HEALTHY BRAIN PROGRAM: INNOVATIVE APPROACH TO HEALTH PROMOTION

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OBSTACLES TO BRAIN HEALTH
- lack of general knowledge about brain function
- overwhelming scientific information leads to confusion
- proliferation of junk science
- psychological factors: anxiety, denial
- resistance to change; habit
- shame & stigmatization
- cultural & lifestyle factors

BRAIN IS AN ORGAN OF THE BODY
- made of flesh & blood weighing 3 lb.
- complex, chaotic, non-linear dynamic system which does not conform to linear logic
- like a neural network of computers and servo systems that can alter & repair themselves
- cortex is similar to a huge computer chip - six layers
- like an endocrine organ, source and target of neuropeptides, neurotransmitters and hormones

VULNERABILITY OF THE BRAIN
- like any other organ, the brain can sustain injury, disease & deterioration
- soft, like "jello"
- very rich but fragile circulation
- sensitive to specific toxins
- brain degeneration is more than aging
- neuroendocrine decline leads to catabolic processes
- free radical damage
- excess glucose damage
- excess stress hormone, cortisol

THE EIGHT PILLARS OF BRAIN HEALTH: WORKSHOPS & SEMINARS

1. SAFETY - Childhood and adult mild traumatic brain injury (concussion) is far too common. It is a significant risk factor for delayed consequences; dementia. How can we recognize, prevent and treat such conditions?
2. NUTRITION - The usual nutrition is inadequate and leads to disease. What is optimal nutrition for the brain? What are the facts, the fads, emerging concepts and dangers?
3. PHYSICAL EXERCISE - is the closest we can come to a Fountain of Youth. Exercise has indirect beneficial effects by improving cardiac and vascular health. It also has direct hormonal effects on the brain through brain derived neurotrophic factors (BDNF).
4. MENTAL EXERCISE - is vital for brain cell branching and new connections - use it or lose it! Novel stimuli are the most effective in promoting neuroplasticity. What counts as mental exercise? What is too little or too much?
5. STRESS MANAGEMENT - Chronic stress shrinks parts of the brain and can kill brain cells. It also causes and/or worsens a number of conditions, such as hypertension and diabetes (and others), which are risk factors for brain disease. How do we avoid being stressed?
6. SLEEP - Most people don’t get enough sleep. Adequate sleep is essential for optimal emotional and cognitive functioning. Consolidation of what is learned takes place during the dreaming stage. Anabolic repair of body & brain and immune system functions prevail during deep stages. How do we know we are getting enough sleep?
7. HORMONE BALANCE - The brain is extremely sensitive to hormones. There are rational ways to use hormone treatments, based on assay and monitoring, which avoid hormone havoc. What are the hormone hazards we face today? What hormone replacement(s) do we need? This is a rapidly growing field - more excitement to come!
8. TREATMENT OF DISEASE - or diseases which are specific risk factors for brain disease is very important. These common disorders found in the GP’s office must be assertively diagnosed and treated in a timely manner to avoid early onset dementia. These include: diabetes, hypertension, obesity, endocrine disorders, depression and stress related disorders. Mild cognitive impairment (MCI) or early dementia itself can be treated successfully to slow progression.

BRAIN HEALTH IS MORE IMPORTANT THAN EVER
- life expectancy is steadily increasing
- brain disease is becoming the leading cause of morbidity and mortality
- biomedical knowledge about the brain is expanding exponentially
- brain remains the weakest link in organ repair and replacement
- optimal brain function is required for quality of life
- brain disease caregiver burden is huge
- economics: prevention makes sense

STAYING POWER
- huge complexity & redundancy
- neuroplasticity & neurogenesis even in old age
- angiogenesis
- neuroprotection; antioxidants

SUGGESTED READINGS & REFERENCES
Kiraly SJ. A New Meaning for Brain Drain. Laminat: Western Canada’s Western Region Newsletter 2000;10(1) 1 and 2001;1(4)02:0 and 2001;1(2):1-3.

Website: www.healthysbrain.org