Aerobic and resistance exercises are recommended for senior people to help prevention of metabolic syndrome and sarcopenia, respectively. Rowing involves almost all of the muscles in the body and may have elements of both aerobic and resistance exercise. Rowing and indoor rowing exercise using ergometers has been widely used among senior people at sports gyms worldwide. Because rowing is practiced on a seat, less impact is placed upon the knee joints, making it safe for senior people who are categorized in over-weight or obesity. It has been reported that rowing-trained senior people have higher aerobic capacity, greater muscle mass in the thigh and trunk than age-matched sedentary individuals. In the author’s recent study, untrained elderly men participated in a 6-month rowing exercise training using a rowing ergometer; and the results indicated that the training increased the participants’ aerobic capacity and muscle size, decreased their visceral fat, and improved their blood lipid profile. It has been suggested the possibility that rowing exercise has health benefit on the prevention of both metabolic syndrome and sarcopenia for senior people.