Strength Training 16 Week Program

By Marilyn Chychota

By ordering and receiving this plan, you recognize that, due to the nature of the sport, participation may result in personal injury to yourself. In undertaking the training on the following pages, you fully accept these risks. You also acknowledge that no physician has informed you that you are not fit to participate in training. In consideration of your acceptance of this plan, you agree that Marilyn Chychota, its directors, employees, volunteers, members, and sponsors shall not be liable for injuries or loss that you might suffer due to your participation. You agree not to hold liable, not to sue, and to hold harmless any and all persons, sponsors, volunteers, participants, or Marilyn Chychota affiliated persons for any and all claims or liabilities that by virtue of undertaking this training program you have waived, released or discharged herein. By undertaking this training program you acknowledge your acceptance of the above.

Mobility, Strength and Power Training for Endurance Athletes

The goals and intent of this program are very different than other strength and conditioning programs that are commonly performed by triathletes during the off and race seasons. Once one exhausts gains from traditional means, different methods are needed to see further progress. While novice, female, and older athletes can still benefit from standard triathlon strength sessions without adding time and effort of additional gym sessions, this plan is intended for experienced athletes who no longer respond to sport specific strength training, such as big gear bike work, paddle swim work and hill run sessions.

By the end of this program, you will achieve:

- A true elevation in your top end
- Improved durability and the ability to prevent injuries
- Strength that maintains propulsion and speed during the last half of the run
- Improved cycling power

What is different about this program than other strength and conditioning programs? Programs are typically not long enough nor periodized to gain ***new*** strength and instead reinforce strength that most triathletes already possess. The traditional strength sessions are just enough to make you tired in muscles commonly used, but don't go far enough to create strength that can further your overall ability to excel at the top end of your competitive group.

How will we specifically achieve these four goals?

1) Truly raise your top end

We don't want to just bring someone into prior achieved top end or race condition early in the season. This commonly occurs when experienced triathletes begin reverse periodization training using swim/bike/run sessions. In this scenario, the athletes perform top end work they already own in their sport. They couple these sessions with traditional low weight-medium volume gym work. This combination results in creating fatigue and soreness while achieving early race condition. These attributes prevent developing a true, new top end.

2) Improve durability and prevent injuries

Many triathlon-related overuse injuries occur in the posterior chain. The posterior chain is an anatomic term defining the structures occurring in the posterior half of the body. This includes the plantar foot structures, calves, hamstrings, glutes, lower and upper back. These muscles are integral in stabilizing the skeleton during movement. When

these muscles are under-developed, injury easily occurs as they are not strong or mobile enough to counterbalance the propulsive, anterior chain muscles. By increasing their strength and mobility, balance is achieved across the joints and levers that create movement. This balance is necessary to avoid overuse injuries and allow absorption of training.

3) Create strength that maintains propulsion/speed during the last half of the run

Anterior chain muscles used in triathlon movement are the pectoralis, anterior cuff/deltoid, iliopsoas, and quadriceps. These structures are over-developed because the propulsive activities performed in swimming, biking and running result from repeatedly stressing these muscle groups. Varying degrees of imbalance commonly occur in triathletes and manifest in many ways. The most pronounced scenario is revealed in the latter part of the run. Commonly, the propulsive muscles are stronger than the stabilizing muscles. Without adequate stabilization, the propulsive forces produced in the anterior chain are now required to compensate for the lack of stability. This results in a diminishment of propulsion or, simply put, a slowing down.

By increasing mobility, power and strength, the propulsive forces are allowed to focus only on propulsion, allowing maintenance of speed.

4) Improve cycling power

Cycling success is a complex equation that involves optimization of nutrition, neuromuscular skills, conditioning and force application. Initial gains in power can be achieved through increased volume combined with specific VO2 and threshold work. Further gains are achieved through sports specific strength work (the well known “big gear” work).

Ultimately, however, the ability to create greater sports specific strength and power is limited by the individual's ability to apply force. Propulsive force application achieved on the bike by the anterior chain muscles eventually overcomes the necessary posterior chain stabilizing forces. Therefore, greater gains in bike specific strength are impossible. In order to achieve higher levels of power and strength, techniques conducive to associated anterior and posterior chain strengthening must be used.

A periodized strength and conditioning winter program for endurance athletes:

Phase 1 -Two part developmental
1RM-Test
Phase 2- Six week Pure Strength
1RM retest
A short Deload of 10 days
Phase 3- Pure power
Phase 4- Maintenance into race season.

Be sure to wear flat shoes. Your typical running shoes are not good. Too much rock forward. To ensure you are able to stay in your heels and maintain good technique wear flat shoes.

PHASE ONE:

The first phase is 2-4 weeks long depending on the athlete. In this phase I suggest every 2nd day. Everything is core and mobility based making frequency the key component.

Goal is basic mobility, core strength and basic preparation strength for the coming phases. For the athlete to be ready for the next block the two most important stages of development are mobility and core strength.

Special attention to range of motion, technique and form development through this phase is key.

Start with 5-10 min light cardio exercise to warm up.

