

Anti-Aging Therapeutics Volume XIV

Contents & Article Summaries

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	Pilot Study: The Effects of Stem Cells and Platelet Rich Plasma on Recovery	
	from Laser Resurfacing	
	Robert Bowen, M.D., FCCP, FASLMS*	
	This paper presents the results of a pilot study into whether stem cells or	
	cellular growth factors would improve the efficacy of fractional laser	
1	resurfacing of the skin and/or reduce recovery time.	1
	Cell-Assisted Facial Fat Transfer – The Natural Filler	
	Robert Bowen, M.D., FCCP, FASLMS*	
	A key feature of facial aging is loss of volume, both of fat and bone. Attempts	
	to create a more youthful looking face should address these components to	
2	be successful. Autologous fat holds appeal for this purpose.	5
	Innovations in the Treatment of Chronic Wounds	
	Robert E. Bowen, M.D., FCCP, FASLMS**	
	Healing of wounds is a complex process that most often proceeds in an	
	orchestrated fashion resulting in repair of the injured area. When this	
	orchestration proceeds in a disordered fashion then the healing process may	
	result in an over-expression of fibroblasts (resulting in a hypertrophic scar or	
	keloid) or inability to form new tissue (chronic wound). these problems have	
	resulted only in marginal improvement in care. Newly developed innovations	
3	in wound care are discussed as are future directions for research.	9
	Nitric Oxide: The Overlooked Molecule in Patient Care	
	Nathan S. Bryan, Ph.D.**	
	Although often overlooked, nitric oxide (NO) is one of the most important	
	signaling molecules in the body. It is involved in virtually every organ system,	
	and is responsible for modulating an astonishing variety of effects. Thus, it is	
	no surprise to learn that a host of diseases or conditions may be caused or	
	affected by the body's dysregulation of NO production/signaling. Maintaining	
	NO homeostasis is critical for optimal health and disease prevention, and	
	developing diagnostics and therapeutics to accomplish this will have a	
	profound effect on public health. The aim of this paper is to introduce the	
	reader to the importance of NO, and the age-dependent decline in NO	
	production and its consequences, NO diagnostics and therapeutic strategies	
4	for maintaining NO homeostasis will also be considered.	13
	Testosterone Pellet Implantation	
	Stephen Center, M.D. **	
	Evidence suggests that testosterone pellet implantation (TPI) is the best	
	available method of testosterone delivery, yet transdermal and injectable	
	forms of testosterone continue to be the delivery methods of choice for	
	testosterone replacement therapy (TRT) with many practitioners. The aim of	
	this paper is to familiarize health practitioners with TPI and to encourage its	
5	use in TRT.	21

8	hormonorestorative therapy (HT) as a part of physiology optimization in hypercholesterolemia treatment. The Reposition Confluence of Stom Coll Therapy and Physiology	45
	The Beneficial Confluence of Stem Cell Therapy and Physiology	
	Optimization Sergey A. Dzugan, M.D., Ph.D.**	
	Stem cell therapy and hormonorestorative therapy (HT) work on a very basic	
	and foundational level. Different studies have shown that specific nutrients	
	and hormones can encourage the growth or proliferation of stem cells in	
	one's body, thus promoting regeneration and healing. A powerful method to	
	support stem cell proliferation and function is through the optimization of	
	hormone levels. Using bioidentical hormones, it is possible to restore	
	deficient adult hormones to youthful levels. HT can significantly increase	
	metabolism and anabolic processes that can help with the effect of stem	
	cells and most importantly, HT can control the immune system and keep it	
	strong, which will prevent possible gross abnormalities from transplanted	
	stem cells. Targeted nutritional and hormonal therapies may help promote	
	wellness and fight the diseases associated with aging through the	
	optimization of stem cell production and function. Also, there is a possible	
	significant positive effect of stem cell therapy as part of regeneration therapy	
9	on hormonal production in patients with steroid insufficiency.	57
	Modified Citrus Pectin and Galectin-3 and Their Role in Health and Illness	
	Isaac Eliaz, M.D., MS, L.Ac.**	
	new research on the role of galectin-3 and MCP in health and disease, and	
	This paper reviews the benefits of ,odified citrus pectin as a potent galectin-	
	3 inhibitor. Pre-clinical studies published in 2011 demonstrated that MCP	
	reduced galectin-3 in association with decreased renal fibrosis,	
	macrophages, pro-inflammatory cytokine expression, and apoptosis. At a	
	histological level, MCP clearly reduced renal cell proliferation. This data	
	indicates that MCP is protective in experimental nephropathy with	
	modulation of early proliferation and later galectin-3 expression, apoptosis,	
	Land tibragia. This and other near reviewed research indicate that MCD is a	
	and fibrosis. This and other peer-reviewed research indicate that MCP is a	
10	novel strategy to reduce inflammation, fibrosis, and cancer occurrence in the long-term, via carbohydrate binding-related functions of galectin-3.	69

