

When You Are Serious with Mike Nichols, MD

A Major Shift

Reading medical journals is often more a political act than a scientific one. What gets published, when and by who is a completely political process. I do mean, that was a 'do', I do mean that the right politics can get bad science published. This, however, is not the rule. The kinds of political decisions that affect medical scientific publishing are more or less self correcting; the truth does get out eventually. Unfortunately, a great example is the 'saturated fat is bad' fiasco that held political sway for over 40 years, the results, while self-correcting, can be costly in the meantime. In the case of medical science the cost can be thousands of lives and billions of dollars; I am, again, thinking of the 'saturated fats are bad' charade.

However, that is not the kind of political malfeasance I want to talk about today. There has recently been a spate of papers about the benefits of exercise, Tai Chi, sound diet and relaxation behavior published in the most prestigious journals. These topics have been addressed elsewhere, just not in JAMA, NEJM, Circulation and so on. Well that has changed. The political winds have shifted; it is now considered sound science to publish, in prestigious journals, what any sane person who ever stepped into a gym or simply watched how their body responded to 'carb loading' already knew.

NEJM; Tai Chi for fibromyalgia. JAMA; effects of combined aerobic and resistance training on diabetes. NEJM; higher protein/low glycemic index diets more successful for weight loss and maintenance. On and on and no news to anyone reading this newsletter. This is great. This particular political malfeasance appears to be getting corrected.

Ever grateful for small things I can now feel a little vindication among my peers when they start extolling the virtues of statins- in NEJM, don't you know?!- whereas I quote obscure veterinary journals. OK, I admit it, that is hyperbole. So the winds are changing; fresher, freer. I wonder what they are up to?

So with that in mind I am back out giving talks about some of the underlying ideas that explain the benefits of exercise and proper diet even the elites are now advocating. Tonight I am going to talk to a few people at a CrossFit franchise in San Jose (LifeWorx) run by my very good friend Mary Burks.

Now the primary thing that CrossFit and I have in common is an appreciation of the power of athleticism. The link between athleticism and health is deep and important. Where we tend to diverge is in understanding that there are serious health consequences from the pursuit of athleticism in a univocal way. By this I mean, an athlete who is fast, strong, flexible, powerful and lithe, is very likely to be very healthy. That same athlete who trains to become the world's, or regional's, best 400 meter runner, or tri-athlete or any number of other things is probably not very healthy. The degree of loss of global athleticism that leads to single goal excellence is almost in direct proportion to loss of health. Well, I will get into the details of that another time.

For now I want to summarize- I said summarize- the what, when and why of training, eating and relaxation/spiritual development that leads to health; that leads to longevity. More important than longevity, that leads to joy and a sense of well-being.

First understand that longevity is tightly linked to two, not twenty, to two very specific things: VO2 max- exercise capacity- and heart rate variability. Yes, bone mineral density and testosterone and cortisol levels and HDL/HDL 2b ratios matter; they matter a great deal and are necessary building blocks of understanding and tracking behavior changes. Still, they are only surrogates for, you guessed it: VO2 max and heart rate variability. OK, what else is necessary? Joint strength, range of motion and stability.

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A Major Shift (continued)

VO2, heart rate variability, joint integrity. Done. But, I have a bad knee, bad thyroid, bad genes, tight hamstrings...well then you know what you have to fix because you need all of the tools, they call them legs and arms and brains, to make the changes that will increase VO2, heart rate variability and joint integrity. Peg leg? No problem; just find a workout environment to train, yes I did say 'train,' your VO2. Bad shoulder? Rehabilitate it; just don't let it keep you from the bigger picture of VO2 max, heart rate variability and taking care of the other joints. You get the idea.

If you get very close to the gym culture you will hear terms like "HIIT", high intensity interval training, and Paleo Diet; eat like a cave man. Don't be put off; these are new terms for old ideas. Long ago- 60-100 years ago- every YMCA in every dusty Texas town had a set of Swedish stall bars and Indian clubs. They're back and hi-tech. So what? They are great for your joints. Old School speed bag; great for your balance, coordination and reflexes.

Call it HIIT, call them gassers, call it/them whatever you want but build up your VO2 max and improve your heart rate variability all at the same time. Whole body, explosive, multi-planer, eccentric, closed-chain exercise- the kind that builds VO2 max or true exercise capacity- is not done on 'exercise

Equipment'; it is done with and by the body to something. Flip tractor tires, push your car around in the parking lot, chop wood. Get tired, have a massage, do Tai Chi, Qigong, Indian clubs and rest long and well. Don't do this every day.

Walk the dog, or meditate, contemplate the next day.

Heart rate variability is as much about your spiritual life or discipline as it is about your type, intensity and frequency of exercise. Heart rate variability is influenced by your hormonal and neurological status as much as your level of fitness. If your cortisol or adrenalin or adiponectin levels are high too long your heart rate variability will be suppressed. This is where sleep and the Rosary or Tai Chi comes in; these disciplines bring order to the breath which brings order or coherence to the beating of the heart. These disciplines by themselves are inadequate; they need the exercise component as well. And...you were wondering about diet...and diet has a profound effect on the hormonal and neurological milieu that affects heart rate variability. For example if you have high insulin, diet driven, then your resting heart rate will be high and your recovery rate will be poor; not good. This is probably largely related to the inflammatory effect of insulin, but is mediated by other known mechanisms as well. This is where the Paleo diet makes sense as it is devoid of grains and most other sugars which are the primary source of the insulin driving effect of diet.

OK, there you are, the summary: VO2, heart rate variability, joints.

Dr. Mike Nichols is one of the pioneers in the development of protocols for prescriptive exercise & a particularly prolific writer on the topic. You can view more of his articles at: whenyouareserious.com