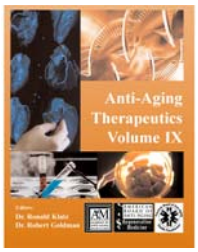

Anti-Aging Therapeutics Volume IX

Contents & Article Summaries

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1	Maximum Human Performance with Anti-Aging Therapeutics *Robert Goldman, M.D., Ph.D., D.O., FAASP*** The aim of anti-aging medicine is not only to slow down the aging process, but also to keep the body functioning at its optimum peak level. This paper will discuss how our perception of aging is changing and the impact of new technologies on anti-aging medicine.	1
2	Prevention or Reversal of Deep Venous Insufficiency and Treatment: Why Are Spider Veins of the Legs A Serious and A Dangerous Medical Condition *Imtiaz Ahmad, M.D., FACS (with Waheed Ahmad M.D., FACS)*** Spider veins of the legs is not a cosmetic condition because this disease is frequently associated with venous insufficiency and disabling symptoms. Thus, comprehensive management is mandatory. Chronic inflammation associated with spider veins may lead to many degenerative diseases such as cardiovascular disease, diabetes, arthritis, Alzheimer's disease, and cancer in later life. Early and aggressive treatment of spider veins is justified because it improves or reverses the deep venous insufficiency thus preventing the possible serious complications in the future.	3
3	Palladium Lipoic Acid Complex (PdLA): Metabolic Management for Anti-Aging *Frank Antonawich, Ph.D.*** Dietary supplementation with free radical scavengers aims to maintain the redox equilibrium of the cellular environment. Vitamins and antioxidants, like alpha lipoic acid, have been demonstrated to be therapeutic strategies. However, these molecules exhibit various degrees of success. Palladium Lipoic Acid Complex (PdLA) is composed of the element palladium irreversibly bound to the antioxidant lipoic acid and is a highly potent redox molecule. This paper will discuss biochemistry of PdLA and its role in anti-aging medicine.	13
4	Genetic Analysis of Tumor Cells for Cancer Diagnosis and Assessment of Therapeutical Options *Doris Bachg, M.D.*** Modern techniques of molecular genetics have allowed for the identification of many of the genetic alterations responsible for the emergence of cancer. This knowledge can be used for the detection of tumor cells for diagnostic purposes. Consequently, many molecular markers are available for the detection of circulating tumor cells (CTCs) in the bloodstream. This paper will discuss how this technology can be used to diagnose cancer, and how the genetic characterization of these CTCs can be used to identify high-risk and low-risk patients and determine whether or not any resistance factors are present.	17

5	Hair Restoration: Preserving and Maintaining the Aging "Frame" of the Face *Alan Bauman, M.D.*** Hereditary hair loss, considered by many as an unwanted sign of premature aging that can often be 'seen from across the room,' currently affects an estimated 50 Million men and 30 Million women in the US. Approximately 40% of men in their 40's are experiencing hair loss and 50% of men in their 50's, with over a billion dollars spent in the US annually on treatments, 'cures,' and cover-ups. However, recent advances in medical treatments and procedures offer men and women who suffer from hair loss safe and effective, truly viable methods of maintaining and/or restoring their own natural, living and growing hair. This paper will discuss the treatments and procedures that are currently available.	23
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8	Stress Management According to Different Psycho-Type *Larisa Bogdanova, MBA, Ph.D.**** Today, stress is the leading cause of functional dysfunction. Insidious and pervasive stress creeps into all of our lives creating both psychological and physiological illnesses. Frolkis theorized that constant unyielding stress leads to the process of aging. We know that stress influences the secretion of the hormone cortisol, which damages brain cells and the communication between the brain and body. Cortisol also increases the risk of diabetes, cancer, heart disease, hypertension, and many other subtle illnesses. The aim of this paper is to introduce the classical psycho-type personalities, which can be used to predict how a person will react to stress and, most importantly, enable to help the practitioner choose the most effective strategy to manage psycho-emotional stress.	43
