



Getting Back to *Chin-Ups*

The fast track to developing upper body pulling power

BY **KIM GOSS, MS**

On July 16, 1956, President Dwight D. Eisenhower established the President's Council on Youth Fitness, a governmental organization that was created after a study found that American youths were less physically fit than youths in Europe. In 1966 President Lyndon B. Johnson created the Presidential Physical Fitness Award. When I was in high school in the '70s, earning that award was a big deal. And for boys, one of the requirements to get that coveted patch was to perform chin-ups – a lot of them.

Consider that at the time, PE wasn't simply a matter of throwing a ball into

the middle of a court and saying, "Play!" My PE classes were about 90 minutes; we had to suit up, and each class started with about 30 minutes of hardcore calisthenics followed by a 440-yard sprint (not a jog, but a sprint). Only after that "warm-up" did we start playing a sport. So it was no big deal to see my classmates whipping out about a dozen chin-ups when it came to test time.

Moving forward 20 years to when I was a strength coach at the Air Force Academy, I was shocked by the number of incoming female cadets, a majority of whom had been varsity athletes, who could not perform a single chin-up.

Many of these women had to go through remedial training to pass the general fitness requirements of the Academy – and the major problem was chin-ups.

If you're wondering why chin-ups aren't a part of programs to help kids get stronger, that's a good question. I've been involved in the strength coaching profession since before it became a profession. And I've seen the profession go through several phases of emphasis, such as the plyo and core training phases, and more recently the posterior chain and strongman phases. All these types of training have value, which is why there are so many components to the BFS

Total Program – it's not just a weight training workout. But in the quest of strength coaches to find the best training tools and methods, chin-ups have been all but forgotten.

Oddly enough, there is a quasi-political factor contributing to the neglect of this great exercise. Some time ago, pull-ups and other strenuous exercises started to be considered discriminatory against not just girls but also bigger kids. And with the increasing incidence of obesity in the US, the number of boys who can do a single pull-up is steadily decreasing. In the spirit of "No child left behind," many schools decided that when designing physical fitness programs for their students, it would be best to leave chin-ups behind.

A Strong Case for Chin-Ups

If you need any convincing of the value of chin-ups, just look at the upper-back muscles of gymnasts, who use chins and dips as key exercises in their conditioning programs. And how about all those magnificent paintings of Greek Olympians? The Greeks built their magnificent physiques with basic callisthenic exercises such as chin-ups and dips. Oh, and don't forget those brave soldiers who defend our country who get fighting trim with bodyweight exercises.

From an anatomical standpoint, the chin-up works the latissimus dorsi, teres major, posterior deltoid, rhomboids, the sternal portion of the pectoralis major, the lower portions of the trapezius, and the elbow flexors. How you position your hands determines which muscle groups are emphasized. For example, chins with your hands about six inches apart will emphasize the biceps brachii, while pull-ups with the same hand spacing will focus more on the brachialis and brachio-radialis. Performing the exercise with a parallel grip (so that your palms

face each other), increases the stress on your rhomboids and lats.

For anyone confused about the difference between pull-ups and chin-ups, a pull-up is performed with a pronated grip (palms facing away from you) and a chin-up is performed with a supinated grip (palms facing you). In terms of the effects of these two variations, a study about this topic using EMG analysis was published in the December 2010 issue of the *Journal of Strength and Conditioning Research*. Said the authors of the study, "The pectoralis major and biceps brachii had significantly higher EMG activation during the chin-up than during the pull-up, whereas the lower trapezius was significantly more active during the pull-up." The researchers also found that both variations were initiated by the lower trapezius and pectoralis major, and then completed by the biceps brachii and latissimus. However, consider that because the lats are internal rotators of the shoulders, chin-ups *are not* a good exercise to reverse round shoulders.

To perform chin-ups you can use the crossbar in a power rack, or you can use a multi-station unit such as the BFS Corner Unit, which has pull-up bars attached; BFS also carries wall-mounted

chin-up bars. From a liability standpoint, I would not recommend leverage chin-up bars because they can easily become dislodged and cause injury (just do a search on YouTube for some dramatic examples).

During the time I was volunteer-coaching at the high school level, I found that chin-ups were impossible for the female students to perform. Instead, I had them do assisted chin-ups, which can be performed two ways. One way is simply to flex one leg and have a training partner grasp your ankle and give as much assistance as needed. You also can perform assisted chin-ups without a training partner by using a power rack. Simply stand inside the power rack and place a barbell across the safety pins set about mid-thigh height, and this will reduce the amount of weight you lift. You also can place your back leg on a BFS adjustable step-up platform or 4-in-1 bench. When doing these variations, it helps to slow down the lowering (negative) phase of the exercise, which increases the time the muscles are placed under tension.

Getting back to my story, some of the girls in the classes didn't make the connection that these were variations



For those who cannot perform chin-ups, the exercise can be made easier by the use of a barbell placed on safety pins in a power rack (as shown in the two photos at left), or by having a training partner provide assistance by lifting on one leg.

of the same exercise that could help their pull-up strength. After a few weeks I started asking the girls to try one pull-up without assistance. To their surprise, many of the girls could do more than one. Soon there were several girls who were performing a dozen or more pull-ups. This came as a shock to many at the school, but for some reason it wasn't amazing enough to attract the attention of *MythBusters*!

Regarding technique tips, strength coach Charles Poliquin offers this advice: "Initiate the movement by learning to retract the scapulae. A basic principle in biomechanics is that force production is a product of joint summation. Using the scapulae retractors to initiate the movement produces more force. Concentrate on moving the elbows back and down. Most trainees overemphasize pulling with the elbow flexors to initiate the chin-up. Once you have retracted the scapulae, concentrate on elbowing the gut of someone who is standing behind you. That action will activate the latissimus dorsi and the teres major, which are powerful shoulder extensors."

To prevent monotony and make faster gains, trainees need to continually vary their grip orientation and width – you can also wrap a chin-up bar with athletic tape to increase the thickness of the bar to increase the difficulty. Says Poliquin, "When you change the grip width and/or its orientation, you will draw from a different motor-unit pool, which will accelerate progress." Some examples Poliquin provides to instill such variety include the following:

- Parallel-grip chin-up
- Narrow-parallel-grip chin-up
- Medium-grip and wide-grip chin-up
- Medium-grip and wide-grip pull-up
- Narrow-supinated-grip chin-up
- Sternum chin-up



The use of an Assisted Chin-Dip machine (above, left) can serve as a great introduction to chin-up training; and using additional weight with the use of a chin/dip belt can be used for advanced athletes.

- Mixed-grip chin-up
- Subscapularis pull-up

Although the best exercises to improve chin-ups are chin-ups, a good auxiliary would be a chin-up machine. BFS introduced a machine that effectively reduces your bodyweight. It's called the BFS Assisted Chin-Dip machine.

This heavy-duty machine has a footplate that you stand on while you perform dips and chin-ups. The footplate is connected through a pulley mechanism to a selectorized weight

stack. The more weight you add to the weight stack, the more upward force is applied to the footplate and the less strength is required to perform the exercise. When your strength increases, you can fold back the footplate and perform the exercises with bodyweight.

As coaches grow beyond just following trends and look at what actually works, hopefully we'll see a resurgence of this great exercise in physical education and sports fitness programs. In the meantime, get a head start and get back to the chin-up bar! **BFS**