

Traits Explorer

DEMO REPORT

Sports & Wellness

Athletics is a term encompassing the human competitive sports and games requiring physical skill, and the systems of training that prepare athletes for competition performance. Athletic sports or contests are competitions which are primarily based on human physical competition, demanding the qualities of stamina, fitness, and skill. Athletic sports form the bulk of popular sporting activities, with other major forms including motorsports, precision sports, extreme sports and animal sports.

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18 entries

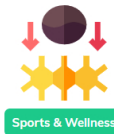
Full View

Sort by risk

Sort by name

Caffeine Influence In Sport Performance

This result is based on 3 genetic variants associated with "Caffeine influence in sport performance" analyzed in the scientific paper [\(01/27/2010 - Goldstein ER\)](#)



Your results

Faster caffeine metabolism in smokers and heavy coffee consumers



Description

Caffeine is among the biggest extensively researched substances on the globe. Its usage has been linked to improved stamina capacity in trials and putative stimulant benefits in both periodic and strength exercises. Caffeine may either boost or reduce workout efficiency, according to new research. These opposing reactions can exist even though the same quantity and people with similar features are used, making it challenging to understand caffeine's influence and relevance.

Active people and professional athletes purposefully use caffeine to increase performance.

According to studies testing workout performance following coffee intake, 33% did not increase their performance. Caffeine at a dose of 3 to 6 mg.kg1, 60 minutes prior to exercise, has been shown to boost performance.

[Learn more](#)



Exercise Response

This result is based on 3 genetic variants associated with "Exercise response" analyzed in the scientific paper [\(2007 May - Stefan N\)](#)



Your results

Slightly increased benefits from daily exercise



Description

When you work out or participate in sports, you become more aware of various portions of your body. You're breathing more deeply and

quickly, your heart is pounding, your muscles ache, and you're sweating profusely. These are frequent reactions to working out, whether you exercise consistently or sometimes, and whether you are a "weekend hero" or an excellent competition. When you observe elite athletes compete, you may see that their reactions are similar but improved. The body has a hugely complicated array of frameworks to meet the needs of moving muscles. Practice physiology is the body's reaction to delivering energy to muscles that engage in physical activity while maintaining balance in muscles that don't.

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Exercise-Induced Muscle Damage (Initial Phase)

This result is based on **6 genetic variants** associated with "Exercise-induced muscle damage (initial phase)" analyzed in the scientific paper ([2012 Apr - Pimenta EM](#))



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Your results

Increased exercise-induced muscle damage



Description

The initial phase of exercise-induced muscle damage affects the mechanical structures that contract the myofibrils, such as collagen, actin, myosin, desmin, titin, and other proteins that interact with the cellular cytoskeleton. Exercise-induced muscle injury phase 1. Some sarcomeres will be stretched beyond the optimal overlap of actin and myosin filaments, resulting in Z-line streaming. The sarcolemma becomes more permeable. Ca²⁺ influx into muscle fibres stimulates Ca²⁺-sensitive proteases (calpains). Calpain activation causes cytoskeletal and costameric protein proteolysis. Excitation-contraction coupling failure seems significant in muscular strength loss after strenuous exercise since caffeine-treated mouse muscle showed reduced muscle strength loss.

[Learn more](#)



Exercise-Induced Muscle Damage (Regenerative Capacity)

This result is based on **6 genetic variants** associated with "Exercise-induced muscle damage (regenerative capacity)" analyzed in the scientific paper ([2010 Mar - Akimoto AK](#))



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Your results

Average exercise-induced muscle damage



Description

Exercise Muscle strength affects skeletal muscle performance by altering fiber shape, metabolism and stimulating the production of growth regulators and other chemokines. The number of satellite cells beneath the basal layer of type I and type IIA muscle fibers rise in intense exercise. In contrast, the amount of satellite cells beneath the basal layer of both type II fibers rises. A rise in satellite cells is associated with many variables that encode distinct genes, and Type II fibers have greater myostatin levels, a transcriptional repressor of muscle growth. Protein breakdown by proteasomes, lysosomes, and Ca²⁺ is more intense in fibers with increased oxidative capability. Both oxidative ability and the number of satellite cells in muscle fibers are critical in muscle tissue regeneration.

[Learn more](#)



Exercise-Induced Muscle Damage (Second Phase)

This result is based on **9 genetic variants** associated with "Exercise-induced muscle damage (second phase)" analyzed in the scientific paper ([11/01/2004 - Dennis RA](#))



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Your results

Less odds of increased exercise-induced muscle damage



Description

An unregulated release of Ca²⁺ to the cytoplasm during the first phase triggers severe harm. An inflammatory reaction itself is the second

phase of exercise-induced muscle injury. Chemotaxis happens when degraded myofibril debris, notably tissue polysaccharides, attract leukocytes to the cell and trigger an inflammatory response.

Exercise-induced muscle injury results in a rise in cytokines, primarily IL1B, IL6, and TNF, which are triggered by such a rise in the rate of radicals and prostaglandins, and so accelerate the inflammatory process.