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10	The Genetic Solution for Anti-Aging *Stanislaw R. Burzynski, M.D., Ph.D.** There are approximately 30,000 genes in the human body. A large number of genes are active at birth, but as we age numerous genes are silenced, resulting in typical signs of aging. It is proposed that a complex biochemical process defined by S.R. Burzynski as the "*Master Clock of Life*" controls the rate at which the genes are silenced in aging. If our genome were compared to a computer, the methylation of DNA would be "aging software." Methylation is the reaction that adds inert chemical methyl groups to DNA. Once the promoter that controls activity of the gene is covered by this methyl "insulation," the gene is switched off, and aging begins. Approximately 2% of genomic DNA contains genes and most of the remaining DNA is colloquially referred to as "junk" with unknown function. With every cell division, there is an addition of methyl groups to the promoters of the genes and removal of methyls from the "junk" section of DNA, comparable to the shift of grains of sand from upper to lower compartments of an hourglass. In aging cells with silent genes, the promoters are packed with methyls whereas the remaining DNA is depleted of methyl groups. The methylation clock can be adjusted to slow down aging by a new generation of nutritional and cosmetic agents that change the methylation pattern of DNA. It is proposed that these agents decrease the methyl shield around gene promoters and increase it in the "junk" portion of the DNA. Naturally-occurring and synthetically-produced peptides, amino acid derivatives, and phytochemicals were formulated into a supplement, brain supplement, cosmetic cream, and lotion. The users of the supplements reported increased energy, improved memory, decreased wrinkles, decreased blood cholesterol concentration, improved immunity and chronic joint inflammation, and improvement of prostate hypertrophy and benign breast nodules. The cosmetics provided significant reduction of wrinkles, confirmed by clinical trials.	63
11	Genetics of Brain Aging (I). Gene Silencing in Neurons *Stanislaw R. Burzynski, M.D., Ph.D.*** Approximately 40% of people older than 85 years suffer from dementia, including Alzheimer's disease (AD). Neurons constitute approximately 5% of the cells of the cerebral cortex, but play the most important part in aging of the brain. The survival of neurons depends on proper function of cellular organelles, such as mitochondria. Mitochondrial dysfunctions accumulate in aging neurons leading to over-production of reactive oxygen species (ROS), causing inflammation, reduced efficiency of respiration, and cell death. Damaged mitochondria activate apoptosis, but dysfunctional mitochondria can also be eliminated by autophagy. Autophagy recycles cytoplasm and disposes of defective organelles. It is inhibited by the IGF1-AKT-TOR signaling pathway, which plays an important role in longevity. Another important system in aging is ubiquitin proteasome, which eliminates proteins no longer needed for cell function. Over 40 genes to date have been found to be silenced in aging and AD. They include the genes that protect against neuronal death, those that ensure the proper function of mitochondria, autophagy, and the ubiquitin proteasome system, and the genes necessary for learning and memory, and protection against inflammation and AD. A smaller number of genes are activated with aging, including promoters of inflammation and necrosis. Age management therapy attempts to restore the activity of the genes to the level of the young adult. Important silenced genes can be activated by naturally-occurring molecules such as phenylacetylglutamine (PG), curcumin, and piperine, all of which are ingredients of a new line of supplements.	71

12	Genetics of Brain Aging (II). Genetic Mechanisms in Encoding and Consolidation of Memory *Stanislaw R. Burzynski, M.D., Ph.D.**** Memory impairment is a common sign of aging. The process of declarative memory (memory of facts and events) requires the hippocampus and involves acquisition, encoding, consolidation, translocation, integration, and retrieval. Encoding and consolidation of memory requires extensive protein synthesis and expression of numerous genes necessary for formation of new synaptic connections and neuronal circuits. The connections are made through dendritic spines (DS), which are new postsynaptic terminals. The most important proteins involved in the formation of DS are PIX, GIT, RAC, PAK, and MLC. The energy for this complex process is provided by GTP. It is proposed that specific peptide "labels" are involved in formation of neuronal circuits for specific memories. Recent studies in our laboratory indicate that peptide SP generated in the rat brain during the formation of memory of dark avoidance is transported by kinesin and binds to KLC3 (light chain of kinesin 3). SP also forms a complex with PIX that triggers the formation of new synapses and provides a specific peptide label for the memory of avoiding dark places. This paper will also discuss the silencing of numerous genes in the brain, which contributes to the decline of memory in Alzheimer's disease and aging. The activity of important silenced genes can be restored by naturally occurring molecules such as curcumin, piperine, and phenylacetylglutamine.	79
