

Re-booting my life with EMS

Here I am doing the Ice-bucket challenge in 2014. I'm eighteen months into a two-year health issue preventing me from doing any kind of intense or prolonged exercise, my joints just hurt too much. I'm more than five kilos overweight.

Actually, what annoyed me the most was, for the previous twelve years, I'd been a regular marathon kayaker, sometimes paddling thirty or more miles a day. Several things were gone, my strength and fitness, my desire for exercise, and any confidence I'd get back in a racing kayak. I'd lost a lot of muscle mass and strength, and my knees and shoulders hurt like hell. Old age was becoming a reality, and was affecting everything in my life.



Then everything changed.....

I met Ben Brown one of the directors of the Body Shape Studios at a local business network, when he presented the principle of Electromuscular Stimulation (EMS) for strength and fitness. Immediately, he grabbed my attention. Not because it was new to me, but because he took me back to my previous career as a biomedical researcher where I'd helped on the early application of EMS to build muscles of paraplegics. By re-building their leg muscles and reducing the amount of fat they carried it helped prevent type 2 diabetes. Don't get me wrong I wasn't diabetic, I just wanted to avoid it and get back to being strong and fit. Within a week of meeting Ben I had my first introductory EMS session, and I was on my way.....

So, what's EMS like, is there any real science behind it, and have I benefitted?

The most important thing to understand is that EMS is not dangerous and isn't painful. True, it can feel a little weird at first, and describing the specific sensation you feel is a bit like trying to describe a new flavour to someone; you can't really find the right words, but here goes anyway. The sensation you get depends on your baseline strength when you start a programme, and how high your trainer sets the EMS system stimulus strength. If it's set too low, you feel nothing at all, and of course you'll get no strength benefit. If it's set too high, your muscles contract but you'll have a very hard job moving against them. But when it's just right you experience a "buzzing" feeling in your muscles, and a strong contraction which you can work against. I find the feeling exhilarating. The contraction stimulus comes on in regular four-second bursts, with short rests in between. Working with a skilled trainer you get time to do about eight different types of free exercise. To get the best benefit from the exercise and avoid injury, Karen Matthews my brilliant trainer, not only keeps me motivated, she watches me very carefully to make sure I have the correct body form and movement during each phase.

Now some relevant science.....

Normally, our muscles contract because we send a message from our brain via nerves to the muscle we want to contract. EMS works differently by stimulating muscles directly using a very small computer-controlled electric pulse applied directly across the skin. A typical session involves performing some simple movements and exercises whilst the EMS is contracting muscles at the same time. We're working against our own muscles! EMS makes our muscles contract harder than possible voluntarily; the techie term is that it "recruits" more muscle fibres. When we combine direct EMS with voluntary contraction on top, you get more stimulus than you can ever get from

own muscles! EMS makes our muscles contract harder than possible voluntarily; the techie term is that it “recruits” more muscle fibres. When we combine direct EMS with voluntary contraction on top, you get more stimulus than you can ever get from any other form of exercise, and of course bigger and stronger muscles. Amazingly, as a result you get the same muscle strengthening effect in just 20 minutes as you would get in a two-hour heavy free weights session in the gym! I know which I prefer!

I got bigger muscles – so what?

My introductory session was over and I really knew I’d worked hard! I couldn’t wait for the next one. I signed up for twelve more sessions. I really know I’ve worked hard, and I just love the afterglow following a session.

As I said earlier I spent thirty years as a researcher with my main expertise investigating how muscle develops in the embryo, grows in puberty, gets stronger with exercise, and weaker in ageing and disease. Now the exciting news for you is that muscles can, with the right exercise, get fitter, bigger and stronger, even into our late nineties.



