans can also exist in a tetraploid stage. The latter is formed when diploid C. albicans cells mate when they are in the opaque form. Candida albicans thrives well on sugar and needs an acidic environment to survive. Processed and refined foods high in gluten and sugar (including natural sugars) create an ideal home for Candida, so the most logical place to start battling the enemy is by restricting intake of alcohol, sweets, bread, vinegar and foods containing vinegar, peanuts and foods high in sugar — including sweet fruits such as bananas and dates. Include protein rich foods like avocados, chia seeds and wild-caught fish. Garlic and turmeric (also known as curcumin) is a natural anti-fungal that can kill Candida. The best potent and all-natural candida killer is coconut oil. It contains caprylic acid, which has anti-microbial properties that can kill yeasts and candida. Studies have shown that it is more effective in treating candidiasis than the prescription drug fluconazole. There are relatively few drugs that can successfully treat Candidiasis. Treatment commonly includes amphotericin B, echinocandin, or fluconazole for systemic infections. Nystatin for oral and esophageal infection and Clotrimazole for skin and genital yeast infections.

Diverticular Disease: Colonic Epidemiy of the 21st Century  
Andrés García-Marín, MD, PhD (Department of Surgery, Hospital Universitario San Juan de Alicante, Alicante-Spain; Professor of Surgery, Department of Pathology and Surgery, University Miguel Hernández, Elche, Alicante, Spain), and Jaime Ruiz-Tovar, MD, PhD (Department of Bariatric Surgery, Centro de Excelencia para el Diagnostico y Tratamiento de la Obesidad Valladolid-Spain, Professor of Surgery, Universidad Alfonso X, Madrid, Spain; Department of Surgery, Universidad Autónoma de Madrid, Spain; Obesity Unit, Garcilaso Clinic, Madrid, Spain; Department of Surgery. Centro de Excelencia para el Estudio y Tratamiento de la Obesidad, Valladolid, Spain; Department of Surgery, University Hospital Rey Juan Carlos, Mostoles, Madrid, Spain)

In series: Digestive Diseases - Research and Clinical Developments
Softcover: 978-1-53615-989-9. $82.00.
e-book: 978-1-53615-990-5. $82.00.
Diverticular disease is one of the most common problems encountered by gastroenterologists, emergency physicians and surgeons, with a higher prevalence in elderly patients and a dramatic rising of incidences in young people, which involve an increase in health care costs, according to ambulatory visits and hospital admissions. Acute diverticulitis, the most important complication of diverticular disease, has a broad spectrum of severity, which involves many treatment options, ranging from outpatient-based antibiotic treatment, or even isolated nonsteroidal anti-inflammatory drugs, to parenteral antibiotic regimen, percutaneous drainage or surgery (lavage and drainage, Hartmann procedure or resection with anastomosis with or without a diverting stoma). The American Society of Colon and Rectal Surgeons recommended in their guidelines a routine follow-up colonoscopy after recovery from an acute episode to rule out malignancy, which is being re-evaluated in recent studies, including the alternative CT-colonography, especially in cases of incomplete colonoscopy or in high-risk patients. After an episode of acute diverticulitis, there is a significant risk of recurrence and a negative impact on quality of life. In order to decrease it, there are many treatments that are being evaluated such as fiber-rich diet, mesalazine, rifaximin, probiotics and elective colon resection, which should be decided individually. The aim of this book is to revise the current evidence about the diverticular disease and acute diverticulitis.

A Closer Look at Polyadenylation
Anatolios Georg Buckley
In series: Biochemistry Research Trends
Softcover: 978-1-53615-355-2. $95.00.

In response to various environmental cues and cellular stress, cells need to modify their protein expression pattern for proper cell functioning. The cell experiences diverse cellular stress as oxidative, genotoxic, and etc. The damage of the genome by certain chemicals or agents affects the cell integrity and leads to genotoxic stress. As such, this compilation discusses how different cellular stresses affect the polyadenylation process and modulate the polyadenylation machinery. Cytoplasmic polyadenylation plays an important role in oocyte maturation, mitotic cell cycle progression, cellular senescence and synaptic plasticity. Poly(A) tails can be elongated post-transcriptionally by noncanonical poly(A) polymerases, which can impact cells with limited transcriptional activity. A recent study is discussed wherein it is shown that alternative cleavage and polyadenylation isoform expression influences about 10% of targeting by miRNAs between any two cell types analysed and, more importantly, that the accuracy of target prediction can be improved if the cellular alternative cleavage and polyadenylation profile is considered. The authors go on to focus on how altering the polyadenylation process and components of RNA polyadenylation machinery leads to abnormal physiological conditions. The targeting of elements of RNA polyadenylation machinery as therapeutics in clinical research is also discussed. The majority of eukaryotic mRNAs are polyadenylated at their 3’end. This poly(A) tail is not encoded by DNA and is added co-transcriptionally. Cleavage and polyadenylation specific factor (CPSF1) is part of multiple subunit factors required for a site-specific cleavage, which is involved in determining specificity and efficiency of the 3’ end processing of pre-mRNAs in the nucleus by recognizing the polyadenylation signal. Following this, mutations in the poly(A) signal (AAUAAA hexamer) present in the globin pre-mRNA were identified in hematological disorders caused by defects in the synthesis of one or more of the globin chains (thalassemia). The point mutation AATAAA to AACAAA of a human β-globin gene detected in 1985 in DNA from a patient with β-thalassemia led to the formation of an elongated β-globin mRNA isoform. This compilation addresses how RNA processing at the pre-mRNA level occurs in the cell nucleus and regulates gene expression. Newly synthesized mRNA contains a poly(A) tail, which is added through canonical polyadenylation coupled to transcription. Canonical mRNA 3’ processing involves endonucleolytic cleavage within the pre-mRNA sequences and the addition of a poly(A) tail to the upstream cleavage fragment. The closing chapter discusses how the poly(A) tail at the 3’end of the majority of eukaryotic messenger RNAs (mRNAs), with the exception of histone transcripts, is not simply a static entity but more likely a dynamic matter. Its length added to an mRNA is regulated by the concerted action of poly(A) polymerases and deadenylases.
**Stem Cells**

*Manipulation of Stem Cells for Disease Benefits*

Prasad Koka (Chief Scientific Director and Professor of DiponEd Institute of Regenerative Medicine Merisis Therapeutics – DiponEd BioIntelligence, Bangalore, India)

In series: Stem Cells - Laboratory and Clinical Research


This collection of articles deals with the benefits of different types of stem cells sources, use, manipulation, and aspects for the treatment of chronic diseases. Topics include the role of calcium channel pathway/s in the regulation of neural stem cell differentiation; the evolutionary roles of the totipotent, pluripotent, or even multipotent stem cells; the derivations of multipotent MSCs; and potential canine-derived stem cell therapies for dogs. The scope of the book also provokes further studies into other topics, such as MSC differentiation into hepatocytes and the involvement of these cells with microRNA-133 in type 1 diabetes; the role of Vitronectin in the differentiation into endoderm; the extent to which the stemness of dental pulp stem cells might be useful; PBMCs as a source for pluripotent stem cells; yoga in possible synergy with the finding that bone marrow stromal cells provide relief from a laboratory reagent used as drug-mediated pain in spinal cord injury.

*Stem Cells Origins of Cytokine Interactions*

Prasad S. Koka (Chief Scientific Director and Professor of DiponEd Institute of Regenerative Medicine Merisis Therapeutics – DiponEd BioIntelligence, Bangalore, India)

In series: Stem Cells - Laboratory and Clinical Research


CD34+ pluripotent hematopoietic stem cells (HSCs) are generally involved in all aspects of the human system as well as in the stem cell therapeutic strategies, as in bone marrow transplantation (BMT). This book deals with several original research articles on HSC proliferation and containment. Lineage directed differentiation of HSCs and use of easily available herbal extracts for greatly increased proliferation into erythrocytes to treat thrombocytopenia are herein reported. HSCs respond to the growth factors and the herbal medicine is a welcome substitute with lack of known side effects for treatment purposes. However molecular mechanisms as in signal transduction are more easily deciphered than those derived from the herbs which may well be taken up for future studies. Mutations in the signal transduction genes such as JAK-2 have been shown to cause dysregulation of the CD34+ cell differentiation causing erythrocytosis, which is the reverse of thrombocytopenia, both of which are undesirable clinical consequences! Erythrocytes have been shown to date back to ancient tissues from the fossils.

**Geriatrics**

*Function and Metabolism of Aging: Longitudinal Neuroimaging Evaluations*

Yongxia Zhou, Ph.D. (Imaging Scientist, Columbia University and New York University, New York, NY, USA and University of Pennsylvania, Philadelphia, PA and University of Southern California, CA, USA)

In series: Geriatrics, Gerontology and Elderly Issues
In series: Neuroscience Research Progress

Softcover: 978-1-53615-613-3. $95.00.
e-book: 978-1-53615-614-0. $95.00.
Maintaining good metabolic profile plays a significant role in improving the quality of life at aging. Widely recommended physical and psychological strategies include exercise, calorie restriction (such as healthy diet), anti-aging neuroprotective and anti-inflammatory therapy. Most occurring risks at middle age range (45-65 years old) are obesity, insulin resistance, inflammation, alteration in the hypothalamus-hypophysis suprarenal axis activity, stress and hypertension that could increase the prevalence of metabolic syndrome. Metabolic syndrome increases with age, particularly for women. Significant associations were seen between imaging measures and cardiovascular risk factors at both baseline and 18-month follow-ups. Both baseline and longitudinal imaging analysis and correlations with neurocognitive tests as well as cardiovascular risk factors could provide distinct and confirmative perspectives relating to the pathophysiology of aging-related diseases such as dementia and diabetes. Significant baseline and longitudinal effects of age, smoking and neuropathological burdens such as amyloid, tau and glucose metabolism provide a complete imaging, neurocognitive and cardiovascular profile for better staging and differentiating different diseases. Together with accurate imaging guidance, early detection and treatment could be achieved with the ultimate goal of improving quality of life at middle age and extending longevity. The aim of this book is intended to provide both beginners and experts in biomedical imaging and health care a broad picture as well as new development in brain function and metabolism of aging using innovative neuroimaging techniques and advanced longitudinal/correlational analyses. Methods and data presented in this book with novel experimental designs and protocols, especially longitudinal investigation of multiple imaging metrics from microvascular, micro-structural to systematic functional, metabolic and neuropathological perspectives will help improving diagnosis and early prevention of common diseases at middle age such as metabolic syndrome and early dementia. Some promising prevention strategies such as arts therapy, aerobic exercise and calorie restriction will be introduced additionally with imaging evidence. Results presented will help improving diagnosis accuracy, staging, and determining phases and trajectories of disease progression with age, endothelial dysfunction and deficits in metabolic syndrome. This book will provide the current state-of-the-art and new frontiers of brain function and metabolic changes at age using multi-parametric functional, structural and molecular imaging techniques in detection, diagnosis and treatment. We will present some forefront and interesting multi-dimensional baseline and longitudinal imaging techniques to serve as a reference and resource book in neuroimaging application and research field. Several distinct detection and application perspectives, including cutting-edge imaging methods from baseline evaluations to longitudinal applications as well as multi-modal and multi-parametric quantifications will be described. The relatively new and advanced data and results together with interesting examples and application demonstrations could help facilitate the generalization, interpretation and applications of these techniques to improve disease diagnosis, quality of life and treatment for metabolic syndrome and brain dysfunction.

Is Aging a Disease? Untangling the Relationship

**Michael A. Singer (Faculty of Health Sciences, Queen’s University, Kingston, Ontario, Canada)**

In series: Geriatrics, Gerontology and Elderly Issues

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e-book: 978-1-53615-510-5. $95.00.

Each species has its own characteristic aging trajectory coded by a species-specific developmental program. This developmental program is triggered at the time of fertilization, hence aging begins at conception. Within a species there are considerable variations in the aging phenotype between individuals due to the plasticity of the developmental process and its inherent stochasticity. The evolution of a species is due to genetic changes in its underlying developmental program and when enough genetic changes have accumulated a new species emerges with its own characteristic aging phenotype. Therefore, speciation and aging are linked processes. Over the evolutionary course of the human lineage, culture has been an important driver of evolutionary change. Culture is not restricted to the human lineage but only humans have evolved cumulative culture; the transmission of modified cultural practices across generations. Early cultural innovations such as toolmaking, agriculture and dairy farming had a utilitarian function. However, over the past 100 to 150 years, there has been a significant change in the pace and nature of cultural innovations. Although many cultural innovations still have a utilitarian function, a new category of cultural innovations has emerged that have “entertainment” functions in the domains of social communication and information transfer. In addition, cultural practices by the tobacco, food and technological industries have been used to modify population behaviors, physiology and beliefs. Over the past 50 to 75 years, there has emerged so called chronic non-infectious diseases, which occurrence parallels the development of these new cultural innovations and practices. In addition, culture has now become the primary driver of human evolution. In answer to the question posed by the title of this book, aging is not a disease and diseases are cultural constructs used to define variants in the aging process.
NDAA 2017 made several changes to the TRICARE program, including the establishment of a new preferred provider network health plan option called TRICARE Select. The

For over a decade, Congress and DOD have led a series of efforts to address the governance structure of the Military Health System. In chapter 1, GAO examines (1) measures DOD uses to assess the quality of direct and purchased care, and (2) the extent to which DOD has established performance standards related to the measures and corrective action requirements for providers who do not meet those standards. As reported in chapter 2, or more than a decade, partially in response to congressional mandates, DOD has worked to address inefficiencies in the Military Health System to control costs. Chapter 3 examines the military departments’ planning processes for determining (1) operational medical personnel requirements, including an assessment of the mix of federal civilian, contractor, and active and reserve medical personnel; and (2) the most appropriate workforce mix at MTFs and any challenges in executing their desired workforce mix. The National Defense Authorization Act (NDAA) for Fiscal Year 2008 directed DOD to conduct surveys of nonenrolled beneficiaries and civilian providers about access to care under the TRICARE Standard and Extra options. It also directed GAO to review the surveys’ results. Additionally, the NDAA for Fiscal Year 2017 included a provision for GAO to review access to care under TRICARE Extra. Chapter 4 addresses both provisions. The NDAA 2017 made several changes to the TRICARE program, including the establishment of a new preferred provider network health plan option called TRICARE Select. The NDAA 2017 made several changes to the TRICARE program, including the establishment of a new preferred provider

Endoscopic sinus surgery and its main use in pediatric patients is described, as well as the advantages of this less invasive surgery. The main issues regard reduced nostril aperture and nasal fossae volume, and degree of sinus pneumatization are presented. Subsequently, the authors present indications, techniques, complications and treatment regarding the use of polycrylamide for facial wasting rehabilitation. Medical literature shows how facial wasting is recognized as a stigma of the infection for the patient-self, and as such facial features restoring is crucial to the social life of HIV positive patients. In conclusion, the authors recommend endoscopic sinus surgery and its main use in pediatric patients is described, as well as the advantages of this less invasive surgery.

Worldwide, human life is headed for longevity. On the other hand, humans have a desire to stay healthy and live longer. From about 100 to 150 years ago, humans have used all diseases for treatment and prevention, using natural resources such as plants, animals and minerals. These natural ingredients can minimize side effects etc. even after long-term administration. In addition, these natural ingredients can also control chronic toxicity etc. in a concentration-dependent manner. Based on these ideas, this book will focus on plant ingredients and plants that can be expected to maintain health until this longevity.

Natural Anti-Aging Plants and Delay of Senescence

Noboru Motohashi, PhD (Meiji Pharmaceutical University, Kiyose-shi, Tokyo, Japan)

In series: New Developments in Medical Research
In series: Plant Science Research and Practices
2019.
Softcover: 978-1-53616-282-0. $95.00.

Advances in Health and Disease. Volume 15

Lowell T. Duncan

In series: Advances in Health and Disease
Hardcover: 978-1-53616-448-0. $250.00.

Advances in Health and Disease. Volume 15 explores the current knowledge relating extracellular calreticulin to human pathologies, focusing on cancer, rheumatoid arthritis, systemic lupus erythematosus, wound repair and the retroviral infection with human T-cell lymphotropic virus type 1. Following this, the authors provide an overview of the tumor markers and scoring systems as well as it’s utilization for effective diagnosis of female adnexal masses. Appropriate discrimination between benign and malignant mass results in the correct choice between conservative and surgical management. This collection also presents the way in which two B-glucans play a vital role in innate immunity modulation, and are therefore predicted to be candidates for alternative therapies against inflammatory diseases. Subsequently, the authors present indications, techniques, complications and treatment regarding the use of polycrylamide for facial wasting rehabilitation. Medical literature shows how facial wasting is recognized as a stigma of the infection for the patient-self, and as such facial features restoring is crucial to the social life of HIV positive patients. In conclusion, the major issues regard reduced nostril aperture and nasal fossae volume, and degree of sinus pneumatization are presented. Endoscopic sinus surgery and its main use in pediatric patients is described, as well as the advantages of this less invasive surgery.

Defense Health Care: Treatment, Performance and TRICARE

Frederick Duncan

In series: Health Care in Transition
Hardcover: 978-1-53615-175-6. $160.00.

For over a decade, Congress and DOD have led a series of efforts to address the governance structure of the Military Health System. In chapter 1, GAO examines (1) measures DOD uses to assess the quality of direct and purchased care, and (2) the extent to which DOD has established performance standards related to the measures and corrective action requirements for providers who do not meet those standards. As reported in chapter 2, or more than a decade, partially in response to congressional mandates, DOD has worked to address inefficiencies in the Military Health System to control costs. Chapter 3 examines the military departments’ planning processes for determining (1) operational medical personnel requirements, including an assessment of the mix of federal civilian, contractor, and active and reserve medical personnel; and (2) the most appropriate workforce mix at MTFs and any challenges in executing their desired workforce mix. The National Defense Authorization Act (NDAA) for Fiscal Year 2008 directed DOD to conduct surveys of nonenrolled beneficiaries and civilian providers about access to care under the TRICARE Standard and Extra options. It also directed GAO to review the surveys’ results. Additionally, the NDAA for Fiscal Year 2017 included a provision for GAO to review access to care under TRICARE Extra. Chapter 4 addresses both provisions. The NDAA 2017 made several changes to the TRICARE program, including the establishment of a new preferred provider network health plan option called TRICARE Select. The NDAA 2017 made several changes to the TRICARE program, including the establishment of a new preferred provider
network health plan option called TRICARE Select. GAO examined program policies, procedures, and contracts and interviewed DOD officials and TRICARE regional contractors as reported in chapter 5.

**Government Reports on Health Care for March 2019**

*Eric Beyer*

In series: *Health Care in Transition*


Hardcover: 978-1-53615-844-1. $160.00.


This book is a comprehensive compilation of all reports, testimony, correspondence and other publications issued by the GAO (Government Accountability Office) during the month of March, grouped according to the topic: Health Care.

**Health Insurance: Requirements, Challenges, and Regulations**

*Wayne M. Matthews*

In series: *Health Care in Transition*


Hardcover: 978-1-53614-935-7. $195.00.


Since January 1, 2014, most individuals have had to maintain health insurance coverage or pay a penalty for noncompliance implemented through the Internal Revenue Code (IRC). To comply with this individual mandate, individuals need to maintain minimum essential coverage, which includes most types of public and private health insurance coverage. A majority of Americans have health insurance from the private health insurance (PHI) market. Health plans sold in the PHI market must comply with requirements at both the state and federal levels; such requirements often are referred to as market reforms. During the Obama Administration, the two federal agencies primarily responsible for administering the private health insurance provisions in the Affordable Care Act (ACA)—the Centers for Medicare & Medicaid Services (CMS) within the Department of Health and Human Services (HHS), and the Internal Revenue Service (IRS) within the Treasury Department—took a series of actions to delay, extend, or otherwise modify the law’s implementation.

**Key Government Reports on Health Care for June 2019**

*Antoinette Labonté*

In series: *Health Care in Transition*

2020.

Hardcover: 978-1-53616-568-5. $160.00.

e-book: 978-1-53616-570-9. $82.00.

This book is a comprehensive compilation of all reports, testimony, correspondence and other publications issued by the GAO (Government Accountability Office) during the month of June, grouped according to the topic: Health Care.

**HEMATOLOGY**

**A Closer Look at Blood Serum**

*Josefine Boubacar*

In series: *Recent Advances in Hematology Research*


Softcover: 978-1-53615-557-0. $82.00.

e-book: 978-1-53615-570-9. $82.00.

The opening chapter of this compilation is dedicated to the quantification of selenium and platinum in blood serum by electrothermal atomic absorption spectrometry. While selenium is an essential trace element in many selenoproteins, platinum is found in the human body as a consequence of chemotherapy treatment after the administration of Pt-based drugs. For these reasons, their reliable quantification is extremely important. The authors go on to discuss how the early diagnosis of neurodegenerative diseases is important for more efficient treatment and prophylaxis. Currently, the dominant hypothesis of the pathogenesis of Alzheimer’s disease is amyloid cascade resulting in accumulation of amyloid-β in brain structures. In conclusion, the authors discuss the major barrier to a widespread use of blood serum eye drops represented by the lack of standardized processes for the preparation, conservation, and dispensation of the products. Future perspectives of homologous serum eye drops include the introduction of tailored eye drops screened for the desired content of growth factors for each patient and ocular surface disease.
In Erythrocytes: Structure, Functions and Clinical Aspects, the authors summarize advances in human pluripotent stem cells-derived erythroid development and molecular regulatory mechanisms. This research may provide a new perspective on human embryo erythropoiesis and a possible treatment for some hematological diseases. Erythrocytes are well equipped to carry out their functions due to a dynamic cell membrane, their inherent shape and lack of organelles and cytoplasmic viscosity. As such, the following section focuses on the causes of these modifications and their clinical implications. As an example of complexity in research towards the development of erythrocyte membrane-based drug delivery systems starting from animal erythrocyte, morphological, biochemical and drug release profiles will be reviewed in the penultimate chapter. The final chapter investigates the electrochemical behavior of erythrocytes at platinum, carbonaceous, and optically transparent electrodes via polarization and coulometric measurements. The order of magnitude of the quantity of electrons transferred between erythrocytes and electrodes was determined, and potential ranges showing indifference of the electrode toward red blood cells were identified.

Thrombotic Thrombocytopenic Purpura: Causes, Diagnosis and Treatment
Mason Hillam
In series: Recent Advances in Hematology Research
Softcover: 978-1-53615-353-8. $82.00.
e-book: 978-1-53615-354-5. $82.00.
Thrombotic thrombocytopenic purpura is a life-threatening occlusive disorder of the microcirculation that is characterized by systemic platelet agglutination, organ ischaemia, severe thrombocytopenia and fragmentation of red blood cells. In the opening study included in Thrombotic Thrombocytopenic Purpura: Causes, Diagnosis and Treatment, the authors analyze the principal risk factors and causes of this disorder. Thrombotic thrombocytopenic purpura is diagnosed using standard laboratory tests: in addition to microangiopathic hemolytic anemia and consumption thrombocytopenia, classical parameters for hemolysis show an elevated reticulocyte count, an undetectable serum haptoglobin concentration, and a markedly elevated lactate dehydrogenase level as well as the presence of schistocytes on the blood smear. The authors propose that there are other pathologies with moderate thrombocytopenia that we should consider, such as: hereditary thrombotic thrombocytopenic purpura, hereditary hemolytic uremic syndrome, and thrombotic microangiopathies associated with some medications, transplantation or hidden malignancies. The closing chapter aims to revise the management of thrombotic thrombocytopenic purpura in pregnant women. To effectively manage this disorder, it is crucial to obtain a prompt diagnosis, in conjunction with further monitoring and treatment, to avoid fetal loss and maternal complications.

Nonalcoholic Steatohepatitis (NASH): Symptoms, Risk Factors and Treatments
Alain Babin
In series: Hepatology Research and Clinical Developments
Softcover: 978-1-53615-840-3. $82.00.
e-book: 978-1-53615-841-0. $82.00.
Nonalcoholic Steatohepatitis (NASH): Symptoms, Risk Factors and Treatments begins by discussing in detail the main non-alcoholic steatohepatitis symptoms, risk factors and treatments to elucidate relevant issues of this disease. Following this, the authors present the latest data on non-alcoholic steatohepatitis diagnostic methods and their purposes, recommending the use of non-invasive diagnostic methods for screening, initial examination and further monitoring. The closing chapter presents up-to-date serum, genetic and ‘omics’ biomarkers, discussing their advantages and disadvantages in the evaluation of non-alcoholic steatohepatitis.
Autoimmune Disorders: Risk Factors, Pathogenesis and Treatments
Kutty Selva Nandakumar (School of Pharmaceutical Sciences, Southern Medical University, Guangzhou, China)

In series: Immunology and Immune System Disorders
2019.

Autoimmune diseases (ADs) occur when the immune system is mistakenly activated and attacks self antigens present in our body, leading to tissue destruction. Increasing prevalence of ADs is not only a problem for the affected patients but also causes enormous economic burden to the society. Genetic, environmental and epigenetic factors, and interactions between them contribute to the clinical disease outcome. Although most of these diseases are polygenic and multifactorial, and the clinical spectrum differs significantly between the ADs, shared genes and pathogenic pathways attacking specific tissues or organs do exist. Hence, better understanding of the immunological and pathological basis of these diseases will help to design early diagnostic methods, identify new drug targets, optimize treatments to alleviate suffers of patients, and develop vaccines and methods to control progression of disease manifestations. This book is organized into seven chapters: Detailed description of Multiple Sclerosis (MS), Inflammatory Bowel Disease (IBD) and Psoriasis (Ps); Antibody mediated disease pathogenesis in Rheumatoid arthritis (RA) and type 1 diabetes (T1D), antibody glycosylation and its critical role in its effector functions; macrophages in inflammation and its resolution and, the use of nanoparticle-based drug delivery systems for ADs are discussed in detail.

Vaccine: Measles and Rubella Vaccination Experience in Zambia
Mazyanga L. Mazaba (The Health Press, Zambia National Public Health Institute, Ministry of Health, Lusaka, Zambia), Seter Siziya, PhD (The Copperbelt University, Michael Chilufya Sata School of Medicine, Department of Clinical Sciences, Public Health Unit, Ndola, Zambia), and Joav Merrick, MD, MMedSci, DMSc (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel; Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, US; National Institute of Child Health and Human Development, Jerusalem, Israel; Division of Pediatrics, Hadassah Hebrew University Medical Centers, Mt Scopus Campus, Jerusalem, Israel; School of Public Health, Georgia State University, Atlanta, Georgia, US)

In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
2019.
Softcover: 978-1-53615-799-4. $95.00.
e-book: 978-1-53615-800-7. $95.00.

Measles is still the cause of disease and even death around the world, and with the modern widespread travel around the globe, it can be spread from one site to another with ease. Rubella infection, especially during pregnancy, can also have important effects on the fetus and the family involved. The WHO African regional target of eliminating measles by 2020 seems unlikely, but in Zambia great strides have been made to eliminate measles. Following the successful implementation of the MR (measles-rubella) vaccination campaign, the MR vaccine should be introduced in the routine immunization program to replace single measles containing virus vaccine. In this book, we review the status of measles and rubella vaccination campaigns and incidence rates of these diseases in Zambia. Vaccination campaigns were conducted in 2010 and 2012 using a single measles vaccine and in 2016, a combined measles-rubella vaccine was administered in a campaign. The measles incidence rate reduced following the campaigns in 2010 and 2012. However, the incidence of measles slightly increased after the 2016 vaccination campaign. Meanwhile, the incidence of rubella increased in 2011 following the 2010 measles vaccination campaign. Thereafter, the decline in the incidence of rubella was observed and sustained with the measles-rubella vaccination campaign in 2016. There has been great progress towards the control and elimination of measles in Zambia.
INFECTION DISEASE AND MICROBIOLOGY

Advances in Health and Disease. Volume 10
Lowell T. Duncan
In series: Advances in Health and Disease
Hardcover: 978-1-53615-262-3. $250.00.
e-book: 978-1-53615-263-0. $250.00.

The objective of the first chapter is to explain fertility preservation decisions as related to reproductive-aged cancer patients’ experiences and desires for future fertility. The second chapter discusses fertility preservation and how it can be used to help cancer patients retain their fertility. It is an emerging discipline that now plays a central role in the care of reproductive women with cancer. This chapter examines several key factors underlying why more men who have sex with other men are not using Pre-Exposure Prophylaxis, including (1) lack of awareness of Pre-Exposure Prophylaxis, (2) lack of exposure to other Pre-Exposure Prophylaxis users, (3) general lack of interest in learning more about Pre-Exposure Prophylaxis, (4) lack of willingness to avail themselves of existing information sources and resources to learn more about Pre-Exposure Prophylaxis, (5) perceived stigma associated with the use of Pre-Exposure Prophylaxis, and (6) perceived obstacles needing to be overcome in order to give Pre-Exposure Prophylaxis adoption more serious consideration. The aims of this chapter is to describe some of these recent studies, showing the potential of the flavonoids anthocyanins, flavones, quercetin, hesperetin and naringenin in the control of adipocyte inflammation. The possible biochemical pathways will be presented, as well as the results observed in in vitro and in vivo studies. Chapter five explains how plasma transthyretin measures the methionine role in metabolic processes that requires deregulating the transsulfuration pathway and methylating homocysteine. It measures nutritional wellbeing and the impact of metabolism on the outcomes of human disease in relationship to severe inflammatory disorders, chronic disease, and cancer. The final chapter examines chronic kidney disease and how it is a significant burden on the economy and healthcare system globally as the patients suffering from it requires long term renal replacement therapy in the form of dialysis or renal transplant.

Advances in Health and Disease. Volume 11
Lowell T. Duncan
In series: Advances in Health and Disease
Hardcover: 978-1-53615-617-1. $250.00.

