

Weightroom 101: Olympic Plates

What you need to know to start building a great gym

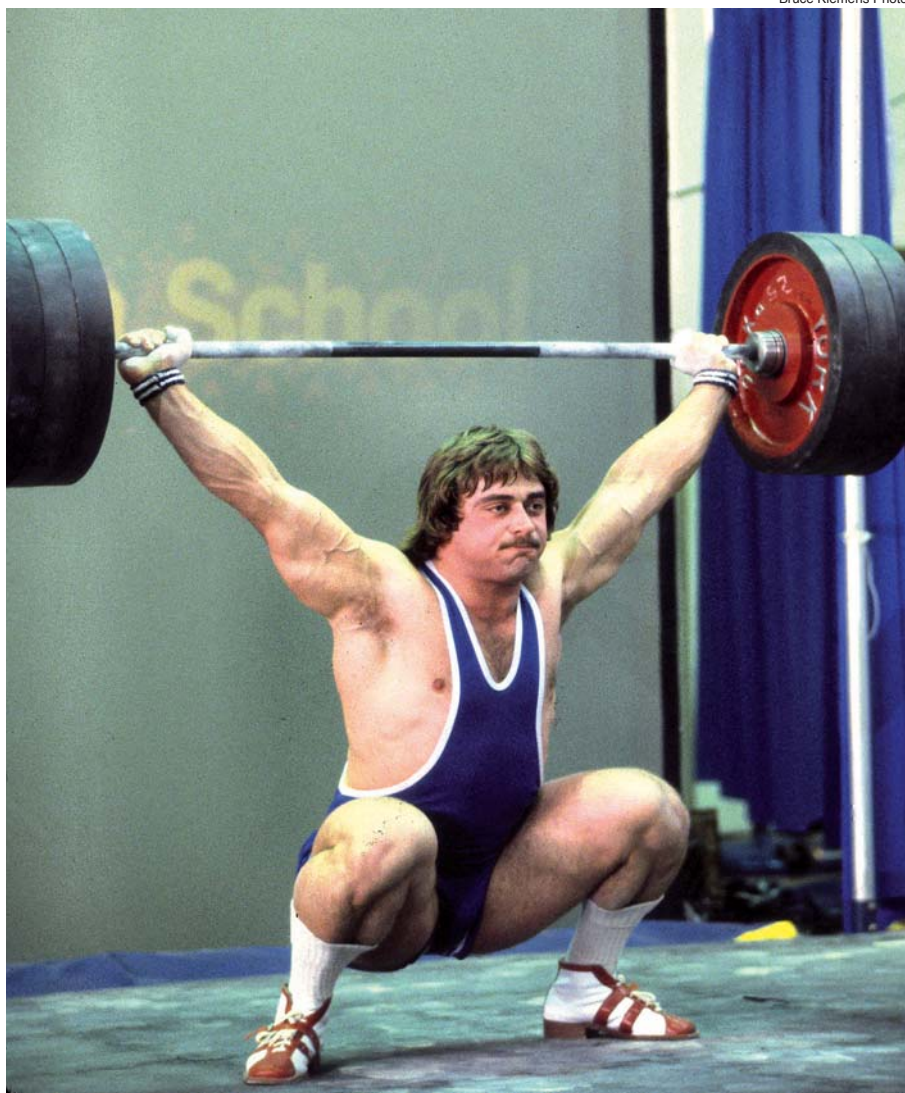
When it comes to sports equipment and training, good coaches always emphasize the importance of the basics. For a weightroom those basics include

bars, plates and platforms. Beyond those, if your department budget permits, there is a place for machines; they are especially valuable for working around injuries, and from a liability

standpoint they are well suited for large commercial gyms that have minimal supervision. However, before looking into what is the best leg curl or lat pull-down machine to buy, a strength coach needs to start with the basics, two of which are bumper plates and platforms.

In the early days of competitive weightlifting, thick platforms were needed because weight plates were primarily solid steel. The platform protected the floor and reduced the stress on the barbell, although lifters needed to be careful about lowering the barbell because it could easily damage the floor and bend the bar. In lifting competitions, dropping a weight was considered a rule infraction; at one time, spotters were recruited to catch missed lifts, that is, until the weights became too heavy to catch safely. For example, in 1956 Paul Anderson won the super heavyweight weightlifting gold medal in the Olympic Games with results that included a 319-pound snatch and a 413-pound clean and jerk. Today, both these results have been exceeded by women weightlifters and a 132-pound teenager.

