

Cadence and kayak athlete performance:

The goal of any training program or aid is to improve performance. For kayaking this means going faster and there are only two ways to achieve this; a longer more efficient paddle stroke or an increased cadence. Both of these changes require the paddler to make physical adaptations.

So how can cadence help with both of these?

1. Longer more efficient paddle stroke:

There is no substitute for a good coach when looking at kayak technique. Most kayak athletes will dedicate one or two training sessions each week practicing specific technique drills. Technique will be a part of any on water sessions so ask any serious kayak athlete how often they work on their paddling technique and the answer will be every time they get on the water.

It's not easy to learn good technique from a book as you need good individualized feedback this means an experienced coach is the only way to go. That said using real time cadence data to force new neuromuscular connections will improve almost any technique.

One method of encouraging a training adaptation using cadence data is to set your speed using a GPS watch and set your cadence using the Vaaka kayak cadence sensor. Paddle at a comfortable pace, for most paddlers about 9 or 10 km/hr for aspiring international competitors it will need to be 12+ km/hr. To engage more muscle you will need to gradually increase your speed week by week while maintaining a set cadence. Start with a manageable distance 5-10 km and aim to maintain your speed at your chosen cadence. Choose a slow cadence 30-35dspm. Each two weeks aim to up your speed without increasing your cadence. You may not manage this over the whole 5-10km but your objective is to generate new neuromuscular pathways so if your cadence starts to increase, slow down and recover (active recovery) then get back on task. Your brain and body can only make a training adaptation if you stress it in a way it is not accustomed to. Practicing what you already know will not have the desired effect.

By gradually increasing your speed but keeping you ca-

dence stable you will be forced to power up more of the stroke. Your body will find a way and almost any technique change that generates more power through each paddle stroke is a change in the right direction.

2. The second way to make a kayak go faster is to increase cadence

Just like cyclists some kayak athletes will favour a high cadence with a low gear and others will favour a low cadence with high gear. In general strength based athletes will prefer a longer paddle and lower cadence while more aerobic athletes will prefer a shorter paddle with higher cadence. The ability to use a long paddle requires more muscle power however an athlete who does not have the muscle power to handle a long paddle can still be competitive by using aerobic capacity to sustain a high cadence.

Finding the right balance between paddle length and cadence is the goal for kayak racers

Unlike a cyclist who can quickly shift gears to alter load and cadence a kayaker has to choose his gearing before the race and is stuck with it until he can change paddle length. So it's important in training to experiment with cadence and paddle length. Determine what feels right for you. Then work on your fitness and your technique. When you can sustain a fixed cadence for your expected race length you have two choices if you want to improve. Either work on pulling a longer paddle or on sustaining a higher cadence.

To achieve the training adaptation you will need to know your paddle length and cadence over your race distance and work to increase either one of both of them gradually over shorter distances working up to your full race distance. So if you can sustain a cadence of 40 dspm over 10km and aim to race over a 10km course, break your training up into 3-5 km efforts (20-30mins) at cadence of 45dspm allow enough active recovery (up to 10 mins) to repeat the next 3-5km effort at 45dspm. Some faster speed work can also be useful with cadence up to 65dspm to teach quick arm movements. Team boats can be helpful if you struggle to reach these cadences and ergs can play a similar role off the water.

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