Top Ten Things to Know
Prioritizing Functional Capacity as a Principal End for Therapies Oriented to Older Adults with Cardiovascular Disease

1. Since 1900, the average age in the United States has increased more than 30 years. Between 2010-2050, the greater than 65 years of age population is expected to more than double to about 88.5 million or about 25% of the anticipated population. Within this total, the very old population (those >85 years of age) is growing rapidly and is expected to triple over the same period to about 4.5% of the US population.

2. Older adults with cardiovascular disease (CVD) are at risk for frailty which has been defined as unintentional weight loss, exhaustion, slowness while walking and low levels of physical activity. Frailty can limit an older person’s ability to return to an active, independent life after a cardiac event.

3. The primary metric of functional capacity is cardiorespiratory fitness (CRF), and is usually assessed as peak oxygen uptake (VO2). The most common occurrence of deconditioning and cardiovascular, pulmonary, and other disease states in older adults compounds age-associated declines in peak VO2.

4. Comorbidity, inflammation, mitochondrial metabolism, cognition, balance, and sleep are among the factors that bear on cardiorespiratory function and are entwined with cardiovascular health in older age.

5. Determinants of function beyond the heart, lungs and vasculature are discussed in this paper, including cellular and subcellular determinants of functional capacity, the relevance of frailty in older patients with CVD, and functional decline.

6. This paper includes a discussion on assessing function in older individuals including medical perspectives: aerobic capacity, muscle strength and endurance, balance, multidomain assessments (such as medications), functional independence and daily activity, and frailty.

7. Assessing function in older adults from a patient perspective, physical function as a therapeutic target in older adults, as well as change in physical function with exercise training, are discussed within this paper.

8. Physical function declines are exacerbated by the presence of cardiovascular disease, including persons with atherosclerosis and heart failure. Initiating physical activity in this population is discussed in this paper, and physical function goals for skilled nursing facilities (SNFs) are addressed.

9. The consequences of functional impairment in older adults with CVD include increased morbidity and mortality and reduced ability to perform activities of daily living (ADLs), remain independent and delay disability.

10. There is a need for better recognition by clinicians of the importance of physical function in older adults. Therapeutic options such as cardiac rehabilitation and SNFs are underdeveloped and underused for function enhancement in the elderly despite the obvious potential for better outcomes for the older adult.