The onset of this secondary inflammation phase of muscle injury appears to be influenced by polymorphisms or variances in the loci which encode for such cytokines.

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Injury Risk

This result is based on **42 genetic variants** associated with "Injury risk" analyzed in the scientific paper [\(09/28/2017 - Kim SK\)](#)



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Your results

Slightly higher genetic predisposition



Description

The three most important perceived risk factors were previous injury, fatigue and muscle imbalance. Additionally, the three most utilised screening tests to detect injury risk were functional movement screen (FMS), questionnaires and isokinetic muscle testing.

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Ligament Injury Susceptibility

This result is based on **3 genetic variants** associated with "Ligament injury susceptibility" analyzed in the scientific paper [\(04/18/2017 - Wang C\)](#)



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Your results

Average likelihood of ligament injuries



Description

Ligaments are strong, flexible bands of tissue that link bones throughout the body. Injuries to ligaments may be caused by twisting the body or landings too harsh or uncomfortable. Ligaments may be torn if stretched to their breaking point and then subjected to an impact or trauma. You may suffer an ankle sprain when you fall awkwardly and twist your ankle while walking or jogging. Because knee and ankle ligaments carry a lot of weight, they are more susceptible to ripping. Ligament injuries are more common in sports that involve a lot of movements, such as hockey and football, or those that need a lot of contacts, such as basketball and tennis.

[Learn more](#)



Lumbar Disc Disease Susceptibility

This result is based on **3 genetic variants** associated with "Lumbar disc disease susceptibility" analyzed in the scientific paper [\(10/15/2016 - Wang W\)](#)



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Your results

Slightly increased risk of intervertebral disc degeneration



Description

An alteration in the standard disk's structure causes lumbar disc disease. Disk disease is most often caused by the natural breakdown of the disc that occurs with age and wears and tear. A standard disc can herniate if there is a significant injury. An already herniated disc can worsen as a result of an injury. Although ageing is the most prevalent risk, physical inactivity may produce weak back and core muscles that may not sustain the spine adequately. Back injuries are also more common among persons who aren't used to being physically active yet take part in activities that are too taxing on the body. Back injuries may be caused by jobs that demand a lot of lifting and twisting of the spine.

part in activities that are too taxing on the body. Such injuries may be caused by jobs that demand a lot of running and climbing or the sprint.

[Learn more](#)



Moderate Physical Activity

This result is based on **13 genetic variants** associated with "Moderate physical activity" analyzed in the scientific paper [\(2018 Jun - Klimentidis YC\)](#)



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Your results
Higher genetic predisposition



Description

Moderate-intensity activity is usually made up of exercises that get your heart rate up to 50% to 60% higher than its rate when you are at rest.

"Different groups have slightly different recommendations," says Travers. "But in general, they advise 150 minutes per week, or about 30 minutes five days a week, of moderate-intensity activity. In the exercise world, we consider this anything that gets your heart rate up to 50 to 60% higher than your resting heart rate."

What does that activity look like? All of the following fit the moderate definition of exercise:

- Walking two miles in 30 minutes.
- Biking five miles in 30 minutes.
- Swimming laps for 20 minutes.
- Running one and a half miles in 15 minutes.
- Doing water aerobics for 30 minutes.
- Playing volleyball for 45 minutes.
- Playing basketball for 20 minutes.
- Jumping rope for 15 minutes.
- Walking stairs for 15 minutes.

[Learn more](#)



Muscle Strength

This result is based on **6 genetic variants** associated with "Muscle strength" analyzed in the scientific paper [\(2006 May - Arking DE\)](#)



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Your results
Increased muscle strength and grip



Description

Force exerted or weight lifted is a measure of your muscular strength. You must do fewer repetitions with bigger weights to increase your muscle mass. The capacity of a muscle to perform repetitive contractions over resistance for a lengthy period is referred to as muscular endurance. Long-distance running, cycling, and swimming, as well as interval training and bodyweight exercises, are all excellent ways to increase muscle endurance. Exercising your muscles until they get fatigued is an effective way to increase their strength and endurance. Improved athletic performance is a result of increased muscular strength. By increasing your calorie expenditure and improving your body's fat-to-muscle ratio, building muscle strength helps sustain a healthy weight.

[Learn more](#)



Muscle Volume

This result is based on **3 genetic variants** associated with "Muscle volume" analyzed in the scientific paper [\(2008 Jul - Pistilli EE\)](#)



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Your results

Slightly increased muscle volume



Description

While your muscles don't contract as strongly every exercise, they do so for twice as long, resulting in about the same total stress. Technically, volume drives muscle development since strain over time causes muscle growth. Muscle volume was determined using truncated cones. All individuals were scanned twice to determine ULT repeatability. $R(2)=0.99$, and the two ULT readings were highly associated ($P0.05$). Mechanical muscle protein damage triggers a repair reaction. Muscle proteins with damaged fibres grow in size. Mechanofatigue occurs when muscle fibres run out of ATP, the energy component that makes muscles contract.