I know, I know, you’re wondering if all this made any real practical difference to me and my life. The answer of course is yes or I wouldn’t be writing this, would I? Here are the details. I started out doing an EMS session every week, and within three months I was back paddling a racing kayak and loving it! Before EMS I weighed about 76kgs and I am now 80kgs. Today I’m stronger than I have been in ten years, my resting heart rate is 50 beats per minute, and my blood pressure is usually 130/70. Did I say that I turned 61 last October (2017)?

Well done! You noticed I’ve put weight on! How does that work? I lost three inches round my waist. My chest has increased by two inches, I’ve put six inches on the circumference of my thighs, four on my biceps and three on my calves. All that extra weight is muscle! I’ve reduced my fat and increased muscle in its place. As muscle is denser than fat I’ve put on weight; makes sense.

I began my journey two years ago and since then I’ve invested in a new faster kayak, and I’m achieving personal best times over long distances! Here’s the evidence...



I now use EMS every other week, mixed in with one or two paddling sessions of between four and ten miles and sometimes I throw in a standard gym session for good luck, and I even enjoy it!

I’m taking on the Thames Ultra Marathon in June 2018 – 52Km of paddling non-stop on the Thames from Marlow to Hampton Court. My target time is under 6 hours! That’s a little over 8.5Km/hr!

So, who is EMS good for?

If your health is basically sound (don’t worry if you are “overweight” when you start), you don’t have a pacemaker (EMS could interfere with it), or you are under 18 (legal reasons), you’re highly likely to benefit from an EMS programme.

Because there are so many different ways to use the EMS system the possibilities are almost endless. For example, you can alter the stimulus intensity, the type and speed of the exercises you do, and even add weights, resistance bands or other equipment.

EMS is great for re-shaping your body and getting stronger and fitter. You might not be sporty, it really doesn’t matter. Like me, you might have had a long period off from

EMS is great for re-shaping your body and getting stronger and fitter. You might not be sporty it really doesn't matter. Like me, you might have had a long period off from exercise through injury or illness. You might be getting older and can't face going to a typical gym (too many judging eyes). Alternatively, if you're a serious athlete, you can incorporate EMS into your regular strength and conditioning routine. After all Usain Bolt used EMS in his regime and he didn't do too badly!

Other potential health benefits, just a bit more useful science....

Earlier I mentioned my research work and the potential effects on preventing type 2 diabetes. It's now accepted that exercise, particularly strength training can reverse type 2 diabetes. This is because stronger fitter muscles are more sensitive to insulin and take up excess glucose more efficiently. It's high blood glucose levels over years that cause all of the secondary consequences of diabetes (blindness, poor circulation, kidney failure etc.). If we can lower our blood glucose levels then diabetes can be managed. The NHS is projected to spend one fifth of its budget on the consequences of diabetes by 2025.

The double hit for people with Type 2 diabetes is their condition creates physical and mental lethargy putting them off taking regular exercise. I just took another look at the current research in this area, and it clearly supports the view that EMS reduces glucose levels in people with Type2 diabetes. Please understand, I'm not saying that EMS "cures" type 2 diabetes but it does build muscle mass, and that does improve glucose uptake. So, because EMS only takes 20 minutes and is done one to one with a trainer and not in a large public gym, it seems to be a really good way of getting started on an exercise regime that will last.

Getting fitter and stronger will prevent type 2 diabetes for some people, and may bring some sufferers back into a normal state. For others, it might mean less intense medical intervention to maintain good glucose levels. It will NOT replace good medical support from your doctor.

This is my story but it could also be yours.....

I'm not special, I've never been an Olympic athlete, and this tale isn't meant to be one of those "inspirational stories" that gives you a lift for a minute, and then you say, "that isn't me, I can't do that". But, by making the decision to start again using EMS re-booted my life in so many ways.

My Dad Harry said to me many years ago – "This life isn't a rehearsal, you'll never have this one again". But when you're physically fit and in a good place mentally because of it, you can do amazing things. Why not find out what your particular amazing is going to be.....

Dr Gary Coulton

Thanks to Lucy Ross for the great kayaking pictures

