



Continuous Strength Training For Endurance Athletes

Phase 3 – Maximal Strength

Goals:

1. Activate high-threshold motor units. Muscle fibres are activated through the innervation of a motor unit—the conduit through which a signal from the central nervous system activates the muscle to contract. Heavier loads activate higher threshold motor units enabling the system to overcome more significant loads. Basically, activating more muscle fibres and therefore building strength.
2. Enhance the speed and efficiency with which the body is able to receive and redirect ground reaction forces (fast and strong foot striking when running).
3. Promote favourable adaptations in muscle fibre typing, promoting the production and utilization of more intermediate and fast-twitch fibres, while maintaining the same amount of slow-twitch/oxidative fibres.
4. Produce an anabolic hormonal response. Anabolic hormones promote tissue building and include testosterone, insulin, insulin-like growth factor, and human growth hormone.
5. Enhance anaerobic metabolism. The vast majority of endurance training utilizes aerobic metabolism with the presence of oxygen. Here, most of the metabolism will be anaerobic (without oxygen), which can improve substrate (glycogen, fat, or protein) utilization and metabolic functioning.

Rules – Thorough warm up. Don't lift more than you can manage safely. Lots of rest required between sets (1:30-3:00). 3 Sets of 4-8 reps no more than twice a week.

1. Single leg press



Ensure you use the glutes and hamstrings to push, don't lock your leg out straight at the top. Only use one leg at a time.

2. Chest Press



One arm at a time. Try not to rotate the torso, use the chest and shoulder to push.

3. Deadlift



Keep your back straight, use the lower back, glutes and hamstrings to lift to standing. Don't over extend the back at the top (don't lean back).

4. Split Squat



Step one leg back to form 90 degree angles with each leg. Push up and down from this position.

5. Leg Extension



Power from the quadricep, single leg.

6. Leg Curl



Power from the glutes and hamstrings, single leg.

7. Box jump



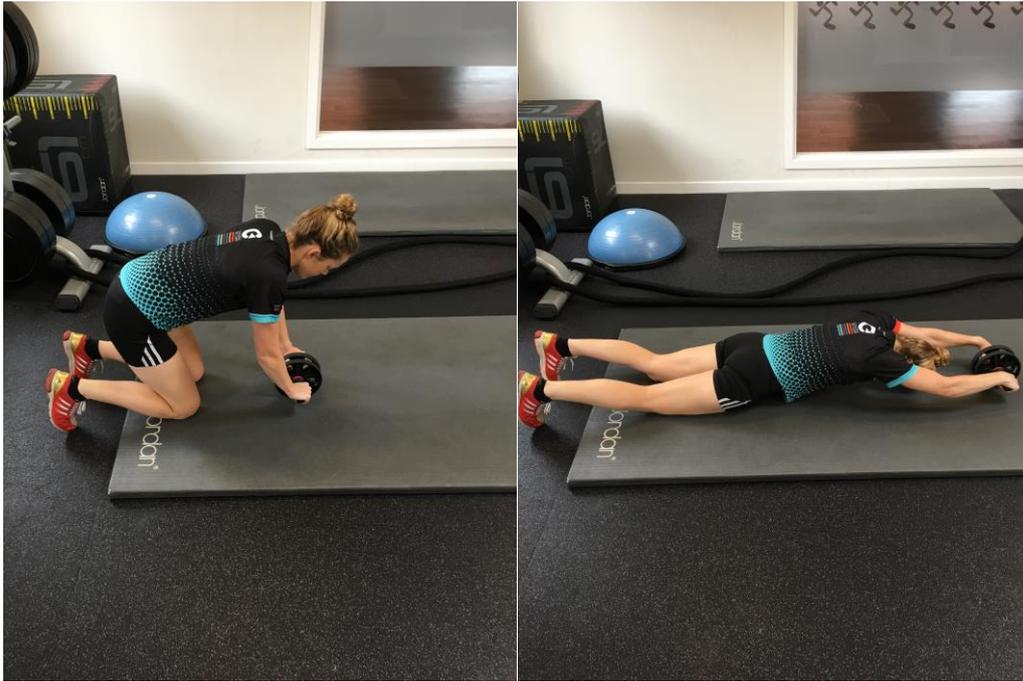
Drive up with the legs, powerfully, use the arms too add propulsion. Land with soft knees on the box.

8. Bent Over Row



Grip the bar with knuckles pointing up, palms down. Draw the bar to the chest using the back muscles, pinch the shoulder blades together at the top, pause, lower.

9. Abdominal Wheel



Roll out the wheel as far as you can whilst ensuring you can still return to the start position. If you can't find a wheel, slide a pole through a small weight disc.

10. Abdominal Machine



Isolate the abdominal area, don't push the pads with the elbows.

11. Kettle-Bell Side Bends



Stand straight, lower the weight down the lateral line, don't lean forward or back. Raise the weight using the obliques (side muscles around the ribs).