

Dr. Froelicher Bio

Dr Froelicher is a Professor of Medicine who started his cardiology career at the USAF School of Aerospace Medicine performing cardiac screening of pilots, astronauts and military athletes. He is an international expert in clinical exercise physiology, electrocardiography, screening and the exercise sciences. He is a co-author of the textbook "Exercise and the Heart", in its 5th edition. Since 1992, he has been the major consultant to the Stanford Sports Medicine Program and participated in the pre-participation exam of all Stanford athletes and professional teams (49ers, Sharks, Warriors) in their care. He led the writing group for the first international document to specify the ECG criteria that lower the false positive rate for screening athletes for sudden cardiac death and has been a participant in the two Seattle Criteria meetings and subsequent documents. He is a coauthor of a chapter in the International Olympic Committee 2017 Cardiology Manual. He initiated the program of ECG screening at Stanford in 2007 which is now mandated by the Athletic Department for all Stanford athletes. Having "retired" from the Palo Alto VA Medical Center, he is now Director of the Sports Cardiology clinic. He has an office at the Falk Bldg in Cardiology and sees patients/athletes in the Cardiology Clinic area at Stanford Hospital and Clinics at 300 Pasteur Dr. Room A201B, Stanford, CA 94305 and at the Sports Medicine clinic at Lacob Family Sports Medicine Center 341 Galvez Drive, Stanford, CA 94305.

Amateur Athletic History

His amateur athletic experience includes lettering in collegiate tennis, playing intramural sports, running in innumerable slow 10k's and over 15 Marathons. His "fastest" marathon was the "Avenue of the Giants" in under 3 hours and last was the Boston Freedom Trail which was a 3.5-hour slog in 32 degrees and 3 inches of rain. He has cycled down the coast to LA 4 times and used to climb Old La Honda often. He now cycles daily in the sun by the water listening to audiobooks.

As a person who enjoys exercise and competition, he has a profound appreciation and respect for everyone's freedom to exercise to the intensity and level important to them whether they have a heart condition or not.

Contributions to Science

- 1. Sports Cardiology** – For the past 22 years he has been the Cardiology Consultant for the Stanford Sports program and since 2015, the Director of the Stanford Sports Cardiology Clinic. His group has contributed to recent advancements in sports cardiology and has presented data regarding the application of ECG screening and of the cause of sudden cardiac death in athletes. A recent meta-analysis performed with a medical student demonstrates that inherited arrhythmic diseases are the most common cause of sudden cardiac death in the young.
- 2. Screening of Asymptomatic USAF Aircrewmembers** – While Director of CV research and LtCol at the USAF School of Medicine (1972-1977), he presented seminal data

on the angiographic findings and follow up of aircrewmembers with abnormal ECGs and abnormal exercise tests. He was also responsible for seminal studies regarding the physiological responses to exercise testing.

3. ***The Cardiovascular Effects of Cardiac Rehabilitation (PERFEXT)*** – While Director of Cardiac Rehabilitation at University Hospital and The San Diego VA (1977-1983), he was PI of an NHLBI funded randomized trial of Cardiac Rehabilitation.
4. ***Prognostic Studies in Veterans*** – While Chief of Cardiology at the LBVAMC, he developed the cardiology data bases for follow up studies of Veterans who had ECGs and exercise tests. The techniques perfected were the basis for the **VETS** treadmill studies and the ECG studies that are still on-going. These studies led to over 100 peer review publications in major journals and have led to clinical risk scores widely applied. They have demonstrated the prognostic value of both the ECG and the exercise test and dealt with issues including the health benefits of exercise, the obesity paradox, the inverse relationship of exercise capacity and health care costs, atrial fibrillation, heart failure and early repolarization.
5. ***VA Co-operative Study of Quantitative Exercise Testing and Angiography (QUEXTA)*** He was the originator and Co PI for this study which applied computer techniques to both exercise testing and coronary angiography. It is seminal in that it also removed work up bias by only including patients with chest pain who agreed to both exercise testing and coronary angiography prior to any testing. This essential element of assessing diagnostic tests has never been applied in evaluating patients with possible CAD and demonstrated that testing has a lower sensitivity and higher specificity when applied in clinical practice.