



## Preventative medicine - antiaging

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**T**he last century has seen the most amazing technological advances, in fact medicine has battled to keep up with these incredible advances in technology. However we have entered a new era in medicine, which is very quickly catching up, and this new medicine is known as preventative medicine, and will in time, I believe, be the future of medicine.

There are an evergrowing number of people who are seeking to prevent the diseases of aging and who wish for a longer time living and a shorter time dying. People realise the flaws in the conventional medical approach, and more and more, are seeking doctors who integrate preventative medicine to enhance their health.

Conventional medicine practice follows a disease-based model, where diagnosis and treatment are often instituted when frank disease states are apparent. Typically, symptoms are managed rather than the cause.

### SO WHAT THEN IS THIS NEW FIELD OF PREVENTATIVE MEDICINE?

Preventative medicine is a clinical/medical specialty and field of scientific research aimed at the very early detection, prevention, treatment, and reversal of age-related decline. It is a healthcare model promoting innovative science and research to prolong a healthy lifespan and decrease the incidences of diseases that occur with aging, for example cancer, heart disease, osteoporosis, dementia and diabetes mellitus.

Preventative medicine is well-documented by peer-reviewed medical and scientific journals and employs evidence-based methodologies to conduct patient assessments. Treatments involve natural supplements, vitamins, aminoacids, essential fatty acids, bioidentical hormones, neurotransmitter balancing, chelation therapy for heavy metal toxicity, nutraceuticals, IV nutrient repletions and many more modalities, including gene therapies, stem cell therapies and nanotechnologies.

#### To give some examples :

- a) If insulin resistance is diagnosed, like in the metabolic syndrome, nutraceuticals such as chromium, alpha-lipoic acid, egg and bitter melon can be used to restore insulin sensitivity and prevent the dreaded diabetes mellitus with all its devastating consequences
- b) enlargement of the prostate and prostate cancer are

caused by metabolites of testosterone (estradiol / estrogen by aromatization of testosterone) and DHT (dihydrotestosterone) by 5alpha reductase metabolism of testosterone. Using nutraceuticals like chrysin, betasitosterol and indole 3 Carbinol, one can reduce these dangerous metabolites and protect from disease

- c) neurotransmitter abnormalities such as depression (norepinephrine, serotonin, dopamine deficiency) can be corrected by phenylalanine, 5-htp, Acetyl L Carnitine, S-Adenosylmethionine, and tyrosine respectively, as well as cofactor supplementation, without the necessity for prescription drugs.
- d) other neurotransmitter abnormalities like attention deficit, anxiety, insomnia and behavioural disorders can also be addressed
- e) heavy metal toxicity and neurotoxicity can be addressed by chelation therapy
- f) one of the major reasons we age is due to hormone decline (hormones such as DHEA, growth hormone, sex hormones, thyroid hormones, melatonin, etc). Restoring these hormones to more youthful levels retards the aging process and all the diseases associated with aging like cancer, diabetes, heart disease, dementia, osteoarthritis, osteoporosis, etc
- g) using nutraceuticals such as I3C and DIM can help one metabolise estrogen to 2 rather than the dangerous 16 OH estrone, lowering the risk for breast and prostate cancer
- h) Nutraceuticals can be used with pharmaceuticals, and often may be required to replenish the micronutrient deficiencies that pharmaceuticals cause. To give an example, statin drugs deplete the body of CoQ10, and this can result in muscular pains and even rhabdomyolysis and heart failure later on. All people on statins should be supplementing with Co Q10.

### WHAT IS REGENERATIVE MEDICINE ?

Regenerative medicine optimises the body's endogenous mechanisms of self-repair. Adult stem cells appear to be our most powerful tool at this time. Previous thought that neurons and myocytes do not have stem cells and that cell number declines from birth, is now replaced with current evidence supporting the following :