Among the first bumper plates were small-diameter steel plates with a rubber rim. Shown using such plates is Russia's Sergey Arakelov, a two-time world champion (1981-82) who broke five world records.



Bruce Klemens Photo

The Bumper Plate Revolution

Most of the early Olympic weight plates had a wide flange. These were easy to grip and, when dropped, distributed the force over a wider area. Also, they created a vacuum effect with other equal-size plates that made them less likely to slide off the sleeve (nevertheless, BFS still recommends using collars for safety and liability reasons). The problem with the wide-flange plates was that their size limited the total weight that could be put on the bar; today these plates would be especially impractical because so many powerlifters are performing 1,000-pound squats, deadlifts and even bench presses!

The invention of the bumper plate came from a desire to prolong the life of barbells and platforms, but because the first ones produced were extremely expensive, few gym managers rushed out to buy them. Among the first bumper plates were smaller-diameter weight plates with a rubber strip attached to the rims.

Rubber-rimmed plates were certainly an improvement, but as with retreaded tires for your car, those early bumper plates cracked easily. Many strength coaches also complain that they tend to cause more damage to the bar sleeves, and that barbells don't seem to last as long with these types of bumpers. (At one Olympic Games, reportedly, during the weightlifting competition quite a few cracked plates were piled up in a corner of the weightroom for disposal.) Further, with steel prices so high, solid-rubber bumper plates have become much

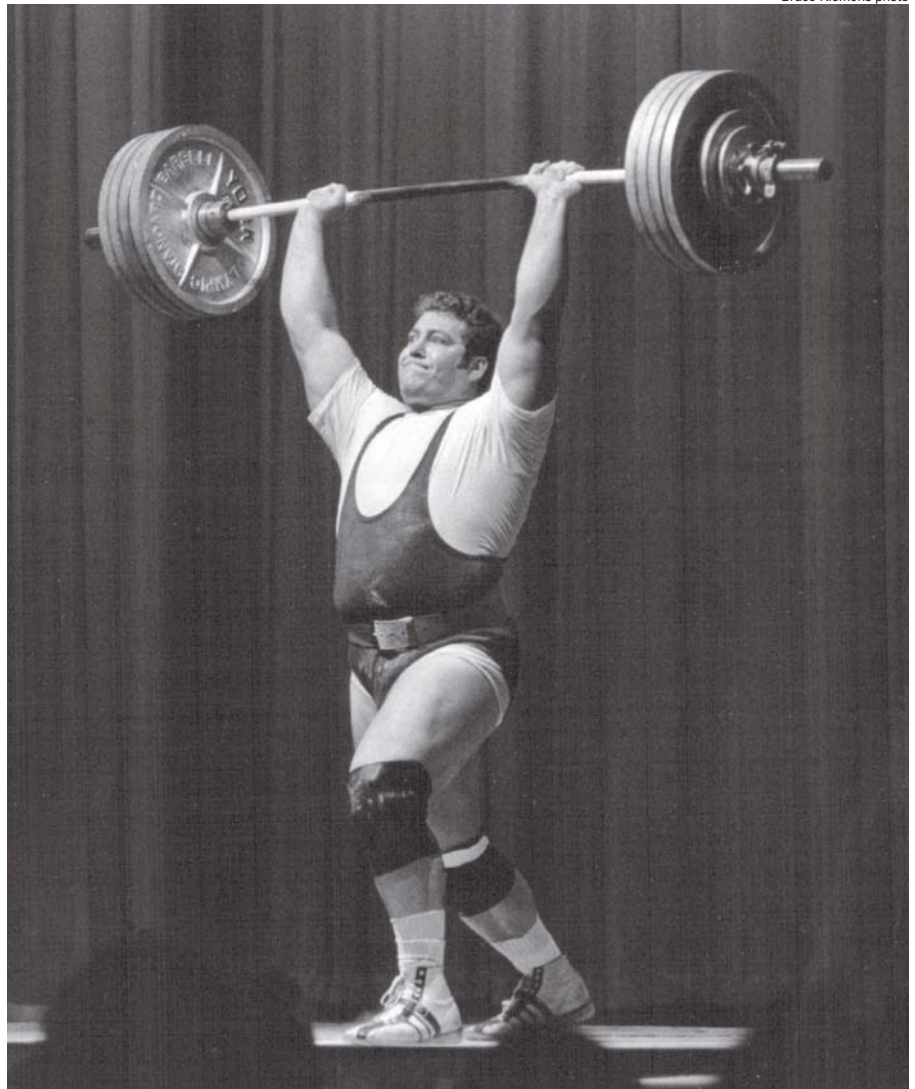
In the early days of weightlifting, steel plates were used. Although many know Ken Patera from his days as a pro wrestler, he was also a great weightlifter, the first American to lift over 500 pounds in the Olympic press and clean and jerk.

