

(SUP)

Doctor's note

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Pics: SUPM

There is a common behavioural trait in that if you're keen on something, for some reason you want other folks to be keen on it as well.

Holidays... "You'd love Botswana." Restaurants... "Their squid is divine, promise me you will go." Shoes... "They are hand stitched coconut husk eco loafers, here's the website." Then there are hobbies. I love the word hobby; it's slightly dusty, smells of wood glue, enamel paint, and bar heaters down the village hall. Things that are really hobbies will try and masquerade as pastimes, activities and sports... but we all know they are hobbies. When you stop flirting with a hobby and finally commit to it you become what is known as an 'enthusiast'. This is all well and good, but the problem with enthusiasts is their enthusiasm. Or more precisely their 'infectious enthusiasm'. Let me explain.

I am a self-confessed SUP enthusiast and have nurtured SUP as one of my collection of official hobbies. You know when a hobby becomes official when you find yourself putting it on your CV. I am also a physiotherapist with professional interests in rehabilitation and public health and fitness. Try as I might, I can't seem to stop SUP cropping up within my work. That's the nature of enthusiasm. In my case it manifests itself as a frequent, and sometimes obsessively persuasive, recommendation that folks take up SUP.





It's perfectly acceptable to do the recommending thing in post office queues, or at social gatherings, because it is just conversation, chit-chat and banter... but the exact same conversation takes on a different meaning if it happens in the clinic. It then becomes a professional recommendation based upon an assessment and interpretation of the clients clinical and health related status. These folks have sought my advice and it is my job to give them the best I can.

That's when I get a bit twitchy because even though I know 'movement is medicine' I also know that good medicine is under-pinned by evidence. Here I am recommending paddle boarding as a positive influence on the management of low back pain, cardio-vascular care, mental health, balance, strength and all round physicality, but how do I really know that it is an effective choice?

That thought had been stewing for a while but reached a critical point when somebody asked me what my own hobbies where. I listed paddle boarding as one of them, and was met with a common reply... *"That's good for your core isn't it?"* Is it? It has definitely become an accepted assumption because here is someone who doesn't even paddle board confirming a defined health benefit of participation. But is it good for your core?



