

**Strength Training Essentials for the Mountain Biking Athlete**  
**Carmen Bott MSc. CSCS**  
**Human Motion Inc.**

I think I can safely assume that if you love to mountain bike; you equally love two things in life: The outdoors and the unpredictable. It has always interested me; the psychology that is, of what attracts each athlete to their chosen sport. Out of this interest and beyond the walls of my “laboratory<sup>1</sup>,” I have begun to cultivate my attraction to the *anti-gym-rat* as I too, share the same distaste for the mundane.

Let’s be honest, strength training for your sport is a lot like flossing your teeth. You neglect it and you could get injured, or you do it haphazardly and you may not reach your power potential and be able to maximize your investment on the trails. So let’s cut to the chase and dissect what is absolutely critical to performance in your sport – and answer the why, the what and the how when it comes down to gym work. To begin, let me share a short story . . .

*One of my world-cup downhillers came into the lab this past week for her training session. I hadn’t seen her in a few months and of course assumed she was busy training on her own with the program I had prepared for the upcoming summer race season. When I asked her how things were going she began her training update with a tangential explanation of her “new life” - she just recently moved from the city onto a farm. She then hesitantly confessed she had not been as diligent as she had in the past with her pre-season strength training. I listened intently as she described the past few week’s activities of shoveling dirt, pulling out fence posts, tearing down walls of her new home and pouring concrete. “I just haven’t had any time to train,” she said, with an expression of guilt. “I go to bed every night exhausted only to get up again the next day to countless hours of more work!” Once she finished her tale I smiled and asked her one only question: Did you get a chance to operate a jackhammer? She looked at me as if I asked her to go to Mars on a blind date. So I repeated my question and she replied with a questioning “No?”*

*I then, began to explain to her that what she had been doing for the past four weeks was PERFECT conditioning for her sport (minus the quantification of her training load, which I will get into another day). She was able to accomplish all 4 of my essentials for effective off-bike MTB training! They are summarized as follows:*

1. **Train in all three planes of human motion:** Frontal, transverse and sagittal – Mountain biking is multi-planar. Even though you are directing power in the sagittal plane, you are stabilizing in the other two at all times. Thus, pick exercises that challenge you to bend, twist, and stabilize side-to-side.
2. **Use full-body, multi-joint lifts and exercises.** In order to initiate a jump, or power up a steep incline your entire body is used. When my client pulled 10 fence posts out of the ground she was training in this exact fashion. She used her

---

1. Laboratory = workout facility (non-gym rat term)

legs and hips to drive, her upper back to pull and steer and her forearms to grip and manipulate. Do not isolate one muscle group at a time while you are training. This is bodybuilding, not sport-training!

3. **Train with uneven loads.** (Those two buckets of concrete mix she was carrying were not exactly the same weight) Is it a RULE, (*perhaps an iRULE?*) that when you perform an exercise in the gym, you MUST load both sides of your body evenly, i.e.: hold a 20 kg dumbbell in each hand? NONE of my MTB athletes train this way. Instead, I may load a 20 kg in one hand and a 30 kg in the other, have them perform a lunge and ask them to maintain a neutral spine and a strong posture throughout. Trust me, it's fun. Or have two athletes go to battle with a towel tug-o'-war, with one long towel and one short one. The possibilities are endless and the benefits are obvious. Isn't this more congruent with the demands placed on your body as you grind through the mud and snake around the tree stumps?
4. **Integrate your core** – Face it folks – sit-ups are OUT. Leave those isolation exercises to the beach babes. Digging a ditch will force you to activate your entire abdominal wall, and so will using that jackhammer I mentioned earlier. If you don't keep your mid-section tight you will have a more difficult time absorbing the “shock” and vibration of the hammer, just as you would absorbing the impact of a downhill race on a 20 kg bike at 50km/hr.

Some of the strength and conditioning gurus in the world lump the cyclists all together, into the same physical category. Roadies and mountain bikers are about as vastly different physically and mentally as synchronized swimmers and freestyle wrestlers. It is important to note, that although the scientific research on the sport of mountain biking is few and far between, the exercise prescription for both is often the same. However, mountain biking requires greater relative and absolute strength levels. The bikes are heavier and gravity plays a larger role, thus need to be able to stabilize and produce a higher percentage of maximum power is greater.

Now, if you do not dwell on a farm, or own a jackhammer, you can still reap the benefits of this methodology of training, simply by following a program that focuses on the 4 training essentials as listed above. It is not necessary to even belong to a fitness center if you have the following equipment: a stability ball, a heavy exercise tube or cable machine, 2 sets of dumbbells or kettlebells and some space.

As far as an exact prescription is concerned, I am recommending that you go to my online digital store and download either Training your [Core levels 1 through 6](#), or [Functional Strength levels 1-12](#). Each program comes complete with your exercises in video (.mov) format and a written training plan. We are offering a 30% discount to all altdirt.com subscribers for the **month of July**: enter code: ALTDIRT in the checkout

section under COUPON to redeem your automatic discount. We do also offer online, individualized digital program design. Please contact us at [info@humanmotion.ca](mailto:info@humanmotion.ca). Enjoy the season!