



# BODYWEIGHT STRENGTH TRAINING STRATEGIES FOR GYMNASTS

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**A**s a rule, most gymnasts do not do much, if any, traditional strength training. The bodyweight training in the gym is generally sufficient for creating the strength needed for the sport. However, how do we increase the quality of the repetitions in terms of strength development for gymnasts? Where do we start in terms of repetitions and sets? What movement patterns are prescribed to increase strength for competition?

The patterns of movement involved in gymnastics are sprinting, bounding, jumping, pushing, pulling, bending, rotating, flexing, extending, arching and tumbling, to list a few. What exercises increase the ability to do these movements? The general movements for the lower body include squatting, lunging, stepping-up, squat jumping and single leg squatting. When prescribing bodyweight exercises, the repetition number at bodyweight is usually anywhere from 10-20 reps for two leg movements and 5-20 reps for single leg movements. The training stimulus is created by volume of repetition as well as speed of movement and the range of motion of the movement. For example, let's look at the squat along the speed continuum.

Static squats can be executed by doing a squat and pausing

at ¼ of the way down, at the full squat range of motion and pausing again on the way up at ¼ of the way up. These pauses can be up to 8-10 seconds in length. Additional load can be added by having a coach or partner hold the athlete at the waist and push down to load the hips and legs. Another way to add load is to add a mediball held in front or a weight vest. Many times hold and pause training will cause the athlete to experience heavy legs for the next day or two dependant upon the volume prescribed. Volume is determinant upon the athletes' training age, maturation and strength level. The slow, medium and fast movements can also be increased in difficulty by adding the mediball and/or weight vest. The assisted squat jumps are done by looping a large rubber band over an apparatus in the gym and having the athlete pull the rubber band with the arms which in turn lightens their bodyweight as they jump. This will teach the athlete to get off of the ground quicker. The holds and slow movements will help the athlete absorb more force.

To increase the load even more, having the athlete squat, lunge or step-up using only one leg will create a much

greater stress in terms of loading the hips and legs. Again, utilizing the strategy of holds, slow movements, speed and assisted movements will train the pattern in all ranges of the speed continuum. The lunges and step-ups can be done in multiple patterns. For example, lunges can

Static	Slow	Medium	Fast	Assisted Fast
Squat	Squat	Squat	Squat	Squat Jumps
Hold at various angles	3 sec. eccentric concentric movements	1-2 sec. eccentric concentric movements	<1 sec. fast as possible	Rubber Band- fast as possible

and step-ups can be done in multiple patterns. For example, lunges can be done laterally, reverse diagonally, linearly and forward diagonally. The key to these movements is to keep the pillar posture in the core and bend at the hip, knee and ankle. Step-ups can be done linearly, laterally as well as in a crossover fashion. Keep the knee over the foot (don't let it drift laterally on the lateral and crossover step-ups) and flat as you step-up. Do not step up with the heel elevated off of the box or bench as this will load the front side (knee) rather than the back side (hip/butt) and reinforce poor force absorption/production movement patterns. Single leg squats can be executed as a step down squat off of a box or a bench in which the athlete reaches out in front and the swing leg never contacts the ground, as a single leg sit down squat onto a box or bench standing on the ground or as a rear leg elevated split squat action in which most of the load is centered on the front leg. Again, additional weight can be added via a mediball or weight vest.

Bendover exercises are exercises such as good mornings, dead lifts, kettle bell swings, back raises, glute-ham raises and reverse hypers. These are all commonly used to train the back side "chain" in athletic weight rooms around the world. Good mornings and dead lifts are hip dominant exercises used to train the hamstrings, glutes and back musculature to control bend over, hip dominant

movements and support the core. In gymnastics it is usually best to have the athlete execute many of the movements on one leg such as a single leg good morning or reverse hyper. Most of the other exercises are two legs in execution. Pauses and holds can be prescribed as well as adding load with weight vests, mediballs, and rubber bands around the neck/shoulder region and under the arch of the foot.

Contrast training can also be implemented to enhance the ability to absorb and produce force in combination as you strength train. An example of contrast training is using the hold in conjunction with the squat jump. Have the athlete hold in the low position for 2-10 seconds and then execute 1-10 squat jumps. Another application is to squat hold, jump, squat hold, jump, etc., until the set is complete.