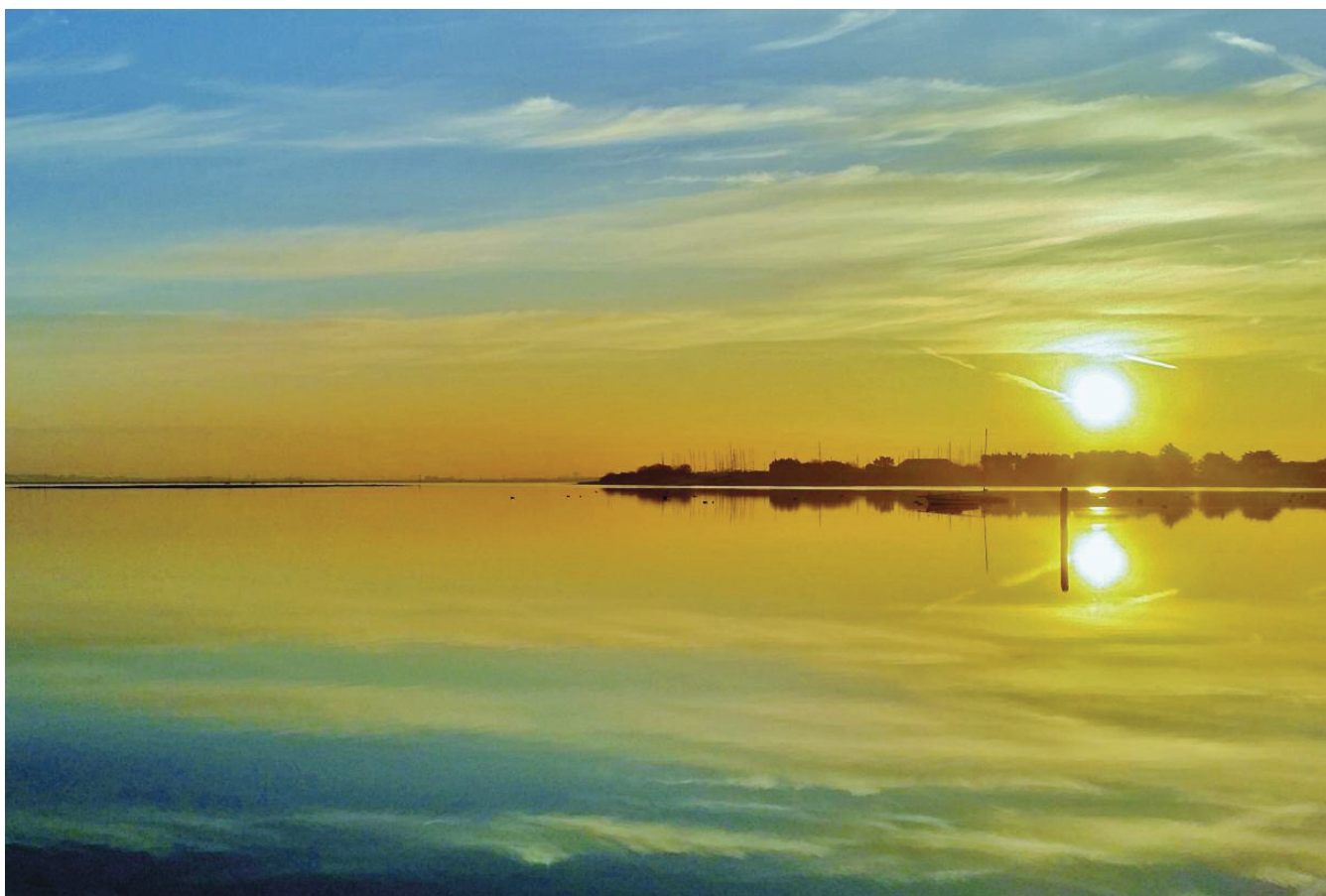
Reviewing the evidence

I decided that I couldn't go on recommending SUP as exercise elixir without at least trying to review the evidence base behind it's physiological and physical effects on it's participants well-being. It was time to hit up the research. Not surprisingly the historical published research back catalogue on SUP is somewhat scant. That doesn't mean what is out there isn't any good, because there are some great people producing useful and practical research... it's just that there isn't a lot of it when compared with other sports.

With that in mind, the process of conducting a research review spurred me on to make my own contribution to the database, and I went on to conduct my own survey into the incidence and patterns of delayed onset muscle soreness in paddle boarding.

You can find my research review here:
www.physical-solutions.co.uk/wp-content/uploads/2019/07/SUP-research-review.pdf

And the DOMS research survey write up here: www.physical-solutions.co.uk/wp-content/uploads/2019/11/SUP-DOMS-research.pdf



If you want to drill down into the references and data then please take a look at the above. Otherwise here is the truth about the physicality of SUP in a condensed version.

- **So is it good for 'core'?** By core we are talking the trunk and abdominal muscles, front side and back. It turns out that it is, but there is a slight caveat. Unsurprisingly, if you are to produce the muscular workloads that can result in strength adaptation changes in the trunk... you have to paddle hard. Low intensity paddling is no more demanding than walking or jogging when it come to trunk muscle activation.

- **Is it good for trunk muscle endurance?** Yup it certainly is. Plank hold times, and trunk strength holds against time show improvements in folks who take up SUP. It has to be regular paddling over a number of weeks though... but it would, you get nothing for free in physical training.
- **Are there other specific muscle groups that benefit?** EMG studies and my own DOMS study point to the same suspects. Paddle boarding produces high outputs and activity within the pecs, anterior deltoid and abdominals up front, and the trapezius, posterior deltoid and low back para-vertebrals out back. This is particularly good news if you have a bad back. Extensively researched public health guidelines on

back pain management make one thing crystal clear... exercise is the most effective form of intervention. Better than manipulation, massage, electrotherapy, needles, taping, tablets and hanging upside down like a bat. The problem is that the researchers know that exercise works, but they don't know what exercise works best. I don't think that matters, but I am confident that the current evidence suggests that SUP is a good choice.

- **Does it shift calories?** Well obviously it does, but more pertinently does it match the energy expenditure of other popular exercise alternatives... i.e. cycling, swimming, running. Turns out it does – in



fact scarily so! Very similar numbers for what the researchers describe as moderate intensity paddling. However, there may be a wee trick of the training trade going on here. The key is the phrase 'moderate intensity'. If you are a 'fitness' paddler then you intuitively know that a sight seeing drift down the local creek is not going to challenge you. Likewise smashing it as hard as you can will see you blowing up into a dribbling mess after 15 minutes max. Intuitively you will drop into what your current level of fitness senses is 'moderate intensity'... sustainable but challenging. It would be similar for cycling, swimming and running, hence the similar numbers. Don't worry though because this is a

good thing as you now have another choice and less excuses to get out there and shift some calories.

