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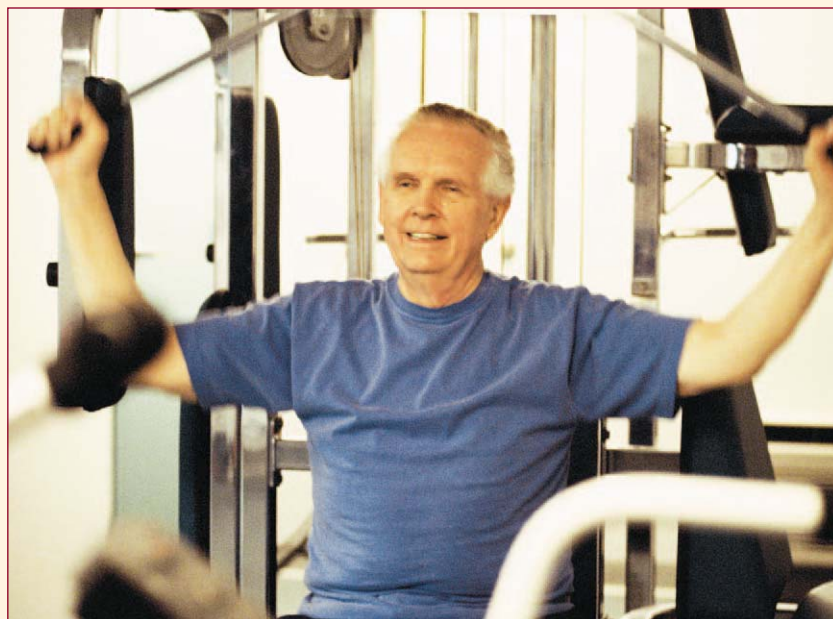
Senior Steps to Better Living

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Baby boomers are now reaching the lower echelons of senior citizenship. Today, one in ten Canadians is considered an older adult (55 years and over). By 2021, this number will have more than doubled.

It has long been the unexpounded assumption that as we age, our brains, as well as our bodies, undergo progressive functional degeneration.

However, the cognitive neuroscience of aging and, in particular, the neuroimaging of the older adult, a relatively new field, is changing that viewpoint. Already functional magnetic resonance imaging and positron emission tomography scans are uncovering exciting possibilities for baby boomers keen to continue an active, independent lifestyle.



Health Canada recommends seniors try 30 to 60 minutes of moderate physical activity nearly every day of the week.

They are also providing much needed evidence to health professionals engaged in working with seniors in preventive and rehabilitation fields.

From the evidence of these neuroimaging techniques, it is

apparent that the right prefrontal cortex does show underactivation as age increases, when compared to that of young adults. Although, this indicates a difficulty in recruiting selective neuronal patterns, there is increasing evidence to support the theory that different areas

of the brain, in the high functioning older adult, may be recruited to counteract this decline. In particular, recruitment from areas in the opposite prefrontal cortex not evidenced in young adult brain activity,

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which is profoundly unilateral, appears to indicate a compensation process in effect.

Studies on memory, attention, and other cognitive tasks continue to determine whether such changes are cognitive or neural, in origin.

Such senior specific activation patterns suggest a lifelong potential for reorganisation and plasticity,

and provide evidence that sustained physical and mental activity may facilitate new patterning and increased vascularity in the maturing brain.

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Table 1

How exercise prevents effects of aging

Endurance training results in 10% to 30% increase in cardiovascular function similar to that seen in young adults.

Strength training helps decrease the natural loss of muscle mass and strength.

Regular physical activity improves bone density, postural stability, and flexibility.



moderate physical activity most days of the week. An active lifestyle that incorporates moderate physical activity can be accomplished in many ways:

Through structured group programs in which useful by-products, such as increased socialisation and group incentive, are present.

Through other activities, such as swimming, Tai Chi, walking, gardening, and even tackling domestic chores around the house.

These recommendations can reduce and even prevent a number of functional declines associated with aging (Table 1).

Even in long-term care cen-

References

1. Reuter-Lorenz, PA: New visions of the aging mind and brain. *Trends Cogn Sci* 2002; 6(9):394-400.
2. Churchill JD, Galvez R, Colcombe S, et al: Exercise, experience and the aging brain. *Neurobiol Aging* 2002; 3(5):941-55.
3. *Moving Through the Years: A Blueprint for Action for Active Living and Older Adults*. Active Living Coalition for Older Adults, Toronto, 1999.