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*Editors*

# Calorie Restriction, Aging and Longevity

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*To my wife, Joyce, with love, and my son Michael,  
my daughter Sue, and their families  
Wishing everyone healthy, happy and long lives*

*Arthur*



# Preface

Food or calorie restriction has been shown in many short-lived animals and the rhesus monkey to prolong life-span. Life-long nutrition studies are not possible in humans because of their long survival. Studies over 2–6 years in healthy adult humans have, however, shown that a 20% reduction in food or calorie intake slows many indices of normal and disease-related aging. Thus, it is widely believed that long-term reduction in calorie or food intake will delay the onset of age-related diseases such as heart disease, diabetes and cancer, and so prolong life.

Over the last 20 or more years there has been a progressive rise in food intake in many countries of the world, accompanied by a rising incidence of overweight and obesity. Thus our increasing food and calorie intake has been linked to the rising incidence of cardiovascular disease and diabetes in early adult life. It is accepted that overeating, accompanied by reduced physical exercise, will lead to more age-related diseases and shortening of life-span. What can be done? Put simply, the answer is to reduce our calorie intake, improve our diet, and exercise more. But calorie restriction is extremely difficult to maintain for long periods. How then can we solve this problem? This book provides the latest information on the beneficial effects of calorie restriction on health and life-span and brings us closer to an understanding at the molecular, cellular and whole organism level of the way forward.

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