- **Is it heart healthy?** I guess by that we are asking if SUP can contribute to cardiac exercise and health. I have put together quite a lot of cardiac output data in the research write up but it would be fair to say that most of this data concerns higher intensity and competitive paddlers. Not surprisingly their data is on the upper end of the spectrum and stacks up similar against other endurance sports. The bottom line is that you get back what you put in when it comes to cardiac demand and training. I cannot say that SUP is any more

demanding, or efficient, or targeted than your other activities. What I can say is that flat water paddling is self limiting in terms of intensity, time and 'comfort', and therefore can be justified as an activity to develop progressive cardiac demand even in folks coming from a poor fitness base, or with a relevant cardiac history.

- **What about aerobic fitness?** We are talking improved gaseous exchange, oxygen uptake, VO2max, lactate thresholds and blowing into tubes and stuff. Sort of faster, fitter, stronger,



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longer, but with blood tests as well. The evidence suggests that SUP is an effective choice for anaerobic and aerobic training and improvement. There were some promising findings within the non-elite paddlers. One study found that if you took a group of untrained individuals and took them through a few weeks of a progressive paddling programme, and nothing else, they finished up with some significant measurable fitness gains. I like to think of that as real world data.

- **Does it improve balance?** That's an interesting one because balance is a difficult quality to pin down. A historical, and sadly still accepted, test of balance is how long you can stand on one leg with your eyes shut. Unfortunately all it really tests is your ability to stand on one leg with your eyes shut, which is a pretty niche skill if you ask me. Balance is a constantly modulating and fluent state of physical equilibrium, and it expresses itself in different ways when cross referenced with different tasks. So it is essentially task-specific. You may be mustard on a uni-cycle, but it doesn't mean you'll be so hot on a paddleboard. Measurable balance improvements can be hard to quantify, but I think that is missing the point. It's not about improving your generic balance foundation, it is more

about overcoming this specific and quite tricky balance challenge, particularly if you are coming from a relatively non-athletic background. Gaining your board legs gives a sense of achievement, the attainment of a skill and a realisation that all is not lost when it comes to your 'movement milestones'. If you want me to go all physio on you though I would argue that SUP may have a very strong and accelerated role to play in improving postural righting reactions, and the speed of the 'emergency stability response' at the ankle, knee and hip. And if you are prepared to give me a moderate research grant and fund access to a university sports science lab, I will try and prove it to you.

- **Brain benefits?** The runners high, the post exercise buzz, the suppression of stressor hormones, the release of endorphins. You will be aware of the association between exercise and mental well-being. SUP research has shown that it can contribute to this, much the same as any other exercise. It probably boils down to choices. Some folks absolutely love an hour on a treadmill, or two hours on a rowing machine, or three on a cycle trainer, or Ed Sheeran. As I say, it's choices, and I know how I personally like my exercise packaged.



- **The whole package.** This one is a bit more difficult to quantify and statistically analyse, and may be personally subjective. A gym session can end up having few variables. You drive there, you do your pre-planned session, you work hard, you may achieve some goals, you drive home. That is perfectly fine... don't stop doing it. A SUP session is more of a mission. You gotta choose your water, load the boards, get there, unload, may be pump up, fight your wetsuit, carry, take on the weather, read the tide or flow, paddle on, it can be social or single, load back up again, unload back home. These are bolt-on benefits, and every mission will be different. It takes commitment, and importantly it takes time. I tell folks that SUP is not a short cut to fitness, but more of a long cut, and that these are the best cuts. I am also very aware that SUP isn't difficult, and that it is a sport that you can become proficient at quite quickly, and go on to set your own mission standards according to that level of proficiency.

To wrap this up, here is the reasoning behind the rant. We absolutely know that exercise is one of the best forms of preventative medicine. Engaging folks with their physicality is one of the most responsible and valuable things that you can do... whoever you are. At the sharp end of the sport of SUP, we have coaches and club organisers who can use this research and information to justify their enthusiasm and skills at getting folks out onto the water.

They are providing and promoting an evidence based exercise activity that can make a difference. SUP manufacturers can use this information within promotion, but hopefully contribute to the database further with research funding. National governing bodies, public health governing bodies, the NHS, Sport England and the Dept of Education, can start to appreciate the role this fast growing water sport can play in promoting a healthy lifestyle choice. And if you are sitting there thinking about buying a board, take this article as a 'doctors note' to go ahead and get it done.



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