

Easing into fitness

If you want to improve your fitness, you need to use your brain, not just your body, says movement expert Anat Baniel





When your fitness level is flagging, you know it. You find yourself huffing and puffing going up a flight of stairs, you have a hard time bending over to pick up something from the floor, you can't run as fast as you used to, or your balance has been getting a bit shaky. It can even be that

you're finding it difficult to get out of your favourite chair.

Whether you're an athlete in top shape who wants to reach a higher level of performance, or someone recovering from an illness or injury that limits your movement, or even a self-described couch potato, it's important to discover how to make your body stronger, swifter and better coordinated. This includes increasing flexibility and stamina, having a stronger back, arms and legs, moving better, feeling more comfortable and vital, and having your body do what you want it to do with ease.

Conventional wisdom maintains that if you want to improve your fitness, you must exercise more by carrying out stretches or lifting weights. You're told to turn all your attention to your muscles: stretch 'em, pump 'em, warm 'em up, and do tedious repetitions. Above all, you're supposed to constantly try harder and go longer—push through the pain and the burn. However, if these are the best ways to increase your fitness level, health and wellbeing, why do so many people fail to achieve greater fitness through them?

Take stretching, especially forceful stretching, still considered the best way to increase flexibility and enhance athletic performance. In her book *The First 20 Minutes: Surprising Science Reveals How We can Exercise Better, Train Smarter, Live Longer*, best-selling author Gretchen Reynolds says: "In the past decade, a growing number of studies have shown that static stretching not only does not prepare muscles for activity, but does the reverse. In a representative experiment conducted a few years ago at the University of Nevada, Las Vegas, athletes generated less force from their leg muscles after static stretching than they did without stretching.

"Other studies have found that stretching before exercise decreases strength in the stretched muscle by as much as 30 per cent," she writes. "Weirdly, stretching the muscles in

one leg can even reduce strength in the other leg, an effect that can last for up to 30 minutes. In a few key real-world studies, basketball players who stretched before a game were unable to jump as high during play as when they hadn't stretched."¹

The critical ingredient missing from most fitness regimes is an understanding of the role of the brain in making every movement of our body possible.

Beginning in the womb, and continuing during the infant's early movements and through the increasingly more complex movements we learn, the body is getting mapped into the brain. Think about it: at birth, the child doesn't know she has arms, legs, back or belly. It takes years before there is enough connectivity between the body and brain so that she can walk, skip, catch a ball, sing a song or write a letter.

This realization—that the brain organizes all movement—has everything to do with

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your ability to become more fit, even into your 90s. It is the brain that needs to get new information and create new patterns of movement in order to move us past limitations to new levels of fitness. Exercising over and over again without providing

the brain the opportunity to create the new simply grooves in more deeply not only what we already do well, but also that which limits us and brings about injury and pain.

The good news is that there are some safe and easy ways for us to provide the brain with the new information it needs. Some of these methods, which I call the Nine Essentials, seem counterintuitive, but they're fully supported by current neuroscience research.

One of the Nine Essentials is: *Slow*. Slowing down is an absolute requirement for the brain to change and learn something new. This was dramatically demonstrated by Michael Merzenich and Paula Tallal, two of the four scientists who founded Scientific Learning®, a company dedicated to accelerate learning using proven research, including the Fast ForWord® training programme for language-impaired and learning-disabled children.

Through the programme, children learn to identify language sounds that are first given at significantly slower speeds than occur in



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normal speech, after which the speed is gradually increased.

Research following 500 children at 35 sites found that the average child who took the programme progressed by an average of 1.8 years in language development within six weeks.²

These programmes have also been used to improve reading and writing skills in college students, while studies in adults using similar principles show improved flow of information in the brain, which translates into improvement in a variety of different functions, such as memory.³

Another Essential is *Variation*. Instead of ‘drilling’ and doing endless repetitions of a movement, my technique is to ask people to be playful and experiment with doing things in ‘wrong’ ways. This provides the brain with a flow of new information, which it uses to reconfigure the body to perform better.

Studies with lab animals suggest that variation helps the brain learn faster. In 1990, a team of brain scientists set up a research project with four separate groups of adult rats: the ‘mandatory exercisers’, made to exercise on a wheel with no variations; the ‘acrobats’, provided with a richly varied obstacle course with lots of variation; rats given the option to exercise or not; and the ‘cage potatoes’, left with no opportunity to exercise at all.

The mandatory exercisers had the highest increase of blood vessels in the cerebellar cortex. However, it was the acrobats—raised in an environment with the greatest opportunity for variation—that had the highest scores for increased brain synapses—that is, the greatest number of new connections per neuron.⁴

Research on humans has produced similar findings. Melissa A. Schilling, professor of management and

The essentials

Here are some tips on how you can apply four of the Nine Essentials of NeuroMovement® and begin to enhance the fitness levels of both your brain and body. These can create amazing breakthroughs, whether you’re a world-class athlete or have never done fitness training before in your life. Use these principles when you’re working on the exercise on page 43.

SLOW Next time you’re at the gym or yoga class, taking a walk or simply about to roll out of bed in the morning, for two to three minutes, slow your movement way down.

If you’re taking a class like a fitness class, let the instructor know that, from time to time, you’ll be moving very slowly and not to worry. Or

if you’re on a treadmill, put it on a very slow speed. The very opposite of how most fitness programmes are carried out, slowing down allows you to pay attention to what you feel, which will bring about swift changes in your performance.

MOVEMENT WITH ATTENTION

Once you’ve slowed yourself down, pay very close attention to what you feel in your body as you move. Research shows that when you do this, the brain immediately begins to make hundreds, if not thousands, of new connections to help it map out more complete information about a movement.

