Paper of the Month – December 2005

Paper: Effects of physical activity on life expectancy with cardiovascular disease.

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It is widely recognised that physical activity has protective effects on the risk for developing cardiovascular disease (CVD). These effects have been found for moderate and vigorous physical activity. However, little is known about whether physical activity influences life expectancy or the time spent with and without CVD. This is an important consideration in cardiovascular risk management and it is in this context that Franco and colleagues examined the effects of physical activity on life expectancy.

The authors constructed life tables using data from the Framingham Heart Study, a longitudinal cohort study where participants had been followed for 46 years. The authors calculated the relation between different levels of physical activity (low, moderate and high) and total life expectancy and life expectancy with and without CVD among persons aged 50 years or older.

The results indicated that life expectancy increased in proportion to higher levels of physical activity. Specifically, men aged 50 years or older with moderate and high levels of physical activity lived 1.3 and 3.7 years longer in total and 1.1 and 3.2 years more free of CVD respectively, compared with men with low levels of physical activity. Among women aged 50 years or older with moderate and high levels of physical activity, total life expectancy was 1.5 and 3.5 years more, and years lived without CVD was 1.3 and 3.3 years more respectively, compared with women with low levels of physical activity. These differences in total life expectancy and life expectancy with CVD were statistically significant. The life expectancy with CVD among people with moderate and high levels of physical activity compared to people with low levels of physical activity was slightly greater but not significant.

Overall, the findings of Franco and colleagues add to the consistent evidence that physical activity has protective effects on the risk for developing CVD. The results show that moderate and high levels of physical activity not only increase total life expectancy of men and women aged 50 years or more, but that most of the longer lifetime is lived free of CVD. It is interesting to note that while the number of years lived without CVD was prolonged through moderate or high levels of physical activity, once CVD had been diagnosed there was no difference in years lived between the different levels of physical activity. These findings provide good support in CVD risk management for promoting physical activity among individuals aged 50 years or over with respect to delaying the onset of CVD.

Furthermore, the study is innovative in that it translates the health benefits of physical activity into extra years of life for men and women over the age of 50. In particular, the finding that men and women over the age of 50, who engaged in moderate or high levels of physical activity, lived more years free of CVD has the potential to be a powerful message for promoting participation in physical activity in conjunction with current recommendations amongst this age group. Nonetheless, future research should evaluate the effectiveness of communicating such a message about years of life lived free of CVD due to physical activity, as well as investigating the quality of the years of life lived. Does living an average of one to three years more, after making the time and effort to be physically active, outweigh the less effortful albeit shorter life of a couch potato? As illustrated by comments posted in the *Sydney Morning Herald* (http://blogs.smh.com.au/dissection/archives/2005/11/dudded.html), there are many members of the community who would find the latter option more attractive.