



Core stability for triathletes

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“Why would I bother doing core?”

I know I know, core exercises are not exactly something that make you want to set your alarm clock even earlier and wake up with a big smile. It is a necessary evil though. Latest when you are injured due to let's say overload you can hear your doctor and physical therapist nagging at your weak core. So, either you can wait until then and I can say “I told you so” or you can start right now and improve performance and longevity in the sport while you are at it. We love to swim, bike and run and in order to do that demanding sport over time we need to act smart. We cannot expect to trash our body day in and day out with high intensity intervals and give him nothing in return next to sleep, food and hydrating.

Let's kick off with some background and theory (not the dry – I am about to pass out boring – kind of theory though):

- Three different kind of sports like swimming, biking and running all utilize different axis of motions which need a stable “middle” to work efficiently – the core (in fact everything that attaches to the skeleton, not just your abs)
- The core is the foundation of force generation. If you have a weak core you WILL cause compensation in order to achieve the desired motion or intensity. A great example would be “the runners knee” – which is almost never a problem at the knee itself, mostly foot or hip area.



Overview of importance of core stability for each sport:

- *Swim:*

Rotation of the core (no matter which swim style/drive from hips or shoulder) the obliques of the abdominal muscles are dominant and important. You need that core force production to propel yourself through the water.

- *Bike*

Each pedal stroke requires strength from mainly the hip and glutes of the core. Without proper muscle activation you will not be able to utilize these muscles and “burn down” your running legs by being quads dominant. Example of inefficiency would be side to side rocking in the saddle, the force has to go straight down through the pedal not anywhere else.

- *Run*

Each step has to absorb 3-7x of your bodyweight. Without proper stabilization the smallest change in biomechanics can have an enormous impact on your running style.

➔ **Conclusion:**

Many people assume when they fall apart midway through their run section, their logical consequence would be to train harder and more.

How do you know that is true? Blind guesswork. Make sure to find out which system limited you most next to eventually bad pacing in the race.

A great example is Patrick Lange on Kona 2016 and 2017 when he paced his race perfectly and ran through the field with an incredible strong core. That was not only his cardiovascular strength that got him there, running with such good form after 30k is pure strength and core control.

The three systems to peak performance

In order to have a strong triathlon performance and smash your PB you need much more than just “more” training. Many people like to believe that if they just put in more hours of training (thinking mainly of cardiovascular fitness) you will reach your result. I think that there are three systems necessary to get where you want to be (and further).

One would be the cardiovascular system, basically heart and lungs which need time and a variety on intensity to improve at the best rate. Next to that we have raw muscular strength in the main big muscle groups of the different sports. The final and third system would be (surprise surprise) your core.

The muscles of the core consist of a fine-tuned system. Half of them are asleep though since we spend our days in front of a desk staring at a screen for a living instead of chasing after wild animals to gather food like a few thousand years ago. That fact alone will weaken your core and change joint positions for the worse. Let's not get all sad about it since there is a solution if you keep reading further and get your butt up to get it done!



The longer the distance in triathlon, the more efficiency plays a role in order to keep pace. The heart and lungs together with your muscle strength can only be used perfectly when the whole clock work is ticking, together with a strong core.

An example would be: as you fatigue latest half way through the run part, your hips are dropping from side to side like Beyoncé and your neck muscles give up on you as well sine they are so used to staring at your keyboard. Chin and head drop, you get a more detailed look of the run course one meter in front of you. What this will cause is a chain reaction which will shorten each step and therefore make you significantly slower. I heard and found it to be true that if you lift your chin just by a few centimeters and keep in level to the floor you can see a difference in pace by around 10 sec per km – free speed baby.

Muscle Activation

Before you start with the actual 20min core circuit I highly recommend you to take 1-2 weeks of daily 1—2 x 10min + of the following muscle activation exercises. You can plank for 2min in a row and completely fail the exercises despite keeping your hips up and aligned. We want to teach the body new patterns and ingrain it into it's pathways. The only way to do this is through repetition. Even if you are able to activate a muscle you have not used before, it will need a constant reminder not to fall back into the old habits. Activation might last for 2-3 hours after exercises, that is why I recommend to always activate your “sleepy” muscle groups before each sport. That will take you max. 5min once you know how to do that and the gains will be incredible. Muscle aches at places you have not even know that you have muscles there. Let's get you ready for your next best performance!

