Off the Bike Work for Cycling Performance.

A cycling performance edge can be developed by doing work off the bike as well as on it.

It is also a good idea to undertake off the bike training to balance the body to protect against injury. By solely doing cycling exercise you can end up with cycling-specific muscle groups dominating others that are less used. This can cause an imbalance that can cause issues with posture, aches/pains and injuries.

I will outline the types of off the bike work that are proven to be of benefit for cyclists, however I will only discuss how to approach weight-lifting in any detail as this must be undertaken with careful planning and discipline when executing the programme. There are many examples of core workouts and stretching routines for cyclists on the internet.

What is off the bike work?

The major ways to help your performance on the bike with off the bike work are discussed below. Each session shouldn't take long and will only involve a short number of exercises.

Lifting Weights

Scientific research shows that lifting weights in the gym is great help for performance on the bike across all disciplines. It also helps to reduce the effects of osteoporosis (weakening of the bone) and muscle atrophy (reduction in size/strength) that occur naturally with age. Cyclists are especially prone to Osteoporosis. These both start taking effect from age 30 and starts to really accelerate in the 50s and onwards.

Core Stability

A strong core reduces wasted energy on the bike, ensuring that the energy produced in your leg muscle groups is transferred into propelling the bike forward. A rider with a weak core will make small movements and fidget on the bike, wasting energy.

For an all-round healthy balance to your body and posture, etc, performing core exercises is also important.

Flexibility/Stretching

Good flexibility is also important for the efficient transmission of energy from the muscles into the bike. Regular stretching is highly recommended. However, never perform static stretching before on the bike training or racing as this is proven to be detrimental to performance. Always perform static stretching after your race/training.

When to do off the bike training?

Core and flexibility work can be useful throughout the year, though you may want to reduce the amount you do during periods of racing and high-intensity training.

The key time of year to perform strength and power development work with weigh-lifting is through the base training season, when the intensity of your on-the-bike training is not high.

2-3 sessions per week would be required. You can pair lifting with cycling training on the same day, but I'd recommend performing the lifting before any on the bike work.

I would recommend 6-24 hours recovery between cycling training and lifting weights.

It is recommended that you do not undertake any lifting in the week leading up to a race due to the recovery requirements.

Disclaimer

Although I am a qualified and insured cycling coach, I'm not a qualified strength and conditioning coach, so I am unable to prescribe specific programme of strength training for individuals.

In this article I give an example of what I do myself in my off the bike training programme and how I structure the training.

I suggest that you develop your own programme, ideally with a cycling strength and conditioning coach, but they are quite thin on the ground, so you may need to work with a general Personal Trainer at your local gym. Hopefully you can find one with a good understanding of the requirements for strength and power development for cyclists specifically.

For cycling, you need to lift the weights in a particular way that doesn't cause you to gain too much muscle mass. For cycling, you are training for strength and power development, not for hypertrophy/size/looks, which is the goal for the majority of people in gyms, so finding a PT with very specific cycling knowledge isn't always easy to find.

Planning/Phases of Weight Training

Tempo

In weight-lifting, tempo defines the speed, in seconds, that you execute each stage of the rep for a particular exercise; lift, hold and return, written like this 1/2/3 (sometimes return/hold/lift – but I prefer lift/hold/return) with each number being the number of seconds in each stage. Different exercises require a different tempo, and may also differ in the different phases/focus of training.

1. **Lift:** aka Concentric muscle contraction – the main effort of the lift
2. **Hold:** How long you should hold (isometric contraction) position
3. **Return:** Eccentric contraction, the rate at which you return/lower the weight – this stage is often overlooked, but it is important.

Phases

In order to develop power through lifting weights, I recommend that you design your programme with the following phases;

1. Stabilisation phase. 1-2 weeks. Use this phase to develop the correct technique, lifting well within your ability. Weight-lifting injuries occur due to bad technique and/or trying lift too much, too soon. A careful, measured approach to progression cannot be overstated enough.
2. Strength development phase. 4-8 weeks. This is achieved by lifting and lowering your weights in a controlled manner.
3. Explosive/Power development phase. 4-6 weeks. Power = force x speed, so you will be looking to lift the weights quickly. You can optionally introduce plyometric floor exercises later in this phase, such as box jumps. Beware, it is very easy to tare a muscle if not ready for plyometric exercises.

Phase 1 – Stabilisation

This phase is about getting your mind and body used to performing the lifting exercises correctly.

Sessions: 2-3 times per week

Sets per session: 1-2 sets,

Start with: 15-20 reps, weight should be something you can comfortably lift for the given reps. E.g. 60%-70% of max lift ability.

Progression: 20-30 reps.

Phase 2 – Strength Development

This will be the longest phase and is the foundation for developing power in the next phase.

Sessions: 2-3 times per week

Sets per session: 2-3 sets,

Reps: 8-12reps, weight should be something you can reasonably comfortably lift for the given reps. E.g. 70%-85% of max lift ability.

Progression: 8 reps per set, increasing to 12 reps per set, then increase weight as appropriate over time, so that you can complete the number of reps.

Phase 3 – Power Development

Strength is important, but for cycling, the ability to convert that strength into power and for many forms of racing, the rate of development of peak power is critical, especially in the final phase of a race, e.g. sprint for the line.

Sessions: 2-3 times per week

Sets per session: 2-3 sets,

Reps: 8-10 reps, weight should be something you can lift for the prescribed number of reps with perhaps 1 rep left "in the tank". E.g. 85%-95% max ability

Progression: 8 reps per set, increasing to 12 reps per set, then increase weight as appropriate over time, so that you can complete the number of reps.

Dos/Don'ts of Lifting

- Always lift with correct technique and posture. If unsure, seek guidance from a qualified trainer.
- If you feel pain or discomfort whilst lifting, stop immediately
- Warm-up on the bike first for 10-15 minutes.
- Do not perform static stretches before lifting. Always stretch at the end of your gym session.
- Performa a warm-up set at very light weight for each exercise before performing the main prescribed sets
- For cycling it is undesirable to "lift to failure", that is you do not want to be lifting weight so heavy that you struggle/fail to lift if the prescribed number of repetitions (reps.)

Organising your Gym Session

Below is a suggested routine for each visit to the gym. This is what I do. It doesn't take too much time.

- 10-15 mins easy, steady pedalling on a static bike for a warm-up
- Perform core/floor routine (I do 2x: plank, bridge, press-ups, Bulgarian split squats, Romanian Deadlift, Russian core twists, body-weight squats.)
- Main Weight/Lifting session – this will only involve 2-3 exercises of 2-3 reps each.
- 5-10 mins easy pedalling on the static bike for a cooldown
- Flexibility/stretching

Exercise Examples for Cyclists

Ask your Personal Trainer (PT) for exercise recommendations that are suitable for the cycling strength and power development phases. You should seek their advice on how to perform the exercises safely!

These are the main exercises I find useful that you may want to ask your PT about. You should also ask them about the Tempo of the exercises, relevant to the training phase you are in;

For strength I find these a good rule of thumb; For strength development - 2/0/2, and for Power development - 1/2/3, but it can vary for some exercises.

- Squats – with bar– either "free" or with a sliding "Smith Machine" if you are not confident/comfortable with free weights. Tempo varies depending on phase of development.
- Leg press
- Dead lift
- Lunges – usually with dumbells
- Single-leg squat – with or without dumbells
- Power Clean – mainly used in power development phase. **Caution this is a very advanced exercise!**

Recommended Reading

- Weight Training for Cyclists by Ken Doyle and Eric Schmitz – this is the cycling coaches "go to" book.