1. hematopoietic bone marrow stem cells do indeed have



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1. plasticity (can transform to other tissue cells)
2. adult stem cells exist in most tissues including the brain, heart, muscle and liver.
3. hematopoietic stem cells and endothelial progenitor cells in the bone marrow have plasticity to transform and repair all tissues and organs
4. in the hormone optimisation component of preventative medicine we are in fact optimising stem cells. Progesterone via its metabolite allopregnenolone stimulates neuronal stemcells, testosterone stimulates muscle stem cells and EPC (endothelial progenitor cells) which can improve erectile function. Growth hormone supplementation, in deficient adults, improves the quality and quantity of EPCs
5. Estradiol improves the incorporation and mobilisation of EPCs
6. in the lifestyle component of preventative medicine we optimise our adult stem cells with exercise and control of glucose, insulin and stress (cortisol)
7. in the nutraceutical component we optimise our stem cells with resveratrol, blueberry, green tea and vitamin d3, as we turn on longevity genes called surtuin genes .
8. DHA in omega-3 fish oil promotes neurogenesis from neuronal stemcells. The old school of thought that brain cell number is finite and just decreases with age is nonsense.

Cryogenic preservation of stemcells is a new modality that has emerged in preventative medicine. After stimulation with GCSF (granulocyte colony stimulating factor), adult stem cells can be collected by aphaeresis and stored for future treatments , like myocardial infarction or for overall immune system reconstitution. This modality is referred to as bio-insurance.

### WHAT IS FUNCTIONAL MEDICINE?

Functional medicine is an integrative, science-based healthcare approach that treats illness and promotes wellness by focusing on the biochemically unique aspects of each patient, and then individually tailoring interventions to restore physiological, psychological, and structural balance.

Functional medicine focuses on understanding the fundamental physiological processes, the environmental inputs, and the genetic predisposition that influence health and disease so that interventions are focused on treating the cause of the problem, not just masking the symptoms.

There are 7 basic principles underlying functional medicine:

1. science-based medicine that connects the emerging research base to clinical practice
2. biochemical individuality based on genetic and environmental uniqueness
3. patient-centred care rather than disease-focused treatment
4. dynamic balance of internal and external factors that affect total functioning
5. web-like interconnections among the body's physiological processes also affect every aspect of functionality

6. health as a positive vitality, not merely the absence of disease
7. promotion of organ reserve

### THE IMPORTANCE OF MAINTAINING YOUTHFUL BLOOD READINGS

A growing number of people are taking prescription drugs to treat chronic medical conditions. Many of these drugs have toxic side effects that result in the deaths of more than 100 000 Americans for example every year. In fact, according to the American Medical Association, adverse reactions to prescription drugs are between the fourth and sixth leading causes of death in the USA!

When physicians review a patient's blood test results, their only concern is when a particular result is outside the normal laboratory "reference range". The problem is that standard reference ranges usually represent "average" populations, rather than the optimal level required to maintain good health. It now appears that most standard reference ranges are too broad to adequately detect health problems or prescribe appropriate therapy on an individual basis.

For example here follow some "normal" lab values, followed by optimal levels

Insulin fasting : "normal" 6-27uIU/ml

Optimal : <6

TSH : "normal" 0.35-5.5 mU/L

Optimal <2, latest evidence even less than 1.5

Homocysteine male : "normal" 6.3- 15umol/l

Optimal : under 7 umol/l

Homocysteine female : "normal" 4.6-12.4umol/l

"optimal" under 7

In conclusion here is an excerpt from The Life Extension Revolution, by Dr Phillip Lee Miller:

"Antiaging (preventative) medicine is the fastest growing medical specialty in the USA. This reflects more than merely a change in attitude and philosophy. It reflects the enormous advances that have been made in our understanding of the causes and treatments for aging. It also recognises the economic and social imperative we face as senior citizens become the largest sector of our society. Dwindling government resources and a crippled medical safety net, the pursuit of antiaging therapies is a matter not of vanity but of survival.

It is no longer acceptable or responsible for doctors to dismiss a gradual deterioration of function and wellness as "what happens as you get older". It is also not good enough to medicate symptoms as they arise, using pain relievers, antacids, arthritis drugs and cholesterol medications. We must find a way to remain healthy, vital and productive as we enjoy the longer lifespan that modernity has made possible.

Antiaging/preventative medicine will allow you to grow older without becoming aged. It will maximise your chances of not only a long life, but a long and healthy life. Antiaging medicine is more than just a medical speciality. It is the future of medicine and the future of humankind."