The system:

1. *Test it*
2. *Activate it*
3. *Strengthen it*
4. *Apply it (functionally)*

- *General rule to active is to “elongate the middle of your core/stomach”*

Let's start with the essential muscle groups to activate in order to crush your next triathlon.

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Deep abdominal control



Position:

Laying on back, both knees 90 degrees bent, both hands under your lower back for control purposes. Apply pressure on hands as much as possible BUT you need to be able to keep breathing through your stomach while doing so. Once you mastered that, pull one thigh slowly up towards your chest and place it back down on the floor (never hold breath while doing so, best to inhale when bringing leg up and exhale when placing back down).

Training:

- *3 x 10 reps of stomach breathing and pressure on hand*
- *3 x 10 reps per side of lifting thigh/bending hip and back down, all controlled and slow.*



Hamstrings



Position:

Laying on back, tilt pelvic back/back flat on floor, both knees 90 degrees bent, pull feet towards you/up. Now pull the heels onto the floor TOWARDS you without actually moving the heels (static force). Tension at back of thighs, control with hands both sides to ensure you are even.

Training:

- *6 x 10 sec hold back flat against floor and pull heels towards you*
- *3 x 20 reps bridge up, lift pelvic and vertebrae "like a pearl chain" vertebrae per vertebrae. Tense butt muscles/gluts and lift your hip up. Make sure to always focus on your hamstring and glut tension, many will lift through their lower back instead – not what we want!*



Glut max.



Position:

Laying on stomach, place forehead on hands, legs straight. Important to follow the order of activation here:

- 1) *Pull shoulder away from ear/latissimus tension*
- 2) *Stomach tension*
- 3) *Extend straight leg (really focus on tensing the butt muscle on that side to lift off)*

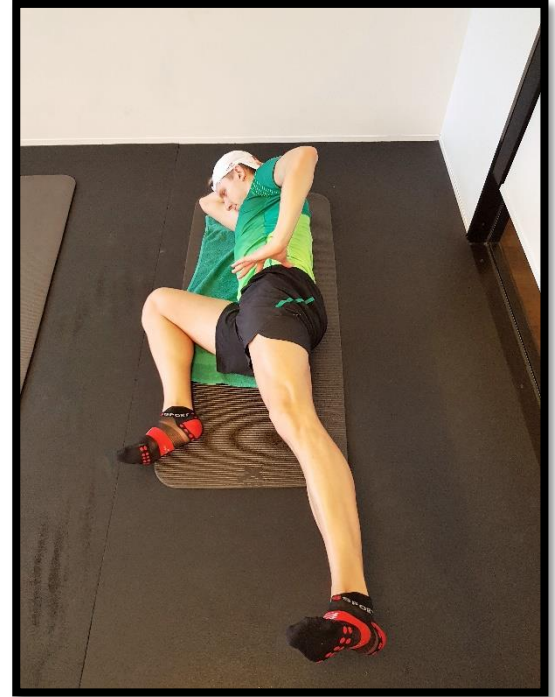
Hips and pelvic stable, never twist turn or get a hollow back. Only lift as much as your hip is able to (around 30 degrees) everything more will be through your lower back.

Training:

- *3 x 10 reps per leg. Extend leg with right order of activation. Important: Relax all muscles after each rep and activate again before you lift your leg.*



Glut med.



Position:

Side lying, pull leg closest to ground all the way up/hip flexion and hold it there with one hand if necessary. With the other hand grab your pelvic to check if you are moving there (never roll back with the pelvic, always stable!). Bring the upper straight leg back just before the point where your pelvic wants to move back. Rotate foot of straight leg towards ceiling and lift leg diagonally BACK UP. Tension only side of butt muscles (not quads!). Many will not feel the tension there, to activate hold leg up and tap with fingers on the side of your butt to remind the body that you have a muscle there.

Training:

- *3 x 10-15 reps diagonal lift to the back with foot rotated upwards. Pelvis/hips stay always completely straight!*

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Diagonal chain of backside



Position:

Stomach lying, arms straightened out, face always parallel to floor (do not extend neck too much), legs straight. First tense your stomach muscles, then pull the shoulder of the side you want to lift away from your ear (latissimus) and lift arm & leg diagonally.