Another way to implement contrast training is to do sets of holds for x seconds followed by assisted squat jumps using the big stretch rubber band. How many sets and reps? Again, it is different for every athlete. Why is it different for every athlete? Because gymnastics requires explosive, powerful athletes to execute the skills inherent to the sport. Athletes possess varying levels of genetic potential that matures at different rates and is trained at multiple sites around the country. The answer to the set and rep question is when the quality of movement drops, the

Exercise	Untrained Load	Novice Load	Intermediate Load	Advanced Load	Athletic Load
Step - Up Increment Change - 5% of Bodyweight	Bodyweight (20)	10% of BW	25% of BW	40% of BW	55% of BW
Lunge Increment Change - 5% of Bodyweight	Bodyweight (20)	10% of BW	25% of BW	40% of BW	55% of BW
Jump Squat For Power Increment Change - 2.5% of Bodyweight	Bodyweight (20)	2.5% of BW	5% of BW	7.5% of BW	10% of BW
Jump Squat For Strength Increment Change - 5% of Bodyweight	Bodyweight (20)	5% of BW	10% of BW	15% of BW	20% of BW

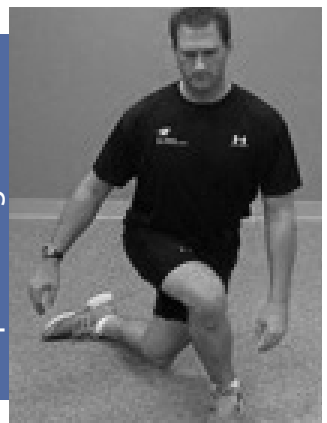
Reverse Diagonal Lunge



Linear Lunge



Scorpion Lunge



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Lateral Lunge or Squat



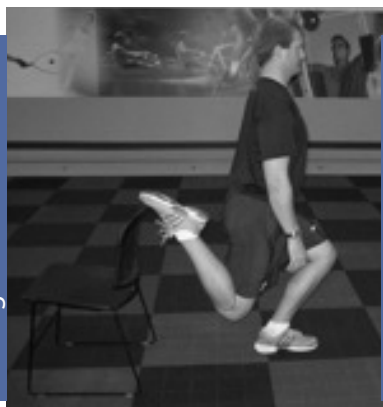
In-Line Lunge  
Crossed Over  
a Line



Linear Lunge  
Reaching with  
a Ball



Single Leg Squat with the  
Rear Leg Elevated



Cross-Over  
Step-Up



Single Leg Bendover  
and Reach  
with a Dumbbell



Exercise	Untrained Load	Novice Load	Intermediate Load	Advanced Load	Athletic Load
Pull – Ups	Assisted 50% of BW	Assisted 25% of BW	Bodyweight (5)	Bodyweight (15) + pauses	Bodyweight +5% + holds
Increment Change Assisted 10 – 15%    Reps + 3-5 per set    +Weight 2.5% or Pause ea. ¼ rep					

reps are done and when the quality of the set drops the sets are concluded for that session.

Pushing can be prescribed as a variety of push-up movements with holds and pauses that are executed on a variety of implements in a variety of angles. Push-ups can be executed on rings, mediballs and stability balls to increase strength and stability. The feet can be on the ground which makes the pushing movement almost a “decline” movement, on a box which makes it more of a “bench” movement, elevated higher than the shoulders which makes the push more of an “incline” movement or even overhead in a handstand making the push a “military” press movement. To increase the stress through the core, instead of using a ball, bench or box, have a coach or partner hold both or one leg and require the athlete to maintain pillar core while executing the pushing movement.

Pulling can be prescribed as a variety of movements using bars or rings with a variety of grips that require the athlete to lift the body closer to the implement. In order to increase the

stress through the core, the athlete can rest both or one foot on a stability ball or have a partner or coach hold both or one leg during the execution of the movement. Again a variety of body angles need to be addressed to fully train the back and posterior shoulder. In addition, pulling with the elbows out wide as well as in close to the ribs will stress different parts of the back musculature. Pauses and hold may be used as well as the addition of weight vests in order to increase the stress and load to the back.

As you can see from the variety of exercises and the variety of strategies available to bodyweight strength train, there is a large menu of choices available to train everyone from the novice to the elite. The key to the exercise prescription is to challenge the athlete with the appropriate exercise that will create the desired training effect over time. As long as the quality of the movement is emphasized over a strict volume prescription of sets and reps, the training effect will support the graceful power inherent to the sport of gymnastics. ✧