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JOG OR SPRINT? WHICH ONE IS A WASTE OF TIME?

An evolutionary perspective on the latest fitness debate.

BY MICHELLE DRIELSMAN

Power and weight lifters will tell you that jogging is a load of crud, while marathoners maintain that heavy resistance training makes you bulky, less agile and gives you a heart attack. These are strong statements, but emotional attachments to this complicated issue shroud the truth in layers of confusion. It seems engrained in people's, especially females, minds that cardio is King for fat loss; no matter how many times this has been disproven scientifically and in collective personal experience.

The Palaeolithic approach will tell you that to jog for hours in a primitive

environment is lack of common sense, and would not let you live long. Taking this perspective, Palaeos claim we have evolved from a people who sprinted short distances and walked long distances in search of food and shelter, stating confidently that it is too energy consuming to jog for hours, not to mention fatally noisy to be huffing and puffing in the wild. However, and this is a new concept to me, jogging has allowed us to be the dominant species because animals cannot jog for extended periods. Unable to pant while jogging, the animal eventually keels over from its body overheating. Jogging was how we hunted.

That was the conclusion of a study published in the scientific journal *Nature* by University of Utah biologist Dennis Bramble and Harvard University anthropologist Daniel Lieberman. Humans are poor sprinters compared with other running animals, which is partly why many scientists have dismissed running as a factor in human evolution. Human endurance running ability has been inadequately appreciated because of a failure to recognise that, "high speed is not always important," Bramble says, "What is important is combining reasonable speed with exceptional endurance."

ANTI-JOGGING

Initially, most people will have a small to moderate weight loss with aerobic exercise. Thereafter their bodies adapt, becoming more efficient so fewer calories are burnt. So why are distance runners so skinny? Lots of aerobic exercise stimulates the production of cortisol and other stress hormones, which are catabolic (relating to the breakdown of tissue). Your body perceives itself to be in a stressful situation so these hormones prevent the development of muscle mass. In fact, with chronic exposure, cortisol actually destroys your body's tissues, including muscle and bone. Cortisol also tells your body to hold onto any fat stores available, just in case that lion comes again and you'll be running for days. The body is swept into a sympathetic (fight-or-flight) state, whereby blood is shunted away from the internal organs to the peripheral muscles in preparation for you to take action. Chronic or long term exposure

to these stress hormones compromises your tissue building and repair, digestion, production of vital hormones and many other parasympathetic functions which are essential for our survival. Disorders that can develop include diabetes, osteoporosis, infertility, menstrual problems, digestive disorders, heart disorders and impaired immune function.

So while elite endurance athletes have a lower percentage of body fat in comparison with the rest of the population, sprinters and other anaerobic athletes are certainly number one. The marathoner is "skinny-fat" compared to the sprinter. Since anaerobic and strength training exposes the body to anabolic hormones to counter the catabolic effects of cortisol, these athletes have less inflammation and negative cortisol-related effects. This was seen in a study in the *Journal of Sports Medicine and Physical Fitness*, finding that marathon runners had higher inflammatory markers at rest than a control group or sprinters.

PRO-JOGGING

Humans are the only primates that can run for extended periods of time, even our closest evolutionary partners, chimpanzees and gorillas, are incapable of running upright for more than a few minutes. We are pretty darn slow compared to the predator or prey animals, however we can outrun them by jogging over a long distance. Physically, humans are the most vulnerable and needy species, but we do have big brains (some of us!), clever hands...and the other thing is that we jog. Humans can efficiently shed heat by sweating which animals struggle with, having big fur coats. This means that endurance hunters don't have to outrun an animal, they just have to chase it until it drops dead from heat exhaustion.

Humans evolved three ingenious adaptations that are remarkably well suited to endurance running, allowing us to compete with the other mammals: our upright skeletal structure, our ability to breathe, and our

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ability to sweat. By standing upright, the movement of our legs as we walk and run does not affect the expansion of our lungs. Unlike cheetahs, we can breathe faster than we can move our legs, getting the maximum amount of oxygen to our muscles. The regulation of our breathing allows us to run for extended distances because we constantly remain in an energy-efficient gait.

