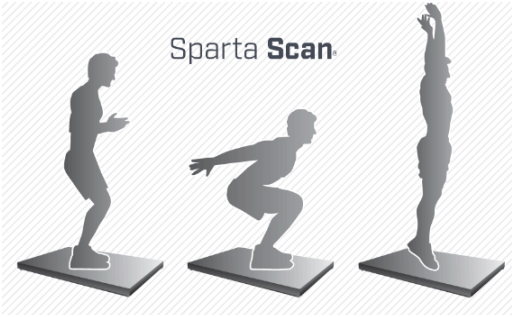
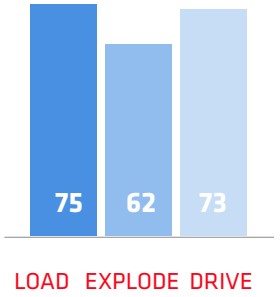
MINIMIZE INJURY RISK, MAXIMIZE PERFORMANCE

The Sparta Platform enables quick assessment of athletes to identify their risk of injury and what they need to work on to improve performance. Each Sparta Scan is compared to an 8 year database and produces unique insights specific to the athlete, sport and position. Referred to as a **Movement Signature™,** these insights are made up into three key variables - **LOAD**, **EXPLODE**, and **DRIVE**, - presenting individual strengths and weaknesses.





LOAD™ is the first movement measured and represents an athlete's ability to generate force.

EXPLODE™ is the transitional stage and measures an athlete's ability to transfer force.

DRIVE™ is a product of force and time. It represents an athlete's ability to finish movements smoothly.

Injury Risk Identification

- Quantifiable evidence that an athlete is at risk for a particular injury
- Individualized risk management

Talent Identification

- Assess and compare athletes
- Individual profiles; injury risk factors, performance projections, and internal rankings

Fatigue Monitoring

- Roster management based on athlete's current state
- Identify risk based on fatigue

The Sparta Scan™ - Baseball

Based on thousands of MLB profiles, Movement Signatures determine injury risk and ideal positional performance traits

Pitchers

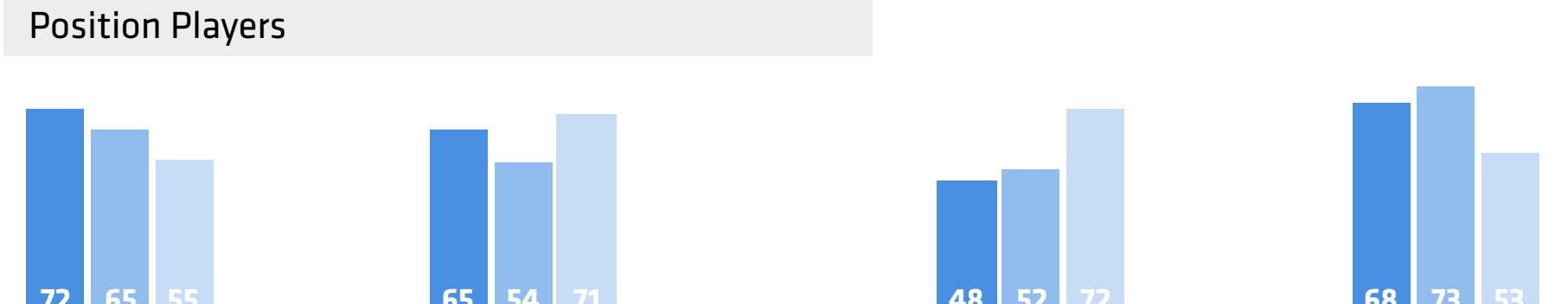
Able to initiate a great amount of force by loading into the back leg, but lacks fluidity / timing. Increased odds of muscular strains

Creates torque by loading into the back leg, losing tension in the torso, and regaining tension to drive off the rubber with great force / timing

Utilizes momentum to build force over time, which enables them to have a prolonged connection with the mound. Increased odds of elbow injury when this signature becomes extreme

Relies on athleticism, utilizing tendinous structures allows for explosive performance. Increased odds of oblique strains

Position Players



Able to initiate a great amount of force by loading into the back leg, but lacks fluidity / timing. Increased odds of muscular strains

Creates torque by loading into the back leg, losing tension in the torso, and regaining tension to drive through the ball with great force / timing

Utilizes momentum to build force over time, which enables them to have a prolonged connection with the ball

Relies on athleticism, utilizing tendinous structures allows for explosive performance. Increased odds of oblique strains

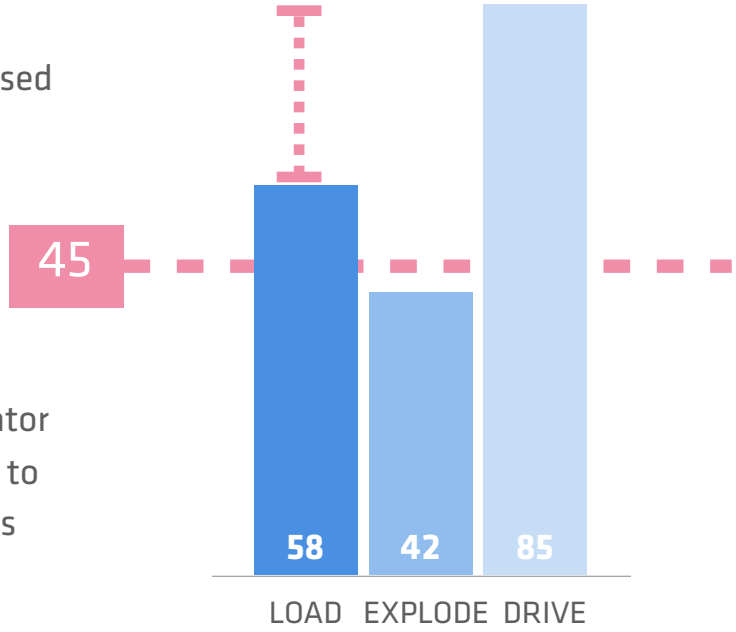
Injury Risk Assessment

How do we determine injury risk?

