

Mike Nichols MD

Health Management

Nam et ipsa scientia potestas est.

Knowledge is power. - Francis Bacon

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Training

This newsletter is devoted to some basic training principles. I've begun again working directly training people. It has been fun. It has (again) opened my eyes to how rarely we use sound biomechanics in our daily lives; in how we walk, stand, sit and especially how we handle heavy workouts and training. For this reason I would like to rehearse this issue and proper techniques with you so that you can adopt them in your own training and living.

A Strong, Stable Platform

The basic characteristic of a graceful walk, run, row, ski, lift or sitting posture is the stable, strong platform of the torso; this is all about 'recruiting the core.' 'Recruiting the core' is said and heard so often as to be white noise; passed over as obvious and conventional wisdom not worth thinking about or reexamining. Wrong; amazingly wrong. Few really get this; rare is the trainer that adequately teaches this and enforces it when training. Bigger, Faster, Stronger overrides quality 99 times out of a 100 and it shouldn't.

Part of the problem is a misunderstanding of what actually constitutes 'the core.' To start: doing crunches, sit ups, and the like does very little to strengthen and improve the core. The core is not your abs, your six-pack, your belly. It is the abstract concept but actual structure created by simultaneous contraction of almost every single muscle in your abdomen, pelvis and in and around your spine; it is the resultant

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profoundly supple but stable and torsion, flexion resistant structure of your entire trunk and its muscles under the micro-managed neurological control of the brain and spine. Frankly it is a very big deal.

When you naturally, lightly recruit your core it lends grace to your walk, relaxation to your sitting posture and freedom to your diaphragm and overall breathing. When you tightly recruit your core it gives increased strength to your sprint, your hill climbing, your deadlifts but more importantly it protects your back and hips and knees from injury.

A properly recruited core is the beginning of excellence in tennis, rowing, running, lifting, cycling, shopping and in turning on the intrinsic biomechanics and neurohormonal elements of healing and health.

If I am not careful and precise in my description that last very large claim- the core is the beginning of all things good- If I am not careful that claim will have all of the use of a Chiropractor telling you the spine is the cure and cause of all disease. Well actually the two claims are related but only tangentially.

Let me explain. The spine and all muscles in and on the trunk are under the control of reflexes that are mediated by the spinal canal and local switching structures and then under the higher switching control of brain derived signals. When there is a balanced nerve signal from the brain and spinally mediated the cascade of benefits include better oxygenation, stronger nerve to muscle signaling, an up-regulation in immune system markers, enhanced mood: it sounds almost too good

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to be true but is not and has been demonstrated in humans, not nematodes or rats like most supplement claims.

How do you recruit the core: First understand what it is, then consciously use it as often as possible. That is the beginning but more important is to begin to strengthen the right musculature so that the recruitment of the core is a natural state rather than a conscious act.

The posture that life in the modern world creates is a head-hanging, stooped one. The muscles of flexion- curl up like a ball- dominate in strength and spinal nerve signaling. Begin to train the muscles of extension; those of an arched back and arms outstretched. Not until the intrinsic muscle strength and mass of the extensor muscle sets equal or exceed the flexor strength will the spine and brain mediated nerve signals pull the body into a balanced, relaxed, erect posture. This is the beginning of true core recruitment. In other words you must retrain much of your entire body's muscles to recruit the core for 'the core' is that abstract concept of the balanced, integrated, and taut but flexible 'monocoque' of the torso; not muscles hanging on the 'frame' of the spine but a sheath of strength created by each and every part working together to contribute to the greater strength of the whole.

Take a look at the picture of sprinters on the next page. As you can see this is a very old picture. Note especially, looking at the front row, first, third, fourth and last from the left; you can almost see the flow of power through their torso to the ground: they are, while leaning, erect, square, looking ahead, clearly whole body contracted; it is a near certainty that one of these will (!) win. I've chosen an old photograph as these are athletes before the age of steroids, growth hormone, blood

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doping and other techniques that strip away or hide the fundamental grace of the human form.

The standard "I have to do my crunches" workout does nearly nothing, I said nearly nothing for the core.

Posture clues: chest up, head up, arms and shoulders at your side not in front of your ears, you feel no or little pull or tautness in the low and middle back, the lower rim of your chest, even if obese, sticks out farther than the upper chest or sternum, while walking arms swing

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freely, the breath is noted as much in movement of the abdomen as in the rise of the chest.

A simple anecdote of benefit: I have arthritis in my knees and if I ascend stairs without core recruitment my left knee especially has a very sharp pain on the outer or lateral margin and if I recruit my core I have no pain in the knee at all.

How can this be you might ask? The neurological- brain and spine based- recruitment of the core automatically balances the extensor forces-quads-and flexor forces-hamstrings-across the knee and stabilizes it avoiding the shear forces-the sanding effect-of weight bearing extension and lift of going up the stairs. Very neat; no pain going up stairs. But this is a small, though gratefully received, benefit of core recruitment. Keep in mind my empirically based assertion that the benefits of core recruitment are manifold and extend to everything from improved sleep to a better sex life.

No one is too fat, too old, too weak or too stooped to begin to improve core recruitment.

On the training floor this means every muscle is so taut that whatever you are lifting seems to add little to your work as you have so many muscles 'working' that the added squat, bench or lunge flows from your body posture and preparation. Walking down the street this feels like being 10 years old and whistling while walking, skipping and kicking a rock; it feels like freedom.

Exercises that focus on core development are front squats, rowing properly done, chin-ups, even assisted, "L" seats or hanging tuck-ups (not rope tucks): start with the 'Roman Chair' if necessary.

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Talk to your trainer and show them this if they have any questions. If they don't then be sure to ask them to both train you in this skill and observe you to insure that you are 'recruiting the core' with every exercise.

If you still have questions then 'rent' me for an hour; even if in groups.

Once you find it you will love your 'core.'

Please keep me posted and God Speed,

Dr. Mike

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