The aim of the opening chapter of Advances in Health and Disease. Volume 11 is to provide evidence on the indicators of fluid distribution and cellular integrity evaluated by nioelectrical impedance analysis in athletes of different performance levels and non-athletes. The second chapter presents a specific examination of the aryl hydrocarbon receptor among xenobiotic receptors, with a commentary on the preventive and therapeutic abilities of lignans against various diseases associated with the aryl hydrocarbon receptor signaling pathway, including cancers, teratogenesis, inflammatory bowel diseases, osteoarthritis, metabolic syndrome and diabetes, allergic diseases, autoimmune diseases, Alzheimer’s disease, Parkinson’s disease, leukemias and lymphomas. Additionally, the authors discuss scrub typhus, a bacterial disease caused by Orientia tsutsugamushi (O. tsutsugamushii), and how it is recognized as an important cause of fever in Asia. The objective of the next section is to conduct a literature review to identify key risk factors that contribute to the risk of infection and transmission of disease in residential aged care and community care settings. The indications and complications of surgical management of Choanal atresia will be thoroughly illustrated in the following chapter, mainly focusing on the role of the transnasal endoscopic approach. Recently, a great deal of emphasis has been placed on the creation of more effective drugs for prevention and management of obesity and obesity-related diseases. The penultimate chapter examines the peptide fraction derived from tissue of Antarctic hydrobiont and how it has beneficial effects on the diet induced obesity in rats through the influence on oxidative status, development of inflammation, and disorders of the serotonergic system, which are considered to be the key pathogenic mechanisms of obesity-associated metabolic disturbances. The focus of the final chapter is to describe the demographic, clinical and microbiological characteristics of S. maltophilia infections in pediatric patients during a two year period (2016 to 2018) in a tertiary-care hospital in southern Brazil.
Advances in Health and Disease. Volume 12

Lowell T. Duncan

In series: Advances in Health and Disease
Hardcover: 978-1-53616-060-4. $250.00.
e-book: 978-1-53616-061-1. $250.00.

The opening chapter of Advances in Health and Disease. Volume 12 suggests that antiviral treatments and drug resistance requires further research. Likewise, there is a necessity for research based on clinical trials in both human and animal models, aimed at introducing new drugs with proven efficacy that are devoid of side effects for the treatment of influenza in the pediatric population. Following this, the authors demonstrate that foreign body aspiration should always be considered in the differential diagnosis of pediatric hemoptysis. After a brief description of the complex relationship between circulating ovarian hormones and the estrogens biosynthesis that occurs in normal breast adipose tissue, the authors discuss the impact of abnormal weight gain on the risk of breast cancer. The present study aims to address how sildenafil treats multiple sclerosis, Alzheimer’s, diabetic encephalopathy and Parkinson’s, thus clarifying its mechanism of action. The updated knowledge on the possible benefits of sildenafil and its homologues in the treatment of pulmonary arterial hypertension and other common diseases is also reviewed. One section explores its author’s experience contracting measles to elucidate the importance of continual research into treating this virus. Next, the authors determine that vasopressin plays an important role in the development of schizophrenia-like symptoms, however, its possible pathogenic or therapeutic role during the course of the disease should be analyzed in more focused experiments. The diagnosis of dysentery in massive flood areas is discussed, particularly focusing on endoscopy, ultrasound scan, microscopic stool examinations and other advanced diagnostic tests. In closing, the authors review the current knowledge on the utility of tyrosine kinases for the molecular classification of bladder cancer and discuss different therapeutic approaches.

Advances in Health and Disease. Volume 13

Lowell T. Duncan

In series: Advances in Health and Disease
Hardcover: 978-1-53616-217-2. $250.00.

Advances in Health and Disease. Volume 13 begins by examining how lipid abnormalities in chronic kidney disease attract continuous attention due to their unclear involvement in chronic kidney disease patient outcomes. If kidney function declines, inflammation and oxidative stress progress and lipid disturbances develop, and malnutrition may ameliorate dyslipidemia in advanced chronic kidney disease. Although rare, pancreatic trauma can significantly impact the life of a patient, with some requiring a total pancreatectomy which will result in pancreatogenic diabetes. Diagnosis can be difficult, especially in children, with clinical symptoms being absent in many. As such, the authors discuss the current scientific literature on the diagnosis and management of pancreatic trauma and the promising use of autologous islet cell transplant in these patients. The authors go on to present the state-of-art knowledge on the effects of adenoma-silicenotrop and rapid maxillary expansion on the dentofacial development of children, clarifying what might be expected regarding facial growth after normalizing the mode of breathing and increasing the width of the maxilla. Following this, this compilation summarizes the growth and development processes of the face to describe the theories and mechanisms of facial growth and development. Next, the management of multi-drug resistant tuberculosis and extreme drug resistance tuberculosis is discussed, along with the latest World Health Organization guidelines and policy recommendations for treatment. The literature regarding the clinicopathological features of mucosa-associated lymphoid tissue of the dura is reviewed, focusing on how to differentiate mucosa-associated lymphoid tissue of the dura from clinical and pathologic mimics. In the closing study, changes in the molecular mechanism inside an ensemble up to 3 mio Daltons in human muscle in member

Advances in Health and Disease. Volume 14

Lowell T. Duncan

In series: Advances in Health and Disease
2019.
Hardcover: 978-1-53616-380-3. $250.00.
e-book: 978-1-53616-381-0. $250.00.

Advances in Health and Disease. Volume 14 opens with a chapter on Zika Virus, a ribonucleic acid virus of the Flaviviridae family, genus Flavivirus, Spondweni group, Zika species, isolated for the first time in 1947 from a primate in the Zika Forest in Uganda, a natural reserve near Entebbe. Next, the authors discuss multiple myeloma, which is characterized by the expansion of monoclonal plasma cells in the bone marrow. In about 95% of cases, the aberrant plasma cells produce a monoclonal immunoglobulin called monoclonal component that can be considered a marker of the disease. Hyperbaric oxygen therapy is explored in the context of sudden sensorineural hearing loss, where it has been used as a treatment since 1979. This exposes a patient to 100% oxygen at a pressure level higher than 1 atmosphere absolute in a specially designed sealed chamber. This facilitates a delivery of increased partial pressure of oxygen to the tissues. The authors discuss off-label uses of ruxolitinib, particularly in the treatment of myelofibrosis and polycythemia vera, as drugs can sometimes have uses beyond the official approved indication. Following this, summaries of the current scientific
knowledge and understanding of the clinical findings and health consequences of benzene exposure among children are presented. Children at various developmental stages have unique physical risk factors when exposed to toxic chemicals such as benzene due to their levels of mobility, oxygen consumption, hormonal production, and overall growth. Lastly, a hybrid quantitative structure–activity relationship model was developed for the prediction of aqueous toxicity. The data concerning 92 substituted benzenes was separated into two disjointed subsets, respectively 74 elements for calculating and testing of the model, and 18 elements for its external validation.

Ebola Virus Disease (EVD): Outbreaks, Control and Prevention Strategies
Hilaire Verreau
In series: Virology Research Progress
2019.
Softcover: 978-1-53616-291-2. $82.00.
To mitigate the spread of the rare and deadly disease Ebola, Ebola Virus Disease (EVD): Outbreaks, Control and Prevention Strategies begins with the proposition of a mathematical model with vital dynamics and two preventive measures: quarantine and isolation. Humanitarian issues in Ebola prevention and control are explored, as well as the cultural practices and social norms during outbreaks. Additionally, some innovative approaches in the humanitarian response to prevention and control are discussed. The authors expose the dilemma Ebola poses to within the healthcare system, where healthcare providers are caught between the over-arching quest for self-preservation from a highly virulent disease and the professional demand of prioritising the interests of the patients over self. In conclusion, the authors describe successfully developed drug candidates from their laboratory for the treatment Ebola using EBOV protein structure, such as VP24, VP35, VP40, nucleoprotein, and glycoprotein.

Infectious Diseases: Response, Recovery and Trends
Philippe Georges
In series: Microbiology Research Advances
2019.
Hardcover: 978-1-53616-401-5. $230.00.
An infectious disease threat is unique because of the transmissibility of diseases and the mobility of human populations. Infectious disease threats in recent years—such as Zika and Ebola outbreaks—have heightened the United States’ attention to future potential threats, and raised questions about the nation’s preparedness and response capabilities. Chapter 1 describes funding HHS has made available to awardees through its key preparedness and capacity-building programs—ELC, HPP, and PHEP; and these programs’ performance measurement data on the awardees’ infectious disease preparedness capacity. The World Health Organization (WHO) declared the Zika virus a public health emergency of international concern in February 2016. Zika virus disease can cause adverse pregnancy and neurological outcomes. Chapter 2 examines information on what is known and not known about the epidemiology of the Zika virus, and any challenges with conducting surveillance and epidemiological studies, characteristics of different diagnostic tests authorized during the outbreak, challenges test manufacturers and users faced, and the extent to which FDA and CDC followed their own communication guidance, and the strengths and limitations of available mosquito control methods, and challenges federal agencies face supporting these efforts. Chapter 3 describes the status of funds obligated and disbursed from the Zika supplemental funding appropriated to HHS and its agencies; and how selected awardees used their Zika supplemental funding, and their experiences with applying for and managing the funding. Chapter 4 examines the status of USAID and State funding for U.S. Zika response overseas, activities supported by these funds, and implementation challenges, if any, and responses to any challenges. The 2014-2015 Ebola outbreak in West Africa caused long-term second-order impacts, including disruptions to health systems, job loss, and food insecurity. As of September 30, 2017, of the $1.6 billion that the U.S. Agency for International Development (USAID) had obligated for the Ebola outbreak. Chapter 5 examines obligations for USAID’s Ebola recovery projects, the status of USAID’s implementation of these projects, and USAID’s evaluation of Ebola recovery efforts. On August 1, 2018, the World Health Organization (WHO) reported a new Ebola outbreak in eastern DRC; about a week after declaring that a separate outbreak had ended in western DRC as reported in chapter 6. Between September 2018 and May 2019, the number of African swine fever (ASF) outbreaks has rapidly increased, most notably in China, triggering economic losses in affected pork-producing countries as discussed in chapter 7. As reported in chapter 9, Tuberculosis (TB) remains a major, and evolving, health challenge in many parts of the world and a priority for the U.S. Congress and international community. Congress has long taken an interest in infectious disease prevention and control. According to chapter 10, the measles, mumps, and rubella (MMR) vaccine is 97% effective in preventing infection and related deaths, and routine MMR vaccination is recommended for all children.
Listeriosis Outbreaks: Symptoms, Risk Factors and Treatment
Christopher J. Horan

In series: Bacteriology Research Developments
Softcover: 978-1-53615-227-2. $95.00.

Listeria monocytogenes is a foodborne pathogen transmitted to humans through ingested food. This bacterium is responsible for human listeriosis, an extremely serious infection with a high mortality rate. In Listeriosis Outbreaks: Symptoms, Risk Factors and Treatment, the authors study the symptoms, risk factors and treatment of human listeriosis. L. monocytogenes is more deadly than other common food-borne pathogens such as the Campylobacter species, Salmonella enteritidis and Vibrio species. The authors have focused on listeriosis and the virulence factors of this pathogen for several years, performing a clinical study in collaboration with health institutions from two regions in Spain, Cantabria and Gipuzkoa. Consequently, biomarkers of listeriosis have been identified that may be used to study the disease evolution and trace the susceptibility to infection of specific high-risk groups. Following this, emphasis is placed on the symptoms of listeriosis in game birds in order to provide a description of various forms of the disease. Specific subjects are discussed in depth, such as the etiology of the disease, epidemiology, economic significance, hosts, transmission, incubation period, clinical signs, lesions, diagnostic procedures, principle of disease prevention, treatment and significance in public health. This compilation also reviews literature which may help readers assess large-scale aspects of this antimicrobial treatment for limiting the microbial contamination of food and improving the safety of the food supply, minimizing the risk of foodborne infections. In closing, the listeriosis outbreaks linked to the consumption of ready-to-eat fresh fruits and vegetables are presented, along with the physical and transcriptional organization of stress-associated response mechanisms.

West Nile Virus: Outbreaks, Control and Prevention Strategies
Marinke van Verseveld

In series: Recent Advances in Microbiology
2020.
Softcover: 978-1-53616-589-0. $82.00.
e-book: 978-1-53616-560-9. $82.00.

The opening study included in West Nile Virus: Outbreaks, Control and Prevention Strategies aims to design and implement an efficient data-driven agent-based model of West Nile virus spread, considering highly-mobile humans with a high level of heterogeneous properties. The authors propose a cellular difference equation model for adoption in West Nile virus-agent-based models. Following this, the authors summarize the envelope domain III protein, its production using various host systems, and applications in the development of West Nile virus vaccines and diagnostics. Lastly, this collection reviews the impacts of West Nile virus on several bird species, and discusses the implications for the long-term survival the Yellow-billed Magpie.

Living with HIV/AIDS: Challenges, Perspectives and Quality of Life
Julia Pierce

In series: HIV/AIDS - Medical, Social and Psychological Aspects
2019.
Softcover: 978-1-53615-953-0. $82.00.
e-book: 978-1-53615-954-7. $82.00.

The opening chapter of Living with HIV/AIDS: Challenges, Perspectives and Quality of Life is concerned with exploring the implications of living with invisible conditions in both social and professional networks, and how that may impact their overall health and wellbeing. The authors use empirical examples of people living with mental illness and people living with HIV/AIDS to examine how the level of their visible or invisible symptoms played out on their experience of living with such invisible conditions. The goal of the subsequent study is to explore the process of interviewing sero-discordant couples through a participatory action research methodology, as well as the outcome of science-in-action that was developed and formed into social capital by the community of couples living with HIV. The authors also present a theoretical taxonomy on the various themes of microaggressions that people living with HIV/AIDS encounter, including stigmatized language, desexualization and dating/sex-related microaggressions, dehumanization and second-class citizenship, pathlogy of HIV/AIDS, and criminalization of HIV/AIDS. The final section of this compilation aims to determine the reflexivity of HIV/AIDS survivors and the strategies taken to maintain a good quality of life. The data was collected from information coming from Peer Support Group, People Affected by HIV/AIDS, health workers, Local AIDS Commission and NGOs caring about AIDS using observation, in-depth interview, and documentation methods.
Zika Virus Surveillance, Vaccinology, and Anti-Zika Drug Discovery: Computer-Assisted Strategies to Combat the Menace
Subhash C. Basak, Ph.D. (Department of Chemistry and Biochemistry, University of Minnesota Duluth, Duluth, MN, US), Aparba K. Bhattacharjee, Ph.D. (Department of Microbiology and Immunology, Biomedical Graduate Research Organization (BGRO), School of Medicine, Georgetown University, Washington, DC, US), and Ashesh Nandy, Ph.D. (Centre for Interdisciplinary Research and Education, Kolkata, India)

In series: Virology Research Progress
Softcover: 978-1-53614-970-8. $82.00.
e-book: 978-1-53614-971-5. $82.00.

The bubonic plague, smallpox, HIV/AIDS, malaria, and influenza are some of the worst epidemics/pandemics that afflicted human beings from antiquity to modern times, killing millions of people. The mosquito-borne human-infecting viruses, rotavirus, and the seasonal influenza regularly affect lives across continents in the millions. Currently, we are facing various disease-inducing organisms of the Flavivirus family – the Yellow fever virus (YFV), West Nile virus (WNV), Japanese encephalitis virus (JEV), Tick-borne encephalitis virus (TBEV), Dengue virus (DENV) and Zika virus (ZIKV). Zika virus was first isolated from a febrile rhesus monkey in the Zika forest of Uganda in 1947. It drew out heightened attention following the large number of microcephaly in newborn babies in Latin America in 2015. On 1 February 2016, WHO declared that the association of Zika infection with clusters of microcephaly and other neurological disorders constituted a Public Health Emergency of International Concern. Although the severity and number of ZIKV afflicted cases have gone down lately, the public health community worldwide is keeping a watchful eye on it. ZIKV is an enveloped virus with a positive-sense RNA genome that translates into a single polypeptide, which then gets cleaved into three structural and seven nonstructural viral proteins. As compared to the earlier centuries, we have an expanding repertoire of diverse and fast acting technologies available at our hand to manage and mitigate emerging diseases. Completion of the Human Genome Project has given rise to sequencing methods which can quickly determine the genetic sequence of an alarming pathogen. Following Moore’s law, the power of computers, essential for data analysis and visualization, has grown substantially with time. The combination of genomic data of pathogens, computational modeling methods, and data driven methodologies can lead to a “generic approach” of surveillance, mitigation, vaccine design as well as new drug discovery for emerging pathogens. The four pillars of this may consist of: a) Epidemiological approaches for the characterization of carriers of next possible emerging pathogens; b) Fast computational sequence comparison methods for the characterization of emerging pathogens to understand how novel or severe they could be; c) Once the sequences of the pathogen have been determined, computer-aided vaccine design (CAVD) methods can be used to suggest a set of probable vaccine candidates for quick synthesis and testing in the laboratory; and d) Computer-assisted design of novel therapeutics and their laboratory testing as well as repurposing of already existing FDA-approved drugs. A combination of different classes of methods – in vivo, in vitro and in silico – will be needed to tackle suddenly emerging viruses like the Zika virus. As in many other fields of biomedical research, high throughput and low cost in silico technologies may provide the first line of defense against such emerging pathogens providing decision support systems for the judicious applications of medium throughput in vitro methods and low throughput as well as costly in vivo techniques. An emerging trend in many scientific disciplines is a strong tendency of being transformed into some form of information science. The editors of this book sincerely hope that the four-pronged computer-assisted approach described in this book will help in managing and mitigating emerging infectious diseases like Zika.

MEDICAL DEVICES

Mechanical Ventilation: Applications, Technologies and Ethical Issues
Antonio M. Esquinas (Hospital General Universitario Morales Meseguer, Intensive Care Unit and Non Invasive Ventilatory Unit, Molina Segura- Murcia, Spain)

In series: Advances in Respiratory and Critical Care Medicine
Hardcover: 978-1-53615-002-5. $230.00.
Currently, positive pressure mechanical ventilation has gained widespread recognition as an essential strategy in the treatment of various forms of acute and chronic respiratory failure. Its mechanism impacts directly or indirectly on respiratory physiology (gas exchange) and/or respiratory musculature in various medical/surgical pathological conditions. In addition, positive pressure mechanical ventilation has been recognized as a factor that influence both short- and long-term prognosis of critically ill patients. An example of one of the utilities of noninvasive ventilation is to assist in weaning from mechanical ventilation. For these reasons, mechanical ventilation continues to be a matter of controversy and continuous analysis for medical community and growing field of technological advances that optimize patient-ventilator interaction and outcome. This book has made a selection of the hot topics about indications of mechanical ventilation, technological development advances, ethical and cost associated with mechanical ventilation. Initially, the authors believe an essential approach to positive pressure ventilation is based on physiology (gas exchange, lung mechanics, work of breathing, equipment, etc.), modality of mechanical ventilators (invasive and non-invasive ventilation, nasal high flow, etc.), ventilatory modes (conventional and unconventional modes) and possible complications (ventilatory associated pneumonia, diaphragm dysfunction and ventilator-associated events). The most important mechanical ventilation topics and advances made in critically mechanical ventilated patients include obesity, severe hypoxemic respiratory failure (protective ventilation mode, prone position and extracorporeal oxygenation), cardiac surgery, lung/cardiac transplants, thoracic and brain trauma, pregnancy, and sleep breathing disorders. Patient-ventilator asynchrony, sedation and neuromuscular protocols in mechanical ventilation can be complicated by prolonged mechanical ventilation, weaning failure, sepsis and delirium. Continuous advances are being made in technologies such as diagnosis, monitoring and treatment patient-ventilator asynchrony, respiratory muscle function such as electromyography in diaphragm and lung function by ultrasound or electrical impedance. Weaning from mechanical ventilation, hospital discharge and early mobilization are important aspects of how to identify weaning candidates-screening and planning how release from mechanical ventilation (ventilatory options, protocols), reintubation, rehabilitation and goals-directed mobilization and discharge planning from hospitals receiving long-term mechanical ventilation. Finally, ethical and health-related cost perspectives of mechanical ventilation represent the last essential approach towards emergent issues in mechanical ventilation.

Men's Health

Penile Cancer: Challenges and Controversies
Francisco E. Martins, MD (Consultant Urological Surgeon, Department of Urology, University of Lisbon School of Medicine, Hospital Santa Maria, Lisbon, Portugal), and Miroslav L. Djordjevic, MD, PhD (School of Medicine, University of Belgrade, Serbia Department of Urology, Belgrade, Serbia)

In series: Cancer Etiology, Diagnosis and Treatments
In series: Men's Issues

Aims and Scope: Although penile cancer is uncommon in the industrialized world, it is highly prevalent in certain regions of the globe such as South America, Africa, and Southeast Asia. It is a highly aggressive malignancy which is often associated with a long delay until diagnosis. This is frequently attributed to shame, fear, and ignorance of the patient. In more advanced stages, it may require extensive amputative surgery that is devastating both physically and psychologically with enormous impact on quality of life, such as loss of conjugal intimacy and self-esteem. On the contrary, in the early stages surgical resection and subsequent disfigurement can be minimized and associated with good cosmetic results. Therefore, it is both patient’s and physician’s task to identify the disease early as the negative impact of the treatment is undoubtedly reduced. This fact emphasizes the importance of education of the patient, primary care physician and the public in general, and should get the proper attention from both the medical and lay media. Simple routine habits like self-examination and desired hygiene will facilitate early diagnosis and prevention. Although penile cancer has undergone significant advances in the field of diagnosis and multidisciplinary treatment in the past two decades, several challenges and controversies still remain unsolved. Diagnostic evaluation and management of less clinically evident disease requires better standardization of practice. Similarly, minimizing adverse sequelae related to interventions cannot be overemphasized. The implementation of multidisciplinary centers of excellence focused on the nuances inherent to an uncommon but aggressive disease will significantly aid to improve treatment outcomes and quality of life. Each chapter’s senior author was hand-selected as a world class resource for the area of expertise and for their willingness to share their surgical insight and wisdom. This book will have contributions from world-renowned experts in this field from different continents, providing an international flare and perspective on the recent developments in the field of diagnosis and
treatment penile cancer as well as reconstruction of the devastating effects of penile mutilation, including the recent interest in phallic reconstruction and ultimately penile transplantation for the penile cancer survivor. This book will also highlight other current challenges and controversies surrounding this disease, especially those related to the management of locally advanced and metastatic involvement. This book, with its multidisciplinary approach, is intended to provide a comprehensive discussion and benefit every reader, junior or senior, world over who is interested in and deals with patients afflicted by penile cancer, including the urologic oncologist, the radiation oncologist, the medical oncologist, the urology resident, and last but not least the primary care physician.

### Basilar Artery: A Clinical Review (2 Volume Set)

**Tarik F. Massoud, MD, PhD** (Department of Radiology, Stanford University, School of Medicine, Stanford, CA, USA), **Loifi Hacein-Bey, MD** (Department of Medical Imaging, Sutter Medical Group, Sutter Health, Sacramento, CA, USA; UC Davis School of Medicine, Sacramento, CA, USA), and **Ramez Kirollos, MD** (Department of Neurosurgery, University of Cambridge and Addenbrooke’s Hospital, Hills Road, Cambridge, UK)

In series: Neuroscience Research Progress

Hardcover: 978-1-53615-304-0, $320.00.

Perhaps no artery in the human body bears as much importance to bodily functions and life as the basilar artery, by virtue of the anatomical territories it serves. This is due to the critical nature of the physiological functions supported by the brainstem, the nearby cerebellum and cerebrum, and the severity of most pathological conditions known to affect this artery, and the risk involved in treating those conditions. This book is a comprehensive resource of knowledge on the anatomical, radiological, developmental, clinical, and technical aspects relevant to the diagnosis and treatment of basilar artery diseases. Until now, no single book has been available as a wide-ranging resource of clinically relevant information on the basilar artery, its pathology, and various treatment options. The co-editors are experienced academic clinicians with active interests in clinical neurovascular imaging and cerebrovascular surgery, who have worked within vibrant hospital and academic settings at the forefront of the best clinical practices related to diseases involving the basilar artery. The co-editors’ clinical experience has been acquired in centers of excellence across the USA, Europe, and the Far East. In compiling this book, the co-editors have also called upon many of the world’s best basic and clinical neuroscientists, specializing in knowledge of clinical conditions affecting the basilar artery, for their expert input on the latest clinical management of patients with diseases involving this artery. This book is intended for neuroradiologists, neurosurgeons, neurologists, neurointensivists, and other physicians and scientists engaged in the study and clinical management of patients with disease of the basilar artery and its vascular territories of the brain. It should also serve as a unique educational and research resource for students and more experienced practitioners alike within this important area of clinical medicine.

### Cytochrome c: Roles and Therapeutic Implications

**Natalia Arias** (Research Associate, IDLH, University College of London)

In series: Neuroscience Research Progress

Hardcover: 978-1-53614-907-4, $195.00.

Cytochrome C: Roles and Therapeutic Implications provides a thoroughly revised, invaluable resource for university students and researchers in the life sciences, medicine and related fields. This esteemed text attempts to organize available information on this topic to help a better understanding of the role of cytochrome c oxidase and its functional interaction with cytochrome c (Cyt c), the network of oxidation-reduction processes of cyt c in the cell with an emphasis on the implications for apoptosis induction and possible roles of cyt c reducing agents as an attractive strategy to improve neurodegenerative pathologies or cancer. In this book, the authors also reviewed the advantages of cytochrome c oxidase histochemistry to disentangle brain substrates underlying different kinds of learning and memory, from memory engram being retrieved with an untrained hippocampus to its power to identify sensory areas in the teleost fish. Finally, the authors will explore different approaches in cell cultures, animal models, and clinical trials to enhance cytochrome c oxidase activity that lead to improve
brain respiratory metabolism, namely, methylene blue and photobiomodulation. This volume effectively introduces basic concepts that are followed by more specific applications as the text evolves, providing the potential of cytochrome c to lead a revolution in the way neurodegenerative disorders are treated.

Facial Expressions: Recognition Technologies and Analysis
Flávia de Lima Osório and Mariana Fortunata Donadon (Medical School of Ribeirão Preto, São Paulo University, São Paulo, Brazil)
In series: Neuroscience Research Progress
Softcover: 978-1-53615-254-8. $95.00.
e-book: 978-1-53615-255-5. $95.00.
This book brings together contributions from different researchers on the theme of facial expressions, with an emphasis on emotional expressions, which may be of interest to professionals in neuroscience, technology and psychopathology. The reader will find theoretical reviews and experimental studies, with different focuses, among them: instruments of measures for use with adults, adolescents and children; training programs to develop emotional competence in children with emotional and behavioral problems, neural and psychophysical aspects associated with the recognition of facial expressions of emotion; emotional contagions, and studies on positive first impressions. Clinical researchers who wish to learn more about and / or update themselves on the subject will benefit from this text.

Horizons in Neuroscience Research. Volume 37
Andres Costa and Eugenio Villalba
In series: Horizons in Neuroscience Research
Hardcover: 978-1-53616-126-7. $250.00.
The opening chapter of Horizons in Neuroscience Research. Volume 37 suggests a definition and temporal origin of languages that emerge naturally—without linguistic assumptions or preconceptions—from an analytic and predictive theory of mental evolution. A significant number of Alzheimer’s disease patients present with low circulating plasma levels. As such, studies expressed in the following chapter have shown that leptin treatment reduces amyloid and phosphorylated tau accumulation in cultured cells and animal models, with beneficial effects. A systematic review of the structure and function of the cerebellum in normal brain and surveys the distribution of the pathology in a major mo

Movement 2018: Brain, Body and Cognition
Joav Merrick, M.D., MMedSci, DMSc (National Institute of Child Health and Human Development, Jerusalem, Israel) and Gerry Leisman, M.D., Ph.D. (F. R. Carrick Institute for Clinical Ergonomics, Rehabilitation, and Applied Neurosciences, Garden City, New York, USA)
In series: Functional Neurology
Hardcover: 978-1-53614-833-6. $310.00.
This book is based on the conference on “Movement and Cognition” held in July 2018 at the Joseph B. Martin Center at Harvard Medical School in Boston, where an opportunity was provided for researchers and practitioners from various disciplines to
share their knowledge and experience in an academic environment that has supported learning and social change for hundreds of years. In this book, readers will find all the abstracts from this conference gathered together in this publication, which the authors hope will be of interest to the scientific community. Joav Merrick, MD, MMedSci, DMSc, born and educated in Denmark is professor of pediatrics, child health and human development affiliated with the Division of Pediatrics, Hadassah Hebrew University Medical Center, Mt Scopus Campus, Jerusalem, Israel, Kentucky Children’s Hospital, University of Kentucky, Lexington, United States and professor of public health at the Center for Healthy Development, School of Public Health, Georgia State University, Atlanta, United States, the former medical director of the Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem and the founder and director of the National Institute of Child Health and Human Development in Israel. Gerry Leisman, MD, PHD, is an Israeli neuroscientist educated in the United Kingdom and the United States in Medicine, Neuroscience, and Biomedical Engineering at Manchester University. He additionally received a PhD in Neuroscience and Biomedical Engineering from Union University in 1979. He is currently Full Professor and Research Fellow at the University of Haifa in Israel. He is also concurrently Director of the National Institute for Brain and Rehabilitation Sciences, a global research institute with laboratories in Gilbert, Arizona, United States, Nazareth and Zevulun, Israel and in Havana, Cuba. He holds a Full Professorship in Rehabilitation Sciences from Israel’s Council of Higher Education (Malag). He concurrently is Professor of Restorative Neurology at the University of Medical Sciences in Havana, Cuba. He is Editor-in-Chief of the journal Functional Neurology, Rehabilitation, and Ergonomics.

Neurological Diseases: From Diagnosis to Treatment
Philip L. Thygesen
In series: Neurology - Laboratory and Clinical Research Developments
2019.
Softcover: 978-1-53616-205-9. $82.00.
e-book: 978-1-53616-206-6. $82.00.
In Neurological Diseases: From Diagnosis to Treatment, the authors provide an overview of the most important pathogenic aspects which indicate that therapeutic apheresis can be a supportive therapy in systemic autoimmune diseases such as renal and neurological disorders. Next, the authors examine whether ceftriaxone could influence aluminum brain neurotoxic effects through a study wherein four groups of adult male Wistar rats underwent four different treatments via stereotaxic brain surgery. The concluding study proposes an implementation of a concept of neuropalliative and rehabilitative care for patients with progressive neurological disease within the systems of health and social care in the Czech Republic.