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14	The Legal Front: What's New with Human Growth Hormone (HGH) and Testosterone Replacement *Rick Collins, Esq., J.D.*** Testosterone and human growth hormone (hGH) are important weapons in the anti-aging practitioner's arsenal. However, testosterone and its analogues are controlled substances in the US and can only be prescribed or dispensed for a "legitimate medical purpose" in the "usual course" of practice, and hGH cannot be distributed for a purpose "other than the treatment of a disease or other recognized medical condition." This paper will discuss the boundaries between proper hormone replacement treatment and improper "muscle-building" administration. We will outline the protocols by which a progressive and ethical anti-aging physician may effectively treat adult patients with testosterone or hGH while strictly adhering to standards of medical ethics and state and federal laws.	95
15	The "Surgery-Less" Face Lift: Plastic Surgery For 'WIMPS" or The Way of the Future *Alex De Souza, M.D., M.S., FACIP (with Aaron Barson M.D.)** In today's active society and demanding workplace, patients are frequently searching for less invasive procedures with diminished morbidity and more rapid healing to address their cosmetic concerns. A combination of several new non-invasive	103

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19	Reliability Theory of Aging: Factors of Exceptional Longevity *Natalia Gavrilova, MS, Ph.D.*** Centenarians now represent the fastest growing age group in industrialized countries. Yet, factors predicting exceptional longevity and its time trends remain to be fully understood. The main problem with studying centenarians is the availability of real and reliable data. In the past, documentation was somewhat unreliable and many centenarians were really fakes. However, the new opportunities provided by the ongoing revolution in information technology, computer science, and the expansion of the Internet have enabled us to begin to explore early-childhood predictors of exceptional longevity.	133
20	The Thermodynamic Theory of Aging In Action: Medical Nutrition Recommendation for Patients of Any Age *Georgi P. Gladyshev, Ph.D.*** For decades, the opinion was widespread that natural open biological systems are far from an equilibrium state. It was also believed that far from equilibrium processes take place in these systems. Indeed, if this is true, then thermodynamics (i.e. thermostatics), or the thermodynamics of quasi-equilibrium systems and processes, cannot be applied. The arguments presented here, being well-substantiated, indicates that practically all concrete, i.e. detailed, recommendations relating to nutrition and lifestyle are individual. Such recommendations should be formulated on the basis of general and anti-aging medicine, from gerontology, and should take into account the findings of physicochemical dietetics. Nevertheless, the thermodynamic theory of biological evolution and aging of living organisms, as built on the foundation	135

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22	Stem Cell Research and Regenerative Medicine in China *James Francis K. Hii, M.D. (with Xuetoa Pei, M.D., Ph.D.)**** Regenerative medicine is likely to involve the implantation, restoration, repair, replacement, regeneration, or substitution of new tissue in patients with damaged or diseased organs. This exciting field of medicine includes stem cell therapy, tissue engineering, artificial tissue/organs, and transgenic xenografts. The diseases and injuries that are targets of regenerative medicine could potentially benefit from stem cell based therapies. Many of them, such as Parkinson's disease, cardiovascular disease, diabetes, Alzheimer's disease, cancers, severe burns, spinal-cord injuries, and birth defects currently have few or no treatment options. The main achievements of stem cell research in recent years embodied the cloning of human embryonic stem cells (ESCs), the development of the somatic nuclear transfer technique, and the plasticity research of adult stem cells. Stem cell research and its applications are involved in almost all of the life science and biomedical research fields, and it is likely that stem cells will exert a revolutionary influence on other research fields, including regenerative medicine, gene therapy, proteomics, and drug development.	161
23	Restful Sleep: A Key Anti-Aging Initiative *Stephen Holt, MD, LLD (Hon.), ChB, DNM, FRCP(C) MRCP (UK), FACP, FACG, FACN, FACAM** This paper is concerned with an extremely important public health initiative, the initiative to battle against the U.S. nation's sleeplessness. The problem of sleeplessness is emerging to be extremely important in clinical practice, however it is often overlooked, and is sometimes totally ignored. It is noted that about 40% of Americans suffer from intermittent insomnia, and that approximately 15%, or as many as 40 million Americans, have severe or chronic insomnia. This paper will discuss the impact of sleep deprivation on health and longevity.	163