Mobility: All movements should be held for as long as needed to feel some improved range. I recommend 1-2 min minimum. See my YouTube Channel for Demos on each movement.
https://www.youtube.com/user/MarilynChychota/videos

Wall Sit Stretch
Wall Quad Stretch
Lying Rotator Cuff Stretch
Spider Lunge
Samson Stretch
Inch Worm
Heel Cord stretch
Wall Tap Calf Stretch
Plantar Fascia intrinsic Foot Muscle Mobility
Wall Sit Reach

Technique:
Squats holding a plate or object out in front of you for technique.
Squat Progression- Right hand, Left hand, Both Hands
Wall Squats Drill

2x 1min plank
2x 15 V up's
2x 25 push ups
2x 15 back extensions, or superman
2x 15 walking lunges holding dumb bells directly overhead
2x 8/ leg of single leg straight legged toe touches.(single leg balancing)
2x 10 box step ups- holding weight
2x 15 Bird Dogs
4x 1min Monster walks with a band.
3x 15 hamstring bridges
2x 12 single leg calf raises; slow and controlled on the down

Step two in Phase 1.- After you have successfully completed step one move onto step two of phase one. This period should be 2-3 weeks long depending on how quickly you adapt to the weight added in this step. Once soreness subsides within 24hrs and you feel confident in the exercises phase one is complete. Aim

for the entire phase one to last in total 4 weeks, two weeks in step one, two weeks in step two. However if it takes you longer to develop good mobility and adaptation to weights it's ok for phase one to take up to 6 weeks.

Step Two of phase one: Focus is still development and preparation for the lifting ahead in phases two-four. Continue to develop range of motion and core strength. Now we are adding some weighted exercises to prep you for phase two. Weight should be 60% and focus on good technique.

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Technique:
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3x 12: (Weight @ 60% , full range of motion, good form)
Walking Lunges
Squats-60%
Leg Press
Hamstring Bridges- graduate to swiss ball bridges

Calf raises on a step
Seated Rows
Pull ups
Push ups

Core:
Plank 4 x 1 min
Back Extensions 4 x 15
V Up's 4 x 12-15

Before beginning Phase Two we need to complete a 1RM (One Rep Max) test. Phase Two works off very specific % based off these numbers.

ADMINISTERING THE TEST

Each athlete will need their own rack, barbell, and enough weights to establish a 1 RM Squat and/or Deadlift.

Warm up with 5-10 min light cardio
Mobility:
Wall Sit Stretch
Wall Quad Stretch
Lying Rotator Cuff Stretch
Spider Lunge
Samson Stretch
Inch Worm
Heel Cord stretch
Wall Tap Calf Stretch
Plantar Fascia intrinsic Foot Muscle Mobility
Wall Sit Reach

Bar Warm up:
Using just the bar- 1x 10-15 reps with good technique
Add 30-50% weight- ex- 5-10 lbs to each side of the bar 1 x 8 reps focus on good technique.
From here start to go up in weight towards establishing your 1RM. At first you'll be adding higher amounts of weight (ex 10lbs-15lbs). In this period do reps of 2-5 each time you add. The more weight you add, the less reps you do. We aren't looking for

work here, just a good warm up: adapting the central nervous system to the load. Avoid going up in too big of jumps in weight and avoid overdoing the amount of reps.

As you get closer to your 1RM you will be increasing the weight in very small amounts:
*Add 2-5lbs at time and complete 1 rep at that weight
*Always rest 3 to 5 min between sets/ lifts
*When you can no longer lift the weight you are now at your 1RM.
*Always have a spotter or a way to dump the weights if it gets too heavy.
*Use a lifting belt if needed. Always focus on maintaining good form.

The following template can be used to record the test results.

NAME: DATE:

MOVEMENT	TIME	MAX LIFT (List all attempts)
Back Squat		
Rest		
Front Squat		
REST		
DEADLIFT		

Phase Two:

Use your new and current 1RM. This should be established before this phase begins.

This Next phase is 6 weeks long. The focus of this phase is to improve strength. In this phase true strength changes will take place. Working at the correct % is key to see these gains.

Warm up each time is:
5-10min choice cardio.
15 steps of the following for mobility:
Walking lunges arms stretch over head and deep hip flexor stretch.
InchWorm, lying rotator cuff, deep wall squat stretch, wall quad stretch.

After lifts Core Work
Then with no weight AB's:
3 x 1min Plank
25 V up's
3 x 12 Back Extensions with weight held at chest.
50 sit ups, 3 x 15 push ups , 3 x 5-8 pull ups.