The Vasculitides. Volume 1: General Considerations and Systemic Vasculitis (Second Edition)
David S. Younger, M.D. (Department of Neurology, New York University Langone Medical Center, New York, NY, US)
In series: Public Health in the 21st Century
Softcover: 978-1-53615-133-6. $310.00.
Systemic and nervous system vasculitides are a heterogeneous group of related disorders, each characterized by vascular inflammation such that they have the potential to cause serious morbidity and mortality if unrecognized and therefore untreated. Systemic vasculitis affect all populations and every nationality and walk of life, from childhood to older age. The first edition of The Vasculitides, published in 2014, met the urgent need for a clear, concise, and reliable textbook regarding the epidemiology, pathogenesis, clinical presentation, laboratory evaluation and management of these disorders, assembling participants of the 16th International Vasculitis and ANCA Workshop in Paris, France. Five years later, two subsequent meetings have taken place in London and Tokyo. Participants of the 19th International Vasculitis & ANCA Workshop will gather in April 2019 at the University of Pennsylvania for an exceptional venue to share translational scientific discoveries, data from clinical trials, and advances in the clinical assessment, pathophysiology, genetic biomarkers, standard-of-care, and novel therapies of vasculitis. The Workshop participants regathered to update the The Vasculitides, producing an even more cutting-edge two-volume set of books. This is the first book in the set, covering general considerations and systemic vasculitis.
Systemic and nervous system vasculitides are a heterogeneous group of related disorders, each characterized by vascular inflammation such that they have the potential to cause serious morbidity and mortality if unrecognized and therefore untreated. Systemic vasculitis affect all populations and every nationality and walk of life, from childhood to older age. The first edition of The Vasculitides, published in 2014, met the urgent need for a clear, concise, and reliable textbook regarding the epidemiology, pathogenesis, clinical presentation, laboratory evaluation and management of these disorders, assembling participants of the 16th International Vasculitis and ANCA Workshop in Paris, France. Five years later, two subsequent meetings have taken place in London and Tokyo. Participants of the 19th International Vasculitis & ANCA Workshop will gather in April 2019 at the University of Pennsylvania for an exceptional venue to share translational scientific discoveries, data from clinical trials, and advances in the clinical assessment, pathophysiology, genetic biomarkers, standard-of-care, and novel therapies of vasculitis. The Workshop participants regathered to update the The Vasculitides, producing an even more cutting-edge two-volume set of books. This is the second book in the set, covering vasculitis of the nervous system and treatments.

Central Nervous System

Spinal Cord and Spinal Column Tumors
Alessandro Landi, MD, PhD, Fabrizio Gregori, MD and Roberto Delfini (University of Rome “Sapienza”, Department of Neurology and Psychiatry, Rome, Italy)

A spinal column tumor is a cancerous (malignant) or noncancerous (benign) growth that develops within or near the spinal cord or within the bones of the spine and aren’t as common as brain tumors, but they do occur. The majority of spinal cord tumors are found in children and young adults, but anyone can be diagnosed with a tumor at any point in their life. Treatment for a spinal tumor may include surgery, radiation therapy, chemotherapy or other medications. Surgery can range from a minimally invasive procedure to complex reconstruction depending on the severity of cancer involvement. This book aimed to have a complete and detailed update on spinal oncologic pathology and the most advanced techniques for diagnosing and managing spinal cord and spinal column tumors. From the fundamentals of spinal cord anatomy and spinal tumors pathology to the clinical evaluation, radiological diagnosis and treatment techniques for specific spinal tumors. The book is divided into two sections, one on spinal cord tumors and one on vertebral column tumors. The text contains multidisciplinary notions on surgical approaches for resection, reconstruction, decompression and stabilization for spinal tumors. Furthermore, the text contains important updates on the diagnosis and treatment of vertebral metastases with particular attention to diagnostic algorithms. It contains contributions and experiences of some of the world’s leading experts in the treatment of spinal oncological pathology, making this work rich and complete. This book is aimed at neurosurgeons, orthopedic surgeons and specialists who require a complete text on current techniques in the management of spinal tumors.
Child Nutrition Programs: Background and Current Issues
Daniel D. Coleman

In series: Nutrition and Diet Research Progress

The term child nutrition programs refers to several U.S. Department of Agriculture Food and Nutrition Service (USDA-FNS) programs that provide food for children in institutional settings. These include the school meals programs—the National School Lunch Program and School Breakfast Program—as well as the Child and Adult Care Food Program, Summer Food Service Program, Special Milk Program, and Fresh Fruit and Vegetable Program. Chapter 1 provides an overview of these and other current issues in the child nutrition programs. The child nutrition programs and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) were last reauthorized in 2010 as reported in chapter 2. Chapter 3 describes how each program operates under current law, focusing on eligibility rules, participation, and funding. This introductory section describes some of the background and principles that generally apply to all of the programs; subsequent sections go into further detail on the workings of each. Chapter 4 examines what is known about SFSP participation, other programs that help feed low-income children over the summer, and challenges, if any, in providing summer meals to children and the extent to which USDA provides assistance to address these challenges. Chapter 5 is the statement of Kathryn A. Larin on improvements needed in the summer meals program. Chapter 6 provides an overview of the WIC program, including administration, funding, eligibility, benefits, benefits redemption, and cost containment policies. Chapter 7 assesses the extent to which leading research practices were followed in USDA’s most recent review of vegetables available under WIC. Chapter 8 discusses SNAP E&T programs, including program participants, design, and USDA oversight, and USDA’s efforts to address SNAP program integrity, including improper payments, as well as recipient and retailer fraud.

Comprehensive Guide to Nutrition in Polycystic Ovarian Syndrome (PCOS)
Annchen Weidemann (Consultant Dietician, Vredenburg, Western Cape, South Africa)

In series: Nutrition and Diet Research Progress
Softcover: 978-1-53615-655-3. $95.00.
e-book: 978-1-53615-656-0. $95.00.

Polycystic ovarian syndrome (PCOS) is the single largest cause of infertility in women of childbearing age, with the incidence having risen from around 15 % to 21 % within 6 – 8 years. Not only has the incidence risen in this population, but in adolescents, PCOS is being diagnosed earlier and more frequently, than ever before. There is no written “diet” or single food that cures PCOS, but factors from Westernized eating such as trans fats, advanced glycation end-products and fructose overload, are factors which affect both the development of PCOS and the resistance to drug-related treatment of it. For the woman with PCOS, whether trying to fall pregnant of manage symptoms, it is of cardinal importance to understand that a “diet mentality” is inappropriate, since the entire lifestyle should be changed to favour the menstrual cycle and the production of its hormones for at least 3three months prior to expecting normal ovulation. The awakening and development of the primordial follicle destined to become the ovulatory one, 85 days prior to ovulation, points to the compulsory consistency of improved eating habits and lifestyle. Almost every single food/meal/snack has an influence on your ovulatory capacity. It is imperative that the PCOS woman seeking help for either symptomatic relief or fertility, understands the relationship of the hormonal chaos of PCOS to the hormonal chaos of a poor diet. The standard dietary composition, of 20 % protein, 50 % carbohydrate and 30 % fat, was used to treat PCOS since the beginning of research, after the discovery of PCOS as Stein-Leventhal syndrome in 1935. Weight loss was known to be the most important factor in treating PCOS, but no progress was made, and the drop-out rate of diets given to these women was extremely high. For some reason, women with PCOS could not adhere to a formal diet, and battled weight loss, although small studies could not confirm this. The answer to this probably lies in the disturbance of their hunger and satiety cascade, regulated by insulin. New drugs have seen the light and were tested on females with PCOS with mediocre results, showing that something else but the PCOS was at play. This book is dedicated to show the power and strength of poor dietary habits (and visa versa) on drug treatment of PCOS, and the lack of need for it when dietary habits and lifestyles are improved. In PCOS, drugs could probably never win over a poor eating lifestyle, which is a point often missed by fertility specialists eager to help with a quick -fix, rather than a longer process that can be maintained over the long-term. The mere fact that in women undergoing IVF treatment, end-stage-glycation products were found in their oocytes, tells a story of the horrendous effect of poor dietary habits on fertility. Both the keto-genic diet and intermittent fasting (done under professional dietetic supervision), either apart or together, have provided a means for quicker and safer weight loss, especially if time is of the essence in older couples.
countries, the most important among many other reasons for seeking herbal therapy is the belief that it will promote healthier living. Herbal medicines are, therefore, often viewed as a balanced and moderate approach to healing and individuals who use them as home remedies and over-the-counter drugs spend huge amount of money (in excess of billions of dollars) on herbal products. As the global use of herbal medicinal products continues to grow and many more new products are introduced into the market, public health issues, and concerns surrounding their safety are also increasingly recognized. Although some herbal medicines have promising potential and are widely used, many of them remain untested and their use also not monitored. This makes knowledge of their potential adverse effects very limited and identification of the safest and most effective therapies as well as the promotion of their rational use more difficult. It is also common knowledge that the safety of most herbal products is further compromised by lack of suitable quality controls, inadequate labeling, and the absence of appropriate patient information. It has become essential, therefore, to furnish the general public including healthcare professionals with adequate information to facilitate better understanding of the risks associated with the use of these products and to ensure that all medicines are safe and of suitable quality.

Oregano: Properties, Uses and Health Benefits

Gema Nieto Martínez, University of Murcia (UMU), Campus de Espinardo, Facultad de Veterinaria, Murcia, Spain

In series: New Developments in Medical Research

In series: Plant Science Research and Practices

2019.

Hardcover: 978-1-53616-284-4. $230.00.


Humans have employed medicinal plants for thousands of years in traditional medicine. Oregano has been cultivated mainly for centuries in the Mediterranean area, although it now can be found on most continents. Oregano is one of the most popular plants in Spanish traditional remedies and its leaves have been used in traditional medicines in order to treat illness such as aching muscle, skin sores, asthma, digestion disorders, infections, inflammation or maintaining general health. In addition, oregano has been used since ancient times as an ingredient in Mediterranean diet. In this sense, there are several species of oregano, being Spanish thyme or Origanum vulgare, the spice variety sold most in the United States and Europe. Nowadays the use of oregano is not exclusive for culinary proposes, because the consumers’ concerns about the use of synthetic additives into foods have led the food industry to the search for green strategies. In this sense, oregano extracts, essential oils and individual compounds from this herb have demonstrated antioxidant, anti-inflammatory, anticancer, and antimicrobial actions, which may contribute to the capacity to avoid human infections or to protect the cardiovascular and nervous systems by blood glucose and lipid modulation. Therefore, based on the current scientific literature, oregano essential oil can be considered as a rich source of bioactive compounds and its addition to food matrices transmit these benefits; this approach can be used as a tool to generate functional foods. This book reviews and discusses oregano containing several potent antimicrobial, antioxidant compounds that may contribute to benefit the nervous and cardiovascular systems. In addition, the opportunity of using Origanum vulgare as potential platform for producing polyphenols, biogas and energy under biorefinery approach has been discussed. Moreover, the possibility to be added into foods as natural additives and a strategy in order to improve human health was also discussed. In this sense, the inclusion of oregano into treat products, yogurt, juices and others could be an interesting strategy to produce functional foods. The oregano extract and essential oil represents a good strategy in order to substitute synthetic antioxidants and to produce functional foods with an extended shelf life. Several industries are now looking for sources of new, natural and safe agents. Essential oil from Origanum spp. has shown efficacy retarding lipid oxidation in food matrices. Oregano essential oil possesses strong antimicrobial activity against food pathogen bacteria highlighting its potential as a tool to achieve food safety. Oregano essential oil has shown efficacy in reducing microbial growth of deteriorative microorganisms (bacteria, yeast, molds), representing the potential to increase shelf-life of food. Oregano essential oil can be considered as a rich source of bioactive compounds and its addition to food matrices transmit these benefits; this approach can be used as a tool...
to generate functional foods. Results obtained from numerous studies can help to exploit the use of the Origanum EOs studied as the functional food and pharmacological ingredients for promoting health.

**Pork Consumption and Health**

*Frank L. Moore*

In series: *Food and Beverage Consumption and Health*


Softcover: 978-1-53614-991-3, $82.00.

e-book: 978-1-53614-992-0, $82.00.

In this compilation, the authors provide an overview of the existing literature on the content of nine most abundant minerals (potassium – K, phosphorous – P, sodium – Na, magnesium – Mg, calcium – Ca, zinc – Zn, iron – Fe, copper – Cu and manganese – Mn) in major raw and cooked pork meat cuts. The ingestion of raw or undercooked pork poses a public health risk, since pork is the main transmitter of parasites, which include the protozoa Toxoplasma gondii and the helminths Trichinella spiralis and Taenia solium. These three ‘T’ porkborne parasites have been responsible for most of the porkborne illnesses throughout history, and they are still endemic and therefore an important public-health concern. In the concluding study, Spearman’s correlation coefficient was used to study the relationship salmonellosis and explanatory variables. Second, a multilevel linear regression analysis was carried out with two levels: region, occidental and oriental, European countries, and climate. Additionally, Stata @14 version was used in the statistical analysis.

**Vitamins and Supplements**

*Encyclopedia of Vitamins: New Research (4 Volume Set)*

*Lindsey Valdez*

In series: *Nutrition and Diet Research Progress*


Hardcover: 978-1-53615-693-5, $644.00.


This 4 volume set covers a wide range of topics, including: · liquid chromatography · vitamins · vegetables · cardiovascular disease · skeletal health.

**OBSTETRICS AND GYNECOLOGY**

*Inositol: Guide to Practical Applications in Obstetrics and Gynecology*

*Vittorio Unfer (A.G.UN.CO Obstetrics and Gynecology Center, Rome, Italy)*

In series: *Therapeutic Approaches in Common Obstetrics and Gynecological Disorders*


Hardcover: 978-1-53614-912-8, $195.00.


This book offers a valuable mine of clinical information for health professionals and researchers. It gives an overview of the critical role played by Inositols in the therapeutic approach to common obstetrics and gynecological disorders. Inositols are a family of simple carbohydrates naturally found in several foods and human cells. There are potentially nine stereoisomers of Inositols, among them being myo-inositol (MI) and, to a lesser extent, D-chiro-inositol (DCI). These are the most important isoforms for the physiological processes in humans. They exert different actions in the control of glucose homeostasis: MI regulates the activation of glucose transporters and glucose utilization, while DCI modulates the glycogen synthesis. Once incorporated into phosphoglycans, they act as second messengers involved in the signaling transduction cascade of insulin. The metabolism of Inositols is dysregulated in patients with Polycystic Ovary Syndrome (PCOS), highlighting the crucial link between insulin resistance and inositol deficiency in PCOS patients. Therefore, several pre-clinical and clinical studies have been carried out to evaluate their therapeutic usefulness in pathologies where there is an imbalance in MI and DCI levels (from PCOS and gestational diabetes mellitus to infertility). The clinical evidence has demonstrated that MI can be considered widely safe and well tolerated, giving prominence to this versatile molecule. In several trials, the beneficial effect of MI in improving the metabolic and endocrine profile of women with PCOS has been highlighted extensively. Further analyses have shown that the physiological MLDCI ratio (40:1) is the optimal approach for improving oocyte follicular development and oocyte maturation as well as ovary stimulation and pregnancy outcomes in in vitro fertilization.
(IVF) procedures. Furthermore, the reader is introduced to a broader area encompassing the Inositols scenery from the history to Inositols nutritional importance, the therapeutic use in preeclampsia, gynecologic oncology, fetal programming as well as their resistance and substance interaction. All these interesting topics will be discussed and deepened in the present book, giving the opportunity to explore in detail every aspect of this effective molecule, bringing the instructions from this guide to everyday practice.

**Pelvic Inflammatory Disease**

*Daniel Abehsera, M.D. (Obstetrics and Gynecology Department Quirón University Hospital Málaga, Spain)*

In series: Obstetrics and Gynecology Advances


Softcover: 978-1-53615-193-0. $82.00.

e-book: 978-1-53615-194-7. $82.00.

Pelvic inflammatory disease (PID) is an entity whose diagnosis is not always easy. The PID comprises a wide range of clinical forms ranging from banal to severe disease processes that compromise the life of the patient. The etiologic diagnosis is not always possible, because the germs responsible cannot always be detected by the usual culture medium, which is why the use of molecular biology techniques is required. The classical definition of PID is a secondary infection of the female genital tract, due to infection of a sexually transmitted disease like Chlamydia trachomatis, or Neisseria gonorrhoea. This notion is being displaced by the concept of PID as a secondary infection by a germ from the altered vaginal flora. The interpretation of complementary tests is difficult because severe cases can present with normal analytical profiles, and an absence of findings on imaging tests. Usually, when an image of pelvic abscess is observed, it usually indicates a failure of medical treatments; however, it is possible to perform a step prior to surgical treatment by ultrasound-guided puncture of the abscess. The use of laparoscopy in the PID is very important for both diagnosis and treatment when there is a failure of drug therapy. An early approach to the disease is essential to prevent damage in the female genital tract that will compromise the fertility of the patient in the future.

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*Gabriel Adams and Edna Dunn*

In series: Cancer Etiology, Diagnosis and Treatments


Hardcover: 978-1-53615-697-3. $495.00.

e-book: 978-1-53615-698-0. $495.00.

This 3 volume set covers a wide range of topics, including: gemcitabine, oophorectomies, breast cancer growth inhibition, exosomes, tumor infiltrating lymphocytes.

**Frontiers in Leukemia Pharmacotherapy**

*Lunawati L. Bennett (Professor of Pharmaceutical Sciences, Tenured Union University College of Pharmacy, Jackson, TN, US)*

In series: Cancer Etiology, Diagnosis and Treatments


Frontiers in Leukemia Pharmacotherapy provides a comprehensive overview of the various leukemic disorders found in both children and adults, with an emphasis on current and novel treatment approaches for the healthcare practitioner. By focusing on the unique therapeutic challenges of leukemia, this book aims to meet the diverse needs of physicians, pharmacists, nurses, and other healthcare professionals with an interest in serving patients with leukemia. This comprehensive book is divided into nineteen chapters. Content includes information on specific leukemic disease states in both children and adults. Written by researchers and clinical practitioners, chapters cover a wide array of leukemic topics. Topics include understanding the molecular and genetic basis of acute and chronic leukemia, pharmacology of anti-leukemic agents including traditional chemotherapies, targeted immunotherapy, and tyrosine kinase inhibitors. The epidemiology, etiology, pathogenesis, disease classification, clinical presentation, pathologic features, diagnosis, prognosis, and treatment guidelines for myelodysplastic syndrome,
promyelocytic leukemia, pediatric and adult acute and chronic leukemia are other topics covered in more detail. Other topics include: Redox homeostasis occurring in leukemia and the role of antioxidants, supportive care for the leukemic patient experiencing complications from chemotherapy, palliative care for termination of those with leukemia, pharmacoanalytics using computational modeling to support drug development in leukemia, and future agents that are in clinical trials in our fight against leukemia. Reputable books, journals, monograms, clinical trials, and other resources were used to provide up-to-date medical information useful to assist healthcare professionals in the management of leukemia. Frontiers in Leukemia Pharmacotherapy is an excellent resource for curious healthcare professionals involved in the care of leukemic disorders.

Horizons in Cancer Research. Volume 71
Hiroto S. Watanabe
In series: Horizons in Cancer Research
Hardcover: 978-1-53615-207-4. $250.00.
Horizons in Cancer Research. Volume 71 begins by reviewing the histopathological features of head and neck squamous cell carcinoma and its precursor lesions, risk factors for head and neck squamous cell carcinoma including viral infection, chemical carcinogenic and ethnic predisposition. New knowledge about major pathways and signaling is also presented. Next, the clinical development of PD-1 and PD-L1 inhibitors in head and neck squamous cell carcinoma to date is reviewed with a focus on phase I-III clinical trials. The authors also discuss future considerations and strategies to optimize the benefits of this class of immunotherapeutic agents. Glioblastoma multiforme, the most deadly primary brain tumor in adults, is studied in the following chapter. Various studies show that only 3–5% of glioblastoma patients survive longer than 3 years and nearly 100% of all tumors recur due to therapy resistance. The most challenging aspect in the treatment of glioblastomas is the invasive nature of the tumor cells to the surrounding brain tissue. Current forms of treatment for glioblastoma allow for short-term survival, reflecting an urgent need for the development of a new form of treatment. The authors also present the cellular and molecular mechanisms of glioblastoma underlying the evasion of treatment, rationale for using novel therapeutics currently undergoing clinical trials, and explore promising molecular targets for the development of future therapeutics. This collection goes on to demonstrate the importance of TNF-alpha and its receptors in malignant gynecological and breast neoplasms, the immunological mechanisms in these neoplasms, and the role as possible future targets in the treatment. Information about the mechanisms of c-Myc are presented in order to update previous studies to discuss some of the current paradigms and provide a basis for future studies. c-Myc is a regulator gene that codes for a transcription factor, and it is important for many multidirectional cellular functions. In one study, the structural, energetic, spectroscopic and electronic properties of organometallic Ru(II) complexes of the general formula [(η6-arene)Ru(XY)Cl]Z (XY is N,N-(diamine), N,O- or O,O cheating ligands, Z = PF6 anion) were calculated by means of density functional theory electronic structure calculations. These complexes, adopting a “piano-stool” geometry, are potent anticancer agents and their anticancer activity against various types of cancers has already been investigated. In the closing contribution, the authors outline the guidelines for sentinel lymph node biopsy in the management of thin melanoma on the basis of its histogenetic features. A histogenetic conception and an uncertain malignant potential appear to be the most significant discriminants on whether or not to perform the biopsy.

Horizons in Cancer Research. Volume 72
Hiroto S. Watanabe
In series: Horizons in Cancer Research
Hardcover: 978-1-53615-812-0. $250.00.
The first chapter of Horizons in Cancer Research. Volume 72 discusses the Ewing’s sarcoma family of tumors, including classic Ewing’s sarcoma of the bone, extraskeletal Ewing’s sarcoma and malignant peripheral primitive neuroectodermal tumor of both bone and soft tissue. The following chapter discusses Primary Ewing’s sarcoma of the base of the tongue, particularly its diagnosis and treatment. Additionally, the authors examine dual proteasome and histone deacetylase6 inhibitor, dual MDM2 and histone deacetylase inhibitor, and dual bromodomain-containing protein 4 and histone deacetylase inhibitor. The authors go on to examine the genes and proteins involved in mitosis that are proposed as candidates for biomarkers in different types of cancer (colon, lung, prostate, breast and ovarian, among others). The penultimate chapter reviews the published evidence of aromatase inhibitors in breast cancer risk reduction. The recommended patient populations for the use of aromatase inhibitors, expected benefits, adverse effects and monitoring parameters are addressed. The transcription factor and chromatin structure-related aspects of cancer treatment are the focus of the final chapter.
Horizons in Cancer Research. Volume 73
Hiroto S. Watanabe

In series: Horizons in Cancer Research
2019.

In Horizons in Cancer Research. Volume 73, after the identification of some small subgroups with a strong biological-molecular identity, the current evidence regarding the prognostic factors of patients with non-resectable metastatic disease are examined. The goal is to discuss disease subgroups, which may sometimes provide conditions for decisions that are less compliant with current clinical practice and help define new stratification criteria for patients enrolled in prospective studies. Following this, the authors summarize the current knowledge on breast cancer with an introduction on the traditional markers used in the diagnosis of this disease, followed by an account of the emerging markers. Next, the underlying mechanisms of DNA replication, damage and repair are discussed. Further, RAD51 is proposed as a potential means of managing chemoresistant cancers. Certain drugs and strategies can sensitize chemotherapy via impacting on RAD51, which can be developed as chemotherapy modulators. The authors also discuss multiple myeloma, an incurable malignant tumor of plasma cells of the bone marrow, which is the most common primary neoplasm arising in bone. It causes approximately 1% of cancer-related deaths and is the 2nd most common hematological malignancy in the western world. Later, this collection discusses the prevalence and types of infectious complications that patients with multiple myeloma face, as well as present and emerging therapeutic approaches. The concluding study indicates proteins that have a promising future as new anticancer drugs, in conjunction with the in vitro and/or in vivo effects of these bioactive proteins derived from plants.

New Developments in Oncology Research
Marcos T. Blair

In series: Cancer Etiology, Diagnosis and Treatments
Hardcover: 978-1-53615-365-1. $160.00.

In the opening chapter, authors discuss the current literature that describes the application of Palliative Medicine services in advanced cancer, models of Palliative Care delivery by site and mode of practice, cost-effectiveness of early Palliative Medicine referral patterns and national and international Palliative Medicine practice and referral guidelines. The chapter will also discuss the outcomes of Palliative Medicine in Oncology focusing on the improvements in patient clinical and quality of life outcomes. Next, a systematic chapter aims to better explain the mechanisms that underlie electrolyte disturbances in cancer patients, to stress on the serious prognostic implications involved and to provide practical and useful indications for the prompt diagnosis, management and therapy of electrolyte disorders. The authors discuss over thirty Pt(η2-P(XnP))Cl2 (n = 5, 6, 7, 8) derivatives in which organodiphosphines create wide varieties of the metallocyclic rings: eight-membered (PC5P, PC2OC2P, PC2NC2P), nine-membered (PC6P, PCO4OP), ten-membered (POC5OP, PC2OC2C2P, POC3OC3P), and eleven-membered (PC8P, PNC6NP, POC6OP). Another included study covers eighty five Pt(II) complexes with an inner coordination sphere of cis-Pt2Cl2. The P- donor ligands are organodiphosphines which create four- and five-membered metalloccyclic rings with the PCP, PNP, PC-CP, PC≡CP, PN2P and PCOP types. In the penultimate chapter, the authors examine over forty cis-Pt(η2-PXXXP)Cl2 derivatives in which organodiphosphines create six-membered metalloccyclic rings, and the concluding chapter examines over thirty cis-Pt(η2-PXXXXP)Cl2 derivatives in which organodiphosphines create seven-membered metalloccyclic rings.

Plant Flavonoids Affect Cancer Chemotherapeutic Efficacy: A Handbook for Doctors and Patients
Katrin Sak, Ph.D. (Head of the NGO Praeventio, Tartu, Estonia)

In series: Nutrition and Diet Research Progress

Despite intensive work on molecular carcinogenic mechanisms and novel drug development, cancer has still remained an incurable disease. With the hope to gain therapeutic advantage or miracle cure, more than 50% of cancer patients consume various kinds of herbal supplements when undergoing chemotherapeutic treatment with antineoplastic agents. However, numerous preclinical studies on combined treatment of various cancer cells with natural dietary flavonoids and chemotherapeutic drugs have revealed both desired (additive to synergistic) as well as undesired (antagonistic) interactions, meaning that coadministration of flavonoids and chemotherapeutic drugs can lead to both augmentation as well as abolishment of therapeutic efficacy. This book is the first one to systematically compile currently available information about the modulation of chemotherapeutic efficacy by flavonoids, hopefully being an assistant for cancer patients to make conscious choices in selecting proper plant products during chemotherapeutic treatment.
Quantum Biology: Methods to Convert Malignant Cancerous Cells to Cells with Reduced CpG Methylation that are Accessible to Cancer Cell-Eating Systems

Kohji Hasunuma, Ph.D. (Kihara Institute for Biological Research, Yokohama City University, Japan)

In series: Cancer Etiology, Diagnosis and Treatments

Softcover: 978-1-53614-775-9, $82.00.
e-book: 978-1-53614-776-6, $82.00.

The 3O2 generated by the photolysis process will accept enough energy from triplet-chlorophyll to provide the energy states of a singlet of oxygen (1O2), 1Δg, and 1Σg+, with emissions in the range of 200–500 µm. The 1O2 would react with unsaturated fatty acids to form malondialdehyde (MDA). In humans, the methylation of CpG islands in cancerous cells is so high that the sensing ability of the occurrence of environmental changes to genes with CpG islands could be insufficient for genes with CpG islands. House-keeping genes function independently by sensing various types of information from neighboring cells, and supporting the proliferation of cells behaving as cancerous cells so that the cells achieve a malignant, metastatic state. The CpG island-controlled genes (47,000/human haploid genome) and CpG island-independent genes (33,000/human haploid genome) co-regulate in the normal cell systems. FAD, FMN, riboflavin, and derivatives of heme groups are well known as photosensitizers, which emit 1O2 with ROS in the solution in vivo. In sunlight, photosensitizers will function as the generators of 1O2 and ROS. During the daytime, there is a plentiful supply of 1O2 and ROS from the sunlight, and which inevitably constitutes the circadian rhythms of ROS. The repeated evolution of 1O2 and ROS would function to stimulate the methylation of CpG islands. The tubulin structures, extending from the plasma membrane to two centrosomes and located along the sides of the nucleus, are designated as asters. In darkness, the protein complex of NDPK-1/catalase is located in the plasma membrane. However, upon receiving light illumination, the NDPK-1/catalase function captures 1O2 using catalase. The NDPK-1 binds NADH and supplies electrons to bind 1O2 that is bound to the catalase, resulting in the release of a super oxide (O2•-). The NDPK/catalase protein complex located in the plasma membrane moves along the aster-forming tubulin structure to the cytosol. As a result, the nucleus is protected from 1O2 by the wall, which is composed of the NDPK-1/catalase complex.

The Medulloblastoma Book. Second Edition

Dimitris Kombogiorgas, M.D. (Dr Sulaiman Al Habib Medical Group, Riyadh, Kingdom of Saudi Arabia)

In series: Cancer Etiology, Diagnosis and Treatments

Hardcover: 978-1-53615-152-7, $230.00.

