

the **CrossFit**

JOURNAL ARTICLES

Personal Equipment

The Good, the Bad, and the Silly

Mark Rippetoe

There is actually very little personal equipment that is absolutely necessary to take to the gym. But it is surprising how much stuff some people carry with them. As a general rule, some equipment is useful, some equipment is most definitely not useful—and in fact is a bad idea—and some is just absurd.

In order of most useful to most silly in the gym bag we have squat shoes, chalk, a lifting belt, lifting straps, knee wraps or knee sleeves, wrist wraps, elbow wraps or sleeves, gloves, devices such as a “Manta Ray” or a “Sting Ray” that hold the bar for you, and anything you intend to use to shave anything but your face.

I had a member named Lonnie a while back. Nice guy, lovely wife (whom he met there in the gym), and strong under the bar, but with a few annoying habits. One day I walked out of the office and saw him doing incline leg raises on the incline sit-up board, holding on to the bar behind his head with his hands *strapped* to the bar. I, of course, approached him to question this behavior. He said that he was using straps so he could concentrate on his abs better, which is, of course, very important in an ab exercise. I made fun of him for several weeks while he was there to train, putting a strap on when I turned a doorknob, strapping on to the bar for a bench press, coming out of the bathroom with one strap on my right hand, sweaty and breathing hard, going out to the truck and strapping on to my steering wheel, until I got tired of it. Lonnie never seemed to think it was as funny as I did, but he quit using straps for things that don't require straps.

Straps are a good example of equipment you need for some things but shouldn't use for others. Straps are good for heavy shrugs, the kind that are done in the rack with a hundred pounds more than your max deadlift; very heavy shrugs are not possible without straps. They are good for deadlift

assistance stuff, like rack pulls from below the knees to lockout that can be done with weights too heavy to hold for a set of five. They are not good for your max deadlift, because at some point you actually have to make your grip strong enough to do one. And there is absolutely no excuse for doing your pull-ups with straps. If your grip strength is the limiting factor in your pull-ups, your deadlifts will fix that soon enough. If you see anybody strap onto a dumbbell for any reason, you know you are watching a person who thinks in terms of muscle groups and does not think about performance.

Performance-based training depends on all the components of the systems involved to carry their share of the load. The best way to train all these systems is in the context of the tasks they are expected to perform. One of the worst ways to train them—possibly worse than not training them at all—is to separate them out and train them individually. There is more involved in performance than the strengths of the individual components of a movement. The effective, efficient integration of these components— a.k.a. *skill*—is the most important aspect of their cumulative action, more important even than strength, because skilled people are better at sports than people who are merely strong. Almost invariably, the unnecessary use of equipment interferes with the development of this integration of systems because of the imbalance in strength it causes, which in turn directly interferes with the expression of skill.

Straps illustrate this concept well. The terminal end of the kinetic chain in most sports is the hand. No sport that I am aware of allows the use of straps, and they would actively interfere with many. Straps replace grasping strength. If this function is prevented from being developed while doing the movement in which it is used, well, you can see the problem.

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A heavy shrug in the power rack is a useful exercise for a powerlifter working on the finish of the deadlift. In this case, the straps aid in an assistance exercise that is not possible to do without them. Straps might be useful in the case of a hand injury, a cut or a finger injury that renders a necessary exercise undoable otherwise. Olympic lifters like to use straps at times, especially for snatches, which tend to destroy hand skin when done several times a week. Any assistance movement that *can* be done without them should be, and certainly any core exercise like deadlifts should be done, at least most of the time, without an aid that would leave an important component undeveloped.

Since it's been mentioned, competitive powerlifting uses a lot of equipment. My comments here are not directed at that, but rather at the adoption of an equipment dependency by people not going to a three-lift meet where equipment—for better or worse—is a part of the sport. Since non-competitors don't usually invest in a \$300 bench shirt, we'll assume you haven't.

Squat shoes are the single most useful piece of personal equipment you can own, and the only one that is really, honestly necessary. It only takes one set of five in a pair of squat shoes to demonstrate this convincingly to anybody who has done more than one squat workout. Squat shoes form a stable position from which to drive, because they are built on a non-compressible wedge of wood or leather, and in my opinion are absolutely essential for all squats and all pulls from the floor, as well as presses. Running shoes are designed to squish, so as to absorb the shock of impact during thousands of repeated bodyweight footfalls, and wearing them to squat is nearly equivalent to squatting on your bed. Cross-trainers are very little better, and those horrible “shocks” things are the very worst in existence. Training barefoot is preferable to these kinds of shoes, and barefoot is not good.