The Sparta Scan takes a comprehensive look into an athlete's movement qualities by measuring force production. The magnitude as well as efficiency of force production is analyzed to determine an athlete's risk of suffering an injury, and where that injury is likely to occur. It is easy to measure performance outputs like vertical jump height, but two athletes that jump 35 inches may use entirely different mechanisms to produce that leap.

When variables are more than 15 points away from each other, the athlete is mechanically imbalanced and at an increased risk of injury

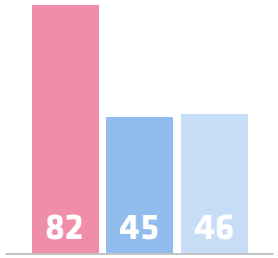
A score below 45 is an indicator of a lack of strength relative to their peers and also indicates risk for injury.



The Sparta Scan™ - Injury Risk

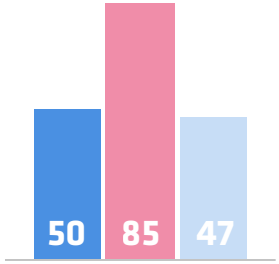
A Movement Signature is 'Extreme' when there is a variable 15 greater than the others. A Movement Signature is "Low" if a variable is below 45 or 15 less than the others

Risk Analysis: Extreme Movement Signatures



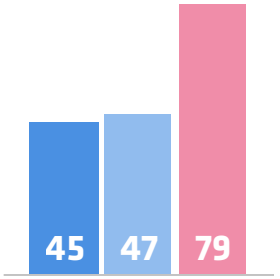
Extreme Load

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



Extreme Explode

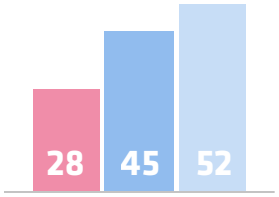
INSIGHT: Moves through short range of motion due to lack of mobility / strength
RISK LOCATION: Labrum Tears (Hip), Low Back (Spondy)



Extreme Drive

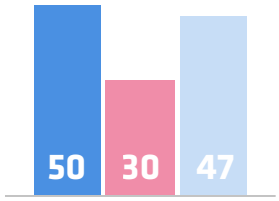
INSIGHT: Relies on momentum due to lack of eccentric strength
RISK LOCATION: Ligamentous (UCL, Spinal)

Risk Analysis: Low Movement Signatures



Low Load

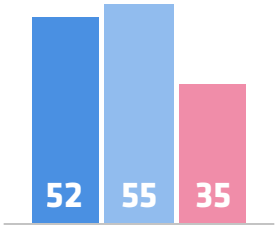
INSIGHT: Inability to develop tension due to lack of strength or ankle range of motion
RISK LOCATION: Patella-femoral (Tendinosis, ACL)



Low Explode

INSIGHT: Poor postural stability

RISK LOCATION: Lumbopelvic hip pain (Osteitis Pubis)



Low Drive

INSIGHT: Inability to finish a movement smoothly
RISK LOCATION: Musculo-tendinous (Hamstring, Groin, Quad strain)

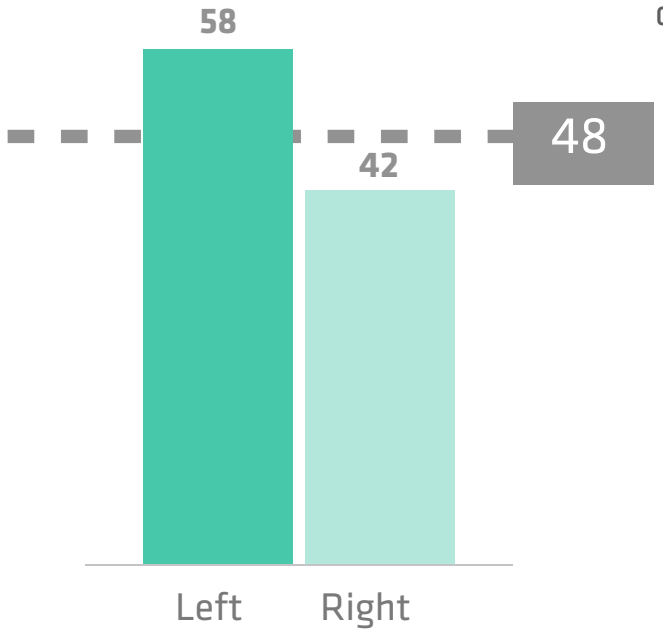
Lower Body Balance Scan - Assess Readiness to Play

The Assessment

The Balance Scan assesses an athlete's static stability on the Left and Right sides. This quickly tells you if an athlete is at an increased risk of re-injury or physically able to progress in rehabilitation

How it's Done

Athletes are barefoot and blindfolded before stepping onto a force plate. Two 20-second balance trials are collected on both sides, alternating between trials



What it Means

A score below 48 indicates an increased odds of suffering an injury due to static instability

Scores are based on the athlete's performance compared to the database of NFL players. A score of 50 is average.