This book offers a unique insight into the “medulloblastoma world,” and provides both a broad review and detailed analysis of this brain tumour. It starts with the history of medulloblastoma as a term, and as a distinct entity in nosology, and then explores in depth, the diagnosis, genetics, neurosurgical, and oncological management of medulloblastoma patients, as well as their outcome and long-term complications. Furthermore, novel therapies and next generation clinical trials in medulloblastoma are discussed. This landmark text is written by leading authorities in the research and treatment of medulloblastoma. It provides information based on clinical trials, major clinical series, and the authors’ outstanding experience and knowledge. It contains numerous, detailed illustrations, which help the reader understand the new knowledge easily. Also, it includes pitfalls and perils of the management of patients with medulloblastoma. The Medulloblastoma Book is useful to both medical specialists such as paediatricians, radiologists, neurosurgeons, and oncologists who are looking for the latest research in an integrated text, containing the current knowledge about medulloblastoma. This book is also useful for medical students, nurses, residents, and young researchers who are interested in medulloblastoma, neurosurgery, and neuro-oncology. This text aims to enrich medical literature throughout the world by providing an integrated understanding of medulloblastoma in a comprehensive and practical manner, by being written by scientists working at the cutting-edge of their specialities.
The Sentinel Lymph Node: Detection, Procedures and Clinical Implications
Ambrogio Pietro Londero, Serena Bertozzi and Carla Cedolini
(Udine University Hospital, Udine, Italy)
In series: Cancer Etiology, Diagnosis and Treatments
Hardcover: 978-1-53614-557-1. $230.00.
The Sentinel Lymph Node: Detection, Procedures and Clinical Implications gathers an overview of the sentinel lymph node biopsy procedure among different surgical settings (i.e., melanoma, breast, thyroid, vulva, endometrium, cervix, colon, anus, liver, gastric, urological and ovarian cancers). This book consists of eighteen chapters; the rationale and the purpose of this technique, which allows adequate lymph node staging while sparing patients from unnecessary complete lymph node dissections and the traditional harmful complications associated with them are discussed. Furthermore, this book outlines the technical aspects of the procedure (which are also accurately covered) from the various intraoperative sentinel node detection techniques to the subsequent sentinel lymph node analysis methods. Some new techniques for node detection, such as the Sentimag® technique (superparamagnetic iron oxide particles detected by a magneto-metric probe) and some new techniques for node analysis, such as the one-step nucleic acid amplification (OSNA), are accurately discussed. Finally, this book provides information also on preoperative lymph node diagnostics and sentinel lymph node biopsy perioperative complications in different nodal districts. In particular, the complications of sentinel node biopsy and for sentinel node dissection are accurately discussed with a particular focus on breast cancer, melanoma and gynecological cancers.

The Story of Hydra: Portrait of Cancer as a Stem-Cell Disease
Shi-Ming Tu, MD (Department of GU Medical Oncology,
University of Texas, MD Anderson Cancer Center, Houston, TX, US)
In series: Cancer Etiology, Diagnosis and Treatments
The questions we ask in this book about cancer are actually quite elementary. What is the origin of cancer? Does cancer arise in any cell in the body, or only in certain cells? Is cancer a genetic or a stem-cell disease? We illustrate that cancer is a multicellular rather than a unicellular process, a cellular rather than a genetic problem, and a stem-cell rather than a somatic-cell disease. We reveal that the incredible resemblance between a cancer cell and a stem cell suggests that they are intimately related. The uncanny ingenuity of a cancer cell is also innate in a stem cell. The recognition that cancer has a stem-cell origin indicates that a stem-cell theory of cancer may be the unified theory that we need to make sense of the torrents of new data and new insights into different facets of cancer, to see how they fit together into one picture, and to disarm the disease. A stem-cell theory of cancer can potentially accept, embrace, and integrate all of its genetic, epigenetic, proteomic, and metabolic aspects. Such a unified theory can account for all cancer hallmarks, including metastasis, heterogeneity, dormancy, and immune evasion. It predicts that multimodal therapy may be more beneficial than targeted therapy, and integrated medicine more effective than precision medicine for the management of all but the simplest tumors. It predicts that when we have the correct cancer theory, clinical progress will advance by monumental leaps rather than incremental steps. Indeed, I predict that successful clinical outcomes will ultimately provide irrefutable validation that cancer is a stem-cell disease. Therefore, the thesis of this book is actually quite simple. When we have a pertinent and correct theory of the origin of cancer, all ideas, observations, experiments, and treatments will begin to fall into place and make perfect sense. We would like to convince readers that a stem-cell theory is the elusive, long-sought unified theory, the theory of all theories, of cancer.
**OPHTHALMOLOGY**

The Optic Nerve: Structure, Functions and Clinical Aspects  
*Theodore Thomas*  
In series: *Eye and Vision Research Developments*  
Softcover: 978-1-53614-381-2. $82.00.  
e-book: 978-1-53615-544-0. $82.00.  
In the opening chapter, the authors focus on the current understanding of mechanisms regulating retinotopic axonal projection within the retina, optic nerve, and optic chiasm during visual system development. The second chapter discusses the histopathologic features of meningiomas arising in the optic nerve sheath. The closing chapter intends to analyze evidence supporting the neuroprotective effect of two different strategies: the exposure to enriched environments and a treatment with melatonin, a very safe compound for human use.

**ORTHOPEDICS**

In Pursuit of Socket Harmony: Optimizing the Transtibial Socket Interface  
*Glenn M. Street, PhD, Carl A. Caspers, CPO, Kyle B. Miller, MS and Benjamin C. Noonan, MD*  
In series: *Physical Medicine and Rehabilitation*  
Hardcover: 978-1-53615-141-1. $175.00.  
Since the advent of the first modern below-knee prosthesis (joint and lacer) in 1696, the world has seen unprecedented advances in virtually every facet of medical science, yet limb discomfort, pain, and soft tissue breakdown remain a way of life for roughly half of today’s ambulatory, below-knee (transstibial) amputees. These largely avoidable daily struggles are traceable to poorly crafted limbs, ill-designed prostheses, and/or inadequate upkeep of them. Fortunately, the solution to the majority of these struggles is clear-cut and entirely achievable. Primarily, it requires a team effort by surgeons, prosthetists, and amputees: as each has a unique role to play. Surgeons must employ the latest surgical principles to optimize the limb for prosthetic use (Chapter 2), prosthetists must implement the latest design principles to create a responsive, comfortable, and pain-free socket interface (Chapter 4), and amputees must follow the guidelines to maintain their optimized limb and prosthesis (Chapter 5). However, as discussed in Chapter 2, certainty of a pain-free interface will also require a commitment by researchers to find solutions to the yet unresolved surgical issues (e.g. neuromas and bone spurs). While one can never expect the socket interface to perfectly replace the responsive and pain-free connection lost during amputation, finding solutions to the unresolved surgical issues, and following the latest principles and guidelines discussed in this book unquestionably offers transtibial amputees with their best chance of achieving the active, comfortable, pain-free, and productive lifestyle they deserve.

**OTOLARYNGOLOGY**

Advances in Audiology Research  
*Victor M. Kristensen*  
In series: *Audiology and Hearing Research Advances*  
Softcover: 978-1-53615-260-9. $95.00.  
Genes causing hearing loss display various modes of inheritance, with autosomal recessive being the most common. With so many cases of hearing loss having a genetic etiology, audiologists are certain to encounter these patients on a fairly regular basis. Audiologists who possess basic knowledge about genetics are better equipped to recognize when a genetics referral is warranted, thereby enhancing patient care. In this chapter, it is determined that a genetics evaluation can yield valuable information for patients and their families, such as prognosis, estimates of recurrence risks, and diagnosis of other family members. The second chapter will review causes of revision surgery, how to diagnose cases of failed cochlear implants and will discuss surgical and audiological outcome of revision cochlear implant surgeries, Speech recognition
ability with a replacement cochlear implant may significantly increase or decrease from that with the original implant. Experienced cochlear implant patients facing reimplantation must be counseled regarding the possibility of differences in sound quality and speech recognition performance with their replacement device. The purpose of the following chapter is to correlate the results obtained through questionnaires concerning self-reported restriction in social participation and patient satisfaction / benefit with objective time assessment of device use. This is a descriptive, cross-sectional study sample composed of and elderly and non-elderly adults of both sexes diagnosed with hearing loss and approved as candidates for hearing aid fitting at a university hospital. The goal of chapter four is to understand the main features of human posture and how it is possible to analyze it. The aim of this chapter is to investigate the influence of hearing loss and vestibular disorders on body posture. The objective of the concluding chapter was to analyze the auditory brainstem response (ABR) and frequency following response (FFR) in patients diagnosed with Sickle Cell Disease (SCD) who were referred to the outpatient hemoglobinopathy clinic at a public hospital in southern Brazil.

**Crush Otolaryngology Boards. Volume 1**

**Mohamad R. Chaaban, M.D. (University of Texas Medical Branch, League City, TX, US)**

In series: Otolaryngology Research Advances


Hardcover: 978-1-53614-781-0. $230.00.


This book is intended as a study guide for students, residents and practicing otolaryngologists. The book style is in bullet points and tables to highlight high yield information that can be used while preparing for the exam. Volume One includes five sections: General Otolaryngology – topics related to pharmacology, radiology, anesthesia, pathology, fluids and electrolytes; Sleep Medicine – topics related to sleep medicine and surgery for obstructive sleep apnea; Pediatric Otolaryngology – topics related to pediatric rhinology, otology, cleft palate and lip, and head and neck vascular malformation; Laryngology – topics related to benign and malignant laryngeal lesions, voice disorders, and dysphagia; and Rhinology – topics related to sinonasal benign and malignant sinonasal lesions, allergic rhinitis, chronic sinusitis diagnosis and management, and anterior skull base pathologies.

**Crush Otolaryngology Boards. Volume 2**

**Mohamad R. Chaaban, M.D. (University of Texas Medical Branch, League City, TX, US)**

In series: Otolaryngology Research Advances


Hardcover: 978-1-53614-801-5. $230.00.


This book is intended as a study guide for students, residents and practicing otolaryngologists. This book’s style is in bullet points and tables to highlight high yield information that can be used while preparing for an exam. Volume Two includes the following sections: Otolaryngology – topics related to otology, benign and malignant otologic lesions, conductive and sensorineural hearing loss, facial nerve paralyisis, diagnosis and management of vestibular disorders; Facial Plastics and Reconstructive Surgery – topics related to facial analysis, blepharoplasty, brow lift, rhinoplasty, rhytidectomy, local and free flaps for reconstruction, mentoplasty and chin augmentation; and Head and Neck Cancer – topics related to chemotherapy and radiation for head and neck cancer, diagnosis and management of cancers of the oral cavity, oropharynx, nasopharynx, salivary gland, head and neck lesions, thyroid and parathyroid pathologies, and tumors and cysts of the jaw.

**Ototoxicity: Signs, Symptoms and Treatment**

**Gregg Colon**

In series: Otolaryngology Research Advances


Softcover: 978-1-53616-396-4. $95.00.


This compilation focuses on ototoxicity, the adverse pharmacological reaction affecting the inner ear or auditory nerve, characterized by cochlear or vestibular dysfunction. Although ototoxic medications play an essential role in modern medicine, they can cause harm and lead to significant morbidity. The authors discuss aminoglycoside antibiotics, loop diuretics, platinum-based chemotherapeutic agents, macrolide antibiotics and antimalarial medications which are among the 600 frequently used ototoxic drugs. Next, an overview of cisplatin-associated ototoxicity, namely its clinical features, incidence rates, molecular and cellular mechanisms and risk factors is provided for health care practitioners managing patients with cancer. Ototoxicity and neurotoxicity are defined from the perspective of chemical agents, nicotine and
cotinine, that individuals experience through cigarette smoking and environmental tobacco smoke exposure. Mechanisms for toxicity are described by review of animal and human studies revealing changes in peripheral and central auditory structures after exposure to nicotine. The mechanisms of ototoxicity induced by aminoglycoside are also discussed, as well as the usage of these drugs for treatment of several disorders such as Meniere disease, and possible protective agents. In closing, the authors highlight the serious issue of aminoglycoside mediated hearing loss in cystic fibrosis patients, and also discuss alternative approaches for avoiding aminoglycoside-induced cochleotoxicity.

Sensorineural Hearing Loss: Pathophysiology, Diagnosis and Treatment
Francesco Dispenza, M.D., Ph.D. (AOUP P. Giaccone Hospital, Palermo, Italy and Bio.Ne.C. Department, University of Palermo, Palermo, Italy and Istituto Euro-Mediterraneo della Scienza e Tecnologia (I.E.ME.S.T.), Palermo, Italy) and Francesco Martines, M.D., Ph.D. (Bio.Ne.C. Department, University of Palermo, Palermo, Italy. and Istituto Euro-Mediterraneo della Scienza e Tecnologia (I.E.ME.S.T.), Palermo, Italy)
In series: Otolaryngology Research Advances
e-book: 978-1-53615-049-0. $230.00.

This book provides an original account of behavioral aspects with important ramifications for the study of transient receptor potential (TRP) channels functioning. It explains, in terms of specified somato-sensory mechanisms and systems, how TRP channels work. Through exploration of animal models by testing paw withdrawal reflexes to thermal and mechanical stimuli, it is shown that TRP channels are promising targets for the development of a new group of analgesic drugs at the periphery and central levels and opportunities for therapeutic intervention.
**PATHOLOGY**

**An Outline of Office-Based Bladder and Prostate Biopsy Pathology**

*David Y. Zhang, M.D., Ph.D. (Pathology and Laboratory Medicine Service, The Department of Veterans Affairs New York Harbor Healthcare System, New York, NY)*

In series: *Pathology and Laboratory Medicine*


This book is intended for urologists and pathologists who practice in an office setting. Therefore, bladder and prostate biopsy and urine cytology specimens are frequently obtained by urologists, which require pathologists’ assistance to interpret. In the office setting, communication between urologists and pathologists becomes feasible, which is paramount for accurate diagnosis and better patient management. For this purpose, this book includes clinically relevant information for pathologists, concise pathology terminology, and diagnostic tests for urologists. This book describes the common clinical and pathological entities, and is written in a bullet format for easy and quick reference. For visual review, over 150 diagrams, histologic images, and other images are included. The first and second chapters describe bladder and prostate diseases, focusing on clinical-pathological correlation. Therefore, this book is also useful for pathology and urology residents in training, in preparation for board examination(s), or as a refresher reference for recertification. The third chapter is dedicated to office-based pathology laboratory services, which outlines laboratory instrumentation, procedures, and regulatory requirements. This information is useful for urologists and pathologists who are involved in the management of an office-based pathology laboratory. Finally, I greatly appreciate Josephine Wu DDS, Esq. and Miao Cui MD, MS, who contributed to this excellent third chapter.

**Clinical Flow Cytometry: Approaches, Principles, and Applications**

*Jason Kurzer, M.D., Ph.D (Director of Clinical Hematology Laboratory, Department of Pathology, Stanford University School of Medicine, Stanford, California, USA) and Olga Kagan Weinberg, M.D. (Director of Hematopathology and Flow Cytometry, Department of Pathology, Boston Children’s Hospital, Boston, Massachusetts, USA)*

In series: *Pathology and Laboratory Medicine*

Hardcover: 978-1-53614-643-1, $230.00.

This book is a focused review of clinical flow cytometry, and is meant to be helpful in daily clinical practice for those just beginning to learn flow cytometry as well as those with years of experience. Covering the basic principles of flow cytometry, and then engaging in detailed reviews of the flow cytometric evaluation of B-cells, plasma cells, T-cells, and myeloid cells, it packs a wide variety of immunophenotypic data into one volume. Moreover, this book covers both normal and abnormal findings for each lineage, and highlights key pitfalls to avoid making diagnostic mistakes. Many of the most common neoplastic entities are reviewed, and signature findings are highlighted. Using the updated nomenclature for clinical hematologic malignancies provided by the revised 4th edition of the WHO classification system, the book is current in its approach and content. Whenever possible, detailed colored examples of flow cytometric plots are provided to help convey the important diagnostic findings. Most importantly, a review of current applications of flow cytometry in minimal residual disease is provided to assist in both the development and interpretation of these assays. Written by experts in the field, the result is a practical resource for use as an everyday clinical reference.
Pediatrics

Chronic Disease and Disability: Pediatric Obesity Perspectives
Marisha Agana (Department of Pediatric and Adolescent Medicine, Western Michigan University Homer Stryker MD School of Medicine, Kalamazoo, MI), Donald E. Greydanus (Department of Pediatric and Adolescent Medicine, Western Michigan University School of Medicine, Kalamazoo, MI, USA), Manmohan K. Kamboj (Section of Endocrinology, Nationwide Children’s Hospital at The Ohio State University, Columbus, Ohio, USA), Joav Merrick, MD, MMedSci, DMSc, (Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, USA; National Institute of Child Health and Human Development, Jerusalem, Israel; Division of Pediatrics, Hadassah Hebrew University Medical Centers, Mt Scopus Campus, Jerusalem, Israel; School of Public Health, Georgia State University, Atlanta, Georgia, USA)

In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
Hardcover: 978-1-53615-240-1. $230.00.
Pediatric obesity has become an epidemic of seemingly unsurmountable proportions. This book provides perspectives on pediatric obesity for health care providers with such important topics as etiology, prevalence, diagnosis and management. Various complications and co-morbidities of obesity are also explored. The editors thank our many outstanding contributors from different parts of the United States and the world for their invaluable help in this publication. We hope that our readers will find this book useful as the health care profession and society in general seek to improve this serious epidemic as the 21st century continues.

Pediatric Critical Care: A Primer for All Clinicians
Jason M. Kane, MD MS, Associate Professor of Pediatrics, University of Chicago, Comer Children’s Hospital, Interim Chief, Section of Pediatric Critical Care, Director of Quality and Outcomes, Pediatric ICU, Chicago, IL, US, Rachel Wolfson, M.D., Associate Professor of Pediatrics, University of Chicago, Comer Children’s Hospital, Pediatric Critical Care Medicine, Pritzker School of Medicine, University of Chicago Medical Center, Chicago, IL, US, Stuart Berger, M.D., Vice Chair for Clinical Affairs, Department of Pediatrics, Chief of Cardiology in the Department of Pediatrics, Professor of Pediatrics, Feinberg School of Medicine, Northwestern University, Chicago, IL, US and Joseph R. Hageman, M.D., Director NICU Quality Improvement, Comer Children’s Hospital, Senior Clinician Educator, Pritzker School of Medicine, University of Chicago, Chicago, IL, US

In series: Emergency and Intensive Care Medicine
Hardcover: 978-1-53614-837-4. $310.00.
Pediatric critical care is an emotionally and intellectually demanding field of medicine; however, it is at its core the discipline focused on saving and improving the lives of children affected by acute and chronic illnesses, injuries, and toxicities. The heart of any successful pediatric critical care program is the multidisciplinary and interdisciplinary care provided by pediatric intensivists and their team of specialized co-workers including pediatric critical care nurses, respiratory therapists, pharmacists, social workers, and nutritionists working in concert with the pediatric ICU (PICU). It is
this interplay between clinical specialists that ensures children are afforded cutting-edge, technologically complex, holistic, and age-appropriate care, while at the same time ensuring that the needs of both the child and the family are addressed. Additionally, critical care medicine encompasses the extremes of all pediatric medicine and as such those charged with caring for children in the PICU must be well versed in all areas of pediatric medicine, as well as prepared for any contingency or emergency. Caring for sick children both within and outside of the pediatric intensive care unit (PICU) requires an understanding of how pediatric physiology differs from that of adults. Recognizing a deteriorating child and stabilizing that patient rapidly is a requisite skill that every clinician charged with caring for children must master. This practical handbook is written for all clinicians who care for children with acute illness, and who may need to assess and stabilize a deteriorating child before transfer to the PICU. Specifically, chapters provide helpful insights for all levels of pediatric providers including pediatric critical care and general care nurses, advanced practice nurses, medical students, pediatric residents, residents from other disciplines who rotate through PICU, pediatric hospitalists, and emergency physicians who care for children. In addition to covering PICU-specific topics such as mechanical ventilation and procedural sedation, this handbook also includes guidance in the initial resuscitation, management and stabilization of children with impending critical illness or those at risk for acute deterioration. Management of life-threatening situations that are specifically included in this book include respiratory failure, cardiovascular failure, electrolyte derangements, diabetic ketoacidosis, burn injuries, status epilepticus, status asthmaticus, toxic ingestions, and sepsis, among many others.

Substance Use Disorders in Adolescents and Young Adults: A Manual for Pediatric and Primary Care Clinicians. Second Edition
Donald E. Greydanus, MD (Department of Pediatric and Adolescent Medicine, Western Michigan University School of Medicine, Kalamazoo, MI, USA), Gabriel Kaplan, MD (Clinical Associate Professor of Psychiatry at Rutgers New Jersey Medical School, Newark, New Jersey and Behavioral Health Network, RWJBarnabas Health, West Orange, New Jersey), Dilip R. Patel, MD (Department of Pediatric and Adolescent Medicine, Western Michigan University Homer Stryker MD School of Medicine, Kalamazoo, Michigan, USA), and Joav Merrick, MD, MMedSci, DMSc (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel; Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, USA; National Institute of Child Health and Human Development, Jerusalem, Israel; Division of Pediatrics, Hadassah Hebrew University Medical Centers, Mt Scopus Campus, Jerusalem, Israel; School of Public Health, Georgia State University, Atlanta, Georgia, USA)
In series: Pediatrics, child and adolescent health
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel) 2019. 422 pp.
Hardcover: 978-1-53615-359-0. $230.00.
This updated and revised second edition on substance abuse in adolescents and young adults provides information on this global public health topic. We cover a wide variety of subjects within the paradigm of drug abuse and agree with the 21st century message of integrating substance abuse management with primary care services. The editors thank the many experts who so graciously and lambently provided their time and knowledge in these areas. The editors hope that the readers of this treatise find useful and beneficial information that will help them in their work seeking to understand and ameliorate the negative effects of these plants of paradise and of other chemicals that are part of the drug addiction pharmacopeia of the 21st century. The science of this field continues to evolve and this edition looks at a wide variety of concepts in this regard—including neurobiology, genetics, the role of the primary care clinicians, the US opioid epidemic, and psychosocial management. Specific drugs of abuse include tobacco, cannabis, alcohol, opioids, prescription drugs, illicit stimulant drug abuse, hallucinogens, and date rape drugs. We also look at concepts related to prenatal drug exposure, substance abuse in adolescent females, co-occurring substance use with psychiatric disorders, prescription stimulant abuse in college students, and performance enhancing drugs in sports. We conclude with a consideration of new drugs of abuse in the 21st century, the societal burden of substance abuse, and the pros as well as cons of drug legalization.
Pharmacology

Advances in Medicinal Chemistry Research
Édildo Ferreira da Silva Júnior (Laboratory of Medicinal Chemistry, Federal University of Alagoas, Maceió, Brazil; Chemistry and Biotechnology Institute)  
In series: New Developments in Medical Research  
2019.  
Hardcover: 978-1-53616-368-1. $195.00.  
Advances in Medicinal Chemistry Research is a book addressed to undergraduate and postgraduate students, where recent advances in the discovery and development of effective agents against the most remarkable wide-reaching diseases are presented, divided into seven chapters. This first edition of Advances in Medicinal Chemistry Research offers insights into medicinal chemistry that arguably have the most significant impact on our lives than any other. It draws together research on therapeutic agents from natural, synthetic, and virtual screening sources as starting points for the design of drugs against obesity, multidrug-resistant bacteria, neglected tropical diseases, Alzheimer, and cancer. From the prediction of promising hits and identification of active compounds to the extraction of more complex molecules, this book explores a range of essential topics to support the development of novel, economical, and efficacious therapeutics for these diseases, which currently affect a billion people worldwide. Beginning with an overview of obesity, showing the current research landscape, the books shows the importance of natural and synthetic products as promising anti-obesity agents. Subsequently, the medicinal chemistry of modulation of bacterial resistance is presented, focusing on the MFS, RND, ABC, and MATE superfamilies. The book goes on to discuss such topics as antituberculosis, antileishmanial, and anti-hepatitis thiophene-containing compounds, under the medicinal chemistry point of view. Also, potent human glutaminyl cyclase inhibitors are deeply discussed and displayed as hopeful anti-Alzheimer’s agents. The last three chapters are focused on the development of researches involving new anticancer agents, initializing with LBDD, SBDD, QSAR, and QM/MM methods applied to the identification of novel promising anticancer compounds. Moreover, INDO 1 inhibitors are exhaustively explored and analyzed as a new promise for the immunotherapy of cancer. Finally, a great update on Eg5 kinesin inhibitors is provided, exploring different chemical classes of synthetic and natural compounds, including miscellaneous as a new approach for Eg5 inhibition. Combining the expertise of researchers from around the world, this volume aims to support and encourage researches for the development of novel, safe, and active agents against lipase enzyme, bacteria, neglected tropical diseases, Alzheimer, and cancer. The clear narrative truly engages the reader, holding their attention right from the opening of a chapter, and maintaining interest and understanding as a chapter leads into more complex material. Advances in Medicinal Chemistry Research is a book that reviews ongoing developments and recent cutting-edge advances in medicinal chemistry of the most relevant diseases found nowadays, underlining how medicinal chemistry research continues to make significant contributions to the discovery and development of new therapeutic entities. Key Features • Chapters written by active specialists and leading experts deeply engaged in the research field of most deadly and limiting diseases for drug discovery. • Draws together cutting-edge research advances in medicinal chemistry focused at the obesity, multidrug-resistant microorganisms, Alzheimer, and cancer in a single volume. • Highlights the future potential of researches for the medicinal chemistry of most impactful diseases today. • Contents addressed to medicinal chemistry, biochemistry, biology, and pharmacy students, professors, and researchers.

Comprehensive MCQs in Pharmacology
Shahab Uddin, MD (Department of Pharmacy, Southeast University, Dhaka, Bangladesh), and Shah Amran, MD (Department of Pharmaceutical Chemistry, Faculty of Pharmacy, University of Dhaka, Dhaka, Bangladesh)  
In series: Pharmacology - Research, Safety Testing and Regulation  
2019.  
Hardcover: 978-1-53616-298-1. $345.00.  
Pharmacology is the study of substances that interact with living systems through chemical processes, especially by binding to regulatory molecules and activating or inhibiting normal body processes. If substances have medicinal properties, they are considered drugs or pharmaceuticals. The field encompasses drug composition and properties, interactions, toxicology, therapy, and medical applications and antipathogenic capabilities. Pharmacology lies at the heart of biomedical science, linking together pharmaceutical chemistry, physiology, and pathology. Comprehensive MCQs in Pharmacology represents copious multiple choice questions, which can be used to assess essential pharmacology knowledge that equips pharmacists with exclusive perceptions and acumen in the provision of pharmaceutical care. It also provides a brief account of recent perspectives in drug research, as either a study or high-yield revision aid. This book is suitable for professionals, academicians, students, researchers, scientists and industrialists around the world in the fields of pharmacology and pharmaceutical sciences. Furthermore, for pharmacy preregistration examination candidates and for practicing pharmacists, this book is a storehouse of knowledge. The organization of this book provided a profound knowledge and also maintains the reader’s interest.
Physical pharmacy is the study of the physical and chemical properties of drugs and their dosage forms. It attempts to integrate the factual knowledge of pharmacy through the development of its principles, and it assisted the pharmacist and the pharmaceutical scientist in their effort to foresee the solubility, stability, compatibility, and biologic action of drug products. Furthermore, this field has become even more highly incorporated into the biomedical aspects of the practice of pharmacy. Comprehensive MCQs in Physical Pharmacy represents copious multiple choice questions, which can be used to assess essential physical pharmacy knowledge that equips pharmacists with exclusive perceptions and acumen in the provision of pharmaceutical care. It also provides a brief account of pharmaceutical developments, as either a study or high-yield revision aid. This book is suitable for professionals, academicians, students, researchers, scientists and industrialists around the world in the fields of physical pharmacy and pharmaceutical sciences. Furthermore, for pharmacy preregistration examination candidates and for practicing pharmacists, this book is a storehouse of knowledge. The organization of this book provided a profound knowledge and also maintains the reader’s interest.

Diclofenac: Pharmacology, Uses and Adverse Effects
Eugenia Yiannakopoulou (Department of Medical Laboratories, Faculty of Health and Caring Professions, Highest Technological Educational Institute of Athens, Athens, Greece)
In series: Pharmacology - Research, Safety Testing and Regulation
2019.
Softcover: 978-1-53616-321-6. $95.00.
Although the non steroidal anti-inflammatory agent diclofenac is an old drug, there is ongoing research interest on potential novel indications of the drug, on adverse drug reactions of diclofenac and on the management of these adverse drug reactions. This book aims to contribute knowledge on novel aspects of the pharmacology of diclofenac. Thus, the book provides evidence on three fields: (i) potential novel indications of diclofenac, especially in oncology, (ii) adverse events of diclofenac and (iii) modulation of gastrointestinal and cardiovascular toxicity of diclofenac. The book titled ‘Diclofenac: Pharmacology, Uses and Adverse Events’ is focused on the above areas, contributing evidence on: • the anticancer effects of diclofenac, • the modulation of stress response by diclofenac, • rare severe adverse reactions of diclofenac, • thyroid effects of diclofenac, • maternal and fetal adverse reactions of diclofenac and • the modulation of gastrointestinal • the modulation of cardiovascular toxicity of diclofenac. All the chapters are well-written and structured and appropriately referenced. The authors present their own research work and at the same time they provide a well-informed literature review. The book will be interesting for researchers with interest in diclofenac, academic teachers, medical doctors, pharmacologists, pharmacists, and medical students.

The Pharmacological Guide to Montelukast
Søren C. Dam
In series: Pharmacology - Research, Safety Testing and Regulation
2019.
Softcover: 978-1-53616-394-0. $82.00.
e-book: 978-1-53616-395-7. $82.00.
The Pharmacological Guide to Montelukast opens by presenting the most recent updates on the improvement of montelukast stability and bioavailability, along with some innovative formulations produced by this research. Montelukast is a leukotriene modifier with bronchoprotective and anti-inflammatory actions frequently used in asthma management. As such, the authors go on to assess the impact of the addition of montelukast to ongoing asthma treatment in terms of improvement in clinical parameters, symptom control and quality of life. The closing chapter focuses on leukotrienes, formed by leukocytes, which are inflammatory mediators that play an active role in early and late-phase immune response. This group includes montelukast, zafirlukast and pranlukast.
The Pharmacological Guide to Sofosbuvir
Vijay Gayam, MD (American University of Antigua, Antigua)
In series: Pharmacology - Research, Safety Testing and Regulation
2020.
Softcover: 978-1-53616-476-3. $95.00.
e-book: 978-1-53616-477-0. $95.00.
Chronic hepatitis C infection (HCV) has been a global health burden since its discovery in 1989. This book “The Pharmacologic Guide to Sofosbuvir” is the integrated reference book for all clinicians, researchers, and students dealing with HCV infection. Sofosbuvir is a backbone for the majority of direct-acting antivirals (DAA) combination regimens for all HCV Genotypes infected patients. This is the first book that offers a concise and up-to-date review on Sofosbuvir including pharmacological profile and difficult-to-treat-specific populations such as cirrhotic patients, HCV Co-infection (HIV and/or hepatitis B infection), renal impairment, renal and liver transplant, hepatocellular cancer, previous treatment failure, psychiatric illness, and substance abuse. The book also addresses evolving therapy, and future directions in the antiviral treatment of hepatitis C. Clinicians, residents, students, and physician assistants who like a prompt review of hepatitis C treatment and new developments in treatment for hepatitis C will receive the greatest advantage from this concise guide. Based on promising results from the previous and ongoing studies involving sofosbuvir; HCV will likely be the first chronic viral infection to be eradicated globally with combinations of DAA. The authors, editors, and publishers have exerted every effort to ensure that drug selections and dosage outlined in this text are per current recommendations for hepatitis C treatment and practice at the time of publication.

