

# indoor and outdoor options for the aspiring lance armstrong

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**Y**our client is sat on a their upright bike, tapping out a steady rhythm, their eyes intermittently flicking between MTV and the red digits on the display which seem to be working in some super-slow, altered state of time. Outside the sun is shining; surely they would be better out on their “real bike”?

If this is the case then your client needs a serious revamp to their exercise routine. There is a place for both indoor and outdoor cycling in every well-structured training plan.

## when the exercise bike is best

The exercise bike shouldn't just be seen a bad weather alternative to “proper cycling”.

With a good exercise bike, assuming it is correctly calibrated, you have a stable piece of training apparatus with which to constantly assess and challenge your client's level of fitness.

There are no traffic lights, no homicidal motorists and no distractions; the perfect environment for some hard, focused effort. This is the key to all good indoor cycling routines; they should be short and sharp. Your client should never be on the bike for longer than 45 minutes, including a 10-minute warm-up and five-minute cool-down.

Before setting your client a training session you should first assess their fitness with a sub-maximal ramp test to determine their heart rate and power output at their aerobic threshold.

The Association of British Cycling Coaches' training manual recommends this technique: following a gradual 10-minute warm-up, start your client pedalling for one minute at a power that they would rate three out of 10 in terms of difficulty. Every minute, ask them to raise this power by 25 watts until they rate the effort as eight out of 10. Note their power and given heart rate at this point and repeat the test every three to four weeks.

You can now set the client interval sessions based on their “aerobic threshold power”. Raising the aerobic threshold is the fundamental key to faster bike riding and improved fitness and the best way to achieve this is through interval training

There are limitless combinations of workouts at your disposal; a session referenced in Ed Burke's *Serious Cycling* would be four x six minutes at threshold power with four-minute recoveries. Every week the session can be progressed by decreasing the recovery intervals by one minute until the session can be ridden as a continuous effort.

To be effective, interval training should only ever be performed when the client is fresh and recovered from



## WHETHER YOU ARE PEDALING STATIONARY OR MOVING AT A STEADY PACE IN THE OPEN AIR, CYCLING OFFERS AN EFFECTIVE WORKOUT FOR IMPROVING FITNESS, TONING AND GAINING MUSCLE STRENGTH. JOHN MORGAN PROVIDES ADVICE ON HOW TO ENSURE YOUR CLIENT MAKES THE MOST OF THEIR INDOOR OR OUTDOOR WORKOUT

previous training. Always aim for quality over volume; the client should never exceed more than 24 minutes of cumulative work throughout the session.

I would always recommend training to power or speed rather than heart rate when training within a gym environment. Even the most well-ventilated gyms get very hot during an intense workout and then the phenomenon of heart rate drift comes into play.

As the client works harder, they naturally start to sweat more, which results in total blood volume dropping due to the effects of slight dehydration. The heart then has to beat faster to maintain the same flow of blood to the working muscles.

The client will actually find that the session gets easier as they go along because they will progressively need to work less to maintain the given heart rate as the heart rate starts to drift.

By training to power, the sessions become harder as they progress, which is what we want in order to force an adaptation in fitness.

Most exercise bikes also allow you to set pre-designed courses, allowing you to set your client all manner of timed challenges. It is often much more motivational for a client to have a target time to beat rather than a set time on the bike; after all, the harder they pedal, the quicker it will be over!

Always make sure your client consumes an electrolyte drink when performing intense indoor cycling sessions as they need to replace the salts and fluids they will lose in sweat. An additional upright fan is always a useful addition to a workout in even the coolest of gyms.

### when to head outdoors

There are few experiences more rewarding than travelling downhill at 30mph-plus on a beautiful sunny evening on your trusty two-wheeled stallion. However, for every downhill there is always an uphill – but this should not be seen as a negative.

The hill is a fantastic tool for building cycling specific strength, not to mention for sculpting the perfect quads and glutes. Specificity of strength training is all-important for making your client a faster cyclist. The ability to squat huge weights at the gym will simply make you good at squatting weights. Only pedalling the bike against a large amount of resistance will make you a faster cyclist. No exercise bike can replicate the resistance of the trusty hill and gravity.

A session I give to my riders is based on the “Muscle Tension Intervals” famously pioneered by seven-time Tour De France winner Lance Armstrong’s coach, Chris Carmichael.

On a long, steady hill, stay seated and on a high gear, which forces your pedalling cadence down to about 55rpm. Ride for three to six minutes and really feel the tension in your leg muscles. Form is essential for this exercise to avoid stressing the knees; nothing should move but your legs. As your client gets fitter, you can progress the sessions by introducing more intervals or steeper climbs.

Depending on your client’s level of fitness, the hill can also be used to significantly boost  $VO_2\max$ . Leading sports scientist Owen Anderson, in his excellent article “How to strike and sustain  $VO_2\max$  Gold”, recommends that you find a moderately steep hill that takes about three minutes to climb. Your client should then ride up the hill with an emphasis on keeping the gears low and the effort at about nine out of 10. Initially, get them to complete two climbs with a five-minute recovery, gradually progressing to a maximum of five climbs, again with long recoveries to allow for maximum quality.

Use this workout relatively infrequently, perhaps once every two weeks. All forms of high-intensity training present a double-edged sword: use them sparingly and they will boost fitness immensely – too much too often and they will rapidly lead to mental and physical burnout.

Road riding is also excellent for building aerobic endurance and stamina. Set your client’s heart rate monitor settings to between 75% and 85% of maximum heart rate and get them to ride for a period of time in that zone. The challenge is to up the effort on the flats and descents and back off on the hills to stay in the band. You should gradually progress to a maximum of 60 minutes in this zone.

Always ensure that the client uses a good quality carbohydrate drink during this form of training as prolonged training in this zone is very draining on the muscle’s glycogen stores. Training on empty will only lead to a breakdown in muscle and it will compromise the effectiveness of all future sessions.

Outdoor riding gives the client much more of an all-round body workout than the exercise bike – the bulging biceps of the dedicated mountain bikers is testament to this. You should always encourage your client to stay in the saddle, especially when climbing. Not only is this more efficient but it will also help strengthen the core abdominal and lower back muscles.

Whether outdoors or in the gym, the training sessions available to you are limited only by your imagination and the enthusiasm of your client to get in the shape of their lives. **fp**

### resources

Serious Cycling, Edmund R Burke PhD, 1995, Human Kinetics ISBN 0-87322-759-X

The Lance Armstrong Performance Plan, Armstrong and Carmichael, 2000, Rodal, ISBN 1-57954-270-0

How to Strike and Maintain  $VO_2\max$  Gold, Owen Anderson, Peak Performance website

Association Of British Cycling Coaches Training Manual, Mal Firth, December 2001, [www.ABCC.co.uk](http://www.ABCC.co.uk)



John Morgan has over 40 road race and time trial wins on his cycling CV. He coaches cyclists from all disciplines of the sport from novice to national level. For more information visit [www.cycling-coach.co.uk](http://www.cycling-coach.co.uk)