In 2005 less than half (49.1%) of U.S. adults met the CDC/ACSM physical activity recommendation with 23.7% reporting no leisure-time activity. Physical inactivity is associated with at least 17 unhealthy conditions, including obesity, hypertension, gestational and Type II diabetes, and cardiovascular disease (CVD); and contributes annually to 250,000 premature deaths. Older Americans are currently both the least physically active and the most rapidly growing of any age group. Over the next several decades millions of baby boomers will continue to turn 65. These factors make it increasingly likely that the Personal Trainer will be interacting with clientele other than healthy adults. This chapter explores the special considerations of exercise program design for the following subpopulations: Older adults, Cardiac Disease, Pregnancy, Diabetes Mellitus, Obesity, and Hypertension.