[Learn more](#)



Muscular Endurance

This result is based on **6 genetic variants** associated with "Muscular endurance" analyzed in the scientific paper [\(2010 Mar - Tsianos GI\)](#)



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Your results

Increased performance in endurance sports



Description

Muscular endurance is defined as a muscle's capacity to apply force consistently and repetitively over a while. It is essential in practically every sports pursuit. Muscular endurance is similar to stamina. Long-distance running is a sport that needs a high level of physical endurance. A marathon runner's body repeats the same action and stride during a marathon. To prevent damage or significant weariness, their muscles must have a high degree of endurance. However, muscular, solid endurance benefits more than simply top athletes. There are several other situations in which you require your muscles to perform efficiently for an extended period, such as rocking a young infant to sleep or going up and downstairs shopping.

[Learn more](#)



Muscular Power

This result is based on **3 genetic variants** associated with "Muscular power" analyzed in the scientific paper [\(2019 Jun - Ben-Zaken S\)](#)



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Your results

Better performance in endurance sports



Description

Many muscle motor units may be quickly recruited by lifting a heavy item, increasing muscle power. Powerful exercises include Olympic lifts, running, jumping, ice hockey, football, netball, and boxing. Daily tasks like climbing stairs, taking the bus and picking up need a strong core. Eating a healthy, balanced diet may increase your power output. To put it another way, you must feed your body correctly. For maximum power production, it's vital to eat nutrients that support healthy nerve connections between the brain and muscles. B-complex vitamins including B6, B12, and folate help nerve cell metabolism.

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Risk Of Achilles Tendon Injury

This result is based on **5 genetic variants** associated with "Risk of achilles tendon Injury" analyzed in the scientific paper [\(08/01/2021 - Kim SK\)](#)



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Your results

Slightly lower genetic predisposition

Description

Achilles tendinopathy, occurs when the Achilles tendon, found at the back of the ankle, becomes sore

Learn more

Risk Of Anterior Cruciate Ligament Rupture

This result is based on **3 genetic variants** associated with "Risk of anterior cruciate ligament rupture" analyzed in the scientific paper ([03/30/2017 - Kim SK](#))



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Your results

Slightly higher genetic predisposition

Description

There are a number of factors that increase your risk of an ACL injury, including: Being female — possibly due to differences in anatomy, muscle strength and hormonal influences. Participating in certain sports, such as soccer, football, basketball, gymnastics and downhill skiing.

Learn more

Tendinopathies In Lower Extremities (Legs)

This result is based on **9 genetic variants** associated with "Tendinopathies in lower extremities (legs)" analyzed in the scientific paper ([2009 Jul - Raleigh SM](#))



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Your results

Higher risk of tendinopathies in lower extremities (legs)

Description

Tendinopathies are deteriorating ligament disorders marked by discomfort and impairment. Lower extremity tendinopathy is a frequent sports ailment that can affect both players and non-athletes. Since tendinopathy can be hard to cure and has a detrimental impact on job performance and quality of life, it is critical to developing preventative measures.

Patellar, Heel, gluteal, and distal thigh tendonitis seem to be the most prevalent lower-limb tendinopathies. A treatment plan has been explored to diagnose various tendinopathies; nevertheless, different forms of muscular contraction, exercise, dosage, and intensity have been reported in the literature, making it difficult to choose the optimal treatment choice.

Learn more

Tendinopathies In Upper Extremities (Arms)

This result is based on **3 genetic variants** associated with "Tendinopathies in upper extremities (arms)" analyzed in the scientific paper ([2008 Dec - Khoschnau S](#))



Sports & Wellness

Your results

Average risk of tendinopathies in upper extremities (arms)

Description

Tendinopathies provide difficulty to both patients and practitioners in sports medicine. Notwithstanding the high frequency of tendinopathy in leisure and professional athletes, therapy is sometimes complicated by competing definitions and explanations of the primary disease, as well as a limited repertoire of proof therapies. One of the most frequent upper extremity recurrent injuries is lateral elbow discomfort, often known as tennis elbow or lateral epicondylalgia (LE). The frequency of LE in the general public ranges between 1% and 3%, but it ranges between 9% and 35% among tennis players. To avoid tendinopathies in the upper extremities, prepare your body for play (warm-up activity) before

and 55% among tennis players. To avoid tendonopathies in the upper extremities, prepare your body for play warm-up entirely before beginning your athletic exercise.

[Learn more](#)



Water Loss

This result is based on **1 genetic variants** associated with "Water Loss" analyzed in the scientific paper [\(2017 Apr - Zhang M\)](#)



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Your results
Lower genetic predisposition



Description

Why is it vital to stay hydrated when exercising? Water has several roles in the body, including maintaining blood volume and regulating body temperature. During activity, the body cools itself by sweating, but this causes a loss of bodily fluid, which can lead to dehydration if not restored. Sweat production (fluid loss) increases when the temperature and humidity rises, as does the intensity of activity.

[Learn more](#)

