

Bodyweight Training: A Return To Basics

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SUMMARY

FOR CENTURIES, MAN HAS SOUGHT OUT THE MOST EFFECTIVE METHODS TO BUILD STRENGTH, VIGOR, AND VITALITY. OVER THE YEARS, METHODS HAVE EVOLVED, SOME HAVE VANISHED, AND SOME NEVER WENT AWAY, ALTHOUGH SOMETIMES NEGLECTED AND FORGOTTEN. THIS COLUMN HIGHLIGHTS THE ADVANTAGES, DISADVANTAGES, AND TRAINING PROGRESSIONS TO ONE OF THE SIMPLEST METHODS OF TRAINING AND CONDITIONING KNOWN TO MAN, BODYWEIGHT TRAINING.

A BRIEF INTRODUCTION TO BODYWEIGHT TRAINING

Bodyweight training is not something new or trendy. It goes back thousands of years and was often the chosen training method in recorded history of the ancient Greeks, Romans, and Egyptians, and is still used for the same reasons today by the

United States military. Bodyweight training, simply stated, is any exercise that involves using the body as a means of resistance to perform work against gravity.

There are approximately 206 bones in the body, although the number can vary, and over 600 muscles all of which work in accordance with each other (5). The muscles work with the levers created through the bones and joints creating movement. With bodyweight training, the movements are not used to move equipment or other exercise modalities. These movements are used to move the body against the always present forces of gravity and ground reaction forces, the work of our bodies against the weight of the earth. Similar to other types of traditional resistance training techniques such as dumbbells or medicine balls, bodyweight training is functional because it allows the individual to work in a 3-dimensional or multiplanar environment to overcome the force of gravity. Although something as simple as walking could be considered bodyweight training, for the purposes of this column, bodyweight training goes beyond walking.

BODYWEIGHT TRAINING IN PRESENT DAY

Common types of bodyweight training include calisthenics, which include pushups, situps, and squat thrusts; jump training to develop quick and explosive power; and yoga, a form of bodyweight training emphasizing the connection between the mind and the body. Gymnasts, some of the strongest and most skillful athletes in the world, often use their own

bodyweight to develop greater strength and stamina.

ADVANTAGES OF BODYWEIGHT TRAINING

Although traditional training methods, such as free weights and machines, can certainly make an individual stronger, popular exercises, such as the bicep curl, are open-chain exercises that use only 1 joint as the resistance is moved away from or toward the body using freely movable limbs while increasing the forces transmitted to the involved joint (1,2). With regards to strength machines, because of individual variations of size and strength, it is difficult to construct a machine that accommodates everyone's unique anthropometry (4). Bodyweight training, on the other hand, is specifically unique to each individual's limb length, muscle/tendon insertion, and bodyweight.

Furthermore, most body-weight exercises are closed-chain exercises, which use multiple joints as the resistance is moved away from or toward an anchored body part. Closed-chain activities often are more functional movements. When you perform closed-chain exercises, you often strengthen several muscle groups at once.

The debate over which training method is best, bodyweight training or weight training, generally concludes that bodyweight training does not produce significant gains in absolute strength. Absolute strength is defined as the ability of an athlete or client to move a given absolute load and is the generally accepted measure of an individual's strength. Bodyweight training, on the other hand, develops relative strength, which is defined as

Table 1
Sample bodyweight exercises

Upper-body exercises			
Push-Ups	Pull-Ups	Chin-Ups	Dips
With 2 hands—wide	With 2 hands—wide	With 2 hands	
With 2 hands—close	With 2 hands—close	With 1 arm	Inverted rows
With 1 arm	With alternate grip		2 under handed
Clapping			2 over handed*
Lower-body exercises			
Squats	Lunges	Skips	Bounds
Wide stance	Forward		
Prisoner squats	Backward	Box jumps	
Y squats	Walking		
Jumping	Jumping		
Total body exercises			
Body builders	Mountain climbers	Burpees	Jumping jacks
Jump rope	Cross body mountain climbers**	Body killers	
* See Figure 1.			
**See Figure 2.			

the ability of an athlete or client to move a load as a certain percentage of their bodyweight. An individual who

uses bodyweight training exercises uses their bodyweight as a means of resistance unless an external load is

added. This type of “relative strength” training while not a replacement for traditional lifts, such as a bench press or



Figure 1. Over handed (pronated) inverted rows. Assume a supine position (A) under a Smith machine or any fixed bar and pull toward the bar (B) with either a pronated or supinated grip and chest up while maintaining a rigid torso.

One on One

squat, develops strength that incorporates more core stability and joint stabilization relative to the athlete/client's bodyweight.

Aside from the physiological advantages of bodyweight training, the most obvious advantage compared with weight training is that it is a much more accessible and versatile form of training. Bodyweight training is portable—it can be done anywhere and anytime and equipment is not necessary for many of the exercises. A number of exercises (Table 1; Figures 1, 2), such as push-ups and prisoner squats (Figure 3), require nothing more than your body. For the individual or facility on a limited budget, an advantage of bodyweight training is that it costs nothing but time, effort, and a little imagination.

DISADVANTAGES TO BODYWEIGHT TRAINING

One of the biggest disadvantages to bodyweight training is that it is perceived as too easy for the experienced and too hard for the novice. To the individual who can bench press nearly twice his bodyweight, push-ups could seem to be a very elementary type of exercise. Yet if challenged to complete several repetitions of push-ups in good form, the individual may struggle because push-ups require much more core strength and stabilization than a bench press. Females in general also do not exhibit the same upper-body strength as their male counterparts when performing upper-body bodyweight exercises and may be a little apprehensive to add those exercises to their workouts.

TRAINING PROGRESSIONS

Progressions in bodyweight training can be a bit more challenging, but the key to effective bodyweight exercises is the same as with any exercise, proper technique, time, and tension. Select exercises that load the muscles effectively through the entire range of motion, and select a speed of movement that is controlled and eliminates excessive momentum. As with



Figure 2. Cross body mountain climber. Assume the high plank position (A), bring right knee forward and rotated toward left elbow (B), and repeat (C) with left knee to right elbow.



Figure 3. Prisoner squat. Beginning stance (A), with hands behind head, and then into squat (B) maintaining scapular abduction throughout the motion.

traditional weight training, the real key is to actually have a progressive goal for bodyweight training, and the intensities mandated by a complex training program should not be entered into lightly (3). Total repetitions, multiple sets, repetitions for time, various speeds and tempos, and varying the base of support (i.e., 1 leg versus 2) can be manipulated to create an optimal training program. Bodyweight training can be modified to include external resistance modalities such as weighted vests or dip belts, especially once desired goals are accomplished.

CONCLUSION

Bodyweight training is an effective means of conditioning and as with traditional weight training, when

properly manipulated can produce favorable results in both physical strength and stamina. Although bodyweight training does require instruction on technique and proper progression, it does not require special equipment or a specific place to do it. Bodyweight training and weight training are both beneficial. Using both training methods effectively will yield optimal results and a strong functional athlete/client.

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