Building Youth for the Future: Suicide Prevention Aspects
Hatim A. Omar, MD (Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, US), and Joav Merrick, MD, MMedSci, DMSc (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel; Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, US; National Institute of Child Health and Human Development, Jerusalem, Israel; Division of Pediatrics, Hadassah Hebrew University Medical Centers, Mt Scopus Campus, Jerusalem, Israel; School of Public Health, Georgia State University, Atlanta, Georgia, US)
In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
2020.
Softcover: 978-1-53616-564-7. $82.00.
e-book: 978-1-53616-565-4. $82.00.
This book is really a reflection of the past more than 20 years of work with teens and suicide prevention in the state of Kentucky. The work to establish the “Stop Youth Suicide Campaign (SYS)” has resulted in contact with many young adults, and we have found that the most important thing for all of them was finding a caring person they trust and can talk to. Because of the constant need, the SYS went from a goal of being a one year awareness campaign to becoming a major community resource, working with the state and local governments and state legislators to add as many resources as possible. We have witnessed for the first time a drop of youth suicide rates below the national average, according to the 2013 Youth Risk Behavior Surveillance done biannually by the Center for Disease Control. In this book, we will tackle various topics and specific populations in relation to suicide written by people who work with teens and care about them. Professor Hatim A Omar, MD, FAAP, is professor of pediatrics and obstetrics/gynecology, Children’s Miracle Network Chair, Division of Adolescent Medicine and Young Parents Program, Kentucky Children’s Hospital, UK Healthcare, Department of Pediatrics, University of Kentucky College of Medicine, Lexington, Kentucky, United States. Joav Merrick, MD, MMedSci, DMSc, born and educated in Denmark is professor of pediatrics at the Division of Pediatrics, Hadassah Hebrew University Medical Center, Mt Scopus Campus, Jerusalem, Israel, Kentucky Children's Hospital, University of Kentucky, Lexington, United States and professor of public health at the Center for Healthy Development, School of Public Health, Georgia State University, Atlanta, United States, the former medical director of the Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem and the founder and director of the National Institute of Child Health and Human Development in Israel.

PSYCHIATRY
Emotionality, Intimacy and Trauma of Intellectually Disabled Clients with Self Harm, Aggression, Disturbing Behaviors and/or Emotional Fluctuation (SADE): Humanistic Interpretation and Intervention
Kam-shing Yip (Research Professor, Caritas Institute of Higher Education, Tseung Kwan O, Hong Kong)
In series: Psychiatry - Theory, Applications and Treatments
2019.
Softcover: 978-1-53615-280-7. $95.00.
e-book: 978-1-53615-281-4. $95.00.

Intellectual disabilities have long been a concern for both practitioners and academics alike. With the introduction and advocacy of concepts to the public in recent decades, and the normalization and valorization of intellectual disabilities, humanistic concern has become the dominant trend in providing interventions and services for people with these issues.

Today, various ideas for societal inclusion of those with intellectual disabilities have been introduced. However, many practitioners and academics have criticized these ideas as idealistic, and in many ways, inapplicable for actual social inclusion of people with intellectual disabilities. The situation is particularly serious regarding those intellectually disabled individuals presenting various forms of self-harm, aggression, disturbing behaviors, and emotional fluctuation (SADE: S =Self harm, A = Aggression, D = Disturbing behaviors, E = Emotional fluctuation). In many instances, social exclusion, labelling, punishments, deprivation of rights, physical restraints, as well as psychiatric medications are commonly used in controlling intellectual disabled clients with SADE. A thorough understanding of intellectually disabled clients has revealed that their self-harm, aggression, disturbing behaviors, and emotional fluctuations (SADE) are closely related to their unfulfilled needs, developmental traumas, abuse, neglect, and abandonment in their lives. These individuals have problems in expressing their views and emotions, as well as having severe attachment needs. Based on the writers’ substantial experience, clinical practice, and supervision in working with intellectual disabled clients with SADE, this book is the first to formulate and consolidate the communication, emotionality, intimacy, and trauma based interpretation and intervention for intellectually disabled clients with SADE. This book provides methods for effective, humanistic, normalized, and integrated recovery of these individuals.

Focus on Mental Health and Illness
Isaac Banks
In series: Mental Illnesses and Treatments
Hardcover: 978-1-53615-081-0. $230.00.

According to the Mental Health Services Administration, about one in five adults had a mental health condition in the past year. That’s nearly 10 million adults with illnesses such as schizophrenia, bipolar disorder, or depression that interfere with a major life activity. Chapter 1 focuses on mental health issues in America and the role the Medicaid and Medicare programs play in addressing the needs of those with behavioral and mental health issues. Chapter 2 offers recommendations on how to address the mental health crisis. Chapter 3 presents prevalence estimates of any mental illness and serious mental illness based on surveys and ends with a brief discussion of how these prevalence estimates might inform policy discussions. People with mental illness comprise a significant proportion of the population involved with the criminal justice system. Mental health courts were developed to respond to the large number of people in the criminal justice systems with mental illness as described in Chapter 4. Law enforcement encounters with individuals with mental illness may require special training and skills and can sometimes involve volatile situations, risking tragic injuries or even death as reported in Chapter 5. The Federal Bureau of Prisons (BOP) is responsible for confining offenders in environments that are safe, humane, cost-efficient, and appropriately secure. To do so, the BOP utilizes various forms of Restrictive Housing Unit (RHU) to confine certain inmates, including those with mental illness. However, according to chapter 6, confinement in RHUs, even for relatively short periods of time, can adversely affect inmates’ mental health and can be particularly harmful for inmates with mental illness.

Fundamentals of Consultation Liaison Psychiatry: Neuropsychiatry
Mallika Lavakumar, MD (Assistant Professor, Case Western Reserve University, Cleveland, OH, US), Lisa J. Rosenthal, MD (Associate Professor, Associate Vice Chair for Clinical Affairs, Department of Psychiatry and Behavioral Sciences, Northwestern University Feinberg School of Medicine, US), and Terry Rabinowitz, MD (Professor of Psychiatry and Family Medicine, Larner College of Medicine at the University of Vermont; Director, Psychiatry Consultation Service, University of Vermont Medical Center, Burlington, VT, US)
In series: Psychiatry - Theory, Applications and Treatments
Many patients admitted to a general hospital may have one or more coexisting psychiatric conditions that require attention to facilitate their recovery. When called to assess and recommend treatment, the psychiatry consultant may discover they are dealing with a disorder that, although at first was thought to be psychiatric, is very likely the manifestation or consequence of a condition that has psychiatric and neurologic components. More important, the presenting signs and symptoms may require a comprehensive and learned neurological evaluation. The editors of Fundamentals of Consultation Liaison Psychiatry: Neuropsychiatry have encountered perplexing cases at the interface of psychiatry and neurology and finding the resources to help guide and inform their assessments was not easy. Fundamentals of Consultation Liaison Psychiatry: Neuropsychiatry was born as a response to these challenges; as a contribution to all psychiatric consultants who seek to improve their neurological assessment skills, and those who want to better understand the conditions, nuances, and complexities defined by neuropsychiatry. This book will be a useful addition to any CL psychiatrist’s library; it will be equally helpful for Consultation Liaison Psychiatry fellows, Psychiatry residents, general Psychiatrists who are interested in CL Psychiatry or who perform psychiatric consultations from time to time. medical students on their CL Psychiatry clerkships, and psychiatric nurse practitioners.

This book comprises eight chapters written by recognized experts in psychiatry, psychology, neurology, and anesthesiology. The first chapter, Neurocognitive and Neurological Examination, provides an especially detailed discussion and explanation of this topic in a highly readable and accessible format. An entire chapter, Neurological Conditions, provides state-of-the-art discourse about common neurological conditions including cerebrovascular diseases, epilepsy and related disorders (including nonepileptic seizures), movement disorders, and data about less common but equally important conditions such as lupus cerebritis, multiple sclerosis, and prion diseases. The chapter, Catatonia, Neuroleptic Malignant Syndrome, and Serotonin Syndrome, skillfully addresses these conditions from the CL consultant’s perspective: as syndromes with motor manifestations that have potentially life-threatening consequences, and discusses their epidemiology, risk factors, clinical presentation, pathophysiology, diagnosis, and management. Another chapter, Electroconvulsive Therapy and Other Related Therapies, discusses the use and potential life-saving benefits of ECT for critically ill medical patients. The book contains more than 30 tables. Each chapter includes five multiple choice study questions with annotated answers. As a stand-alone reference, this book will fill the gap in many CL consultants’ libraries where a neuropsychiatry text targeting non-neurologists should reside. When paired with its sister text, Fundamentals of Consultation Liaison Psychiatry: Principles and Practice, these two volumes will empower readers to more precisely and comprehensively assess and treat medical or surgical patients suffering with one or more psychiatric conditions that may be adversely affecting their health and recovery.

**Fundamentals of Consultation Liaison Psychiatry: Principles and Practice**

*Malika Lavakumar, MD (Assistant Professor, Case Western Reserve University, Cleveland, OH, US), Lisa J. Rosenthal, MD (Associate Professor, Associate Vice Chair for Clinical Affairs, Department of Psychiatry and Behavioral Sciences, Northwestern University Feinberg School of Medicine, US), and Terry Rabinowitz, MD (Professor of Psychiatry and Family Medicine, Larner College of Medicine at the University of Vermont; Director, Psychiatry Consultation Service, University of Vermont Medical Center, Burlington, VT, US)*

In series: Psychiatry - Theory, Applications and Treatments


Although consultation liaison (CL) psychiatry has been practiced informally for many years, it has been recognized as a psychiatry subspecialty for less than two decades. This textbook addresses the important interface between the wide range of medical or surgical conditions and comorbid psychiatric disorders encountered in most hospital settings as well as outpatient sites. Because many patients admitted to a general hospital may have one or more psychiatric conditions that require attention and treatment to facilitate their recovery, this book will be an essential addition to any CL psychiatrist’s library; it will be equally useful for consultation liaison psychiatry fellows, psychiatry residents, general psychiatrists who are interested in CL psychiatry or who perform psychiatric consultations from time to time, medical students on their CL psychiatry clerkships, psychiatric nurse practitioners, and attending neurologists and neurology residents and fellows. This book includes chapters that address the most prevalent, as well as rare medical conditions found among hospitalized patients and reviews assessment and treatment of the co-occurring psychiatric condition. For example, the Heart Disease chapter addresses patients’ responses to a new, potentially life-threatening cardiac event, and explains the essential steps and interventions a CL consultant should take to optimize patient care and safety - as well as ways to help the care team to better understand and manage their own stress. Other chapters, among a total of 24, include Women’s Health, Ethical and
Legal Issues, and Eating Disorders. In addition, this book covers new areas or ones that are rarely or less comprehensively addressed in other CL texts, among them: Vulnerable Populations (including sections on psychiatric assessment and care of veterans, refugees, prisoners, LGBTQ-identified patients, and elders), Quality and Outcomes, Collaborative Care, and Telepsychiatry. This text includes more than 60 tables, and each chapter includes five multiple choice study questions with annotated answers. As a stand-alone reference, it is an inclusive, up-to-date, and state-of-the-art database for this exciting and essential subspecialty. When paired with its sister text, Fundamentals of Consultation Liaison Psychiatry: Neuropsychiatry, these two volumes will empower readers to more precisely and comprehensively assess and treat medical or surgical patients suffering with one or more psychiatric conditions that may be adversely affecting their health and recovery.

How Culture Shapes Suicidal Behavior

David Lester, Ph.D. (Stockton University, Galloway, NJ, US)
In series: Psychology of Emotions, Motivations and Actions
Softcover: 978-1-53615-098-8. $95.00.
e-book: 978-1-53615-099-5. $95.00.
This book explores the role of culture in explaining suicidal behavior. Explanations based on the genes and physiology of individuals, and theories based on psychological variables have difficulty explaining the suicide rate of societies, as well as the occurrence of suicide in individuals. This book illustrates the strong role of culture in determining the suicide rate of societies by looking at the role of the major religion of a society, in particular, Islam, as well as national differences in suicide rates, and the variation of suicide rates within a nation (for example, over the states of the USA). Descriptions of suicidal behavior in some groups are provided, including African American slaves in the 1700s and 1800s, Siberian indigenous peoples, and the Roma. Cultural scripts for suicide are described, such as seppuku, sati, and victim-precipitated homicide, and types of suicide in which the staging of the suicidal act is determined by the culture. Finally, it is argued that not only does culture have an impact on the suicide rate of a society, but also that culture is the primary determinant of the staging of the suicidal act, that is, the location chosen for suicide (for example, at home versus away from home), the method chosen for suicide, the clothes worn, the motive for the suicidal act, and other choices that the would-be suicide has to make.

The Therapeutic Encounter: Psychotherapy in Everyday Psychiatric Practice

Ross Kalucy (Darling Point, Australia) and Paul Cammell (Department of Psychiatry, University of Melbourne, Australia)
In series: Psychiatry - Theory, Applications and Treatments
Softcover: 978-1-53615-097-1. $95.00.
e-book: 978-1-53615-096-4. $95.00.
This accessible work describes psychotherapeutic techniques and a psychodynamic orientation for everyday clinical practice in psychiatry. It describes how these practices operate in outpatient, inpatient and emergency settings, and proceeds to illustrate this with a range of case studies that cover common mental health conditions. This approach brings case based teaching and discussion alive for the reader, and is more clinically relevant to everyday practice that most other psychotherapy books of its kind. The case studies will become a valuable resource for university courses and clinical training programs as well.

Addiction and Substance Abuse

Battling the Opioid Epidemic

Vincent Hardy
In series: Substance Abuse Assessment, Interventions and Treatment
America is in the middle of an epidemic it has never seen before. The opioid crisis knows no bounds. It is affecting individuals and families in every congressional district. Its consequences, ranging from personal health to the economy, are devastating. The opioid epidemic represents the convergence of the abuses of opioids, heroin, and synthetic drugs like fentanyl. Chapter 1 is a hearing before the committee on the Judiciary of the House of Representatives on challenges and
solutions in the opioid abuse crisis. Chapter 2 reports on the Subcommittee on Oversight and Investigations’ hearing on the DEA’s role in combating the opioid epidemic. Drug cartels operate out of countries in the western hemisphere, and they do so by using sophisticated distribution systems that move narcotics into and across the United States. Heroin supplied by these cartels has created a public health epidemic and fueled drug violence across the United States as reported in chapter 3. Chapter 4 provides an overview of heroin trafficking into and within the United States. It includes a discussion of links between the trafficking of heroin and the illicit movement of related substances such as controlled prescription opioids and synthetic substances like fentanyl. The chapter also outlines existing U.S. efforts to counter heroin trafficking and possible congressional considerations going forward. Chapter 5 evaluates the extent to which DOD has strategy and implementing guidance for the National Guard counterdrug program, and assesses DOD’s processes to approve states’ counterdrug plans and distribute funding to the program, among other things.

Drug Addiction, Trauma and Mental Illness: Interpretation and Intervention
Kam-shing Yip (Department of Applied Social Sciences, Hong Kong Polytechnic University, Hong Kong, China)
In series: Mental Illnesses and Treatments
2019.
Softcover: 978-1-53614-020-0. $95.00.
Research and clinical experiences show that people engaging in drug addiction for some years usually embrace severe mental illnesses including schizophrenia, borderline personality disorder, depression and post-traumatic stress disorder. Schizophrenia usually occurs in patients with prolonged use of amphetamine and hallucinogens. Borderline personality disorder commonly happens in female addicts who have experienced abandonment and childhood abuse. On the one hand, drug addiction can be used to cope with symptoms of severe mental illness. On the other hand, prolonged drug addiction can also induce severe mental illness. A close look into individuals with chronic drug addiction usually review that they encounter suffering, hardship and traumas. There are two types of traumas encountered by people with drug addiction. The first one is trauma before drug addiction and substance abuse. Many of them may have suffered through abuse, oppression and abandonment in their lives. Another one is drug led traumas because of psychosocial deprivation and medical problems induced by chronic addiction. In this book, apart from describing a comprehensive model in understanding and interpreting the complexity of trauma, mental illness and drug addiction, this model is applied and illustrated in clients with borderline personality disorder and schizophrenia, drug addiction and those who have experience different forms of trauma. Related psychosocial interventions are also thoroughly discussed.

Depression and Anxiety Disorders

Novel Approaches in Treating Major Depressive Disorder (Depression)
Milena Ćukić Radenković (Department for General Physiology and Biophysics, University of Belgrade, Belgrade, Serbia and Amsterdam Health and Technology Institute, HealthInc, Amsterdam, the Netherlands)
In series: New Developments in Medical Research
Depression is a serious problem. Serious problems often need a complex solution. In her description of novel approaches to treating depression, Dr. Ćukić is summarizing her results from the beginning of her scientific endeavor. As an engineer of electronics with a strong background in theoretical physics, biophysicist and neuroscientist, she aims at filling in the gap between disciplines needed to bring the innovation in the treatment of depression. Starting from the history of electrical and magnetic stimulation important for this field, she is combining the knowledge from biophysics and electromagnetic to explain how both modalities of stimulation can affect our neural tissue. Reviewing the most essential concepts in physiological complexity, she illustrates all the relevant research in different attempts to understand how we can detect the very subtle changes characteristic for a disorder. Those can be recognized from several electrical signals recorded from the body (electrophysiological signals). Fractal and nonlinear measures are in use for several decades, but are still not widely utilized in clinical practice due to deeply rooted obsolete mathematical models originated from the 19th century. Connecting the powerful models from machine learning (data mining) with measures of complexity and irregularity, Dr. Ćukić demonstrates how their synergy can bring innovative solutions in psychiatry. She tackles crucial questions like “Should scientific research in psychiatry go online?” One of the central questions she is trying to answer is why two modalities of electromagnetic stimulation-tTMS and tDCS—are effective in treatments of depression. A combination of fractal and nonlinear analysis and a well-performed machine learning can become a useful addition to present practice: decision support solution. We can consider it a test which is
accessible, easy to use and cost-effective in comparison to many other methodologies tested in contemporary scientific literature. The question is, how long it takes that something scientifically proven translates to clinical practice. Remember how long it took for all doctors to start washing their hands. We can only hope this translation would be faster. Many people need that badly.

**PUBLIC HEALTH**

**Bioethics and Neglected Diseases**

*Miguel Kottow, M.D. (Full Professor Universidad de Chile, Santiago, Chile)*

In series: *Public Health in the 21st Century*  
Hardcover: 978-1-53615-333-0. $160.00.  
Neglected diseases are severe conditions that mainly affect the world’s poorest people. Those suffering from neglected diseases are mostly suffering from tropical infections that have failed to receive priority in pharmaceutical research and development programs, as well as in public health policies aimed at improving availability and access to preventive, diagnostic and curative medicine. The World Health Organization has issued a number of documents directing attention to the plight affecting one third of the world’s population, assisted by active support from private organizations, notably the Bill and Melissa Gates Foundation, but the overall situation remains dismal. In the wake of major socioeconomic processes including globalization, steadily growing economic disparity, healthcare inequality, the instability created by rogue states and terrorism, as well as massive migration, and epidemic outbreaks, the features of neglected diseases have been changing. Neglected populations affected by tropical diseases are suffering increasingly from non-infectious degenerative conditions and disabilities due to untreated chronic maladies. Pockets of poverty and neglect can also be detected in high-income countries, contributing to the emergence of new diseases and the reemergence of infections believed to be disappearing such as tuberculosis and the measles. Included in the issues of neglect are rare diseases, mostly of genetic origin, affecting a small number of patients that suffer from multiple life-shortening functional impairment and organ defects. Effective medicines are extremely expensive, allegedly because research and development of appropriate drugs is resource and time consuming, requiring exorbitant prices to recoup investment from a small number of consumers. Bioethics has been tardy in addressing the suffering and destitution of neglected and rare diseases. Convinced that permanently repeated denunciations blunt the sensitivity towards suffering, whereas statistics are bloodless and unable to elicit commitment, this book attempts to explore a different strategy. In an upstream approach, bioethics needs to engage in ethnographic fieldwork that confronts and shares the context in which people suffer, vividly presenting what epidemiological research has blunted into statistical data. Additionally, a downstream approach is suggested, requiring bioethics to vigorously and openly denounce unethical biomedical and pharmaceutical research, misdeeds in registration and marketing of drugs, and misalignment of policies with the unmet healthcare needs of the destitute. More than being critical observers, bioethicists ought to shed lurking conflicts of interests and seek active participation in planning research and public healthcare practices aimed at improving the lives of medically neglected populations.


*Sir Arthur Newsholme*

In series: *Public Health: Practices, Methods and Policies*  
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)  
Hardcover: 978-1-53615-300-2. $310.00.  
Hygiene: A Manual of Personal and Public Health written by Sir Arthur Newsholme in 1902, is a plain and straightforward account of its subject for the general public and for science students; and to have become a practical guide to sanitary inspectors and to medical students, whether preparing for a diploma in public health, or studying hygiene as an important branch of medicine.
Service Leadership: Tools to Assess Knowledge, Attitude and Behavior
Daniel TL Shek, Ph.D. (Department of Applied Social Sciences, The Hong Kong Polytechnic University, Hong Kong, PRC), Xiaoqin Zhu, Ph.D. (Department of Applied Social Sciences, Hong Kong Polytechnic University, Hong Kong, China), Li Lin, Ph.D. (Research Assistant Professor, Department of Social Sciences, Hong Kong Polytechnic University, Hong Kong, China), and Joav Merrick, M.D. (Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, US)

In series: Public Health: Practices, Methods and Policies
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)

How can leadership in service economies be developed and nurtured? This issue is of the utmost importance, because the mode of production and requirements of the leaders are different in manufacturing and service economies. While the focus in manufacturing industries is on “do things right”, the focus of services economies is on “do the right things”. In this book, the authors start out with the Service Leadership Model as well as the ingredients for Service Leadership knowledge, attitude and behaviors (i.e., skills). Second, psychometric properties of three validated measures on Service Leadership knowledge, attitude and behavior are presented. In these chapters, the internal consistency, convergent validity and factorial validity of the measures are presented. Third, the psychosocial correlates and norms associated with these three measures of Service Leadership are presented. Through these chapters, the authors attempt to establish the psychometric properties and norms of the scales assessing Service Leadership knowledge, attitude and behavior. It is their humble wish that the related work and the developed assessment tools can be used in the training, personnel decisions, intervention and research contexts.

RADIOLOGY AND IMAGING

Advanced Diagnostic Imaging

Glioblastoma: State-of-the-Art Clinical Neuroimaging (2 Volume Set)
Michael Iv, M.D., Max Wintermark, M.D., and Tarik F. Massoud, M.D., Ph.D. (Division of Neuroimaging and Neurointervention, Department of Radiology, Stanford University School of Medicine, Stanford, CA, US)

In series: Neuroscience Research Progress
Hardcover: 978-1-53614-588-5. $345.00.

Neuroimaging plays a central role in the initial diagnosis and subsequent monitoring of multimodal therapies offered to patients with glioblastoma – the most malignant type of brain cancer. The authors present a comprehensive description of current state-of-the-art clinical neuroimaging for glioblastoma. They cover the basic concepts and most recent innovations in glioblastoma imaging and treatment are being developed. In compiling this book, the co-editors have called upon many of the world’s best clinical and basic neuroscientists specializing in the management of patients with this malignancy, for their expert input on the latest imaging developments and applicable research into glioblastoma. This book is intended for neuroradiologists, neuro-oncologists, neurosurgeons, radiation therapists, and other physicians and scientists engaged in the study and clinical management of patients with glioblastoma. It should also serve
as a unique educational and research resource for students and more experienced practitioners alike within this rapidly evolving field.

**Neurofeedback: Functions, Applications and Effects**

*Michael C. Hellinger*

In series: *New Developments in Medical Research*


Softcover: 978-1-53615-167-1. $82.00.

e-book: 978-1-53615-206-7. $82.00.

Neurofeedback: Functions, Applications and Effects presents a number of possible applications for neurofeedback in offender treatment, including perpetrators of domestic violence and various other forms of violent and anti-social behavior, certain forms of sexually abusive behavior, and criminal behavior of an obsessive–compulsive nature. A global description of this method is presented, followed by a brief overview of the empirical evidence of its efficacy in specific relevant treatment areas. To accomplish a targeted impact of neurofeedback on specific cortical functions, EEG-based local brain activity neurofeedback training was developed by Bauer et al. (2011). With this approach, an implemented algorithm automatically identifies and localizes EEG-sources in successive sLORETA solutions. Based on this information, the feedback is exclusively controlled by EEG-generating sources within a selected cortical region of training. In order to individually and precisely locate and define the region of training, the use of evoked potentials of known local origin is recommended. In one study, a total of 30 Iranian veterans with spinal cord injuries were randomly assigned to either neurofeedback, physical training, or a control condition. At the beginning of the study and four weeks later, reaction times and balance were objectively measured. Compared to the control condition over time, reaction times improved in the neurofeedback condition, while balance improved in the physical training condition. Compared to a conventional treatment condition, neurofeedback and physical training improved skills in specific areas of motor control. The authors go on to investigate the effect of neurofeedback training on the motor performance and conscious motor processing of skilled dart players. The subjects consisted of 20 males. The research was conducted in five phases, including: pre-test, training neurofeedback, posttest 1, under pressure test and posttest 2. Additionally, the authors investigate the effect of one session of neurofeedback training on the motor performance of elite and non-elite volleyball players. The research was conducted in three phases: pre-test, training neurofeedback, and post-test. The effect of Quiet Mind Training on alpha power and dart throwing is also studied. A total of 20 novice dart players were randomly assigned to either Quiet Mind Training or a control condition. Dart playing skills and alpha were assessed four times: at baseline, 20 session later, under stress conditions, and at study end. In the penultimate study, this collection proposes that prefrontal neurofeedback training would be accompanied by changes in the relative power of EEG bands and ratios of individual bands with increased effectiveness at higher numbers of sessions. Outcome measures included EEG and behavioral ratings by parents/caregivers. Mu rhythm and bimanual coordination was examined in 10 healthy boys, 10 boys with high-functioning in-active autism and 10 boys with high-functioning active autism. Results indicated that high-functioning in-active autistic boys and high-functioning active autistic boys have a higher mean of relative phase error.

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**RESPIRATORY AND PULMONARY**

**Interstitial Lung Disease: Causes, Diagnosis and Treatment**

*Liva T. Villadsen*

In series: *Pulmonary and Respiratory Diseases and Disorders*

2019.

Softcover: 978-1-53616-246-2. $95.00.


Interstitial lung diseases are a diverse group of acute and chronic pulmonary disorders characterized by a variable amount of inflammation and/or fibrosis. In Interstitial Lung Disease: Causes, Diagnosis and Treatment, the authors explore the role of genetics in the pathogenesis of interstitial lung diseases, as well as develop new diagnostic modalities and identify novel therapeutic targets. This compilation goes on to discuss acute infiltrative lung disease, a heterogeneous group of lung disorders characterized by diffuse parenchymal lung involvement. This group of infiltrative lung diseases may result in five histopathological presentations: diffuse alveolar damage, diffuse alveolar hemorrhage, immunologic lung disease, chronic organizing pneumonia and acute eosinophilic pneumonia. High-resolution computed tomography is proposed as a more sensitive and accurate method in diagnosing interstitial lung disease through specific patterns which are highly suggestive of a subtype of interstitial pneumonia. High-resolution computed tomography is also proposed for the diagnosis of sarcoidosis, a systemic granulomatous disease which involves the lungs in more than 90% of cases. It is one of the leading causes of interstitial involvement in lung diseases, and its diagnosis is based on compatible clinical, biological, imaging and anatomopathological features. The closing chapter aims to identify diagnostic procedures for the early diagnosis of cardio-pulmonary complications, delineate a proper methodology to monitor complications, and define therapeutic guidelines.
Non-Invasive Ventilation: A Practical Handbook for Understanding the Causes of Treatment Success and Failure
Antonio M. Esquinas, MD, PhD (Fellow Chest College Physicians (FCCP), Internacional Fellow American Associations Respiratory Care (AARC), Intensive Care Unit; Hospital Morales Meseguer. Murcia, Spain)

In series: Pulmonary and Respiratory Diseases and Disorders
Hardcover: 978-1-53615-199-2, $270.00.

