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Phys Ed: The Men Who Stare at Screens

By GRETCHEN REYNOLDS

In 1982, researchers affiliated with the Cooper Institute in Dallas surveyed a large group of well-educated, affluent men. The researchers were interested in the men's exercise habits, but they also asked, almost incidentally, about their indolence. Specifically, they inquired about how many hours each day the men spent watching television or sitting in a car. (This was before you could do both at once.) Over the years, the survey's main results were used to reinforce a growing body of science about the health benefits of regular exercise.

But the information about the amount of time the men spent being inactive remained largely unexplored. Recently, however, scientists from the University of South Carolina and the Pennington Biomedical Research Center in Baton Rouge, La., parsed the full data. In a study published in May in the journal Medicine and Science in Sports and Exercise, they reported that, to no one's surprise, the men who sat the most had the greatest risk of heart problems. Men who spent more than 23 hours a week watching TV and sitting in their cars (as passengers or as drivers) had a 64 percent greater chance of dying from heart disease than those who sat for 11 hours a week or less. What was unexpected was that many of the men who sat long hours and developed heart problems also exercised. Quite a few of them said they did so regularly and led active lifestyles. The men worked out, then sat in cars and in front of televisions for hours, and their risk of heart disease soared, despite the exercise. Their workouts did not counteract the ill effects of sitting.

Most of us have heard that sitting is unhealthy. But many of us also have discounted the warnings, since we spend our lunch hours conscientiously visiting the gym. We consider ourselves sufficiently active. But then we drive back to the office, settle at our desks and sit for the rest of the day. We are, in a phrase adopted by physiologists, ''active couch potatoes.''

The amount of time that most Americans spend being inactive has risen steadily in recent decades. A 2009 editorial in the British Journal of Sports Medicine reported that, on average, adults spend more than nine hours a day in oxymoronic ''sedentary activities.'' For studies like these, scientists categorize activities by the number of METs they demand. A MET, or metabolic equivalent of task, is a measure of energy, with one MET being the amount of energy you burn lying down for one minute. Sedentary behaviors demand one to one and a half METs, or very little exertion.

Decades ago, before the advent of computers, plasma TVs and Roombas, people spent more time completing ''light-intensity activities,'' which require between one and a half and three METs. Most ''home activities,'' like mopping, cooking and changing light bulbs, demand between two and three METs. (One exception is ''butchering animals,'' a six-MET activity, according to a bogglingly comprehensive compilation from 2000 of the METs associated with different activities.) Nowadays, few of us accumulate much light-intensity activity. We've replaced those hours with sitting.

The physiological consequences are only slowly being untangled. In a number of recent animal studies, when rats or mice were not allowed to amble normally around in their cages, they rapidly developed unhealthy cellular changes in their muscles. The animals showed signs of insulin resistance and had higher levels of fatty acids in their blood. Scientists believe the changes are caused by a lack of muscular contractions. If you sit for long hours, you experience no ''isometric contraction of the antigravity (postural) muscles,'' according to an overview of the consequences of inactivity published this month in Exercise and Sports Sciences Reviews. Your muscles, unused for hours at a time, change in subtle fashion, and as a result, your risk for heart disease, diabetes and other diseases can rise.

Regular workout sessions do not appear to fully undo the effects of prolonged sitting. ''There seem to be different pathways'' involved in the beneficial physiological effects of exercising and the deleterious impacts of sitting, says Tatiana Warren, a graduate student in exercise science at

the University of South Carolina and the lead author of the study of men who sat too much. ‘‘One does not undo the other,’’ she says.

You can, however, ameliorate the dangers of inactivity with several easy steps — actual steps. ‘‘Look for ways to decrease physical inactivity,’’ Ms. Warren says, beyond 30-minute bouts of jogging or structured exercise. Stand up. Pace around your office. Get off the couch and grab a mop or change a light bulb the next time you watch ‘‘Dancing With the Stars.’’