more economical. BFS still sells these old-style bumper plates because many gyms already have them and don't want to mix plates, but they are not in big demand.

The best solution turned out to be a solid bumper with either a brass ring in the middle or a larger steel hub, both having a tight tolerance. The designs that have a solid piece of rubber with a hole in it do not last long, but in any case these haven't been marketed for some time. For international competitions, bumpers with steel hubs are preferred. However, consider that a competition bumper plate can cost up to four times as much as a solid bumper plate with a brass ring.

Another factor to consider with bumpers is the quality of the rubber. One type BFS sampled was made from the rubber used in recycled tires – unfortunately, the steel shavings could cut the athletes who were using the bumpers (and there was an additional risk that the shavings could get on the platform and bounce up into an athlete's eye when the plates were dropped. One Division I college strength coach told BFS that three players had to be sent to the doctor in one week to have shavings removed from their eyes due to this problem). Those bumpers would have cost us slightly less to purchase, but there was too much of a liability issue for us to sell them.

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Photo courtesy Paul Anderson Youth Home



Wide-flange steel plates distribute the force of a dropped weight over a larger surface area, but their size limits the amount of weight that can be used on the barbell. Shown using such plates are 1974 World Powerlifting Champion Paul Woods and 1956 Olympic Games weightlifting champion Paul Anderson.

Another company we tried had very wide bumpers that bounced high when dropped. The problem was that these plates tended to bounce back and hit athletes in the shin or the knee. Also, these plates were so wide that only a few could fit on the end of a barbell – they looked impressive, but when the weights got over 300 pounds you'd have to combine them with steel weights, as they simply wouldn't fit on the sleeve.

We went through several manufacturers over the years; that's a common challenge for most companies – you never know what you are getting. For example, we had to stop doing business with one company that had manufactured our dumbbells because their quality decreased significantly when they started using lower-grade steel. Likewise, in shopping around we found bumpers that smelled terrible and left black smears when touched – fixing these problems required a citrus-based degreaser (along with a lot of elbow grease), and it's important that BFS products are ready to use from the get-go. For nearly a decade we have used the same bumper manufacturer because they have an exceptional level of quality control.

Although it might appear we have two separate solid-rubber bumpers (black and colors), the only difference is appearance – they are all the same

product. It simply costs more to dye a bumper, and this cost is absorbed by the customer. The advantages of colored bumpers are they are attractive and easier to organize.



Lightweight training plates usually weigh about 5 pounds and are made of composite materials. Although the plates shown here are very durable, most training plates will crack or bend if dropped.



Solid-rubber bumper plates are the most economical and practical for training. Colored bumpers cost a bit more but look great and are easier to organize.

Although the weights used in international weightlifting competitions must be in kilos, in the US there is a greater demand for pound increments. In pounds, bumper plates are usually available in increments of 10, 15, 25, 35, 45 and 55 pounds. Five- and 10-pound Olympic plates should be called training plates, as they are usually made of a composite material and most will crack or bend if dropped. Avoid mixing pound plates and kilo plates because it's too easy to load the bar incorrectly.

Finally, it's not a good idea to try to save money by purchasing only one set of bumper plates for a platform and then using a lot of cheaper, steel plates for additional weight. This practice places excess stress on the bar and the bumper plates. In competition, you'll see that the loaders will use the largest bumper plates as early as possible because they are the most durable, and then they'll use smaller bumper plates for additional weight. This practice provides maximum protection for the barbell, which is especially important when you consider that the price of some of these bars is now over \$1,200!

Some coaches will try to cut corners by buying poor-quality equipment, but ultimately they will be disappointed when the equipment doesn't perform as well or last as long as they expected. It's smarter to buy the good stuff. As the weightlifting community has taught us, you only pay for quality once! **BFS**