Training:

- *3 x 20 reps of small motions, just activate lift arm and leg a few centimeters up then release again while maintaining stomach tension.*
- *3 x 20 reps of full range of motion without rotating core/no twisting with stable core tension.*



20min tri-core circuit

After mastering the activation exercises you may proceed to this workout. Yes, this can get challenging, but it is ALWAYS quality first. The recommendations for repetitions are adjusted to what I experienced the average athlete can do. Do less if necessary, this is not proper strength training where we measured your 1RM and calculated anything. Make sure you always feel the muscle groups we want to be working on. Once you lost tension or control, try once or twice more then stop and rest.

To make this workout time efficient I recommend short rests of 10-15 sec after each set, take more if you feel quality of movement is going down.

Single leg bridge:



Same as the bridge of hamstrings just one leg. Make sure you push through hamstrings and gluts, not lower back (control muscle tension with hands). Before lifting off always stomach flat on floor/pelvic tilt back then lift off.

- 3 x 10-15 reps



Hip stabilization:



Hold bridge position up through your hamstrings and butt muscles (squeeze butt). Then lift one foot a few centimeters up from the floor (do not have to be high, it is just about your pelvic being able to stabilize it like in running). Pelvic and hips stay level and stable, no twisting or dropping of either side.

- *3 x 20 steps in total*

Side plank with lifting upper leg



High core and muscle tension of squeezing shoulder blades together and tensing stomach. Pelvic stable no twisting. Tension not in quads, but side of butt. Most will need to start without lifting the leg to do this properly. We keep the interval short to ensure high quality, fatigue will come through duration of the various sets.

- *10 x 10-15 sec hold, high core tension as described. First once will feel easy, but wait and see. Here only 5 sec rest and push it.*



Push up with core rotation:



Place feet on couch/chair/box. High tension stomach and squeeze butt (no hollow back otherwise go higher with hips). Extend and rotate one arm towards ceiling, eyes follow that hand up. Hips and core stable.

- *3 x 10-15 reps of alternated rotation.*

Flutter kicks

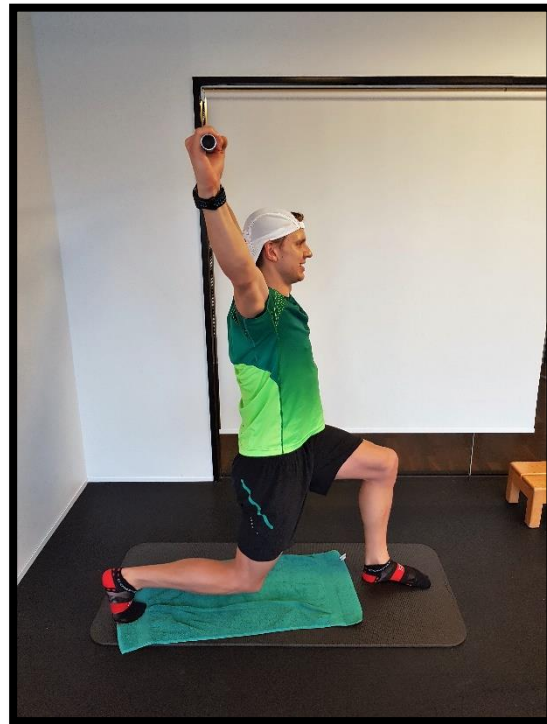


Lay flat on back, legs straight. Hands under lower back, high pressure on hands. Then small and fast movements of kicking legs like in swimming. Most important to always have a strong pressure on your hands, many will have to start with feet pointing more towards ceiling than horizontally like in picture.

- *3 x 20-40 reps in total of quick kicks while maintaining high pressure on hands with relaxed shoulders (!).*



Overhead lunges with jumps



Get a broom or other stick. Pull shoulders away from ear, high stomach tension, stable hips (no rotating). Make a large step forward, knees and toes pointing straight forward. When going down, think of reaching towards the floor with your rear kneecap (bottom position both knees around 90 degrees angle). For the jumps always ensure quality when you land, pay attention to high core tension when landing and correct feet placement while making sure your knees are stable (straight forward).

- 15 – 20 slow controlled high core tension lunges while keeping stick always behind/over your head.
 - 10-15 jump lunges, ensuring strong core tension upon landing to stabilize.
- ➔ Do these in a row with 30 sec rest after each set.

BECOME THE UNSTOPPABLE YOU!