Lifts:

Back Squats / Front Squats/ Dead Lift for experience athletes or Leg press for less experienced.										
Week 1 day 1- Back Squat:1x 10 @60%, 1x 8 @ 70%, 1x 6 @ 75%, 1 x 4 @ 80%					Front Squat 4x 5 at 70%		Dead Lift 3x 8 @ 60%			
Week 1 Day 2- Back Squat 1 x 10 @ 60% , 1x 8					Front Squat		Dead Lift 3x			

@ 65%, 1x 8 @70 %, 1x 8 @ 75%					4x 5 @ 70%		8 @ 70%			
Week 2 Day 1- Back Squat 1 x10 @60%, 1 x 8 @ 65%, 1 x 6 @ 70%, 1x 6 @ 75%, 1 x 6 @ 80%					Front Squat 4x 5 @ 75%		Dead Lift 3 x 10 @ 60%			
Week 2 Day 2- Back Squat 1x 10 @60%, 1x 8 @70%, 1x 8 @ 75%, 1x 8@80%					Front Squat 4 x 5 @ 60%, 65%, 2x 70%			Dead Lift 3x 8 @70%		
Week 3 Day 1- Back Squat 1x 8 @65%, 1x8@70%, 1x 6 @ 80%, 1 x 6 @85%					Front Squat 4x 5 @ 70%		Dead Lift 5x 5 @ 75%			
Week 3 Day 2- Back Squat 1x 10 @ 60%, 1x 10 @65%, 1x 8 @70%, 1x 8 @ 75%					Front Squat 4x 5 @ 60%, 65% 70%, 80%			Dead Lift 3 x 10 @60%		
Week 4 Day 1- Back Squat 1x 8 @65%, 1x 8 @70%, 1x 6 @80%, 1x 6 @85%					Front Squat 4x 5 @ 70%, 75%, 80%, 85%			Dead Lift 3x 8 @ 70%		

Week 4 Day 2- Back Squat 4x 8 @ 65%, 70%, 80%, 85%					Front Squat 4x 5 @ 70%, 75%, 80%, 85%			Dead Lift 5x 5 @ 75%		
Week 5 Day 1- Back Squat 1 x 8 @65%, 1 x 6 @75%, 1 x 4 @85%, 1x 4@90%					Front Squat 1x 5 @70%, 1x 4 @75%, 1x 3 @85%, 1x 3 @90%				Dead Lift 3x 10 @ 60%	
Week 5 Day 2- Back Squat 4 x 6 @ 65%, 70%, 80%, 80%					Front Squat 4x 5 @ 70%		Dead Lift 3x 8 75%			
Week 6 Day 1 Back Squat 1 x 6 @ 70%, 1 x 6 @80%, 1 x 3 @90%, 1 x 2 @95%					Front Squat 4x 5 @ 80%		Dead Lift 3x 10 @ 60%			
Week 6 Day 2 Back Squat 4 x 5 @ 70%					Front Squat 4x5 @70%		Dead Lift 3x 8 @ 60%			
Redo 1 rep max test										

Post Phase Two:

This is a short deload. Spend 10 days deloading. The purpose of this phase is to maintain just enough conditioning in the gym but let go of the heavy lifts. Weight is light, less than 50%.

Warm up 5 min using a gym machine-(ex: jog, elliptical, bike , rower)
3 x 5 pull ups/ push up's- super set
3 x 1min plank/ 30sec rest.
3 x 20 super set flutter kick AB's/ Superman.
10 x 10 Super set three (go from one to the next continously then after exercise #3 rest 1min)- Squats to 90deg/ Leg Extensions/ Leg press. All done with light weight on a 2:1 tempo.

Maintain Mobility in this phase.
Wall Sit Stretch
Wall Quad Stretch
Spider lunge
Wall Reach stretch

Phase Three:

The focus of this phase is building pure power. It's important you lift the % recommended based on your last 1RM test post strength phase. It is crucial for this phase to be heavy enough to gain new power.

This phase is total of 3 weeks; 6 sessions total. (2 sessions/ week for 3 weeks)

Tempo of lifts is 2:1. This means go eccentric load slow and controlled and then come back explosive and fast. Ex: Squat- down slow and controlled and then back up fast and powerful.

Take enough rest between lifts to ensure you can maintain load, speed , and technique. I recommend 2-3 min between lifts at 95%. Fully recover between each lift.

Include a complete warm up, both cardio and with the bar.
Mobility- Wall Quad Stretch, Wall Squat stretch, Inch Worm.
Walking lunges 30 steps
7 x 2 Squats 95%

4 x 6 Dead lifts 80% (good technique!!)
4 x 6 Bench Press 80%
4 x 6-10 pull ups
3 x 8 @ 75% seated rows
The Plyo movements are focused on quick rebound off the ground.
3 x 15 Box Jumps
3 x 20 Russian Lunge Jumps
3 x 15 Back extensions.
4 x 1 min planks
3 x 20 V Ups.

The Final Phase:

The final phase is into your race prep period. This routine will help maintain basic strength throughout the race season.

Mobility should be a priority all year. Continue Core strength for injury prevention.

Light core:
30sec of each Samson stretch, Spider lunge, Wall sit stretch, Inch Worm, Wall sit Reach.
2 x 1 min plank
2 x 15 V ups
2 x 25 push ups
2 x 15 back extensions/ superman
2 x 15 walking lunges holding dumbbells directly overhead
2 x 10 box step up's- holding weight
2 x 15 Bird Dogs
4 x 1 min Monster walks with a band.
3 x 15 hamstring bridges
2 x 12 single leg calf raises slow and controlled on the down, 2x 10 slow controlled single leg dumbbell T- hamstring

Have a Happy and strong race season.