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Understanding the Impact of Blood Type on Sports Performance

by Sarah Carpenter

If you've been exercising for a while, you've probably developed a routine. You stick to it because it makes you feel good. So what is your routine? Is it an intense run in the middle of the day or a calming hour-long yoga class to bring you back to center? Maybe you prefer a blend of the two — you customize your workout experience to get your blood pumping, bringing results. Have you ever wondered why you might like certain exercise regimens more than others? Science says that our blood type plays a part in how we choose to move our bodies. Let's take a deeper look at how our blood type can actually impact our sports performance, keeping us committed to movement and coming back for more.

What Is Blood Type?

We know that blood is something that our bodies need to survive, but not everybody has the same kind of blood. There are actually eight different types of blood humans possess, and your type is determined [by complex proteins situated at the outer layer of the cell membrane called antigens](#). These antigens join forces with the white blood cells to protect you from viruses and bacteria and stop them from causing any infection. Not only that, but these antigens also serve as identity tags so that your immune system does not think of them as foreign substances and attack them. But how do these antigens cause differences in our blood types?

There are two main kinds of antigens blood can have: A and B. Your blood group depends on the absence, presence and combination of these two main kinds of antigens in your blood cells. For example, if your cells have both A and B antigens, your blood type will be AB. If you have only type A antigens, your blood type will be type A. If you have type B blood, it means you have only B antigens. If you don't have any antigens present in your cells, then your blood type is type O. But that only covers four types of blood — there are four more. In addition to the A and B antigens, there is a protein called the Rh factor, which can be either present (+) or absent (-) in our blood. If we have Rh antigens present in our cells, then we are Rh-positive. If we do not have Rh antigens present in our cells, then we are Rh-negative. The eight most common blood types are A+, A-, B+, B-, O+, O-, AB+ and AB-.

Why Does Blood Type Matter?

For blood transfusions, matching the receiver's blood type is a matter of life and death. If someone with type A blood is given type B blood, or vice versa, their immune system will think of it as a threat and start attacking it, causing the transfused blood to clot. But things are a little different for people with type AB or type O blood. If you have both A and B antigens on the surface of your cells, then you can get a transfusion from someone with A, B, AB or O blood. If you have type O blood, your red blood cells have neither A nor B antigens, so you can only get a transfusion with O blood. It's important to know what blood type is safe for you if you need a transfusion.

Universal donors are those with an O- blood type. Why? O- blood can be used in transfusions for any blood type. Type O is routinely in short supply and in high demand by hospitals — both because it is the most common blood type and because type O- blood is the universal blood type needed for emergency transfusions and for immune-deficient infants.

Approximately 45% of Caucasians are type O (positive or negative), while 51% of African Americans and 57% of Hispanics are type O. Minority and diverse populations, therefore, play a critical role in meeting the constant need for blood.

How Blood Type Is Determined

Your blood type is inherited. Like your eye color, your blood type is passed genetically from your parents to you. Whether your blood group is type A, B, AB or O is based on the blood types of your mother and father.

How Your Blood Type Impacts Your Sports Performance

Blood makes up about 7% of your whole body and plays a major hand in your internal health. But we've also just learned that our blood type is our genetic link to the past. Let's take a look at the history of each blood type and apply our ancestors' behaviors to our own. Let's see how working out and eating right for your blood type can work to your physical advantage.

Type O

- Type O is linked to the hunter genotype — highly charged, kinetic people with a constant need for a physical outlet.
- [Studies have shown](#) that recreational athletes with O blood group have better endurance performance compared to those with non-O blood group types. If you're type O, you like high-intensity workouts, interval training, running and plyometrics.
- The hunter diet could be described as [pure paleo](#): lean meats, fish, vegetables, nuts and seeds.

Type A

- Type A is linked to the farmer genotype — sustained energy over longer periods of time, shifting away from the hand-to-mouth hunting/gathering lifestyle and toward building and growing stable communities.
- The type A genetic disposition favors a structured, rhythmic, harmonious life, with a focus on mind and body. Gentle exercise that promotes calm works well for these people: yoga, Tai Chi, isometric exercises.
- The farmer diet could be described as pure, fresh and organic.

Type B

- Type A is linked to the nomad genotype — frequent movement but at a less frenetic pace, reliant on a group dynamic for survival.
- The type B genetic disposition favors physical exercise that challenges the mind as well as the body. Meditative activities combined with intense exercise and with a group might be favored. Consider cycling, hiking and golf.
- The nomad diet includes green vegetables, lean meats and low-fat dairy.

Type AB

- [Type AB blood is rare](#) — it's found in less than 5% of the population and is the “newest” of the blood types. Unlike every other gene, which have dominant and recessive variations, the A and B variations in this genotype are “co-dominant,” existing happily with each other.
- The type AB genetic disposition has a chameleon-like quality, sometimes more A than B, and vice versa. Oftentimes a fusion of both. Workouts can be hybrid — think about balance. Break up your week with a few days of aerobic activity mixed with two days of yoga.
- The recommended AB diet consists of a variety of foods including fresh fruits, vegetables, and dairy.

Benefits of Blood Type Exercise

We know that regular physical activity can improve muscle strength and boost endurance. The increased blood flow from a great sweat session raises the oxygen levels in our bodies and it just feels good to move, period. Whether you're a tenacious type O performer craving an emotional outlet or a hybrid type AB breaking things up according to your vigorous and mindful moods, consider the science of blood type exercise next time you lace up your shoes. Understanding your blood type might unlock the next level of your sports performance.

Sarah Carpenter is a freelance writer whose portfolio spans the industries of health care, higher education and entertainment. Find out more at [her website](#).

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