

Firefighter Medical-Fitness Assessment



POTENTRx is committed to optimizing the health and performance of all firefighters. In conjunction with the American Council on Exercise, developers of the CPAT test for firefighters, we have created a comprehensive medical fitness assessment that uncovers hidden health risks and measures the functional capacity of firefighters to perform their tasks. Our assessment meets standards established by NFPA 1582 for comprehensive occupational medical programs for fire departments. Information obtained from the assessment is confidential and presented only to the firefighter and designated personal medical providers.

The assessment includes six important components: (1) medical screening – a comprehensive physical exam and blood panel; (2) pulmonary – lung function tests and chest x-ray; (3) cardiovascular – 12-lead EKG exercise stress test; (4) physiological – tests for aerobic and anaerobic capacity, including lactate production and clearance; (5) musculoskeletal – an evaluation of joint integrity and functional movement; and (6) consultation – the comprehensive report created by our physician and other providers that includes all results and recommendations.



The assessment requires four hours and is performed at POTENTRx. The medical test results are reviewed by Dr. Sarah Speck to confirm the immediate health of each firefighter and to identify any long-term cardiometabolic risk factors that may be present. Dr. Dan Tripps will review the fitness data comparing each firefighter's physiological performance with standards established by ACE and IAFF. Together, they prepare a formal report for each firefighter that includes medical and exercise recommendations.

Firefighter Medical-Fitness Assessment Details

Health Component

Prior to your visit, you complete a health history which establishes health and fitness goals, confirms specific issues of concern, and provides baseline data for discussion during your initial consultation and physical exam. The physical exam is accompanied by a comprehensive **blood profile**, **lung function tests**, **chest x-ray**, and a complete **musculoskeletal evaluation**.

Fitness Component

The fitness component includes tests for the performance attributes below.

- **Body Composition**
- **Resting Metabolic Rate**
- **Cellular Health**
- **Aerobic Capacity (VO₂ max)**
- **12-Lead EKG**
- **Lactate Production and Clearance**



(continued)

Components of a S.H.A.P.E

• BODY COMPOSITION

Body composition provides an accurate measure of fat and lean mass, both of which are vital aspects of health, sport performance and critical information for weight management. To ensure accuracy and reliability, the staff calculates body composition through two different methods – girth and proportionality and bioimpedance.

• RESTING METABOLIC RATE

Resting metabolic rate (RMR) refers to the number of calories the body needs to support its basic physiological functions. RMR generally provides 60-75% of the total daily caloric expenditure and knowing RMR is important for both weight management and nutritional planning. The test is conducted by breathing through the facemask of a Cosmed FitMate Pro metabolic analyzer for 16 minutes while lying down or through a process known as bioimpedance.

• CELLULAR HEALTH

Staff connect standard EKG sensor pad electrodes to your wrist and ankle while lying down and measure resistance and reactance of the current as it passes through the body. The Biodynamics analyzer computes intercellular and intracellular water content of your body critical for maintaining cellular health and preventing over-training. Plus it calculates resting metabolic rate and fat-free mass, critical variables for optimizing nutrition and body composition factors of successful performance.

• AEROBIC CAPACITY / 12-LEAD EKG

Firefighters are put through a stress test/EKG, which monitors their heart while they perform a VO_{2max} test. This is critical for determining a firefighters risk stratification, as well as their ability to perform strenuous activity.

• ANAEROBIC CAPACITY / LACTATE PRODUCTION

Lactate is measured using a Lactate Pro device to analyze blood taken from a finger prick similar to managing blood sugar in diabetic patients. Samples are drawn at the end of the aerobic capacity test to measure lactate clearance, a critical function for individuals who desire to perform repeated intense anaerobic activity in sport or work.

• MUSCULOSKELETAL EXAM

Using observation, palpitation, and selected functional tests, a physical therapist conducts a 65-point assessment of posture, balance, reflex mechanisms, muscular strength symmetry, range of motion (flexibility) in all three planes, dynamic capacity and kinetic chain stability that result in a clear understanding of your musculoskeletal integrity.

For details and pricing about the services listed in this flyer, please call (206) 432-9436

POTENTRx Founders

Sarah Speck, MD, is a cardiologist and Medical Director of the Swedish Heart & Vascular Institute Cardiac Wellness Program. With her help, the Institute has become a national leader in the early detection and prevention of heart disease, disease-reversal and disease management techniques. Dr. Speck serves as a clinical assistant professor at the University of Washington's School of Medicine.

Dan G. Tripps, PhD, recently concluded his academic career, leaving the position as Director of the Center for the Study of Sport and Exercise at Seattle University. His research and clinical practice focus on physical and mental aspects of high performance. Dr. Tripps has coached world-class swimmers and triathletes, served as Executive Director of the Olympic Scientific Congress associated with the 1984 Olympic Games, and has published 12 books on achievement and performance.

POTENTRx Affiliates

American Council on Exercise (ACE) • Bainbridge Fire Department • ClubZUM • Pocock Rowing Foundation • Precor • Rainier Vista Boys & Girls Club • Seattle Fire Department • Seattle Sockeye • Seattle Thunderbirds • Seattle University • Skillshow • Snohomish Fire Department • Technogym USA • USA Rowing • USA Rugby • Vicon • Washington Athletic Club • Waypoint Outdoor • YMCA of Greater Seattle