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27	Heavy Metal Accumulation in Malignant Tumours as Basis for a New Integrative Therapy Model *Professor John G. Ionescu, Ph.D.**** Increased levels of transition metals like iron, nickel, chromium, copper and lead are closely related to free radical generation, lipid peroxidation, formation of DNA-strand breaks, and tumour growth in cellular systems. In order to determine the correlation to malignant growth in humans, we investigated the accumulation of heavy metals in 8 healthy and 20 breast cancer biopsies by means of a standardized Atomic Absorption Spectrophotometry (AAS) methodology. As previously reported by us, the higher heavy metal concentration encountered in various tumours may be used for therapeutic intervention with ascorbic acid or substituted phenolic mixtures. The autoxidation of vitamin C and phenolic compounds in the presence of heavy metals strongly increase superoxide and H_2O_2 generation at the tumour site, resulting in a fast depletion of the malignant cell reducing equivalents with oxidosis shift and apoptosis induction. Our results suggest that the use of the above mentioned redox-active compounds devoid of side-effects should be seriously considered in the treatment of different malignancies and infections.	189
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29	Stress and Aging: How to Tame Stress – To Live Longer, Healthier and Happier *Errol R. Korn, M.D. (with Rod Comunale, M.D.)** The adverse affects of long-term stress are the most serious causes of aging. The effects of stress often negate any long-term benefits provided by anti-aging programs. Control of stress is the most important technique you can learn to aid in your quest to live longer, healthier, more vigorously, and happier. This chapter will present the physiology of stress and how stress accelerates the aging process. You will learn how stress permeates every aspect of our lives and how our usual responses to stress only create more stress. You will then learn scientifically proven methods to prevent the build up of the harmful long-term effects of stress, therefore jump starting and accelerating any stress management program.	209
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31	Lipoic Acid-Palladium Complex as An Integrative Approach to the Treatment of Multiple Myeloma and Non-Small Cell Lung Cancer: A Case Study *Shari Lieberman, Ph.D., CNS, FACN** This paper is concerned with Lipoic Acid-Palladium Complex (LAPd) as an integrative approach to the treatment of multiple myeloma and non-small cell lung cancer, and this paper represents an evaluation of two case studies.	219
32	Successful Weight Management and Change in Body Composition with a Comprehensive Weight Management Program *Shari Lieberman, Ph.D., CNS, FACN**** Although more than 1000 diet books are available today and each year millions of Americans enroll in commercial self-help weight loss programs, the prevalence of obesity continues to rise. For weight loss to be meaningful and long lasting body fat loss must be maximized and muscle loss must be minimized. Unfortunately, the vast majority of self-help programs have focused merely on weight change instead of change in body composition. Lifestyle modification is also crucial, including low glycemic index (GI) food choices, specific exercise recommendations, and behavior modification. The foundation of anti-aging medicine is weight management and body composition and these must be addressed first in order for any further intervention to be successful – regardless of the health issue(s) needing to be addressed.	225
33	Extending Life: The New Science of Aging – How to Activate Longevity Genes and Increase Quality and Length of Life *Joseph C. Maroon, M.D. (with Jeff Bost, PAC)**** In November 2006 newspaper headlines about a natural gene activating substance that could prolong life appeared in over 500 newspapers around the world and were followed by articles that summarized the breakthrough scientific publications from Harvard Medical School and The National Institute on Aging, and the Institute of Genetics and Molecular Biology in France. The headlines related to a scientific report showing life enhancing and extending properties of a natural plant compound called resveratrol that is found in red wine. Additionally, these studies showed that resveratrol could alter metabolism to the point that fat mice given fatty food containing resveratrol did not have any adverse effects from this diet, and, in fact, were healthier than the control mice. The newspaper headlines asked if it is really possible that a pill can prolong life, help maintain weight despite a high fat diet, avert degenerative diseases, and even create the muscles of a champion athlete without training. Animal studies seem to suggest that it is possible that resveratrol can do all of these things, and there is every reason to believe that the same things will also be possible in humans. Could resveratrol provide us with our long sought for Fountain of Youth?	231
