

Road Map for Runners



At POTENTRx, we understand the specific demands required for running and how to help you maximize your potential. Our running-specific services are designed to improve overall performance, reduce risk of injury, aid in recovery, help achieve specific training goals and make training more enjoyable

In order to determine where you are, where you need to be and how to get there, we recommend a three-tiered approach; 1) Start with a physiological assessment to determine your “starting point,” 2) Optimize your biomechanics through our biomechanical services and 3) Improve your performance through our customized running prescriptions.

Running-Specific Services | We recommend these services for optimal performance

Physiological Fitness

• AEROBIC CAPACITY

Is the maximum capacity of your body to transport and utilize oxygen during incremental training, which reflects your level of physical fitness. This is important in determining your capacity to perform sustained training and when correlated to heart rate, it can be used to develop training zones. Having a high aerobic capacity can help reduce the effect of fatigue throughout a race.

• BODY COMPOSITION

Provides an accurate measure of fat and lean mass, both of which are vital aspects of running performance. To ensure accuracy and reliability, the staff calculates body composition through three different methods – girth and proportionality, a four-site skin fold measurement with calipers, and bioimpedance.

• HEART RATE TRAINING ZONES

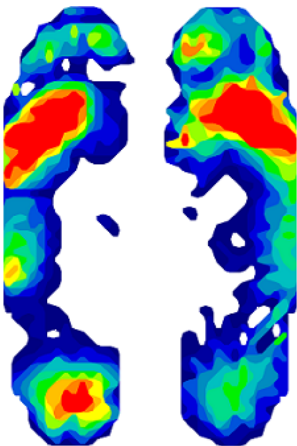
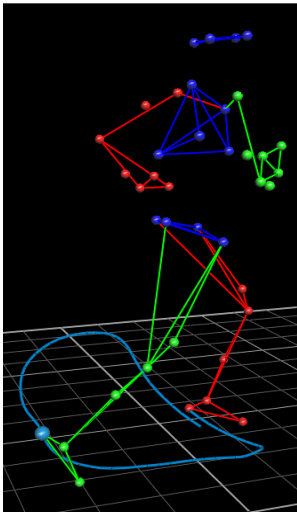
Different training intensities require an individual to exert specific kinds of energy. By correlating your heart rate (HR) with a $VO_{2\max}$ test, we can determine what system you're using relative to your own heart rate. Determining your heart rate zones is the key to becoming a more efficient and faster runner.

• THRESHOLD TESTING

This test is designed to determine the aerobic and anaerobic thresholds. The aerobic threshold is the point at which anaerobic pathways begin to contribute to the energy demands of the activity being performed. The anaerobic threshold is where lactate accumulation arises dramatically and the point at which you will experience rapid fatigue or the onset of fully anaerobic activity. These thresholds can be directly determined through blood lactate samples or indirectly through gas exchange.

• MUSCULAR STRENGTH TESTING

Maximal muscle strength (or 1RM) is a valid indicator for performance potential and serves as the baseline for designing resistance training programs. Using computer monitored strength training equipment, staff can determine a 1RM for each running-specific exercise, assess muscle strength imbalances and proportionality, compute maximal power and decay of maximal power (fatigue profile) and thus determine the precise number of repetitions that can be performed without significant fatigue to the desired metabolic system. For running, we will choose the exercises based on the individuals goals and/or event(s).



Biomechanics Optimization

- **GAIT ANALYSIS** We offer a gait analysis that helps analyze, diagnose and document aberrant running or walking gait patterns with tools that compare the specified gait with optimal performance gaits, or before and after treatment of gait-hampering injury. Our gait analysis is done using 3-D motion capture video systems or 2-D video recording systems combined with force, pressure, acceleration and muscle activation technologies.

- **3-D MOTION ANALYSIS**

A computerized six-camera system is used to analyze kicking mechanics. By placing reflective markers on the joints, the cameras provide the computer with the data to set up a 3-D model. When combined with force, pressure, acceleration and muscle activation technologies, we can track joint positioning, velocity, acceleration and trajectories, track the center of mass distribution and determine the muscle sequencing and frequency. This data gives our staff precise information to make finite but critical adjustments to reduce injury and improve performance.

- **2-D ANALYSIS**

Using a 2-D video camera and specialized editing software, our staff will film you from several different angles while you run and review your movements, looking for abnormalities that are creating problems or are caused by a problem. Our staff then creates an illustrated and annotated video file that outlines modifications that can help you reduce pain and improve your running technique.

- **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.

- **TEKSCAN ANALYSIS** This test provides pressure and force measurement of the feet by using a paper-thin sensor placed inside the shoe. It is used to address and treat foot, gait and posture-related disorders. Tekscan illustrates the overpronation or supination across the heel, ankle and forefoot.

Performance Improvement

- **CATERED MILEAGE BUILDUP SCHEDULE** Once you know your heart rate zones, our staff can design a mileage buildup schedule based on your current mileage and your targeted training zones.

- **CUSTOM WEIGHT-TRAINING PROGRAM** Instead of going to the gym and guessing at what weights to use and exercises to perform, this service provides you with direction on which exercises to focus on and what loads, reps, sets and rest periods correlate with those exercises to help you achieve your strength goals.

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



POTENTRx Affiliates

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