Non-invasive ventilation (NIV) has shown, in the last two decades, to be an essential ventilatory management modality for treatment of patients with diverse etiologies of acute and chronic respiratory insufficiency, with significant favorable outcomes in terms of improvement in gas exchange, respiratory muscle fatigue, and dyspnea. NIV is an alternative to invasive mechanical ventilation, with significant improvement in short and long term prognosis. However, despite the abundance of literature supporting the benefits of NIV, there is controversy in regards to the timing of initiation and termination of NIV in the disease process, leading to unsettled issues and constant analysis for both researchers and physicians in clinical practice. There is scarce literature that describes thorough predictors of success or failure of NIV. There is need to develop tools or models to predict response to NIV, optimize those responses, increase tolerance to NIV technology (mechanical ventilator, interface, or ventilatory mode) that can be translated to increase success rate of NIV. The book “Non-Invasive Ventilation: A Practical Handbook for Understanding the Causes of Treatment Success and Failure” is the first text published with well-defined objectives that analyze the success and failure response of non-invasive mechanical ventilation. The table of contents is structured in an order to meet the defined objectives based upon respiratory physiology: – Breathing patterns – Respiratory muscular fatigue (inspiratory / expiratory muscle) – Lung mechanics (compliance and airway resistance) – Gas exchange (hypercapnic/hypoxemic), and neurologic determinants) Sections of this book will address different aspects of NIV ranging from perspective pathophysiological benchmarks and clinical studies, to diagnosis and monitoring elements of basic lung – patient – ventilator interaction, including: – Monitoring lung mechanics (pressure curves, volume (tidal and minute) (lower and high) and leakages (concept / monitoring)), in a broad and profound way – Illustrating potential determinants and scenarios in non-invasive ventilation. The aim is to describe a summary of global and practical recommendations of the utility of NIV that will affect the reader’s capability in treating respiratory comorbidities. These include: – Chronic respiratory diseases like obstructive sleep apnea, – Obesity hypoventilation syndrome, and – Cardiac chronic insufficiency.

Special Topics

Across the Divide: Health and Wellbeing in Rural Australia
Peter William Harvey (College of Medicine and Public Health, Flinders University, South Australia)

In series: New Developments in Medical Research
2019. 188 pp.
Hardcover: 978-1-53614-983-8, $95.00.
e-book: 978-1-53614-984-5, $95.00.

Early Australian pioneers were blocked from advancing into the interior of the continent by the Great Dividing Range that runs along the east coast of the country. In their endeavours to expand the colonies westward and to open Australia economically, these early developers eventually found routes across the Great Dividing Range and into the interior. With this expansion, the larger and more productive Australia was born, for better or worse. Today, Australians face a ‘divide’ of a different kind, but one that, nonetheless, requires crossing if we are to secure our national wellbeing into the future. The emerging division between rural and metropolitan Australia, along with the social, cultural and health inequities between the two groups has been the focus of government and social programmes in Australia for generations, yet the condition persists and is today exacerbated by the inexorable movement of Australian populations to larger regional centres and to our major coastal cities. For many years health researchers and health service providers have embraced the idea that scientific research into the social, economic, physical and psychological aspects of health problems in the community is the tried and true way to progress policy and initiate action for improvement of our healthcare system. The age-old grail is to demonstrate scientific facts and implement policy on that basis. If this process is maintained, all will be well. The wellspring of this current work is its embodiment of a city/country dichotomy in the life of the author. The strongest message about healing the divide between the two cultures (if indeed this might even be possible) comes not via scientific investigation directly, but via the existential and phenomenological experience first and foremost and is informed by the scientific motif after the fact. The ‘divide’, which
is the focus of this work, has emerged in the interplay between an essentially nineteenth century European based rural ideology of frontier freedom, self-reliance, rugged determination and independence and an emerging Asia-centred urban ideology underpinned by more modern twenty-first century concepts of economics, life, space, place and opportunity. The book combines personal experiences of rural living with overviews of initiatives that aim to reduce inequities between rural and metro communities by training and supporting health professionals to work in rural areas where there is often an acute shortage of practitioners to meet the needs of these communities. This shortage of professional people in rural areas contributes to the growing separation of rural and urban cultures and to the poorer health status of rural people compared with that of urban populations. In this context, the book Across the Divide: Health and Wellbeing in Rural Australia explores options for reducing these divisions and improving the health and wellbeing of rural populations in Australia. It focuses on health status and the emerging inequities experienced by rural people and explores ways of improving access to services and practising health professionals, health education and health literacy.

Adaptive Filtering Techniques for Remote Health Care Monitoring Systems
Zia Ur Rahman, Ph.D. (Department of Electronics and Communication Engineering, Koneru Lakshmaiah Education Foundation, Green Fields, Vaddeswaram, Guntur, A.P., India)
In series: Biomedical Devices and their Applications
Hardcover: 978-1-53614-749-0, $195.00.
e-book: 978-1-53614-750-6, $195.00.
Adaptive Filtering Techniques for Remote Health Care Monitoring Systems aims to present a full picture of the state-of-the-art research and development of adaptive signal processing applications in various real-time applications. This book covers some important applications like MIMO, artifact removal, speech enhancement, beam forming, brain computer interface, genomic analysis, biomedical signal processing, healthcare technology, inter symbol interference cancellation, and others. It is certainly not the authors’ ambition to cover everything concerning adaptive filtering principles and applications. Rather, this edited book features the latest methodological, technical and practical progress on promoting the successful use of adaptive filtering principles and applications, which are more useful in the current day scenario. This book consists of ten chapters contributed by prominent researchers from throughout the world. The intended audience of this book will mainly consist of researchers, research students and practitioners in adaptive filtering and applications. This book is also of interest to researchers and industrial practitioners in areas such as algorithm developers, biomedical engineering, biomedical instrumentation, VLSI circuits design, and embedded systems. This edited book will present research outcomes on theoretical and technical issues related to real-time applications. The authors would like to convey their appreciation to all the contributors, including the accepted chapters’ authors, and many other participants who submitted their chapters that cannot be included in the book due to space limitation.

Advances in Health and Natural Sciences
Burcu Yuksel (Kocaeli University, Vocational School of Health Sciences, Turkey) and Mustafa Sencer Karagul (Kocaeli University, Kartep School of Equine Science, Kocaeli, Turkey)
In series: Public Health in the 21st Century
Researchers and graduate students need to keep up with the advances in natural and health sciences that occur almost daily. This edited collection of state of the art chapters will provide scientists, educators, and researchers in this vital field with the most recent developments and disseminate it globally. This book, organized into nine chapters, features scientists from around the globe contributing diverse topics in mostly natural, biological and health sciences. The edited book aims at highlighting the state of the art research and recent findings in of agricultural, environmental, biological, marine and medical sciences and biotechnology, and bridging theoretical research with current applications. This edited book will be of significant value to researchers, graduate students as well as practicing scientists working in these vibrant fields.
next study examined the ingestion strategies, and consider a complimentary approach to ingestion dosage in relation to a range of body masses. Sodium bicarbonate ingestion is a strategy employed by many athletes to increase the buffering capacity for such hydrogen ions in a 10 to 240 seconds duration results in an excess of hydrogen ions and acute, transient reductions in blood and muscle pH.

Electrons in O, N, S atoms of various molecules etc. can accommodate them in the empty π* orbital of singlet oxygen, provided that their bearing regions of high electron densities, [conjugated double bonds, polyene chains, lone pairs of electrons] can accept the unpaired electrons in ΛO, ΛN, ΛS atoms of various molecules etc. and molecules bearing regions of high electron densities, [conjugated double bonds, polyene chains, lone pairs of electrons in O, N, S atoms of various molecules etc.] can accommodate them in the empty π* orbital of singlet oxygen, provided that their geometry and energy suits the π* orbital’s geometry and energy. This collection explores high intensity exercise between 10 to 240 seconds duration results in an excess of hydrogen ions and acute, transient reductions in blood and muscle pH.

Myocardial fibers from diseased human atria have elevated resting membrane potential, depressed maximal amplitude of the action potential, and decreased upstroke velocity. Sinus node dysfunction may be due to an alteration in the generation of impulses within the sinus node and/or a disturbance of the conduction of impulses from the sinus node to the atrial myocardium. In this chapter, investigations based on the recording of abnormally prolonged and fractionated atrial local electrograms during sinus rhythm atrial catheter mapping in patients with sinus node dysfunction have provided important knowledge about the electrophysiological properties of the pathological atrium. In chapter two, the effects of caffeic acid and its related compounds on 7-carboxyxyethyl radical formation were examined in the reaction mixtures of (ω)-9-octadecenoic acid. Carboxyxyethyl radical formation was inhibited by caffeic acid, catechol, gallic acid, chlorogenic acid, ferulic acid, noradrenalin, 2-hydroxybenzoic acid, 3-hydroxybenzoic acid and 4-hydroxybenzoic acid. However, quinic acid, benzoic acid and p-anisic acid had no effect on radical formation. These results suggested that the phenol moiety is essential for radical inhibition. The authors discuss how, in general, biomolecules [DNA, proteins [α-amyloid, u-synuclein, Tau protein, etc.], antioxidant molecules [β-carotene, lycopene, astaxanthin, sulforafane etc] and molecules bearing regions of high electron densities, [conjugated double bonds, polyene chains, lone pairs of electrons in O, N, S atoms of various molecules etc.] can accommodate them in the empty π* orbital of singlet oxygen, provided that their geometry and energy suits the π* orbital’s geometry and energy. This collection explores high intensity exercise between 10 to 240 seconds duration results in an excess of hydrogen ions and acute, transient reductions in blood and muscle pH.

Sodium bicarbonate ingestion is a strategy employed by many athletes to increase the buffering capacity for such hydrogen ions in an attempt to offset acidosis and improve or maintain performance. This commentary will overview conventional ingestion strategies, and consider a complimentary approach to ingestion dosage in relation to a range of body masses. The next study examined the effects of sodium bicarbonate ingestion upon sprint performance using a novel repeated sprint

Advances in Medicine and Biology. Volume 138
Leon V. Berhardt
In series: Advances in Medicine and Biology
Hardcover: 978-1-53615-065-0. $250.00.

In Advances in Medicine and Biology. Volume 138, the authors reflect on the development of ethically reliable procedures that keep in line with cultural traits while guaranteeing proper implementation of the fundamental principles of bioethics, within the framework of ethically binding biomedical research. As such, this write-up gives an overview on the ethical implications and regulatory issues governing African traditional medicine research practices in Cameroon. This collection goes on to present the relationship between riboflavin’s chemical properties and its exploitable applications in both living organisms and analytical assays. Riboflavin, popularly known as Vitamin B2 or Vitamin G, was historically the second identified vitamin and presents itself as a yellow solid substance, and its higher stabilization is observed at pH 5. In the following study, technological discrimination of lactic acid bacteria species isolated from fermented cereal foods available in Abidjan are presented as of interest, because these species are used as starter cultures to optimize fermented cereal product quality. The sugar fermentation pattern and identity of twenty-three lactic acid bacteria isolates were carried out by using a ApiwebTM/Api50 CHL test kit. Protease, amylase, and bacteriocins production as well as growth parameters after 18h culture are performed. Topical naltrexone therapy has been reported to reverse diabetes complications in type 1 and type 2 animal models in an effective and non-toxic manner. Because of this, the authors discuss the mechanism of action of naltrexone, as well as data documenting its efficacy in therapy for diabetic complications, supporting the repurposing of naltrexone for clinical use. Additionally, general opioid receptor antagonists such as naltrexone that block classical opioid receptors mu, delta, and kappa are still widely used to reverse drug and alcohol overdose/use. With the discovery of the opioid growth factor receptor axis as a novel biological pathway involved in homeostasis of replicating cells and tissues, the role of opioid receptor antagonists is expanded. Syndecans are transmembrane heparan sulfate proteoglycans expressed in a variety of cells, and their heparan sulfate glycosaminoglycan side chains bind to several proteins (such as chemokine and growth factors) taking on various biological roles. Several types of proteoglycans, including syndecans in the lung as components of extracellular matrices, were previously recognized only as “molecular glue” that supports the structure of tissues. However, growing evidence suggests that proteoglycans have a variety of biological activities such as control of inflammation, wound healing, development and homeostasis, which the authors examine. M-type phospholipase A2 receptor is a type I transmembrane receptor and belongs to the mannos receptor family. In 2009, M-type phospholipase A2 receptor was identified as a target intrinsic antigen in most cases of primary membranous nephropathy. The authors propose that in addition, the detection of circulating anti-M-type phospholipase A2 antibodies is useful not only for the differential diagnosis of primary membranous nephropathy but also for monitoring treatment, including after renal transplantation. The most frequent familial amyloidosis presentation is due to transthyretin, a protein analyzed in the concluding chapter and originally referred to as pre-albumin. There are more than eighty transthyretin mutations, the majority being amyloidogenic. The carriers of the mutation on this protein genes show a clinical heterogeneous amyloidosis according to the nature of aminoacid substitution.

Advances in Medicine and Biology. Volume 139
Leon V. Berhardt
In series: Advances in Medicine and Biology
Hardcover: 978-1-53615-238-8. $250.00.

The next study examined the effects of sodium bicarbonate ingestion upon sprint performance using a novel repeated sprint...
shown that male reproductive organs also act as a nutrient sensor to optimize fecundity. The closing chapter discusses the effects of nutrient conditions on the reproductive potential and life span of many organisms through the insulin signaling pathway. A new resin that responds directly to light.

Advances in Medicine and Biology. Volume 140
Leon V. Berhardt
In series: Advances in Medicine and Biology
Hardcover: 978-1-53615-335-4. $250.00.
Advances in Medicine and Biology. Volume 140 opens by discussing vascular endothelial growth factor, an attractive target for antiangiogenic therapy for glioblastoma. Although bevacizumab, a humanized anti-vascular endothelial growth factor antibody, improves the progression-free survival of patients with glioblastoma, prolonged overall survival has been attained only in a few patients with a proneural type of glioblastoma. As such, bevacizumab is increasingly used to treat newly diagnosed and recurrent glioblastoma. Bevacizumab selectively inhibits glioblastoma growth by targeting membrane-bound vascular endothelial growth factor, inhibiting angiogenesis and thus halting tumor growth. Vascular endothelial growth factor plays a major role in wound healing, with upregulation starting on day three and levels remaining high up to 24 weeks after wound creation. The authors discuss how to avoid postoperative wound complications following neurosurgical procedures, perioperative management is indispensable. As perioperative preparation, shaving or minimal hair removal should be avoided to prevent minor trauma to the scalp and surgical-site infection. Excess electrocautery coagulation and metal skin clips are efficacious during skin incision for preventing blood loss, but might cause skin edge necrosis and alopecia. Next, the authors briefly summarize the actions of melatonin in a broad range of effects with a significant regulatory influence over many of the protection processes against Fe overload effects. Melatonin is a ubiquitous compound present in bacteria and eukaryotes, which in vertebrates, is released at night from the pineal gland to induce sleep. Quantitative foundations of continuous non-invasive prenatal screening are explored in the following chapter. The mosaicism interval and the interval-based estimate of the degree of mosaicism are introduced, and the uncertainty of the estimation of the degree of mosaicism can be quantified by the width of the mosaicism interval. Continuing, the authors emphasize the implication of SRY-related box factors in male sex determination and differentiation, leading to fertility. The production of spermatozoa in adulthood requires a coordination in the regulation of gene expression by a multiplicity of SRY-related box transcription factors within the testes. The authors perform an overview of the mechanisms of action of SRY-related box transcription factors throughout male development contributing to fertility. The objective of the penultimate study is to evaluate, in vitro, the coagulating, cytotoxic, oxidizing and antioxidant effects caused by the Bothrops jararacussu and B. moojeni crude venoms. The crude venoms protein profiles are characterized, and the biological effects are evaluated and compared between the species. Among the activities triggered by Crotalus durissus terrificus snake venom, coagulation is both intriguing and contradictory since the venom contains in its composition both coagulant and anticoagulant precursor proteins. The concluding work describes the in vitro effects of crude venom and purified proteins from Crotalus durissus terrificus snake venom as they affect coagulation factors of the extrinsic, intrinsic, and common clotting pathways in citrated human plasma.

Advances in Medicine and Biology. Volume 141
Leon V. Berhardt
In series: Advances in Medicine and Biology
In the opening chapter of Advances in Medicine and Biology, Volume 141, the authors describe the importance of the response of photon counting detectors, as well as taking into consideration the detector’s response when analyzing objects using a multi-pixel-type photon counting detector for medical X-ray imaging. Following this, the authors discuss how the image quality of radionuclide tomography strongly depends on the method of reconstruction, which can be broadly classified into two types: filtered back projection and iterative reconstruction. Vitamin E function, metabolism, nutritional recommendation and the role of biofortification is also addressed. The authors discuss poly(methyl methacrylate), an artificial polymer resin that can be produced through distinct processes, including solution, suspension and emulsion polymerizations. Particularly, poly(methyl methacrylate) is completely amorphous, but presents high tensile strength and excellent dimensional stability due to its rigid polymer chains. Next, the authors highlight the taxonomy, description and characterization tests of carbapenem-resistant bacteria in the environment, as well as epidemiology updates and clinical aspects of infections caused by these microorganisms. Nutrient conditions affect the reproductive potential and life span of many organisms through the insulin signaling pathway. Although this is well characterized in female oogenesis, it has been shown that male reproductive organs also act as a nutrient sensor to optimize fecundity. The closing chapter discusses the...
Drosophila male accessory gland, as it has functions similar to those of the mammalian prostate gland and the seminal vesicle, and secretes accessory gland proteins into the seminal fluid.

Advances in Medicine and Biology. Volume 142
Leon V. Berhardt
In series: Advances in Medicine and Biology
Hardcover: 978-1-53615-619-5. $250.00.
The authors of the opening chapter of Advances in Medicine and Biology. Volume 142 provide recommendations and tips to assist medical oncologists, hematologists and clinicians in investigating and managing early catheter malfunction. The aim of the following chapter is to ease prompt recognition and management of central venous catheter-related infectious outbreaks, as they may severely jeopardize the outcome of infected patients. Next, the placement and maintenance of central venous access devices in the neonatal patient population, with particular regard to umbilical catheters and peripherally inserted central catheters is examined. The authors go on to investigate whether low trabecular bone score during adolescence is predictive of increased fracture risk during adulthood, as well as whether recovery may result in correction of compromised microarchitecture. A summary of the involvement of miRNAs in different beta-thalassemia variants, their association in expression of various globin types, (especially gamma-globin) and their implications as prognostic and therapeutic markers in beta-thalassemia are presented. Additionally, an account is provided on various commonly used monoclonal antibodies targeting the transferrin receptor. The authors also discuss the mechanisms through which monoclonal antibodies targeting the transferrin receptor have been employed to deliver drugs, enzymes, toxins and cytokines to treat various neurological cancers, Alzheimer’s disease, Parkinson’s disease, lysosomal storage diseases and cerebral ischemia. This compilation assesses the use of clarithromycin in the long-term treatment of chronic rhinosinusitis with polyps after endoscopic sinus surgery, showing that a low-dose clarithromycin use for a period of one month can improve patient complaints. The role of aromatase inhibitors for the treatment of endometriosis is subsequently described. Numerous surgical procedures have been reported in patients with situs inversus. The penultimate chapter provides insight regarding laparoscopic surgeries for various indications in patients with situs inversus, along methods to address them. The final chapter improves upon the current knowledge of Stenotrophomonas maltophilia, which is a gram-negative rod and typical soil inhabitant bacteria.

Advances in Medicine and Biology. Volume 143
Leon V. Berhardt
In series: Advances in Medicine and Biology
Hardcover: 978-1-53615-814-4. $250.00.
The opening chapter of Advances in Medicine and Biology. Volume 143 discusses the main indications of prophylactic oophorectomy, as well as its risks, benefits and impacts on women’s quality of life. Additionally, the authors examine PEGylation, a chemical reaction that allows for the conjugation of a polyethylene-glycol group to another compound. Since the commercial release of adagen, the first approved PEGylated drug, PEGylation has proven to be a successful strategy for the generation of efficient drugs. Following this, this compilation analyzes the morphological and functional disorders that may be induced by oxaliplatin. The authors present the possible side effects of this drug upon several organs, as well as the mechanisms that are activated by the nominated drug. The authors also summarize the processes that might be occurring in Werner syndrome cells during DNA replication that then lead to the genomic instability and replication stress and, ultimately, a p38 MAPK-induced premature senescence. The results of the authors’ studies combining the granulocyte colony-stimulating factor and enteral sorption therapy are presented in the closing chapter to ameliorate common side effects of such potent and toxic anti-cancer alkylating agents, such as melphalan.

Advances in Medicine and Biology. Volume 144
Leon V. Berhardt
In series: Advances in Medicine and Biology
Hardcover: 978-1-53615-842-7. $250.00.
The opening chapter of Advances in Medicine and Biology. Volume 144 summarizes the generation of amniotic fluid, role and its clinical significance of protecting the fetus from external trauma. Next, the role of in silico and in vitro methods are used for the prediction of cytotoxicity which is measured in terms of Selectivity Index or Therapeutic Index, which is defined as the ratio of CC50 and EC50. Additionally the authors discuss the principles of aptamer selection and in vitro applications for bench scientists in molecular imaging, including aptaisthochemistry, tissue imaging, enzyme-linked aptamer assay, aptablot, aptamer-mediated flow cytometry and mass cytometry, and super-resolution microscopy. In order for natural rubber latex nanoparticles to be employed in tissue engineering, they need to have designed biological interaction with cells as well as favorable mechanical properties. Cells can delicately sense and respond to external nanoscale features in intricate living systems. With this in mind, chapter four demonstrates an in-depth understanding of...
how cell differentiation may bring a new perspective to tissue engineering including new bone regeneration and cartilage therapy. In the penultimate chapter, a study of the relationship between the adipokine signaling dysregulation and the androgen status is proposed as necessary to develop new adipokines-based approaches to restore the steroidogenesis and spermatogenesis in male in the metabolic and endocrine diseases. In recent stress research, coping flexibility, which is defined as an individual’s ability to modify their coping strategies effectively according to the demands of different stressful situations, has received considerable attention. The author of the closing chapter presents two cross-sectional studies in order to examine the relationship between insomnia and coping flexibility for daily stress.

**Advances in Medicine and Biology. Volume 145**

*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*


Hardcover: 978-1-53615-924-0. $250.00.

The opening chapter of Advances in Medicine and Biology. Volume 145 examines the role of different reported oviduct factors in modulating gamete function, fertilization and early embryo development. The guidelines of occupational post-exposure prophylaxis are reviewed in order to help guide clinicians in managing occupational exposure to human immunodeficiency virus. Next, the authors discuss how the detection of bacterial genes in the genome of eukaryotic cells has provided evidence for gene exchange between bacteria and eukaryotic cells, mainly from bacteria to fungi. The important structural information for potent and selective HDAC3, a zinc-dependent histone deacetylases isoform, inhibitors along with the structure-activity relationships of a handful of molecules may enrich the knowledge of academics and industry personnel. As such, this compilation provides a deep insight into HDAC3 and related inhibitors. In the penultimate chapter, the authors assess the structure and boundaries of various surgical approaches to achieve interbody fusion. Each indirect decompression procedure for the intervertebral foramen is introduced in detail, and their influence on intervertebral foramen parameters is discussed, including foraminal height and foraminal area. This provides detailed information on the quantitative decompression index, thus proving helpful for

**Advances in Medicine and Biology. Volume 146**

*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*


Hardcover: 978-1-53615-961-5. $250.00.

In Advances in Medicine and Biology. Volume 146, the authors begin by exploring the mammalian eye lens, a unique transparent organ, with a distinctive cellular architecture and polarity. For more than a century, it has been used as a model to study mechanisms of induction, morphogenesis, differentiation and disease. Following this, the authors discuss guanylate cyclase activating protein 1 (GCAP-1), an interferon-inducible large GTPase involved in the epithelial barrier and cell proliferation. Induction of GBP-1 by proinflammatory cytokines is regulated via various signaling pathways and is a reliable marker of interferon-γ-activated cells in various diseases. This compilation also examines remifentanil, a synthetic fentanyl derivative and ultra-short acting, selective µ-opioid receptor agonist. Its chemical structure includes a methyl-ester ring that allows its hydrolysis by non-specific plasma and tissue esterases. The authors suggest that the role of sevoflurane in preventing oxidative damage and inflammatory response to ventilator injury-induced lung injury requires further investigation. Sevoflurane is a halogenated anaesthetic developed in the early '70s which preserves the hypoxic vasoconstriction reflex, doesn’t irritate the airways, and maintains self-regulation of the district circles. Additionally, the current knowledge on immune-checkpoint inhibitors, immune mediated hepatitis and pancreatitis is summarized. Immune-checkpoint inhibitors continue to revolutionize cancer therapy and are expected to be utilized in an increasing number of malignancies in the coming years. The closing chapter discusses vitamin E, a collective term including compounds which are either naturally occurring or synthetic analogues exhibiting the biological activity of vitamin E. Vitamin E is a micronutrient and fat-soluble vitamin which has an important role in human beings, particularly children.

**Advances in Medicine and Biology. Volume 147**

*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*


Hardcover: 978-1-53616-062-8. $250.00.

The first chapter of Advances in Medicine and Biology. Volume 147 reviews actions on bone longitudinal growth, muscle, kidney, calcium, nitrogen, phosphorus and potassium, body composition, carbohydrate metabolism, insulin, lipids, protein actions, coagulation and fibrinolysis, adipokines, cardiovascular effects, and retina. Next, the authors discuss the values and boundaries of various surgical approaches to achieve interbody fusion, and introduce a novel fusion technique named extraforaminal lumbar interbody fusion. Each indirect decompression procedure for the intervertebral foramen is introduced in detail, and their influence on intervertebral foramen parameters is discussed, including foraminal height and foraminal area. This provides detailed information on the quantitative decompression index, thus proving helpful for
surgeons. Following this, prodrugs are examined, having been extensively studied in the field of drug development. Continuous research in developing prodrugs/drug conjugates has resulted in an improvement of the lipophilicity, aqueous solubility, oral bioavailability, chemical stability, prolongation of action, reduced toxicity and site specific drug delivery of parent drugs. The susceptibility of germline stem cells to genetic damage induced by oxaliplatin and its mechanism of action is also discussed. Germ cells are responsible for the transmission of genetic information from males to their progeny. The authors evaluate parenteral nutrition-associated liver disease and how it encompasses a variety of diseases ranging from steatosis to fibrosis and cirrhosis. A systematic review of the literature is executed to pool data from all individually documented patients to evaluate the safety and efficacy of combined liver and inferior vena cava resection in patients with contractility, particularly focusing on the least understood aspects of the myometrium function. Next, overview of new developments in breast cancer targeted therapies is provided, and future prospects for directed therapeutic strategies are discussed. Recent advances in targeted therapy have decreased the morbidity and enhanced the quality of life of cancer patients. Several strategies to combat H1N1 through in silico approach along with the discovered drug candidates are reviewed, such as neuraminidase inhibitors, M2 proton channel blocker, and RNA polymerase-complex inhibitor to interfere with H1N1 virus replication. H1N1, also recognized as Swine Flu, is a subtype of influenza A virus which belongs to the orthomyxovirus category. This compilation also explores acute kidney injury, a life-threatening situation which has a mortality rate of up to 50%. Histone deacetylase inhibitors were first used for treating different types of cancers, but recently their immunomodulatory and anti-apoptotic effects in renal cells in vitro have been noticed. Thus, the effects of histone deacetylase inhibitors inhibitors in preventing acute kidney injury are reviewed. The closing paper reviews the literature regarding how to obtain an optimal anatomical reduction in femoral neck fractures in patients under 65 years old, and functional results are discussed in relation to specific fixation implants, fracture patterns and patient-related factors.

Advances in Medicine and Biology. Volume 149
Leon V. Berhardt

In series: Advances in Medicine and Biology
Hardcover: 978-1-53616-221-9. $250.00.

This collection begins by discussing bendamustine, a nitrogen mustard derivative that consists of a mechlorethamine group, butyric acid and a benzimidazole ring. Bendamustine has been synthesized in 1963, but in recent years it has been shown to be effective in treating lymphoproliferative diseases and solid tumors. Additionally, the authors present the efficacy of structure variation of bendamustine for the enhancement of the lipid membrane partitioning and tissue penetration, as well as drug-likeness. A total of 10 novel compounds are presented, wherein seven have higher Log P values and three have lower Log P values than that of bendamustine. Advances in Medicine and Biology. Volume 149 also discusses metabolic syndrome, a growing major clinical challenge for global health resultant from over-consumption of energy and obesity. Following this, the authors address the importance of antimicrobial resistance in human and veterinary medicine, focusing on antimicrobial peptides such as nisin as therapeutic alternatives. A study is presented wherein it is concluded that oligodendrocyte dysfunction in multiple system atrophy significantly affects subcortical anatomical pathways. Moreover, the spatial patterns of the glial cytoplasmic inclusions in multiple system atrophy contrast with those reported for filamentous neuronal inclusions in other neurodegenerative diseases. Next, the authors summarize the recent discoveries expounding how β-cell identity and heterogeneity evolve in diabetes mellitus, discussing a new perspective of β-cell function salvage in diabetes mellitus development. Yeast cell cycle arrest and its consequences are analyzed in the subsequent chapter. Cell cycle arrest results in programmed cell death, such as apoptosis, wherein cells are made to commit

Advances in Medicine and Biology. Volume 148
Leon V. Berhardt

In series: Advances in Medicine and Biology
Hardcover: 978-1-53616-181-6. $250.00.

Advances in Medicine and Biology. Volume 148 begins by summarizing recent findings in exosome research, highlighting the importance of exosomes as novel biomarkers and regulatory elements in the process of angiogenesis. Specifically, the authors address the potential of exosomes as future diagnostic and therapeutic tools. Additionally, the authors discuss the latest findings on myometrial cells embryogenesis, their later phenotypic changes, and structure and its relation to contractility, particularly focusing on the least understood aspects of the myometrium function. Next, overview of new developments in breast cancer targeted therapies is provided, and future prospects for directed therapeutic strategies are discussed. Recent advances in targeted therapy have decreased the morbidity and enhanced the quality of life of cancer patients. Several strategies to combat H1N1 through in silico approach along with the discovered drug candidates are reviewed, such as neuraminidase inhibitors, M2 proton channel blocker, and RNA polymerase-complex inhibitor to interfere with H1N1 virus replication. H1N1, also recognized as Swine Flu, is a subtype of influenza A virus which belongs to the orthomyxovirus category. This compilation also explores acute kidney injury, a life-threatening situation which has a mortality rate of up to 50%. Histone deacetylase inhibitors were first used for treating different types of cancers, but recently their immunomodulatory and anti-apoptotic effects in renal cells in vitro have been noticed. Thus, the effects of histone deacetylase inhibitors inhibitors in preventing acute kidney injury are reviewed. The closing paper reviews the literature regarding how to obtain an optimal anatomical reduction in femoral neck fractures in patients under 65 years old, and functional results are discussed in relation to specific fixation implants, fracture patterns and patient-related factors.
suicide. The penultimate study evaluates the effect of anodal transcranial direct current stimulation on cognitive and neurophysiological functions in patients with moderate cognitive impairment. Lastly, to investigate the role of CD44 in the development of allergic respiratory inflammation, a mouse model of airway allergic inflammation induced by transnasal administration of helminthic and mite allergens is used to analyze bronchoalveolar lavage fluid and airway hyper responsiveness.