34	The World's First Published Bioidentical Hormone Replacement Therapy Baby *S. Ali Mohamed, M.D.**** The central role of hormones in both the human life cycle and the body is well known. As a woman ages, or due to external circumstances such as severe physical or mental stress, hormone levels decline. This can result in decreased fertility or infertility. Another such decline in hormone levels is often seen postpartum, resulting in postpartum depression. In an age of specialization and super-specialization, the treatment of these conditions is considered to require a specialist dealing with "women's problems", usually a gynecologist. In their hands, treatment has become routine, utilizing synthetic and non-bio-identical hormones to interfere with the body's natural hormone cycles. To assure therapeutic "success", anti-depressants are often added to the prescription. If this fails, the scalpel may emerge. Commonly, no	235

	attempt is made to evaluate the patient's hormone imbalances and bring them to a norm, in order to re-create the patient's natural, internal environment or *milieu* and thereby resolving the condition. The aim of this paper is discuss these conditions, their etiology, current treatment, and the role of bio-identical hormone replacement therapy (BIHRT) in their treatment.	
35	Preventive Molecular Medicine: An Update on the Revolution in Medicine Made Possible by Genomics *David W. Moskowitz, M.D.*** The main aims of anti-aging medicine are, of course, to prevent disease, to keep our patients healthy, and to enable them to lead a longer and higher quality life. Genomics – the study of genes and their function – may well provide us with the information that we need to achieve those aims. This paper will discuss research into Angiotensin 1 converting enzyme and its role in many diseases, and the development of the Healthchip®, a genetic test designed to predict a person's future risk of specific cancers.	239
36	An Integrative Approach to Cancer Therapy *Ahmad Nasri, M.D., H.D.**** This paper is concerned with an integrative approach to cancer therapy, which involves the use of different non-toxic therapies such as synthetic reductase, angiogenesis inhibitors, oxygenation therapies, and other biological modifiers and homeopathic remedies. Each treatment modality and the reasoning behind their use as an adjunct to cancer therapy will be discussed.	243
37	Matrix Energetics and Regeneration *James L. Oschman, Ph.D.**** Energy medicine involves the diagnostic and therapeutic implications of the various forms of energy that are used by the human body to regulate living processes, such as healing. For example, an injury results in an electrical wave called the injury potential that triggers healing and regeneration; and a number of modern therapeutic devices introduce comparable electric waves that stimulate natural tissue repair processes. The public is attracted to these methods because they are often capable of resolving medical issues that are difficult to diagnose or treat by other means; and the techniques have few if any side effects. The science behind these technologies is both fascinating and revealing. Energy medicine technologies are now making it possible to interrogate the entire matrix and to detect and correct imbalances, which are often located a distance from regions that show symptoms. Of particular importance is the ability to locate and resolve small pockets of chronic inflammation. Current biomedical research is pointing to inflammation as the culprit behind almost every modern chronic illness, including the diseases of aging. Optimum health, vitality and longevity depend on maintaining the structural and functional integrity of our internal energetic systems.	247
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40	Advances in Clinical Anti-Aging Medicine: Nutrition and Inflammation *Ron Rothenberg, M.D.*** This paper will focus on the links between hormones, nutrition, and inflammation. The impact that inflammation has on health and longevity will be discussed, and strategies to combat inflammation will be considered.	271
