

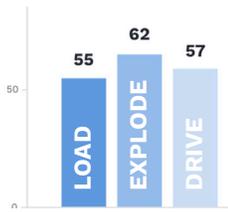
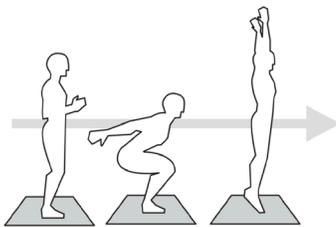
# Sparta Scan Overview

Jump. Balance. Plank.

**Sparta Science** optimizes health and performance for athletes, warfighters, fitness clients and patients with evidence-based movement scans and data-driven exercise prescriptions that **increase resilience, minimize injury risk and speed efficient rehabilitation to physical activity.**

The Sparta System, comprised of force plate hardware and AI and machine learning software, is powered by a database of nearly one million scans and thousands of injuries from tens of thousands of people to assess movement health and injury risk in seconds.

Sparta technology is used worldwide by elite and conventional military forces, professional, collegiate, high school and youth sports organizations, strength training professionals and medical providers committed to helping people move better, at work, at play, and on duty.



## THE SPARTA SCAN

The **Sparta Scan™** is comprised of multiple assessments available on the Sparta Platform: The **Jump Scan, Balance Scan, Plank Scan.**

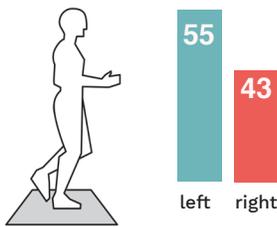
## THE JUMP SCAN

The Jump Scan measures a vertical jump from a standing position on the force plate and takes less than sixty seconds. The Jump Scan produces a Movement Signature™, a visual representation of the different components of the jump. Three key variables make up the Movement Signature: **LOAD, EXPLODE, and DRIVE.**

**LOAD** represents an individual's ability to generate force.

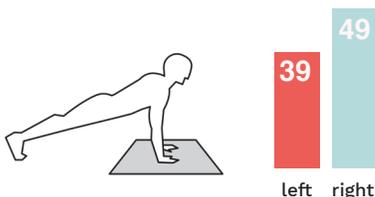
**EXPLODE** is the transitional stage and measures one's ability to transfer force.

**DRIVE** represents an individual's ability to express force over time.



## THE BALANCE SCAN

The Balance Scan, performed while standing on the force plate with a blindfold, assesses an individual's static stability on the Left and Right legs. This quickly informs a practitioner if an individual is at an increased risk of re-injury or physically able to progress in rehabilitation. An individual must show sufficient static stability in both medial-lateral and anterior-posterior planes in order to protect from injury.



## THE PLANK SCAN

The Plank Scan, performed with hands on the force plate in a plank position (either a full plank on feet or a half plank on knees) assess an individual's static stability on the Left and Right arms. This quickly informs a practitioner if an individual is at an increased risk of re-injury or physically able to progress in rehabilitation. A score below 48 indicates an increased risk of suffering an injury due to static instability and is a common threshold used in the return from injury process. An individual must show sufficient static stability in both medial-lateral and anterior-posterior planes in order to protect from injury.

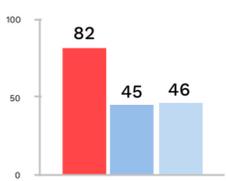


## DIAGNOSE

The Sparta Software compares an individual's results to our robust database and delivers actionable insights.

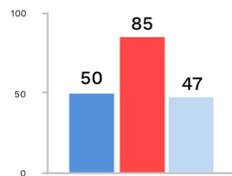
### MOVEMENT SIGNATURE TYPES & RISKS:

The magnitude, as well as the efficiency of force production, is analyzed to determine an individual's risk of suffering an injury, and where that injury is likely to occur.



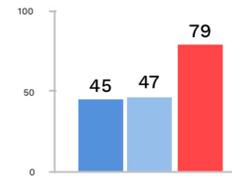
#### High LOAD

INSIGHT: Inability to absorb force effectively by flexing.  
RISK LOCATION: Foot (Lisfranc), Knee (ACL/ Meniscus).



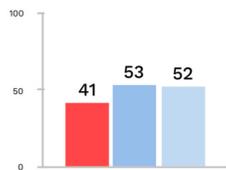
#### High EXPLODE

INSIGHT: Moves through short range of motion due to lack of mobility/strength.  
RISK LOCATION: Labrum Tears (Hip), Spondy, Oblique.



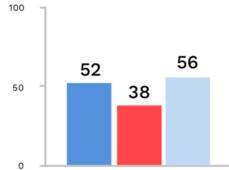
#### High DRIVE

INSIGHT: Relies on momentum due to lack of eccentric strength/timing.  
RISK LOCATION: Ligamentous (UCL, Spinal).



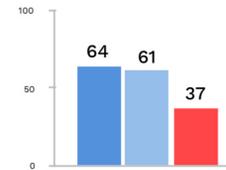
#### Low LOAD

INSIGHT: Inability to develop tension due to lack of strength.  
RISK LOCATION: Patella-femoral (Tendinosis).



#### Low EXPLODE

INSIGHT: Poor postural stability.  
RISK LOCATION: Lumbopelvic hip pain (Osteitis Pubis, Low Back).



#### Low DRIVE

INSIGHT: Inability to finish a movement smoothly.  
RISK LOCATION: Muscular strains (Hamstring, Groin, Quad strain).

## PRESCRIBE

Validated prescriptions are tailored to each individual to reduce injury and improve performance. Exercises to improve your Movement Signature:



#### LOAD

Box Squat  
Front Squat  
Back Squat  
1 Leg Squat  
Deadlift



#### EXPLODE

Suitcase Deadlift  
Deadlift  
Wood Chop  
Plyometrics  
Planks



#### DRIVE

Romanian Deadlift  
RFE Split Squat  
Overhead Squat  
Hip Thrust  
Mobility