**Advances in Medicine and Biology. Volume 150**

*Leon V. Berhardt*

In series: *Advances in Medicine and Biology* 2019.

Hardcover: 978-1-53616-223-3. $250.00.

e-book: 978-1-53616-224-0. $250.00.

Advances in Medicine and Biology. Volume 150 first discusses how the emergence of multidrug resistant gram-negative bacteria, along with the lack of development of new antibiotics, led the medical community to look to polymyxins for therapeutic uses in critically ill patients. Next, the authors go on to discuss lenalidomide, a chemical analog of thalidomide and a member of the group of immunomodulatory or cereblon-binding drugs. Lenalidomide has antineoplastic, antiproliferative, antiangiogenic, anti-inflammatory, pro-erythropoietic, and immunomodulatory properties. Lenalidomide binds to a specific hydrophobic pocket in the protein cereblon. This pocket is coded by the exons 10 and 11 on the C-end of cereblon gene. Cereblon interacts with the DNA damage-binding protein-1, cullin 4, and regulator of cullins 1 to form the E3 ubiquitin ligase complex. Lenalidomide also enhances the antitumor effect of chimeric antigen receptor modified T cells in murine models of aggressive B-cell non-Hodgkin lymphoma. Lenalidomide has also been studied in the treatment of cutaneous manifestations of systemic lupus erythematosus and neurodegenerative disorders connected with neuroinflammation, such as amyotrophic lateral sclerosis. Additionally, the authors discuss the current evidence on the use of troponin as a prognostication biomarker in neonatal encephalopathy, as well as the importance of monitoring cardiac function after hypoxic ischaemic brain damage. The basic science and clinical significance of CD180-negative plasmablasts in various autoimmune and inflammatory diseases is reviewed. In systemic and organ-specific autoimmune diseases, CD180-negative plasmablasts play crucial roles and are useful as a disease marker. Because CD180 has a complex function, the mechanism of the increase of CD180 negative B cells may be different in each disease. In closing, the concept of intensive care rehabilitation was developed with the Federal Rehabilitation Council BAR. Both early rehabilitation for neurological and neurosurgical patients and intensive care rehabilitation for patients with other critical illnesses are detailed.

**Advances in Medicine and Biology. Volume 151**

*Leon V. Berhardt*


Hardcover: 978-1-53616-352-0. $250.00.


Advances in Medicine and Biology. Volume 151 begins with a focus on one of the rapidly growing mycobacteria groups, Mycobacterium smegmatis, used to understand the pathogenesis of Mycobacterium tuberculosis because of the disadvantages in the direct study of tubercle bacilli. The authors propose that a perspective group in the current research and development of novel chemotherapeutic agents with a broad spectrum of activities may be functionalized phenolic derivatives and their metal complexes. The authors also discuss Aeromonadaceae, Gram-negative, rod-shaped bacteria which are ubiquitous in aquatic environments, but they have been also isolated from different types of both fresh and processed foods. Aeromonas species are considered opportunistic pathogens of both aquatic and terrestrial animals. Following this, the role of mannans within Candida biofilms is examined, and the role of Candida biofilms in fungal structure, pathogenesis, and resistance is also addressed. To optimize the application of β-mannanase in practical animal nutrition, factors affecting its effectiveness have to be carefully considered. As such, the authors explore the impact of these factors on efficacy of β-mannanase in the penultimate chapter. The concluding chapter focuses on postoperative nausea and vomiting, common and distressing side effects following surgery and anesthesia. Despite modern antiemetic agents, short-acting anesthetics and minimally invasive surgery, postoperative nausea and vomiting still affects around 30% of surgical patients, with certain high-risk patients experiencing postoperative nausea and vomiting up to 80%.

**Advances in Medicine and Biology. Volume 152**

*Leon V. Berhardt*


In this compilation, the authors first describe the combined negatively-biased and unbiased cocaine conditioning procedure, aiming to study the potential influence of the initial spontaneous exploratory bias on subsequent cocaine conditioning. Next, the authors perform a critical review about the efficacy of mirtazapine in the treatment of substance dependence and anxiety and related disorders in order to help clinicians, pharmacists and other healthcare workers. Transurethral drug
delivery is reviewed, as well as and the application of ketorolac as an intravesical therapy. Keta
orolac tromethamine is a nonsteroidal anti-inflammatory drug and a potent analgesic. The au
thors go on to discuss current trends in re-innervating functional muscle transfers and the
neuropsychological basis for these various techniques. Later, the microglial response to
the process of motoneuronal cell death is analyzed by using ionized Ca2+ binding adapter mol
cule-1 and eFms as microglial markers. Immunohistochemical analysis demonstrates that
the number of anti-IBa1 antibody-staining cells increased in the axotomized facial nucleus
during 3-5 days post-insult. In the penultimate chapter, a detailed examination was
performed of facial muscle innervation by the terminal branches of the facial nerve, in particu
lar the microanatomical distribution to the orbicularis oculi muscle and orbicularis oris muscle.
The final study discusses the advantages and concerns related to the use of biofilm reactors for
the production of high-value products, and the current challenges to establish E. coli biofilms
as a valuable platform to produce recombinant proteins.

**Advances in Medicine and Biology. Volume 153**

*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*

2020.


This compilation opens with a review of the structure and life cycle of neuraminidase in influenza A, and also discusses the
method of developing neuraminidase inhibitors derived from natural products and peptides. Following this, the authors
describe the different uses of chlorhexidine in the medical field, focusing on dental use. Particularly, the authors discuss its:
properties, chemistry, forms of presentation, substantivity and cytotoxicity; uses in dentistry: cariology, periodontology,
oral surgery and endodontics. Additionally, the authors discuss rufinamide, a novel triazole derivative which differs from
commercial antiepileptic drugs. It is used as an adjunctive medicine in children, adults and the elderly population, and
administered orally. One study discusses antiviral treatment for the avian influenza A virus using neuraminidase inhibitors
such as oseltamivir and zanamivir. Although both inhibitors show therapeutic and prophylactic activities against the H5N1
strains, it is proposed that treatment should be further developed in order to increase the efficiency of the inhibitors against
the strains. Angiogenesis or neovascularization is a global term which indicates the physiological process involving the
sprouting of new blood vessels from the pre-existing ones. The development of new blood vessels from differentiating
endothelial cells is called vasculogenesis. This collection addresses how these processes are vital for tissue development and
wound healing in damaged tissues. The spectrum of spondyloarthritides with inflammatory bowel disease and
enteropathic arthritis is examined in an effort to give the reader an insight into the risk factors, treatment and prognosis
of this clinically challenging rheumatic disease. Later, the principles of optical coherence tomography-guided femtosecond
laser cataract surgery are explored. The combination of femtosecond laser surgery and optical coherence tomography
imaging simultaneously guides the development of next-generation femtosecond surgical lasers in cataract surgery and
explores femtosecond-laser surgical strategies. The authors present a novel colorimetric method for the assay of XI using a
reducing monosaccharide determination. The test solution was mixed with 20-fold volume of the 50 mM Na2SiO3, 600
mM Na2MoO4, and 0.95 M HCl aqueous solution (pH 4.5), in which a yellow molybdosilicate species was formed. The
penultimate chapter introduces the origin, preparation, applications of Taiyi Shenzhen (Taiyi Moxa Stick Moxibustion),
and reviews the relevant research in the past ten years. The concluding study focuses on the daily foraging of honeybees,
which is one of the most well-organized social behaviors that exist among social insects. Honeybees are extensively used
model animals in behavioral studies for understanding the time-space learning, landmark use and concept of learning.

**Advances in Medicine and Biology. Volume 154**

*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*

2020.

Hardcover: 978-1-53616-584-5. $250.00.

Advances in Medicine and Biology. Volume 154 first compares the scleral buckle procedure to pneumatic retinopexy and
vitrectomy for the repair of primary rhegmatogenous retinal detachment to evaluate patient outcomes, single surgery
reattachment rate, and complications. Following this, the authors review recent advances in liver organoids differentiated
from pluripotent stem cells and discuss the future directions of organoid technology. Additionally, the authors compare the
efficacy of low-level red and infrared laser irradiation for the correction of adverse side effects in the oral mucosa in
patients receiving (chemo)radiotherapy for oral and pharyngeal cancer. In vivo oral mucosa state monitoring is carried out
in patients during the course of oral and pharyngeal cancer radiation/chemoradiation therapy using multimodal optical
coherence tomography. An overview of the current methods used for diagnosing, classification of fractures, treatment, and
prevention of periprosthetic femur fractures following total hip arthroplasty is provided. This collection also investigates
the presence of kyphosis in adolescents and the association between the incidence of kyphosis and age, the average
duration of the sports training, body mass index, weight, height and pulse in adolescents who have participated in karate,
swimming and handball. The authors attempt to describe advancements in the electrochemistry of cytochrome P450
enzymes and study molecular aspects and catalytic behavior of enzymatic electrocatalysis. Moreover, a comprehensive
overview of major causes of liver fibrosis, medicinal plants and the role of medicinal plants in combatting liver fibrosis is
provided. Lastly, this compilation recapitulates the history of artificial intelligence in Chinese medicine, focusing on the
way Chinese medicine is being revolutionized by this state-of-the-art technology, and how healthcare in China is influenced by various artificial intelligence systems.

Advances in Therapeutics and Diagnostics of Human Diseases
S. Gowtham Kumar, PhD (Faculty of Allied Health Sciences, Chettinad Academy of Research and Education (Deemed to be University), Kelambakkam, Tamil Nadu, India), Langeswaran Kulanthaivel, PhD (Molecular Oncology Lab, Department of Bioinformatics, Science Campus, Alagappa University, Karaikudi, India) and N. Madhusudhanan (Department of Pharmacology, P.S.M. College of Dental Science & Research Trichur, Kerala, India)
In series: Medical Procedures, Testing and Technology
Hardcover: 978-1-53615-382-8, $230.00.
This reference book equips readers with cutting-edge information on the many advances in diagnostic and therapeutic treatments for human diseases that have been made in recent years, with examples from laboratory medicine. Diagnostic procedures and treatment protocols are a critical part of the health care system, providing dynamic information that influences provider decisions with respect to disease prevention, diagnosis, treatment procedures, and management of the disease. With advances in medical technologies over the past few decades, diagnostics have become even more essential to the practice of medicine for personalized diagnosis and treatment. Developments in health care technologies have extended the survival prospects of persons all over the globe. Once serious conditions have become considerably easier to manage and even cure in numerous cases. Constant laboratory investigations in the health sciences have expanded the quality of treatment, life-expectancy, as well as the quality of life for patients. In this book, readers will find a detailed discussion of new methodologies in treating diseases, including 3D technology, and prediction of chronic diseases using computation techniques, which provide promising avenues for the diagnosis, treatment, and prophylaxis of diseases.

Biocomposites in Bio-Medicine
Mudasir Ahmad (School of Natural and Applied Sciences Northwestern Polytechnical University Xi’an, PR China), Mohmmad Younus Wani, PhD (Assistant Professor Chemistry Department, Faculty of Sciences, University of Jeddah, Jeddah, Kingdom of Saudi Arabia), Preeti Singh (Department of Chemistry, Faculty of Natural Sciences, Jamia Millia Islamia, Central University, New Delhi, India), Saiga Ikram (Department of Chemistry, Faculty of Natural Sciences, Jamia Millia Islamia, Central University, New Delhi, India) and Baoliang Zhang (School of Natural and Applied Sciences, Northwestern Polytechnical university Xian, PR China)
In series: New Developments in Medical Research
In series: Biochemistry and Molecular Biology in the Post Genomic Era
2019.
Softcover: 978-1-53616-247-9, $95.00.
e-book: 978-1-53616-248-6, $95.00.
This book covers important topics of Biopolymers nanocomposites in simple language with clear presentation. Traces of their use as biomedical and pharmaceutical application, gelatin, polysacharides based nanocomposites for applications in antibacterial/microbial/biomedical engineering, drug delivery system and tissue engineering is covered. Further, it presents the opportunities and applications in the field of biocomposites highlighting recent advances in areas commencing chemical synthesis and biosynthesis for end-user applications. This book will serve as a comprehensive literature guide for beginner researchers to grab the attention of biomedical researchers in both academia and industries to help streamline the efforts and understand the need to develop new biocomposites that could solve some of the most serious biomedical problems. The book is aimed to be a reference material for the academic and research community involved in biomedical research.
There are various studies specifically examining the biology and studying them. Scarless healing is another item of interest that is observed in fetal wound healing and in some animals. 

Human cutaneous scars have various aspects of interest such as unstable scars, contractures and even development of malignancy at worst. Treatment of scars is also challenging especially in case of development of abnormal scars. Human cutaneous scars have various aspects of interest such as biology, clinical significance, patient perspective, prevention, and treatment. There are various preclinical models for studying them. Scarless healing is another item of interest that is observed in fetal wound healing and in some animals.

Any cutaneous insult results in wound healing and wound healing results in formation of a scar. Human cutaneous scars represent a very important problem in clinical practice. Human cutaneous scars cause both cosmetic and medical problems in people who have them. There are various types of human cutaneous scars: physiologic normotrophic scars, atrophic scars, and proliferative scars. Additionally, there are scar complications that physicians must deal with. Scar complications include unstable scars, contractures and even development of malignancy at worst. Treatment of scars is also challenging especially in case of development of abnormal scars. Human cutaneous scars have various aspects of interest such as biology, clinical significance, patient perspective, prevention, and treatment.

Cutaneous Scars: Biology, Clinics and Management
Berna Aksoy (Assoc. Professor, Chief, Department of Dermatology, Faculty of Medicine, Bahcesehir University, Istanbul, Turkey), Hasan Mete Aksoy (Assist. Professor, Department of Plastic, Reconstructive and Aesthetic Surgery, Faculty of Medicine, Bahcesehir University, Istanbul, Turkey), Aslı Tatlıparmak (Assist. Professor, Department of Dermatology, Faculty of Medicine, Bahcesehir University, Istanbul, Turkey) and Erol Koç (Professor, Medicalpark Hospital, Clinic of Dermatology and Cosmetology, Ankara, Turkey)
In series: New Developments in Medical Research
are very common so every physician will face a cutaneous scar-related problem in his/her medical practice. The significance is indicated by the frequency of burn injury and traffic accidents and by the importance of incision scars for any surgeon. The editors of this book have enormous experience in the clinical management of human cutaneous scars. The editors also studied the biology of abnormal scarring by developing new animal models. The editors also have performed clinical studies to increase therapeutic options for the treatment of abnormal scars. In this hardcover book, the aim is to examine human cutaneous scars in every aspect: historical aspects, clinical significance, biology, laboratory and animal models, histopathology, scarless healing, scar complications, and treatment. In this book, all the available treatment methods are examined in detail.

**Fundamentals of Leadership for Healthcare Professionals. Volume 2**

Stanislaw P. A. Stawicki, MD (Department of Research and Innovation, St Luke’s University Health Network, Bethlehem, Pennsylvania, US), Michael S. Firstenberg, MD (Department of Surgery (Cardiothoracic), The Medical Center of Aurora, Aurora, Colorado, US), and Thomas J. Papadimos, MD (Professor and Associate Dean, University of Toledo, College of Medicine, Toledo, Ohio, US)

In series: *Health Care in Transition*


Hardcover: 978-1-53615-729-1, $230.00.

Welcome to Fundamentals of Leadership for Healthcare Professionals, Volume 2. The editors are proud to present our readers with a significantly expanded book, featuring 14 chapters by a distinguished group of 40 academic authors with decades of collective leadership experience. Based on the success of Volume 1, the current book in our series seeks to expand into important new areas. This includes diverse topics such as resilient leadership; electronic medical record implementations; interviewing for leadership positions; effective management in the low-resource setting; academic affiliations; crisis leadership; care quality and patient safety; the importance of diversity in health care; complexity theory and ethics; change management; exploration of the executive function-dysfunction spectrum; and many other related concepts. The current tome begins with an introductory chapter that provides an in-depth overview of various theoretical aspects of leadership, including the most commonly encountered leadership styles. Throughout the book the authors focus on practical relevance of the topics being discussed, presenting ‘lessons learned’ and stressing the importance of flexible, authentic, servant leadership. The editors hope that Volume 2 of the Fundamentals of Leadership for Healthcare Professionals will be equally, or perhaps even more successful than Volume 1, and that it will provide an excellent springboard for Volume 3 in this important and unique book series!

**Lactate Dehydrogenase (LDH): Biochemistry, Function and Clinical Significance**

Reshma Rani and Vinit Kumar (Amity Institute of Biotechnology, Amity University Noida, Noida, Uttar Pradesh, India) and Vinit Kumar (Amity Institute of Molecular Medicine and Stem Cell Research, Amity University Noida, Uttar Pradesh, India)

In series: *New Developments in Medical Research*

2019. 244 pp.

Hardcover: 978-1-53615-103-9, $160.00.

The book entitled “Lactate Dehydrogenase (LDH): Biochemistry, Functions and Clinical Significance” provides a broad and authoritative review of the lactate dehydrogenase enzyme, including its isoforms, catalytic functions, distribution in various tissues, involvement in cancer cell metabolism and tumorigenesis, involvement in the plasmodium enzyme, various small molecule inhibitors of hLDH and pLDH, and clinical significance. Recent research and review articles are included to improve the book’s significance in the area of research, particularly in cancer treatment, diagnosis, and drug discovery. Although the chapters can be read independently from one another, the whole book is arranged in seven chapters for the convenience of the reader. The first chapter covers the importance of the hot topic, LDH targets, and the second chapter provides an overview of LDH and its involvement in cancer cell metabolism. The third chapter provides the various isoforms of LDH and the basics of catalytic functions of LDHA. All three chapters can serve as an introduction for those who are new to the research area of LDH. Chapters four and five deliver an overview of various small molecules as inhibitors of hLDHA and pLDHA, respectively. These two chapters are useful to the researcher working in the fields of drug design and drug discovery in the areas of cancer and malaria research. The last two chapters focus on the importance of LDH as a biomarker, and its importance in disease
diagnosis and prognosis in clinical settings. All of the chapters discuss the latest research findings that have occurred over the last few years. Bringing all the information together in one major reference, the authors systematically reviewed and summarized these recent research findings, providing an in depth understanding of the role of LDH and its applications in research and clinical practice. Readership: Overall, this book is a complete package for graduates, students, and researchers providing basic information about LDH, and its importance in research and clinical settings. This book is helpful to the researcher engaged in the fields of LDH, drug design and drug discovery, the development of biomarkers, disease diagnosis, and prognosis, etc.

Medical Bioinformatics and Biochemistry (Diabormatics)
Rajneesh Prajapat, Ph.D. (Faculty of Medical Science, Department of Medical Biochemistry, Rama Medical College and Hospital, Rama University, Kanpur (U.P.) India) and Ijen Bhattacharya, M.D. (Faculty of Medical Science, Department of Medical Biochemistry, Rama Medical College and Hospital (NCR campus), Rama University, Kanpur (U.P.) India)
In series: Biochemistry Research Trends
Softcover: 978-1-53614-952-4. $95.00.
e-book: 978-1-53614-953-1. $95.00.
The first edition of Medical Bioinformatics and Biochemistry (Diabormatics) explains how medical biochemistry and bioinformatics could be used as a tool for analyzing the research data related to disease diagnosis and treatment. Bioinformatics is an interdisciplinary approach that includes concepts of biotechnology, microbiology, molecular biology, medicine and forensic science. This book is based on the recent development in the research dynamics of medical bioinformatics, biochemistry and progress in these fields. The book provides reference material for students of medical and life sciences. The development in genomic sequencing and in silico biology has provided the data needed to accomplish comparisons of derived nucleotide and protein sequences. The results of analysis may be used to formulate and test hypotheses about biochemical function. This first edition provides readers with a practical guide covering the full scope of concepts in medical bioinformatics and biochemistry related to diabetes. The basic purpose of this book is for students of medical and life sciences to understand the research methods of biochemistry and bioinformatics. This includes storing, receiving, and analyzing data from databases using various in silico tools. This book is a useful source of knowledge for MBBS, B.Sc, M.Sc / M.D. / M.S. and Ph.D level students looking for an accessible introduction to the subject.

Oxidative Stress and Antioxidant Defense: Biomedical Value in Health and Diseases
Md. Sahab Uddin (Department of Pharmacy, Southeast University, Dhaka, Bangladesh) and Aman B. Upaganlawar (Department of Pharmacology, SNJBs SSDJ College of Pharmacy, Maharashtra, India)
In series: New Developments in Medical Research
Hardcover: 978-1-53615-687-4. $310.00.
Oxidative Stress and Antioxidant Defense: Biomedical Value in Health and Diseases represent current findings on the impact of oxidative stress in the pathogenesis of diseases and underlying mechanisms of antioxidants influencing health and disease processes. This book is divided into seven sections that describe how antioxidants defend oxidative stress-mediated diseases as well as recent developments, future opportunities, and challenges. Sections 1 analyzes the role of oxidative stress in aging and associated diseases as well as the use of antioxidants in health maintenance, preventing and repairing injuries caused by oxidative stress. Section 2 represents the status of various antioxidants in cigarette smoking and antioxidant defense against exercise-induced oxidative stress. Section 3 focuses on the effect of oxidative stress in the pathogenesis of neurodegeneration and the existing status of antioxidant therapy. Section 4 covers the impact of oxidative stress at different levels of chronic degenerative diseases, as well as treatment with antioxidants to revert and diminish the cellular injury. Section 5 offers the importance of antioxidants in abating the pathological processes involved in hypertension and stroke. Section 6 presents the complexity associated with oxidative stress and metabolic disorders as well as the potential of antioxidants used in amelioration of related pathologies. Section 7 discusses the antioxidant defense against oxidative stress-mediated erectile dysfunctions and the significance of antioxidants in pregnancy. This book represents the copious set of specific research updates and diaphanous understanding of oxidative stress-mediated cellular damages and role of antioxidants in disease.
Palliative Care: The Role and Importance of Research in Promoting Palliative Care Practices: Reports from Developed Countries. Volume 2

Michael Silbermann (Middle East Cancer Consortium, Haifa, Israel)

In series: New Developments in Medical Research
Hardcover: 978-1-53616-199-1. $230.00.

The incidence of cancer is alarmingly increasing worldwide. The major problem that the medical profession is currently facing refers to “late presentation” patients who, for the most part, have reached the terminal stage of the illness. For these people, the only treatment option left is palliative care. Various patterns of palliation have been in practice in every culture and in every ethnic group for generations. Unfortunately, we still lack significant and sustained investment in research related to the practice of palliative care. Authors from around the globe seek more investment of public and private funds to investigate ways to improve the bedside practice of palliative care. Modern palliative care concepts were established by Dame Cicely Saunders, from London, UK, right after World War II. It is only in the past 15 to 20 years that this new discipline started to develop in the developing world. However, we still lack the essential basic biological processes involved in relieving the suffering of cancer patients while receiving palliative measures throughout the trajectory of the disease. This book owes its origins in large measure to physicians and nurses in 30 countries globally, who decided to devote their time, energy, compassion and goodwill, to the promotion of palliative care in their countries and communities, yet they lack solid evidence-based data to rely upon while extending their treatment to both patients and family members. The goal, in part, is to bridge the gap between scientists and clinicians from developed countries and those in developing countries. We have been aware of the variances between cultures, traditions, beliefs and practices. I am continually struck by the seemingly diametrical views of “knowing” and cultures and the strong overlaps that might give rise to new ideas. We hope that these new volumes will serve to inspire health professionals’ and administrators’ interests and appreciation for the investment in basic and clinical research that will serve to advance our understanding of the underlying physical and emotional factors involved while extending palliative care to patients suffering from cancer and other non-communicable illnesses.

Palliative Care: The Role and Importance of Research in Promoting Palliative Care Practices: Reports from Developing Countries. Volume 3

Michael Silbermann (Middle East Cancer Consortium, Haifa, Israel)

In series: New Developments in Medical Research
2019.
Hardcover: 978-1-53616-211-0. $230.00.

The incidence of cancer is alarmingly increasing worldwide. The major problem that the medical profession is currently facing refers to “late presentation” patients who, for the most part, have reached the terminal stage of the illness. For these people, the only treatment option left is palliative care. Various patterns of palliation have been in practice in every culture and in every ethnic group for generations. Unfortunately, we still lack significant and sustained investment in research related to the practice of palliative care. Authors from around the globe seek more investment of public and private funds to investigate ways to improve the bedside practice of palliative care. Modern palliative care concepts were established by Dame Cicely Saunders, from London, UK, right after World War II. It is only in the past 15 to 20 years that this new discipline started to develop in the developing world. However, we still lack the essential basic biological processes involved in relieving the suffering of cancer patients while receiving palliative measures throughout the trajectory of the disease. This book owes its origins in large measure to physicians and nurses in 30 countries globally, who decided to devote their time, energy, compassion and goodwill, to the promotion of palliative care in their countries and communities, yet they lack solid evidence-based data to rely upon while extending their treatment to both patients and family members. The goal, in part, is to bridge the gap between scientists and clinicians from developed countries and those in developing countries. We have been aware of the variances between cultures, traditions, beliefs and practices. I am continually struck by the seemingly diametrical views of “knowing” and cultures and the strong overlaps that might give rise to new ideas. We hope that these new volumes will serve to inspire health professionals’ and administrators’ interests and appreciation for the investment in basic and clinical research that will serve to advance our understanding of the underlying physical and emotional factors involved while extending palliative care to patients suffering from cancer and other non-communicable illnesses.
Phytochemicals: Plant Sources and Potential Health Benefits
Iman Ryan

In series: Plant Science Research and Practices

The opening chapter of Phytochemicals: Plant Sources and Potential Health Benefits discusses macronutrients and micronutrients from plants along with their benefits to human health. An overview of the mechanisms of action underlying the potential roles of dietary soybean isoflavones including daidzein, genistein, and equol that may have benefits in dyslipidemia, ischemic heart disease, blood pressure, diabetes, cancer, and osteoporosis is discussed in the next chapter. In one study, the authors seek to scientifically validate the hypoglycaemic effects of crude aqueous extracts from Vitex payos fruits on both normal and alloxan-induced diabetic rats. Additionally, the authors discuss the literature results obtained in the identification and quantification of rosmarinic acid and its derivatives in Lamiaceae family plants, as well as explore recent advances in the nanoencapsulation of rosmarinic acid. This compilation goes on to report several aspects of the chemical composition and biological activity of species of Smilax found in Brazil. Smilax fluminensis is a dioecious liana with a great capacity for shoot formation in soil and primary branch formation in subsoil. As such, phytochemical studies on this plant are reviewed. Phytochemical aspects and biological activities of the species S. brasiliensis are also examined. To continue the discussion, the authors investigate the allelopathic, cytotoxic, genotoxic and larvicidal potential of methanol and petroleum ether extracts from S. brasiliensis leaves, as well as the effects of their fatty acids and methyl esters. Furthermore, the authors synthesize phytochemical aspects and biological activity of Tecoma stans (L.) species. In the penultimate chapter, the authors discuss P. venusta, and the way in which compounds obtained from this plant can be used as functional foods, drugs or precursors for the semi-synthesis of drugs. The objective of the concluding chapter is to present the ethnopharmacological, biological activities and phytochemical aspects of the Limoniastrum feei species growing in the Algerian Sahara.

Public Health: Environment and Child Health in a Changing World
I. Leslie Rubin, MD (Department of Pediatrics, Morehouse School of Medicine and President, Institute for the Study of Disadvantage and Disability, Atlanta, GA, USA) and Joav Merrick, MD, MMedSci, DMSc, (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel; Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, USA; National Institute of Child Health and Human Development, Jerusalem, Israel; Division of Pediatrics, Hadassah Hebrew University Medical Centers, Mt Scopus Campus, Jerusalem, Israel; School of Public Health, Georgia State University, Atlanta, Georgia, US)

In series: Public Health: Practices, Methods and Policies
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
Hardcover: 978-1-53615-394-1. $230.00.

Break the Cycle of Children’s Environmental Health Disparities (BTC) is an annual, collaborative, interdisciplinary research and training program involving university students in academic tracks that focus on the impact of adverse social, economic, and environmental factors on children’s health, development, and education. The target populations are communities where environmental hazards are related to circumstances of social and economic disadvantage. Each student develops a project that focuses on preventing or reducing adverse environmental factors to benefit the children who live in these communities. At the end of the project, the students present their studies and findings at a national conference and write papers that are then published. This book is the result of the 13th BTC projects. The projects cover a range of factors that have an influence on individual, community, and social perspectives. Most importantly, they inform us about children’s environmental health disparities, and propose solutions to reduce and eliminate health disparities in order to promote health equity for all children. The authors also cover a brief history of human habitation and the associated environmental degradation, accompanied by what has been done to address the process. They recommend a constructive approach to breaking the cycle of environmental degradation, moving toward the promise of a positive future for our planet in good ecological balance with health and well-being for generations to come.
Sensory Integration: Development, Disorders and Treatment
Izabela Bieńkowska, Ph.D. (University College of Social Sciences and Foreign Languages, Silesian University of Technology, Poland)
In series: New Developments in Medical Research
Softcover: 978-1-53615-454-2. $95.00.
This book attempts to address and answer questions about different types of disorders in particular developmental spheres in children with learning and behavioral problems. It suggests how a child with sensory integration disorders can be helped in therapy and via other means using methods supporting disturbed sensory integration and other methods supporting the child’s development.