The third unique adaptation allows humans to compete against other mammals: the ability to cool our body temperatures by sweating. Most animals cool themselves by seeking the shade or by panting to release hot, moist air through their mouths. However, animals cannot cool themselves and run simultaneously. Harvard scientists once measured the body temperature of a cheetah on a treadmill, as soon as its temperature reached 41°C, the cheetah halted and refused to run. Sweating allows us to regulate our internal body temperatures while running, without having to stop for shade or to pant.

An interesting perspective was given by a study in *Medicine & Science in Sports & Exercise* 2011. The article revealed that antioxidant pills prevent major mitochondrial benefits of endurance training. In this study, those that were given vitamin E and alpha-lipoic-acid did not increase the aerobic enzymes necessary to increase the size and number of mitochondria. Free radicals can be beneficial; they target gene induction, insulin sensitivity and are used in the immune system to destroy bacteria and viruses.

THE VERDICT

So who is correct? Is aerobic training beneficial to stress the oxidative system, create free radicals to target gene induction, strengthen the immune system and to promote adaptations to become a fit beast? Or is it best to avoid all that oxidative-stress, inflammation and hormonal disruptions and stick to strength training and high-intensity intervals? In my opinion, if weight loss is your only concern, stick with the latter, but in terms of creating an all-round fitness-machine-of-a-body, completely avoiding cardio can be detrimental to aerobic pathways and including it in your strength training schedule would serve to your enhance general physical fitness or competitive preparedness for your chosen sport. It just doesn't need to be overdone.

TIPS

Strength train. Everybody responds differently to exercise loading and every exercise has a benefit-to-risk ratio. Correct any dysfunction and become comfortable with body weight exercises before adding weights. Injuries with weight training have more to do with shabby technique and poor programming than the exercise itself. Learn how to lift correctly and create an effective program through periodisation.

Go for **intermittent sprint or metabolic resistance training.** Metabolic training is particularly good for fat loss and muscle building as the lactic acid accumulation stimulates insulin-like growth factors.

If you want **to get lean, look at your diet.** Eat a balanced, wholesome diet with plenty of antioxidants, polyphenols, bioflavonoids, beta-carotenes (from real food), include enough probiotics and good quality fish oils.

It is better to do aerobic training than absolutely nothing at all. Initially there will be some weight loss as the body is adapting to a new stimulus. I am not going to recommend to jog or not to jog...everyone responds differently to exercise and I also enjoy a bit of longer distance bike-riding, running, ocean swimming or an adventure race from time to time to mix things up and give my mitochondria something to play with. The feeling of total physical exhaustion and self-accomplishment is also indescribably different to that of strength training.

I do not believe that long duration aerobic exercise is inherently bad, as some strength gurus may be stating, and personally can feel a definite "clearing out of cobwebs" when I do end up going for a jog, swim, ride, dance (for HOURS nonstop!) or compete in an adventure race. It is definitely a different type of fitness and to not include any form of aerobic training will eventually reduce the size and number of mitochondria and aerobic enzymes. This result is seen in real life when MMA fighters 'gas out' after only focusing on anaerobic high-intensity interval training and dismissing other aerobic conditioning.

Personally, I believe that we do not need to do aerobic exercise everyday. It is also absolute BS that females should only do cardio for weight loss and that resistance training will bulk them up.

“I AM NOT GOING TO RECOMMEND TO JOG OR NOT TO JOG... EVERYONE RESPONDS DIFFERENTLY TO EXERCISE.”

I am more of a proponent of strength training, metabolic resistance training and intermittent sprinting exercises and would play around with longer-duration aerobic exercise depending on athletic requirements or personal preference. Ultimately, see what works for your body and notice when things aren't working or when weight loss is not actually fat loss and is contributing to a cocktail of secondary health dysfunctions. Being active should be something that feels natural and fun, and if something seems horribly offensive to you – such as running non-stop for hours – your body is probably telling you something invaluable. **FM**

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