



Zoe Birch is a Chartered Physiotherapist and founder of PhysioMotion, which operate two London clinics as well as providing physiotherapy at home. In her latest article for SEBRA NEWS W2, Zoe offers a simple message...

DON'T FORGET THE BRAIN!

As it is becoming more common for people to be living way into their 90s or older, we have learnt to look after our physical abilities to maintain our independence. But one of the other effects of us living longer is a cognitive decline due to deterioration in our brain functionality.

As physiotherapists we know that certain types of physical activity are better for different parts of our bodies and for achieving different physical tasks. When it comes to the brain, however, we need to make sure it gets an abundance of oxygen and that it is challenged. Physical activities that we can perform to improve our brain health include:

1. Regular movement - Research shows for good brain health we should be getting up and walking for two minutes every hour. Over and above this, if you can manage to walk for five minutes every 30 minutes, then this also helps to combat high blood pressure and blood sugar, as researchers at Columbia University found out.

Due to a huge shift in the way we spend our working lives, we have ended up sitting for long periods of time either at our desks and even when commuting to the office. As we get older and we gain the psychological fear of falling, we end up moving even less and only moving out of necessity to the bathroom or to prepare a meal.

By regularly moving we will release a protein substance called brain-derived neurotrophic factor (BDNF), which helps the brain to develop new connections, repair failing brain cells and protect healthy brain cells, and improves learning, memory and mood.

2. Aerobic exercise - By broad consensus, intense aerobic activity is good for the heart, such as high intensity interval training. However, this type of activity releases cortisol, and this can actually have a negative effect on our brain

function, as the cortisol can inhibit neurotrophic factors that helps with our brain function.

Therefore at least a 30 minute brisk walk every day, that will raise our heart rate, has been shown to be better for our brain. An easy way to know if you are working at this intensity is to see if you can speak a full sentence with slightly more difficulty than when you are stationary, but it shouldn't be impossible.

Research at Duke University demonstrated signs of premature ageing both physically and cognitively in people that walk more slowly at 45 years old, and established that those who walked at 1.8mph or faster are likely to exceed the average life span.

3. Breathing - I am sure you have often been told by your physiotherapist or personal trainer to stop holding your breath when exercising, but as well as breathing being important for exercising, it is important to help our brain to desensitise from the constant day to day stimulation resulting in stress. Chronic stress has been shown in many studies to impair our ability to learn and adapt to new situations and subtly erode our cognition, as well as effect our ability to store and retrieve memories.

Reducing stress levels can be achieved with deep breathing. This could be taught by a local physiotherapist, yoga or pilates instructor.

Deep breathing should be performed in a comfortable, supported position so that your body can relax. Breath in through your nose for as long as you can to allow your diaphragm to descend and abdomen move outwards. Then hold for a count of two before slowly breathing out through your mouth until you feel there is no more air in your lungs. You should repeat this five times with your eyes closed.

You may also find that by practising this twice a day, not only does your memory improve but also your focus, concentration and productivity.

4. Cognitive stimulation - Unfortunately performing a daily crossword is not enough to get the brain's neurones firing and increasing to build a resilience to brain-related diseases.

Better than this is picking up a new hobby or doing a familiar task in a different way.

I consistently provide my patients with new exercises that are unfamiliar to them in order to stimulate their brain. Brain stimulation is also achieved when re-learning to engage the right muscles at the right time after an injury.

Rather than inflicting an injury on yourself to end up in my clinic, you could also take up painting, playing a musical instrument, learning a language or performing a perfected task with your non-dominant hand or leg.

Improving our diet also helps brain health such as focusing on a Mediterranean style; cutting out all added and artificial sugar; reducing salt intake; and keeping hydrated. Also beneficial are analytical meditation, 7-9 hours sleep a night, dental health and increasing social plans.



New hobbies are great for the brain.

As with lots of things related to our body, it is never too late to get started! And it has been clinically shown that if we are able to slowly implement these changes in our life within three months we would notice huge improvements in our brain function.

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