

Running and Arthritis

Are you really 'ruining your knees'?

By Mackenzie Lobby

As featured in the Web Only issue of Running Times Magazine

As health insurance premiums rise and employment rates fall, many Americans have become particularly paranoid about their health. We're already strapped for cash. The last thing we need is to find out we have a condition that sends us spinning into a virtual turn style of referrals, co-pays, and pharmacies.

For the health-conscious runner, this is of particular concern. We rely on running and expect it will serve as a fountain of youth, the ultimate preventive measure against the effects of aging. So, what's with the old adage that running is bad for your knees? Our beloved pastime couldn't possibly be betraying our bodies, could it?

It's time for a little myth debunking, anti-fear mongering words of wisdom: running will not sentence you to being confined to a motorized Rascal in your later years. In fact, studies suggest the effects are quite the opposite. Among a long list of pros is the prevention of osteoarthritis (OA), the most common type of arthritis in older adults. Running isn't bad for your knees; it's good for them.

Joint Solutions

Ligaments hold together every one of the many joints in the human body, and those ligaments are stiffened and strengthened through exercise, such as running. Stronger ligaments equate to more stable joints, and more stable joints lead to less wear-and-tear injuries, which means a lower risk of old injuries turning into OA later in life.

Marie-Christine Leisz, M.D., who is the medical director of the Running and Endurance Sports Injury Clinic through Allina Hospitals and Clinics in the Minneapolis/St. Paul, Minn., area, explains why. "If you apply stress or loading to a joint, the muscle is going to get stronger," she says. "The composition and mechanical properties of cartilage change, making it more durable. Tendons and ligaments become increasingly resilient to stress, making them less likely to tear or sprain."

Dr. Eliza Chakravarty, researcher at Stanford University, recently published a series of studies devoted to busting up the myth once and for all. The larger study, published in the Archives of Internal Medicine, looked at distance runners and the prevalence of physical disability, as well as life span, compared to non-running peers. Chakravarty had 538 runners and 423 healthy non-runners, all at least 50 years old, fill out health-related surveys. The first survey was given in 1984, followed up by another 21 years later. While only 15% of the runners died during that period, 34% of non-runners did, yielding more than twice the death rate. In addition, the runners were less likely to be physically disabled at the conclusion of the study.

Chakravarty also examined the prevalence of osteoarthritis in a smaller number of participants from the original sample. The study, chronicled in The American Journal of Preventative Medicine, followed 53 non-runners and 45 long-distance runners, most of whom had been running for over a decade. Chakravarty kept tabs on this group for 18 years, from 1984 to 2002. The average age of the participant at the beginning of the study was 58 years old.

Radiographs of the knees were taken at six points between 1984 and 2002, and showed that OA was no more prevalent or severe in the running group. (In fact, a higher proportion of the control group had prevalent OA when the last radiograph was taken, although the difference wasn't

considered statistically significant.) The non-running group also reported a higher number of knee replacements than the running group during the 18-year study.

While Dr. Chakavary's research is conclusive, the annals of literature backing up these findings continue to surface. A study done at the Helsinki Research Institute for Sports and Exercise Medicine in Finland looked at former elite athletes hailing from various sports. Not surprisingly, they found that soccer players and weight lifters were far more likely to develop OA than runners. In addition, German researchers at the University of Heidelberg found that former elite marathon runners were not at higher risk of OA than a non-running control group.

Knee-ded Facts

In her practice, Leisz is frequently faced with the question about running and bad knees. "People are always asking, 'Am I going to end up needing knee replacements if I run?'" she says. "I want to reassure the seasoned veterans out there. Now the consensus is, no, we don't think so." Rather, the major risk factors for developing OA appear to be obesity, prior traumatic joint injury, and heavy manual labor. In fact, says Leisz, "for those who do not have those risk factors, running may be protective."

Collectively, this research suggests that, in general, distance running won't increase your chances of OA, whether you're a weekend warrior or a veteran elite. What fans the flames, spreading this nasty myth, is oftentimes operator error. While genetics can also play a role, it is often the runners who neglect to wear proper footwear and ignore injuries that end up rocking chair-bound. So if you're still sporting those Asics Tigers from the 1980s, fill them with rocks and throw them into the nearest body of water.

Leisz emphasizes, "You can't underestimate the importance of appropriate footwear. The lifespan of a shoe is usually 300-400 miles." Quoting Dr. Roger Mann's research on running injury prevention and treatment, Leisz explains, "When running, you increase the forces transmitted up through the legs by 2.5 to 4 times your body weight. If you weigh 150 pounds, you take about 1,200 steps per mile. You incur 375 pounds of force per foot plant. If you're in a shoe that isn't fitting you or its worn out, more of the stress is translated up through the long bones, rather than being absorbed and dissipated by the midsole of the shoe."

A new pair of shoes won't solve all your problems, however. Listening to your body generally will. If you have a nagging knee pain or are experiencing symptoms of overtraining, back off. The dose-response relationship is pertinent in this case. This concerns the ways the body reacts to differing levels of exposure to various stressors. You continue to reap the benefits from running to a certain point, but eventually you begin sliding down the other side of the curve. Not only can overtraining sideline you for your next race, the damage can be permanent down the road as you hit later adulthood.

There are other preventative measures you can take to avoid OA, according to Leisz. "We know the core muscles, the gluteus and the abdominals, control the motion of the femur," she says. "If a runner has a strong core, they tend to have less knee problems. When I see a knee pain patient who is a runner, unless they can recall a specific injury, I usually go right to the core to see how strong they are. Nine times out of ten, it's a problem with core strength." So, it seems if you buy new shoes, avoid overtraining, and strengthen your core, you are well on your way to avoiding nasty knee problems, as well as a whole host of other issues.

It's important to keep in mind that if you have already developed OA, you should consult your doctor regarding a running regimen. In less severe cases, running can actually help curb the condition. "One of the standard treatments for someone that is starting to have arthritis is activity because it helps the joint move longer and better," says Leisz. Running can actually assist

in lubricating joints, like oil to a rusty hinge. However, says Leisz, "If you are having a lot of pain and swelling, it probably means you are causing trauma to the joints, and then it might be time to switch to a different activity, such as the elliptical or the bike." Also, some studies suggest that elderly adults who practice regular vigorous physical activity may encounter OA more often.

For most, the risks involved in leading a sedentary lifestyle are far scarier than the risks of running. While it is hard for some to imagine, pounding the pavement day in and day out is better for your knees than spending seven nights a week on your couch watching reality TV. You want to know how to keep your body in tip-top shape without shelling out the Benjamins for hefty doctors' bills and prescriptions? Run smart. Live well.

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