41	The Anti-Aging Emergency Room: The Fusion of Anti-Aging and Emergency Medicine *Ron Rothenberg, M.D.**** Anti-aging medicine is the medical specialty that has taken the lead in treating adult hormone deficiencies and optimizing nutrition to maximize quality of life. Informal surveys have shown that 10-20% of anti-aging physicians have a background in emergency and critical care medicine. This paper will review current medical literature that supports the treatment of cardiovascular trauma and other emergencies with hormone and nutrition optimization alongside conventional lifesaving principles of emergency and critical care medicine. Testosterone, estradiol, progesterone, growth hormone, thyroid hormone, melatonin, and antioxidant treatments will be considered. In addition, hormonal consequences of traumatic brain injury, acute myocardial infarction, and critical illness will be addressed.	279
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43	The Role of Nutrition, Exercise, and Habits in Aging: The Anti-Aging Lifestyle *Rafael Santonja, PharmD.**** When we talk about aging of the human being we can differentiate between chronological aging, morphological aging, and metabolic aging. The major aspects of morphological and metabolic aging are loss of lean body mass, bone, and cartilage density, loss of flexibility in the blood vessels, and reduction in hormone secretion. There is a close relationship between lifestyle (nutrition, physical exercise, and habits) and the aging process.	293
44	Phytoestrogens and Hormone Therapy for Climacteric Women *Professor Adolf E. Schindler, M.D., Ph.D.*** During the past few years hormone replacement therapy (HRT) has been questioned in many ways. In recent years, new findings have been published on the positive effects of phytoestrogens, in particular isoflavones, at the tissue level. Thus, the climacteric period of the female, comprising the pre-, peri- and postmenopausal years, is a key topic of discussion. Therefore, a comparison was done on the effect of HRT and phytoestrogens on main events and organ functions in climacteric women. This comparison revealed that HRT has, without any doubt, very good effects on climacteric symptoms, collagen (skin and bone), and blood vessels. However, this is accompanied by increased proliferative events at the tissue level, for example the breast, as well as an increase in tryglycerides, C-reactive protein (CRP), sex hormone binding globulin (SHBG), and activation of the hemostatic system. On the contrary, phytoestrogens, such as isoflavones, have a limited impact on the climacteric symptoms, preserve bone mass, lead to a decrease of proliferative events in the tissues such as the breast, decrease tryglycerides, and do not activate the hemostatic system. Based on these facts a unifying concept for HRT and phytoestrogens for the various phases of the climacteric women is presented.	297
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	and physicians. It has often been said that pioneers take arrows. In that context, anti-aging practitioners should be eminently aware of the risks their emerging field faces. Medical Justice is an entity that was created by physicians for physicians to address exactly these risks. This paper will address the risks as well as the techniques that can be used to mitigate these risks.	
46	The Latest Innovations in Arthroscopic Shoulder Surgery and Other Related Topics *Dr. Ron Shane (with Jodi Lasky, PA-C)* Shoulder surgery is unpredictable as compared to other orthopedic procedures; and there are many conflicting views amongst the world's most outstanding surgical practitioners regarding this succinct region of the body. There are many factors both intrinsic and extrinsic, which impacts a patient's overall outcome. The effective treatment of shoulder related pathologies as well as the minimization of extensive recovery times associated with those procedures has remained problematic. This paper review the latest innovations in arthroscopic shoulder surgery and other related topics.	305
47	New Developments in Phytochemical Nutrition for Anti-Aging: Prevention of Atherosclerosis *Professor Güenter Siegel, M.D., Ph.D. (with P. Schäfer, M. Rodríguez, T. Weber, and M. Malmsten)** The prevention or deceleration of atherogenesis is one of the most significant anti-aging objectives, since this is a matter of avoidance of myocardial infarction and stroke. To approach this prophylactic aim, phytochemical nutrition counteracting peroxidation of blood lipids based on their scavenger qualities for reactive oxygen species (ROS) may be of benefit. For example, oxidized LDL particles are highly atherogenic. On this background, we investigated in a pilot study the effect of Ginkgo biloba (EGb 761: Rökan®novo; Ginkgold®), the free oxygen radical scavenging properties of which are well-documented, on atherosclerotic nanoplaque formation in cardiovascular high-risk patients.	313