	Small RNA Fragments Support White Blood Cell and Platelet Proliferation in	
	Cancer Patients Undergoing Chemotherapy	
	John L. Hall, Ph.D.**; James F. Grutsch, Ph.D.	
	A Phase 1 clinical trial was conducted at Cancer Treatment Centers of	
	America to investigate the effect of small RNA fragments on the recovery of	
	platelet levels in patients with Chemotherapy-Induced Thrombocytopenia	
	(CIT). Patients receiving the RNA fragments demonstrated rapid recovery in	
	platelet counts without experiencing any adverse events. The RNA	
	fragments appear to function as primers that stimulate DNA duplication in	
	bone marrow stem cells. When these stem cells divide and differentiate they	
11	give rise to white blood cells and platelets.	79
	Curcumin Signaling Targets in Acute and Chronic Injury: Basis for Repair of	
	Burns and Photodamaged Skin	
	Madalene C.Y. Heng, M.D., FRACP, FACD, FAAD*	
	Acute injury to the skin from burns and scalds result in blistering and	
	scarring, while chronic solar exposure from ultraviolet injury (UVA and UVB)	
	result in photoaging, with thinning of the skin, redness, scaly skin,	
	pigmentary changes, loss of elasticity, and premalignant and malignant	
	changes. Acute burns, if severe, frequently require skin grafting, with	
	scarring as an inevitable result. While we have yet to find adequate	
	preventive treatment against the changes in photoaging skin, recent interest	
	has been focused on curcumin, a phosphorylase kinase inhibitor, for the	
	repair of both acute burns, and chronically photodamaged skin through	
	inhibition of NF-kB-dependent pathways mediated by phosphorylase kinase.	
	This paper discusses phosphorylase kinase-mediated signaling pathways	
	targeted by curcumin as a basis for stimulating repair of both acute burns	
	and chronic solar skin damage, and presents a clinical series supporting the	
12	efficacy of topical curcumin gel in burns and photoaging skin.	89
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	Richard S. Isaacson, M.D.*	
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13	developing Alzheimer's disease by employing a multimodal approach	101
13	consisting of pharmacologic and nonpharmacologic elements.	101
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	Ronald Klatz, M.D., D.O.; Robert Goldman, M.D., Ph.D., D.O., FAASP	
	Literature review recaps the latest studies that reveal important	
	environmental links to disease. These summaries prove that it is clearly	
	essential that each of us makes a deliberate effort to minimize or limit our	
144	exposure to environmental hazards, in order to improve the odds of living a	407
14	long, healthy, happy, rewarding, productive life.	107
	Osteopathic Medicine: A Brief Introduction	
	Martin S. Levine, D.O., MPH, FACOFP dist.**	
	The aim of this paper is to offer a very brief introduction to osteopathic	
	medicine and its benefits. A small number of articles concerning osteopathic	
	medicine that have been published in the medical literature will be used to	
1	demonstrate the proven efficacy of osteopathic techniques and highlight their	
15	role in modern medicine.	113

	Metabolic Treatment of Cancer	
	Joseph Maroon, M.D.**; Jeff Bost, PAC; Darren LePere, BS; Jose Joaquin	
	Puello, M.D.; Giulio Zuccoli, M.D.; Thomas Seyfried, Ph.D.; Matt El Kadi,	
	M.D., Ph.D.	
	Conventional therapies for malignant brain tumors all have various degrees	
	of toxic side effects that can adversely affect quality of life. These treatments	
	can also significantly elevate brain tissue glucose and glutamate levels,	
	which is problematic as animal studies have shown that tumor cells actually	
	thrive on elevated glucose and glutamate levels. Put simply, this means that	
	current treatments may actually accelerate tumor cell growth. Animal and	
	human studies have evaluated these metabolic phenomena and have	
	investigated the use of dietary and pharmacological treatments to reduce	
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	L. Charles Masur, M.D.*	
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17	contributing to acute and chronic illness and advanced aging.	127
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	Sangeeta Pati, M.D., FACOG*	
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	hormone restoration, nutrition, detoxification, and balancing the mind and	
	body in order to dampen chronic inflammation (the underlying cause of many	
	age-related diseases) and restore optimal health. Several case studies are	
18	included to illustrate the benefits achievable by following the model.	133
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	Office Setting	
	Joseph Purita, M.D., FACS, FAAOS, FAAMP**	
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	plasma (PRP) and stem cells to treat musculoskeletal conditions in the office	
	setting. The science behind PRP and stem cells, treatment protocols, and	
19	contraindications are all discussed.	139
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	Ron Rothenberg, M.D. **	
	There are many myths surrounding hormone replacement therapies, from	
	the notion that thyroid hormone is dangerous for the heart, to the widespread	
	belief that growth hormone replacement therapy (GHRT) increases the risk	
	of cancer. The aim of this paper is to review the current medical literature	
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20	hormone replacement therapies.	157
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	Ron Rothenberg, M.D. **	
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	and more people are suffering from hypothyroidism – a condition that can	
	make life very hard for sufferers. Unfortunately, many of these cases of	
	hypothyroidism go undiagnosed, and those that are diagnosed are often	
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21	of treatment.	167
41	or a comment.	101

	Energy Medicine: Role in Control of Pain, Depression, and Aging	
	C. Norman Shealy, M.D., Ph.D.**	
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	how it can be used to treat chronic pain and depression, and also promote	
22	healthy aging.	175
	The Role Inflammation Plays in Health	
	Pamela W. Smith, M.D., MPH*	
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23	properties of vitamin D.	179
	Fingertip Regeneration: Integrating Stem Cell Activation Therapy into	
	Fingertip Regenerative Medicine	
	Pramod Vora, B.S.	
	Fingertip regeneration is a true composite tissue regeneration involving	
	regeneration of bone, cartilage, tendon, blood vessels, skin, nail, cuticle,	
	fingerprint, and half a dozen of specialized sensory nerve endings.	
	Regenerating a fingernail in just 30 days or less, demonstrates the	
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	stem cell activation therapy. It also demonstrates the improvements in stem cell activation techniques and fingertip regeneration techniques that have	
	occurred during the past few years, and which have made such incredible	
	results a reality. The ability of nano silver stem cell activators to	
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^{*} Denotes speaker at Spring 2011 Session of the Annual World Congress on Anti-Aging Medicine & Regenerative Biomedical Technologies;
** Denotes speaker at Winter 2011 Session.