VARIATION

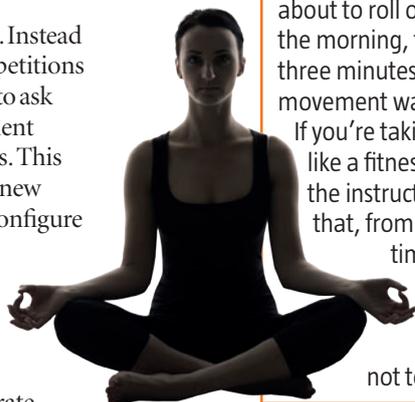
Whatever movement you’re doing, for two to three minutes, do the movement in

a number of different ways. Even do it badly. You’ll be surprised by how your brain uses this information for greater differentiation and smoother, stronger, more accurate movement.

So if you’re trying to do a yoga pose in just the right way, intentionally experiment with at least three different ways of doing it not the right way, and see what happens when you return to the correct way of doing the pose again.

SUBTLETY

Take two to three minutes during whatever movement you’re doing and reduce the force with which you’re doing it by half, then reduce it yet again by another half.



organizational behavior at New York University, led a study to determine whether variation enhanced the learning process. Dividing volunteers into two groups, only one group was allowed to play a game with a number of variations in the rules. This group learned the game significantly faster and performed significantly better than the group that had to play with only a single set of rules.⁵

Except on rare occasions, the main reason you’re unable to perform a movement is that your brain doesn’t yet know how to organize the body—which muscles to contract at which time—to get the outcome you’re seeking. Your brain hasn’t yet created a detailed enough map (a process called ‘differentiation’), so it can’t coordinate the different parts

of your body to do what you’re trying to accomplish.

Without such mapping, your brain is unable to communicate with all the muscles required to do the movement well, so you’re stuck at the same skill level, improve very little and may even get injured. This is true whether your goal is to achieve greater strength, flexibility, stamina, ease, comfort or well-being.

A few years back, I worked with a 4th-Dan martial arts practitioner named George, who kept getting injured during practice sessions. Despite years of additional training, he was unable to move up to the 5th Dan. He had been trained by a Japanese master he admired and loved, but the training had been carried out under great pressure, using

Exercise: Folding chest and spine

Start with small movements and remember to do them very slowly and gently so your brain will wake up and create new connections.

1 Lie on your back with your legs stretched out long and your arms next to your body. Take a moment or two to scan the way you're lying on the floor, and feel/see in your imagination your spine and ribs on both sides.

2 Bend both knees, and place your feet apart flat on the floor. Interlace your fingers and put your hands behind your head. Lift your right leg, bent at the knee, off the floor and lift your head with the help of your arms, and direct your right knee and right elbow towards each other; relax back down onto the floor.

Do not try to touch the elbow to the knee. Instead, pay attention to what you feel in your chest and spine as you move. Repeat six to eight times, then stop, straighten your legs and arms, and feel if there are changes in the way your body now lies on the floor and how it feels. Any changes have been brought about because your brain has already made certain connections that, in turn, have changed the way your body is organized.

3 Do the same as in #2, but on the other side.

4 Lie down as in #1, but this time, place your right hand below your right knee while placing your left hand behind your head, and direct your left elbow and right knee towards each other. Do this six to eight times, then rest.

5 Do the same as in #4, but on the other side, then rest and notice whether you feel any changes.

6 This time, place your right hand behind your head and your left hand below your right knee. Lift your head with the help of your right hand and arm, and direct the right elbow and left knee towards each other. Again, do not try to touch the knee and elbow, and pay attention to what you feel in your spine, back and chest. Rest.

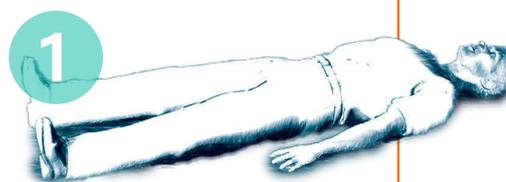
7 Do the same as in #6, but on the other side. Rest and feel the differences.

8 Bend both legs with feet flat on the floor. Extend your right hand between your legs and place it behind the left knee. Turn your head to the right and put your left hand behind your right ear. While your head stays turned to the right, begin lifting the head with the help of the left hand, and direct the left ear towards the left knee and the knee towards the ear.

Do not pull or stretch. Gently lift your left shoulder blade a bit as you do the movement to help your head twist more to the right. Repeat six to eight times.

Rest and take the time to notice any tiny differences in the way you're now lying on the floor.

9 Do the same as in #8, but on the other side. Rest, and feel the changes in your body.



10 Do #1 again, very gently, and feel if it is now easier, more pleasurable and whether you're moving further with less effort. Your brain has now mapped your back and chest more fully, and has figured out how to execute the movement with greater skill and enhanced fitness.

extremely fast and difficult exercises, with no time for George to slow down, vary movements or pay attention to how he was feeling while moving.

I guided George through a few simple NeuroMovement® lessons, showing him how to slow down, reduce the force with which he moved and pay attention to himself and his feelings while moving.

George began to feel safer and experience pleasure during his martial arts training sessions, and soon stopped getting injured. He then returned to Japan and passed the 5th Dan test. George continued working with us and, in just over four years, he'd progressed to 10th Dan.

Anat Baniel with Neil Sharp, MD

Anat Baniel is offering WDDTY readers FREE NeuroMovement® lessons at: www.anatbanielmethod.com/wddty. She's also offering our readers a 20% discount on all NeuroMovement DVD programmes by using the coupon SAVE20OFF. To learn more about her online DVDs of NeuroMovement® for Whole Brain and Body Fitness, go to www.anatbanielmethod.com/members/neuromovement-whole-brain-body-fitness/

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