48	Vibration Training as an Intervention to Reduce Functional Aging *Joseph F. Signorile, Ph.D.** Scientists in the fields of exercise physiology, physical therapy, and other related fields have been examining physical interventions that can maintain and even increase functional performance as we age. In this quest to improve "functional age" a number of factors have been identified as important targets to maintain independence, increase mobility, and prevent catastrophic injuries (such as falls). Among the most important of these factors are: muscular power and strength, flexibility, agility, bone density, and body composition. Although exercise interventions have proven effective in addressing each of these factors, these interventions are generally time-consuming and labor intensive. Whole body vibration (WBV) has been studied for many years as a training tool to increase a multitude of the factors associated with performance. This paper will examine the physics and physiology of whole body vibration (WBV) and its reported impact on physical changes associated with the aging process.	335
49	Advanced Hormone Replacement Therapy *Pamela W. Smith, M.D., MPH** The menopause hormone response is as unique to an individual as their fingerprint. Hormone replacement therapy (HRT) should not be done without a thorough understanding of all the hormones in the body. Hormones really are a symphony, and in a symphony everything needs to be playing in tune. If you have one hormone that is not playing in tune, then your patient will not have a good response. This paper will discuss the functions, symptoms of hormone deficiency, and symptoms of hormone excess, associated with: estrogen, progesterone, testosterone, DHEA, cortisol, insulin, pregnenolone, and thyroid hormone.	345

50	Mercury (Thimersol) and Asparatame as Cofactors in the Epidemic of Neurodegenerative Diseases *K. Paul Stoller, M.D., FAAP**** The artificial sweetener aspartame (6-methyl-1,2,3-oathiazine-4[3H]—one-2,2-dioxide salt of L-phenlalanyl-2-methl-L-alpha-aspartic acid), is consumed, primarily in beverages, by a very large number of Americans, causing significant elevations in plasma and brain phenylalanine levels. It is very likely that aspartame, which was once considered a new chemical warfare agent by the US military has resulted in an enormous toll in illness, disability, and death. The failure of the medical profession and many governmental and other public health agencies to concern themselves with this ignored epidemic parallels what has taken place with the use of Thimerosal in vaccines. As with Thimerosal, the most grievous offense of the illegal approval and continued use of aspartame pertain to the damage that this chemical can induce in infants and children. Moreover, aspartame could affect subsequent generations born to mothers who were misled about the safety of this and related chemicals. This paper will discuss the role of both aspartame and Thimersol in the pathology of neurodegenerative disease.	357
51	Clinical Applications of Saliva Hormone Testing and Clinical Research Data on Cortisol Abnormality in Obesity and Stress *Paul Ling Tai, D.P.M., ABPS, FACFS, ND (Hon)** In the quest for hormone rejuvenating programs, one of the most important first steps is the vital evaluation of each individual's hormone status with hormone testing technology. This requires direct testing and measurement of each of the essential sex hormones that affect aging. Blood serum hormone testing is by far the most common technique practiced by most mainstream physicians in the United States. Careful analysis reveals that serum hormone testing has a number of complications that make it much more difficult to implement and use. Saliva hormone testing is a relatively new technology by comparison, however, by comparison, it is more limited in its acceptance and usage. Technological developments in saliva hormone testing, namely the Luminescence Immunoassay (LIA), mean that saliva hormone testing is more sensitive and accurate then ever before. This paper will discuss saliva hormone testing and its clinical applications.	365
52	Twenty-First Century Technologies for Skincare: Research & Clinical Data *Paul Ling Tai, D.P.M., ABPS, FACFS, ND (Hon)**** The face is the most precious and beautiful representation of the body. However, it easily reveals the aging and wrinkles of accumulated years. Anti-Aging skincare has 21st Century technologies that are within your reach; it is no longer the old method of layering your skin with lotions that contain potentially harmful chemicals and preservatives, now, thanks to recent research, science is unlocking the secrets to living longer and looking younger. This paper will discuss the research and clinical data behind these 21st century technologies.	377

* Denotes speaker at Spring 2006 Session of the Annual International Congress on Anti-Aging Medicine & Regenerative Biomedical Technologies;
** Denotes speaker at Summer 2006 Session;
*** Denotes speaker at Winter 2006 Session.