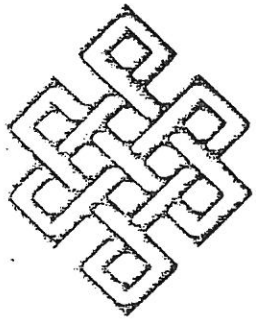
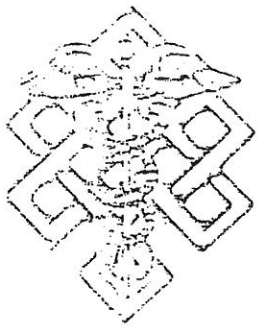
American Aging Association
(AGE)
24th Annual Meeting



American College of
Clinical Gerontology
9th Annual Meeting



The Capital Hilton
16th & K Streets, N.W.
Washington, DC 20036

Friday through Tuesday
October 14-18, 1994

neutralization and removal, electron collection and donation, proper fluid viscosity and resonance, connective tissue stability, brain purification, blood brain barrier maintenance, transportation of fatty acids and control of lipid/cholesterol levels. It also dominates/controls other serum protein levels, stabilizes red blood cells and transports bilirubin, helps buffer pH, and is vital in optimal growth of the fetus. Any attempt for a longer and more productive life will have to maintain optimal levels of serum albumin (48-60g/L) throughout life. Albumin levels do not respond to diet or infusion under normal conditions, this is the "Ultimate in metabolic misunderstanding". Mean albumin is approx. 40g/L. During the last 13 years I have examined the impact of new techniques of scientific hygiene with thousands of human volunteers/clients in attempts to raise/maintain optimal albumin levels (>48g/L). Scientific cleaning of the fingernail area, nasal cavity, eyes, skin and hair can profoundly reduce a whole range of infectious and allergic diseases, reducing the level of antibodies and acute phase proteins, thus, restoring naturally, optimal levels of serum albumin and A/G ratios to a level never before thought possible. Improvements in sanitation have been the most important factor in extending the average life span from approximately 40 years to approximately 75 years of age in the last century. Animals that spend a great deal of their life in water live substantially longer, such as polar bears 45 yrs vs. brown bears 18 yrs, moose 25 yr vs. deer 10 yrs, seals 40 yrs vs. dogs 13 yrs. The simplest solution is usually correct.

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FREE RADICAL MECHANISM AND PROTECTION OF BIO-NORMALIZER ON BRAIN DISORDERS AND AUTOIMMUNE FUNCTIONS.

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Oxidative Stress has been implicated in neurological disorders and age-related autoimmune dysfunctions, hence the development of effective antioxidants that have significant clinical potential utility. Bio-normalizer, a white granular yeast-fermented nutritional health food from *Carica papaya*, other tropical herbal plants and traditional Japanese foodstuffs, has been shown to exhibit anti-oxidant actions by scavenging hydroxyl radicals. Bio-normalizer has been unequivocally demonstrated to inhibit lipid peroxidation in various disease models of post-traumatic epilepsy, aging, and brain ischemia-reperfusion injury in rats and gerbils. By microdialysis, it was shown to inhibit the excitatory release of dopamine, serotonin, and their metabolites in the intrastriatal perfusate of iron-injected rats. It has the ability also to modulate the release of [^{3}H]aspartate and [^{3}H]GABA evoked by high K+ and/or 2,2 azobis (2-amidinopropane), and a water-soluble peroxyl radical generator, from mouse hippocampal slices. The mitochondrial and cytosolic SOD activities were shown to increase further with age in various brain regions of rats administered with Bio-normalizer. Correspondingly, the SOD, NADPH oxidase activity and superoxide radical production were increased in inflamed murine macrophage after Bio-normalizer treatment. The interferon-γ production was enhanced whereas the liver transaminases (GOT & GPT) were suppressed in the human blood serum treated with Bio-normalizer. These findings support the possibility of a nutritional approach using Bio-normalizer in the management and prevention of brain disorders and autoimmune dysfunctions.

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METHYLATION METABOLISM HAS A CENTRAL ROLE IN MAMMALIAN LONGEVITY.

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I have proposed a mechanism of aging for mammals in which somatic cells have inherent deficiencies in methylation metabolism with respect to their DNA methyltransferase activity and DNA cytosine methylation. These proposed deficiencies are present from the time animals are young and, over time, accumulated DNA methylation loss contributes to genetic instability, senescence and cancer. This provides a new and evolutionary consistent explanation for DNA methylation loss observed in mammalian somatic cell aging.

It is known that DNA methylation levels are influenced by factors, such as diet, that affect methylation metabolism. I am currently developing dietary means to manipulate methylation metabolism and intervene in mammalian aging. I am also studying DNA methylation with dietary intervention and with aging.

Measurements of plasma homocysteine and other key factors in methylation metabolism show that deficient methylation metabolism is a risk factor for numerous age related human diseases including heart disease, stroke and at least some