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## Aging successfully

Published online: 29 April 2005  
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Life expectancy of Europeans and Americans is increasing by 3 months per year (Vaupel 2003). In the coming 45 years, those aged 80–90 years will be the fastest growing segment of the population (Börsch-Supan 2002). In Germany, for example, the ratio of those aged 60+ to those aged 20–60 years in the population will almost double between now and the year 2030. In other words, when people born in 1964 reach the age of 60 years, there will be 71 people aged 60 years and over per 100 people aged 20–60 years. Moreover, the extended age ratio of those aged 80+ to those aged 20–60 years in the population will increase over the next two generations from 12.6 in 1995 to 55 in 2050, constituting a fourfold increase (Birg 2001). In Switzerland, it is considered that, between 2000 and 2040, the number of people with a very advanced age (90 years and above) will increase twofold. The number could increase fourfold if future life expectancy of the population increases sharply.

The first reaction is one of powerlessness in the face of such figures, a feeling based on preconceived notions in many western countries of what it means to be old. Stereotypes regarding the elderly include: physical and cognitive impairment, functional limitations, disability and dependence in daily living. Although there is no denying the decreased energy and visible signs of aging, stigmatization of the elderly is generally disproportionate to the actual extent of physiological and mental deterioration. Therefore, theoretically a step to take when dealing with the imminent problems of an aging population is to remove the negative connotations that the younger segment of our society associate with aging. An important practical step would be to determine what resources can be allocated, based on scientific studies and experience of decreased energy, impediments and dependency.

For example, a 20-year follow-up of a longevity study from Ohio presented remarkable findings that mental outlook was a better predictor of longevity than usual health parameters such as normal high blood pressure and/or cholesterol. The study revealed that people aged more than 50 years who had a positive outlook about their own lives and aging in general were much more likely to live longer, regardless of their socioeconomic status, gender or health status (Levy et al. 2002). Another example is that of a study by Leveille et al. (1999) who showed that physically active participants who were not disabled at baseline were more likely to reach age 80 years and beyond. They also had approximately half the risk of dying with disability than their sedentary peers.

Going more deeply into details of physical activity, research provides empirical indications and evidence that regular physical activity or exercise has a positive impact on the physiological signs associated with typical aging: physical activity contributes to both mental and psychological health; it improves feelings of well-being; it helps people to prevent and recover more quickly from falls and disability; it decreases the risk of contracting many common chronic diseases; it acts as adjunctive treatment for certain chronic diseases; and it may attenuate specific side effects of standard medical care (for overview, see Singh 2002). However, the role and mechanisms of physical activity in preventing and treating age-related changes are complex and are not completely understood. We are only now beginning to understand what kind of physical activities the young-old, middle-old and oldest-old prefer; what exercise programme is appropriate in terms of dose-response; and what social and environmental opportunities and conditions must exist for older and old people to be physically active. Later on, we would need to find a way to teach the general population effective fall-prevention strategies.

To conclude, programmes to encourage physical activity and exercise can be implemented broadly in aging populations as a factor contributing to successful aging. It is worth noting that such programmes are also efficient

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from an economic standpoint. The present issue of the *Journal of Public Health* is devoted to these important considerations.

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