Toward Precision Assessment and Psychotherapy: Understanding Individual Differences through Neurobiology, Genetics, and Epigenetics
Thomas G. Arizmendi, PhD (Clinical Psychologist, Longmont, CO, US)
In series: New Developments in Medical Research
2020.
Hardcover: 978-1-53616-536-4. $230.00.
“Toward Precision Assessment and Psychotherapy: Understanding Individual Differences through Neurobiology, Genetics, and Epigenetics” provides a transformative approach to the understanding of mental health in the 21st century. It does so by encouraging the replacement of traditional subjective techniques with more precise and objective measures that are designed to discover individual differences in our patients. Just as in personalized medicine, where diagnostic and treatment techniques are becoming more targeted toward the specific conditions of a particular patient, so too in the mental health field we need to develop targeted and focused methods through the use of clinical science concepts and through the adoption of an agnostic, unassuming posture where the presentation of each patient is viewed as unique. For example, treatments may draw from an integrative approach that incorporates genomic and epigenomic analyses of the patient to inform a more targeted medication regimen or psychotherapy approach (some psychiatrists are beginning to use genomic analysis to aid in the choice of a specific antidepressant, for example, that would most likely be effective for a certain patient). Diagnostically, paper and pencil questionnaires leading to current diagnostic labels, long the standard, must be replaced, for the most part, by objective measures of stress that prioritize “reports from the body”. Additionally, research methods of extremely complex psychological disorders can be enhanced by breaking them down into smaller subtypes (or endophenotypes) versus large phenomenologically-based symptom clusters (i.e. DSM diagnoses). Individual differences, a consistent focus throughout the book, may be the product of genetic variants and/or epigenetic mechanisms. The latter mediate gene X environment interaction that is now the primary paradigmatic lens through which we investigate and seek to explain resultant behavioral profiles. A major focus of the book is on the effects of early adversity, particularly trauma, and how they contribute to a “re-programming” of the brain through epigenetic alterations of gene expression. This results in increased vulnerability to possible psychological disorders, such as various anxiety conditions, depression, and character disorders which may manifest later in life. By identifying the epigenetic effects caused by early stressors, that is, how gene expression is altered, we can eventually make significant advances in primary prevention. This book represents an attempt to move us into a transitional domain and beyond, where causes and the treatment of psychological disorders are re-conceptualized through our developing insights from neurobiology, genetics, and epigenetics.

Zeolites in Medicine: Current Achievements and Research of Zeolites in Medicine
Kresimir Pavelic and Sandra Kraljevic Pavelic (Juraj Dobrila University of Pula, Medical Faculty, Pula, Croatia and University of Rijeka, Department of Biotechnology, Rijeka, Croatia)
In series: New Developments in Medical Research
Softcover: 978-1-53616-050-5. $95.00.
e-book: 978-1-53616-051-2. $95.00.
The presented book is an easy-to-read and understandable text for experts in the medical field that are not familiar with the inorganic zeolite materials. The book is mostly meant as a guideline to doctors, pharmacists, medical professionals and general
public who do not have deep knowledge on zeolites and on potential of zeolites’ medical applications. The concepts and facts presented in the book are a comprehensive general compilation of data from available scientific literature focused on results from experiments with different zeolite materials on animals and humans. Some relevant topics covered within the book include clinoptilolite safety and toxicology in vivo and zeolite usage in animals and humans for detoxification purposes. Zeolites’ effects in vivo may be attributed to their specific structural properties, which make them interesting in a number of potential medical applications described in the book as well. Given that these materials are fascinating natural creations that are acknowledged as essential in many aspects of our lives, the purpose of this book is to present a collection of scientific facts about zeolites, to encourage medical professionals and scientists to seriously consider and study their applications in vivo to speed-up their usage in medicine as well as for improved human wellbeing.

**Alternative Therapies**

**The Traditional Sakkiya Practice: A Public Health Issue in Northern Nigeria**  
*Kehinde K. Kanmodi (Cephas Health Research Initiative Inc, Ibadan, Nigeria) and Joav Merrick, M.D. (Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, USA)*  
In series: *Alternative Medicine, Health and Wellness*  
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)  
Softcover: 978-1-53614-763-6. $82.00.  

Sakkiya is a Hausa word, which has its origin from the Hausa culture, and it means the act of using a hot pointed metallic tip to puncture bodily swelling with the aim of achieving a curative effect. The Hausa culture is one of the three most popular cultures in Nigeria. The Hausas are predominantly located in the northwestern geopolitical zone of Nigeria, predominantly working as farmers. The majority of the Hausa people practice the Islamic religion. Encounters from the medical setting with cases of complications arising from failure of Sakkiya treatment, where some patients did not survive this treatment made investigation into this form of alternative medicine a paramount issue. In order to fill the void of information and literature on Sakkiya treatment, the authors embarked on a literature search and field studies resulting in this book. The authors found a lack of historical evidence concerning the old traditional Sakkiya practice, and therefore urge archaeologists, anthropologists, sociologists and historians to investigate into the historical evolution of Sakkiya practice in northern Nigeria. Kehinde Kanmodi, BDS, ACIPM, AISQEM is a dental surgeon, lecturer, multidisciplinary researcher, and manager affiliated with Cephas Health Research Initiative Inc, Ibadan (head office), Community Health Officers’ Training Programme, Usmanu Danfodiyo University Teaching Hospital, Sokoto, National Teachers’ Institute, Department of Political Science of the National Open University of Nigeria, Abuja, Nigerian Institute of Management, Abuja. Chartered Institute of Project Management, Lagos, and Dental Clinic, Kebbi Medical Centre, Kalgo, Nigeria. Joav Merrick, MD, MMedSci, DMSc, born and educated in Denmark is professor of pediatrics, child health and human development affiliated with the Division of Pediatrics, Hadassah Hebrew University Medical Center, Mt Scopus Campus, Jerusalem, Israel, Kentucky Children’s Hospital, University of Kentucky, Lexington, United States and professor of public health at the Center for Healthy Development, School of Public Health, Georgia State University, Atlanta, United States, the former medical director of the Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem and the founder and director of the National Institute of Child Health and Human Development in Israel.

**Veterans and Military Medicine and Health**

**Improvements Needed in the VA Health Care System**  
*Charles Copeland*  
In series: *Military and Veteran Issues*  
In series: *Health Care in Transition*  
Hardcover: 978-1-53615-971-4. $230.00.  

Nearly 40,000 providers hold privileges in VHA’s 170 VA Medical Centers (VAMCs). VAMCs must identify and review any concerns that arise about the clinical care their providers deliver. Chapter 1 examines, among other things, selected VAMCs’ reviews of providers’ clinical care after concerns are raised and VHA’s oversight of these reviews, and VAMCs’ reporting of providers to the NPDB and SLBs and VHA’s oversight of reporting. Chapter 2 summarizes the
implementation and oversight of VHA processes for reviewing and reporting providers after quality and safety concerns have been raised at selected VA medical centers. Veterans suffer a disproportionately higher rate of suicide than the civilian population. Chapter 3 focuses on the extent to which VHA conducts activities for its suicide prevention media outreach campaign, and evaluates the effectiveness of its campaign. The Faster Care for Veterans Act of 2016 called for the Department of Veterans Affairs (VA) to conduct a pilot program under which veterans can use an Internet website or mobile application to schedule and confirm appointments at the department’s medical facilities. Chapter 4 examines the extent to which VHA (conducts activities for its suicide prevention media outreach campaign, and evaluates the effectiveness of its campaign. VAMCs use reusable medical equipment (RME) which must be reprocessed—that is, cleaned, disinfected, or sterilized—between uses. Improper reprocessing of RME can negatively affect patient care. To help ensure the safety of veterans, VHA policy establishes requirements VAMCs must follow when reprocessing RME and requires a number of related oversight efforts. Chapters 5 and 6 discuss VHA’s oversight of VAMCs’ adherence to RME policies and challenges VAMCs face in operating their Sterile Processing Services programs, and any efforts by VHA to address these challenges. VHA has designated patient advocates at each VAMC to receive and document feedback from veterans or their representatives, including requests for information, compliments, and complaints. Chapter 7 examines the extent to which VHA has provided guidance on the governance of the program; provided guidance on staffing the program; assessed the training needs of patient advocates and monitored training completion; and monitored patient advocacy program data-entry practices and reviewed program data. Community-based outpatient clinics (CBOC) are an important part of the Department of Veterans Affairs’ (VA) Veterans Health Administration (VHA) health care delivery system. These clinics are geographically separate from VA medical centers (VAMC) and provide outpatient services, including primary care and mental health care. Chapter 8 reviews VHA’s use of contracts to carry out core functions. Selected Department of Veterans Affairs’ (VA) medical centers (VAMC) use generally similar approaches for managing their pharmacy inventories. Chapter 9 describes approaches selected VAMCs use to manage their pharmacy inventories and assesses the extent to which VA oversees VAMCs’ efforts to manage their pharmacy inventories. The Veterans Health Administration (VHA) has made progress improving opioid safety through its Opioid Safety Initiative (OSI). Chapter 10 examines the extent to which VHA has met OSI goals established in 2014 and (2) the extent to which VHA providers adhere to key opioid risk mitigation strategies.

Military Benefits: Employment, Medical Care and Retirement
Cooper Poitdevin
In series: Military and Veteran Issues
The National Defense Authorization Act for Fiscal Year 2018 included a provision “to assess the panoply of benefits and programs available government-wide to separating servicemembers intended to provide the skills and education necessary for such members to achieve meaningful and fulfilling employment in their civilian lives.” Chapter 1 describes the comprehensive inventory of federal programs providing assistance to servicemembers, veterans, and their families—including information from the administering agencies on who is eligible to receive services, the programs’ objectives, and the available services. Chapter 2 provides a general discussion of legislative provisions and proposals relating to the military benefits for former spouses. Chapter 3 contains information on locating military unit histories and individual service records of discharged, retired, and deceased military personnel. Military medical care is a congressionally authorized entitlement that has expanded in size and scope since the late 19th century. Chapter 4 answers selected frequently asked questions about military health care. Chapter 5 discusses the standards and procedures governing the disposition of medical maltreatment claims that servicemembers and non-servicemembers assert against the United States, as well as pertinent considerations for Congress. DOD has taken steps to modernize its Military Health System to ensure that it operates efficiently. Chapter 6 assessed the extent to which the services use validated dental clinic staffing models that also incorporate cross-service staffing standards, and have recruited and retained military dentists and measured the effectiveness of their recruitment and retention programs. The Survivor Benefit Plan (SBP), enacted in 1972, provides cash benefits to a surviving spouse or other eligible recipient(s) of a retiree or deceased member of the uniformed services. Chapter 7 describes the categories of beneficiaries eligible for survivor benefits under the military Survivor Benefit Plan (SBP), the formulas used in computing the income level (including the integration of SBP benefits with other federal benefits), and the costs of SBP participation incurred by the retiree and/or the beneficiary. Chapters 8 and 9 provide information on the military retirement system.
Case Report in Surgery
Ahmad Jabir Rahyussalim (Faculty of Medicine Universitas Indonesia, Kecamatan Senen, Kota Jakarta Pusat, DKI Jakarta, Indonesia), Ismail Hadisoebroto Dilogo, Achmad Fauzi Kamal and Aryadi Kurniawan
In series: Surgery - Procedures, Complications, and Results 2020.
Hardcover: 978-1-53616-582-1. $230.00.
This book covers the following on a wide variety of surgery cases such as general surgery, neurosurgery, orthopedic and traumatology, otolaryngology-head, and oncology. Other topics related to surgery in this volume include anesthesiology, oncology, and anatomical pathology. This book provides an authentic, fresh, and educational case in each section. The purpose of this book is to contribute some perspective on basic science and clinical evidence of unusual case, which will give educational benefit to our readers. In addition, this volume is designed to meet the demand of practitioners to face challenging and unexpected cases in the surgical field, which readers will find very helpful. This valuable book contains 38 real cases in surgery. Access to case scenario is given at the beginning, followed by physical examination, differential diagnosis, and management in surgery. We emphasize in evidence-based medicine to expand the knowledge of surgical education and practice. The explanation was conducted understandably, and key learning points were summed up to help the readers. We believe that our readers will find this text, written by our best practitioners and specialists, very informative and useful.

Liver Steatosis and Bariatric Surgery
Jaime Ruiz-Tovar, MD, PhD (Department of Bariatric Surgery, Centro de Excelencia para el Diagnostico y Tratamiento de la Obesidad, Valladolid, Spain; Professor of Surgery, Universidad Alfonso X, Madrid, Spain; Department of Surgery, Universidad Autónoma de Madrid, Spain; Obesity Unit, Garcilaso Clinic, Madrid, Spain; Department of Surgery. Centro de Excelencia para el Estudio y Tratamiento de la Obesidad, Valladolid, Spainl Department of Surgery, University Hospital Rey Juan Carlos, Mostoles, Madrid, Spain), and Lorea Zubiaga, MD, PhD (Inserm U1190, Lille 2 University, Lille, France; Hospital General Universitario de Elche and Universidad Miguel Hernández de Elche, Elche-Alicante, Spain)
In series: Surgery - Procedures, Complications, and Results 2020.
Hardcover: 978-1-53616-444-2. $160.00.
Liver steatosis or nonalcoholic fatty liver disease (NAFLD) is a progressive disorder characterized by the fat accumulation in the parenchyma of the liver. The progressive form of NAFLD called nonalcoholic steatohepatitis (NASH) is the advanced condition that shows different grades of fibrosis, which could progress to cirrhosis, hepatocellular carcinoma and liver-related morbidity and mortality. Bariatric surgery gains attention as a potential treatment for liver steatosis because different studies revealed an improvement in 90% of cases of fatty liver after surgery. The improvement occurred within the first year and persisted up to five years. Pathogenic mechanisms that are involved in the evolution steatosis are intimately connected with insulin resistance, type 2 diabetes (T2D) and the metabolic syndrome. Bariatric surgery is a powerful treatment to ameliorate all these conditions. The aim of this book is to update the actual evidence about liver steatosis, non-alcoholic fatty liver disease and non-alcoholic steatohepatitis in morbidly obese patients, the diagnostic methods and the evolution after the different techniques of bariatric surgery.
Surgical Treatment of Femoral Neck Fractures (CD Included)
Orlin Filipov, M.D., Ph.D. (Head of Orthopedic Department, Vitosha Hospital Simeonovsko, Sofia, Bulgaria)

In series: Surgery - Procedures, Complications, and Results
In series: Orthopedic Research and Therapy
e-book: 978-1-53614-286-0. $230.00.

While arthroplasty is the preferred treatment for most elderly patients with displaced femoral neck fractures, internal fixation is the treatment of choice in the majority of patients below the age of 65 as a joint-preserving procedure. The osteosynthesis of fractures of the femoral neck in the elderly has been partly abandoned during the last years due to the poor clinical outcomes following the conventional fixation with parallel screws or DHS. Based on clinical evidence and laboratory testing, the novel method of biplane double-supported screw fixation (BDSF) offers much better fixation stability, reflecting in excellent clinical outcomes. With its innovative biomechanic principle, the BDSF method provides supreme stability for cannulated screw fixation, achieving up to 44% higher axial fixation strength in vitro, and a rate of bone union reaching up to 96.6% in clinical practice, which is much higher than the conventional parallel screw fixation data. The method of BDSF provides supreme stability by buttressing two out of three medially diverging cannulated screws on the inferior femoral neck cortex and supporting the steeper inferior screw on the posterior femoral neck cortex. The two calcar screws are oriented in different coronal inclinations intended to provide constant fixation strength during different patient activities and load directions. Biomechanically, the most effective component is the inferior screw placed at an obtuse angle and supported on a large area along the inferior and posterior cortex of the femoral neck following its spiral anterior curve. Given the clinical outcomes, BDSF is the perfect technique for femoral neck fracture fixation, as the fracture healing rate is high at 96% with this approach. Therefore, BDSF is not only a treatment alternative to conventional fixation, but also a much better procedure. Thus, BDSF should be routinely applied, and conventional fixation gradually abandoned in clinical practice (this has been the approach in our institution over the last ten years). This book describes the full surgical technique of the method of BDSF for femoral neck fracture osteosynthesis; quality criteria and surgical

Prophylaxis of Surgical Site Infection in Abdominal Surgery
Jaime Ruíz-Tovar, MD, PhD (Department of Bariatric Surgery, Centro de Excelencia para el Diagnostico y Tratamiento de la Obesidad Valladolid-Spain, Professor of Surgery, Universidad Autónoma de Madrid, Spain; Department of Surgery, Universidad Autónoma de Madrid, Spain; Obesity Unit, García Clinic, Madrid, Spain; Department of Surgery. Centro de Excelencia para el Estudio y Tratamiento de la Obesidad, Valladolid, Spain; Department of Surgery, University Hospital Rey Juan Carlos, Mostoles, Madrid, Spain), and Andrés García-Marín, MD, PhD (Department of Surgery, Hospital Universitario San Juan de Alicante, Alicante, Spain; Professor of Surgery, Department of Pathology and Surgery, University Miguel Hernández, Elche, Alicante, Spain)

In series: Surgery - Procedures, Complications, and Results
Softcover: 978-1-53615-615-7. $95.00.
e-book: 978-1-53615-616-4. $95.00.

Surgical site infection (SSI) is one of the most frequent complications after abdominal surgery as abdominal procedures are often clean-contaminated, contaminated or even dirty procedures, so long the gastrointestinal tract, plenty of microorganisms, is entered. SSI is associated with morbidity and mortality, and reduces the patients´ quality of life after surgery. Moreover, it prolongs hospital stay and requires increased instrumentation, medication and complementary tests, altogether representing an economic burden for the Health Services. This has led to the development of several Guidelines and Consensus documents, including prophylactic measures to prevent SSI. Different scientific societies, including the World Health Organization (WHO), the Center for Disease Control (CDC), the American College of Surgeons (ACS) and the Surgical Infection Society (SIS), have published recommendations for the prevention of SSI in the last years. All the documents agree with most of the recommendations. However, the evidence grade of these recommendations is often low to moderate and with the aim to generalize these measures to all the surgical procedures, the extrapolations lead to a lowered evidence power. Thus, in some cases the force of the recommendations is based on the opinion of experts in the field.

Prophylaxis of Surgical Site Infection in Abdominal Surgery
Jaime Ruíz-Tovar, MD, PhD (Department of Bariatric Surgery, Centro de Excelencia para el Diagnostico y Tratamiento de la Obesidad Valladolid-Spain, Professor of Surgery, Universidad Autónoma de Madrid, Spain; Department of Surgery, Universidad Autónoma de Madrid, Spain; Obesity Unit, García Clinic, Madrid, Spain; Department of Surgery. Centro de Excelencia para el Estudio y Tratamiento de la Obesidad, Valladolid, Spain; Department of Surgery, University Hospital Rey Juan Carlos, Mostoles, Madrid, Spain), and Andrés García-Marín, MD, PhD (Department of Surgery, Hospital Universitario San Juan de Alicante, Alicante, Spain; Professor of Surgery, Department of Pathology and Surgery, University Miguel Hernández, Elche, Alicante, Spain)
recommendations for successful BDSF implementation, according to the vast clinical experience of ten years with this highly effective method. A novel surgical approach for hip arthroplasty is described in this book. The current trends aimed at decreasing operative trauma and blood loss have been not entirely satisfied with respect to most of the standard approaches for hip arthroplasty. These surgeries are often associated with considerable blood loss and the necessity for restricting patients’ activities in the postoperative period due to impaired joint stability and risk of dislocations. This book describes the full surgical technique of the novel anatomical direct lateral approach for hip arthroplasty, aimed at decreasing blood loss, minimizing operative trauma, and optimizing joint stability. This technique is associated with minimal blood loss and high joint stability. Patients are allowed to perform activities within the normal range of motion and without any special restrictions in the early postoperative period. This book describes also the history of internal fixation in femoral neck fractures, as well as the biomechanics of femoral neck fracture osteosynthesis and the role of the implants.

**Uses of Electrical Stimulation for Digestive and Endocrine Surgeons**

*Jaime Ruiz-Tovar, M.D., Ph.D. (Department of Bariatric Surgery, Centro de Excelencia para el Diagnóstico y Tratamiento de la Obesidad, Valladolid, Spain)*


Softcover: 978-1-53615-036-0. $95.00.

e-book: 978-1-53615-037-7. $95.00.

The use of electrical stimulators with medical aims has increased exponentially in the last years. The uses are very different. Though the most widely known are referred to as the approaches performed by neurosurgeons, evidence has recently appeared, supporting its use by many other medical specialties. Electrical stimulation can be applied transcutaneously (TENS) or percutaneously (PENS). The target of electrical stimulation can be a nerve, inducing electric conductivity and finally acting over the innervated structure, which is activated, or starting a reflex with the involvement of the spinal cord. The stimulation can also act directly over a muscle, inducing a contraction. The effects of electrical stimulation are very diverse, ranging from the development of an artificial reflex and consequently activating the stomach, the pancreas or a sphincter, to a continuous muscular contraction, provoking hypertrophia of the structure and hyperfunction, or to the identification of a laryngeal recurrent nerve during a thyroidectomy, avoiding its damage. Moreover, electrical stimulation has been also used to reduce the feeling of pain, as the stimulation of somatic fibers somehow masks the transmission of nociceptive ones. The aim of this book is to revise the actual evidence about the different uses of electrical stimulation by digestive and endocrine surgeons.

**Vascular Surgery: Procedures, Complications and Recovery**

*Vladimir Sihotsky, MD, PhD (Department of Vascular Surgery, East Slovak Institute of Cardiovascular Diseases, Medical Faculty of Safarik University, Kosice, Slovakia)*

In series: *Surgery - Procedures, Complications, and Results* 2020.

Hardcover: 978-1-53616-454-1. $230.00.


The book “Vascular Surgery: Procedures, Complications and Recovery” was written by a team of vascular, cardiac and neurosurgeons working mainly in the East Slovak Institute of Cardiovascular Diseases, and also Luis Pasteur University Hospital in Kosice, Slovakia. The book is addressed to students of medicine and also as fundamental principles of vascular surgery for residents in different surgical specializations. Vascular surgery has been rapidly developing in recent decades. Although the first successful arterial reconstructions appeared the beginning of the 20th century, the active management of arterial diseases has developed since the 1950s when new techniques of arterial surgery had been established. The first attempts of vascular reconstructions were performed by Alexis Carrel, a French surgeon who was awarded the Nobel Prize in Medicine in 1912 for inventing modern vascular suture, which is used still today. Significant development of vascular surgery brought the introduction of prosthetic grafts by Vorhees in 1952. That enabled De Buckey to resect abdominal aortic aneurysm and replace it with synthetic graft in 1955. The first angiography with the catheter was performed by Seldinger in 1952, and Gruntzig in 1974 was the first who did percutaneous transluminal angioplasty and started the modern era of endovascular treatment. Since this time, an essential development in the treatment of vascular diseases has been observed. Nowadays, vascular surgeons solve the most severe cases of arterial diseases, solve complications of endovascular therapy, or are a part of hybrid procedures, which are a combination of surgical and endovascular treatment. In the first chapter, elementary clinical examinations, imagine methods, and also surgical techniques are described. Aortic disorders that are the most severe vascular diseases are analysed in the second, third, and forth chapters. Open aortic surgery is technically the most difficult part of vascular surgery and is associated with the highest mortality. Open aortic surgery is now being replaced by endovascular procedures due to lesser invasivity and mortality. The fifth chapter is dedicated mainly to surgery of carotid arteries. Stenosis of the internal carotid artery is one of the reasons for stroke. Carotid
endarterectomy that removes atherosclerotic plaque from the carotid bifurcations is effective in preventing stroke in patients with stenosis of the internal carotid artery. The sixth chapter analyses the problem of surgery of periferal arteries as periferal arterial occlusive disease or acure limb ischemia. Both conditions can lead to major amputations and life long disability. The seventh chapter analyses vascular trauma that may lead to severe bleeding limb ischemia; both situations require almost immediate diagnosis and treatment. Periferal artery trauma is treated mainly by open surgery, while the treatment of aortic injury is mostly endovascular. Basic types of vascular access and problems of venous disorders are described in the eighth chapter. Venous diseases are not so life threatening but much more common compared to arterial. The last chapter deals with complications and recovery that is inevitable from an excellent surgical outcome.

WOMEN’S HEALTH

Mastitis: Symptoms, Triggers and Treatment
Tapas Kumar Sar (Head, Department of Veterinary Pharmacology and Toxicology, West Bengal University of Animal and Fishery Sciences, Kolkata, West Bengal, India)
In series: New Developments in Medical Research
2019.
e-book: 978-1-53616-125-0. $230.00.
Mastitis is the most widespread and economically important disease of dairy cattle occurring throughout the world. It is of particular concern for farmers in developing countries like India. The economic loss due to mastitis is associated with reduced milk production, discard of milk due to antibiotic residues, treatment and management costs, and occasional deaths. The menace has a serious zoonotic threat due to shedding of bacteria and their toxins through the milk. Mastitis is caused by a wide spectrum of pathogens and, it is categorized into contagious and environmental mastitis. The major contagious pathogens include Staphylococcus aureus, Streptococcus agalactiae, Mycoplasma spp. and Corynebacterium bovis. The environmental mastitis can be induced by those pathogens residing in the environment such as E. coli, Klebsiella spp., Streptococcus dysgalactiae and Streptococcus uberis. On the basis of symptoms, mastitis can be classified into either clinical or sub-clinical. Clinical mastitis is characterized by sudden onset, alterations of milk composition and appearance, decreased milk production, and the presence of the cardinal signs of inflammation in the udder. In contrast, in sub-clinical mastitis, no cardinal signs are detected although the milk production is decreased and the somatic cell count is increased. The diagnosis of sub-clinical mastitis is a real challenge in the dairy industry. The book contains a total of 7 chapters including a research chapter (chapter 6) for control of mastitis, a global problem with public health menace. Persons associated with antimicrobial stewardship and drug control policies may go through chapters 5 and 7 for getting some suggestions and clarifications for their consideration. The use of propolis for mastitis control is an innuendo for the present a framework for exploring coupled physical-social systems impacts on health. Specifically, this system is used to articulate three impact pathways for maternal health: vectorborne diseases, water, sanitation, and hygiene, and nutrition. Following this, Maternal Health: Global Perspectives, Challenges and Issues move beyond discussing the implications of maternal obesity on maternal and child health and focus on why it is imperative to consolidate current evidence into practice and policy around prevention. The authors explore what is needed to translate findings from epidemiological, clinical trial, secondary research and evidence synthesis into evidence-based programs. The concluding study analyzes data on disparities in maternal mortality by race, age and causes of death in the interest of identifying whether pregnancy-related deaths may be avoided in preventable conditions if treated earlier, thereby closing the racial disparities of maternal mortality rates in the United States.
Mother, Nurse, and Infant: A Manual Especially Adapted for the Guidance of Mothers and Monthly Nurses
S. P. Sackett
In series: Pregnancy and Infants: Medical, Psychological and Social Issues
In series: Women's Issues
The object of the author in writing this volume is to offer to nurses, and especially to those women who desire to make “monthly nursing” a vocation, the instruction which they need for that purpose. The book is written under a firm conviction in the mind of the author that a work of this character is needed at the present time—a work that combines some information to the monthly nurse in regard to her peculiar duties with considerable instruction in midwifery. He has learned during the forty-five years that he has practiced medicine in a small city and its vicinity, that mother and nurse are often combined in the same person. The important duty of nursing the sick is so generally performed by mothers, that they also, as a class, require some scientific knowledge to be acquired by means of plain, practical instruction. And, in fact, throughout our country, every mother is liable, in an emergency, to be called upon to fill the office of an accoucheur.

Perinatal Mental Health: Clinical Management Handbook
Yoshiyuki Tachibana MD, PhD (Department of Psychosocial Medicine, National Center for Child Health and Development, Setagaya-ku, Tokyo, Japan)
In series: Women's Issues
Softcover: 978-1-53615-774-1. $82.00.
e-book: 978-1-53615-775-8. $82.00.
Mental health problems often occur in perinatal periods. Mothers’ mental health problems can cause parenting impairment and affect family health problems (e.g. child behaviors, cognitive development and physical health). To avoid those problems, early detection and early intervention for mothers’ mental health problems are pivotal. Maternal mental health problems in perinatal periods are cared by many professionals; e.g., obstetrician, midwives, nurses, pediatricians, public health nurses, and psychiatrists. This book mentions how to manage mental health problems in perinatal periods from the view point of various professional views. I sincerely hope this book will help cares for maternal and child health service professionals.

Uterine Fibroids: Epidemiology, Symptoms and Management
Simone Ferrero, MD, PhD (Academic Unit of Obstetrics and Gynecology, Ospedale Policlinico San Martino, Largo R. Benzi, Genoa, Italy; Department of Neurosciences, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DiNOGMI), University of Genoa, Italy) and Fabio Barra, MD (Academic Unit of Obstetrics and Gynecology, Ospedale San Martino, Genoa, Italy; Obstetrics and Gynecology, Dept. of Neurosciences, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DiNOGMI), University of Genoa, Italy)
In series: Human Reproductive System - Anatomy, Roles and Disorders
In series: Women's Issues
Uterine myomas are the most common form of benign uterine tumors, occurring in 50–60% of women. Clinically, they are mostly asymptomatic, often incidentally found on pelvic examination or by routine gynecological ultrasonographic evaluation; otherwise, in 30–40% of cases, they cause a large variety of symptoms, depending on their location and size. Currently, the therapeutic options for myomas are medical, radiological, and surgical. The aim of this book is to summarize the evidence regarding epidemiology, pathogenesis, clinical presentation, diagnosis and management of uterine myomas.
Women’s Pearls
Sabina Fink, MD (BronxCare Health System, Mount Sinai Health System, Bronx, NY, US) and Panagiota Korenis, MD (Residency Director, Department of Psychiatry, Bronx Lebanon Hospital, Bronx, NY, US)
In series: Mental Illnesses and Treatments
In series: Women’s Issues
Hardcover: 978-1-53616-103-8. $160.00.

Women’s Pearls is a homage to women, as well as provides clinical pearls written by psychiatrists for clinicians and non-clinicians alike. Mental health as it relates to women is described throughout the chapters of this book. This book represents up-to-date information that can be used as a reference or as a study guide to understand clinical treatment for perinatal mental health. The book demonstrates the history and current understanding of women’s mental health. A thorough description of mental health, wellness, diagnosis and treatment recommendations are seen throughout the chapters. Summarized highlights are depicted in each chapter in a form of a table. This book is an excellent learning tool for understanding women’s health. It can be used as a self-health book to understand mental health as it relates to women. This book is a review for mental health workers, physicians, residents and students.
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