Any shoe with a compressible heel will not be a stable platform for any barbell movement with a ground-reaction component, since the first part of the force applied to the ground is absorbed in the shoe. What's worse, they absorb an unpredictable amount of the force in an unpredictable direction each time, depending on your exact position over the center of gravity of the system, making you pay a dear price for very tiny differences in form each rep. Squats are hard enough



Types of weightlifting shoes, all with non-compressible heels.

anyway without making each rep a completely different experience because of your shoes.

Hell, dress shoes are better than running shoes, and many

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records have been set in work boots. The problem with boots is that the tops restrict ankle movement, and while that's not a huge factor in the squat, a pair of low-quarter squat shoes allows you to squat *and* do all the Olympic lifts that require more ankle mobility. Most squat shoes have metatarsal straps to increase lateral stability and suck the foot back into the shoe to reduce intra-shoe movement.

The only problem with squat shoes is that they are never available at the shoe store in the mall and can be obtained only from weightlifting equipment suppliers. But they are not that expensive, especially when compared to new name-brand basketball shoes, they last for years if you don't act like a dork and wear them anytime other than when you're training, and they make the most important lifts in your program safer and more efficient. Get some.

Chalk should be provided by your gym. It makes your grip more positive and less likely to slide on the bar, and therefore safer and more efficient. It reduces callus formation, making it easier to manage your calluses so that they don't tear. If your gym doesn't provide it, ask them why. If they don't allow you to bring it, training is not their priority and maybe you should be somewhere else. I don't train without my shoes or chalk. Really.

Now the controversy begins. A belt is one of those things that some people say is always a crutch, a bad unnecessary thing that keeps your abs from getting strong. Does its use prevent something from strengthening? I don't see how, and I personally am one of those old guys who is still able to squat and pull because the belt allows me to stabilize my torso enough to do so, despite numerous back injuries. If I don't belt, I can't squat more than about 185. So, you want me to quit training because I'm old and beat up?

Look at it this way: a belt stabilizes the spine by adding to the intra-abdominal pressure provided by the abs, so a belt is like extra abs. Extra abs allow more weight to be squatted and pulled, thus placing extra stress on the prime movers and on the spine, and thus requiring that more work be done by all of those systems. If they all do more work because of the heavier weight, they all get stronger, even under the belt. It is always smart to do as many warmups as possible without the belt, but if you are squatting heavy and are going to use a belt, put it on for the last warmup as well as the work sets, because it changes the movement pattern a little. And if you can squat heavy without one do it, but be aware that you can always squat more with a belt, and there may come a time when this is important. If you need a belt, wear one; if you want a belt, use it when appropriate and be aware of how it works.

An oft-overlooked function of the belt is the proprioceptive feedback it provides, telling the body about tightness and position because of its pattern of contact with the skin. Even

when worn loosely it performs this function. Knee wraps function the same way when worn loosely. Wraps are commonly found in many gym bags. Both knee and wrist wraps may have a place in that bag, depending on how and when they're used. Knee wraps are most usually three inches wide and six feet long, and the kind made for powerlifting are very thick and strongly elastic. These are designed specifically to resist knee flexion, and are thus aids to extension (a squat suit works the same way, by resisting hip flexion). But they have other uses, as in my situation where I have no ACL in my right knee and have had some work done on my left patellar tendon. I use them below the patella, loosely wrapped to keep things a little tighter, and provide some feedback about position. They are on loosely enough that I can leave them on the whole workout with no discomfort or venous occlusion (nothing south of the wrap changes color). Used in this way, they add support and a feeling of tightness that actually helps with position, but no assistance with the weight itself. In fact, they are quite helpful to me in managing my patellar tendinitis since the wrap absorbs some of the stress and keeps things warm, and I'd recommend them to other old guys if you've had as much knee trouble as I have but still want to train relatively hard.

Knee sleeves are stretchy little rubberized cloth jobs that work like loose wraps. But man, you'd better keep them washed between workouts if you're prone to skin problems. It took me exactly 45 minutes to develop a rash under them one day, a cute little situation that lasted about a week.

The wrong way to use wraps would be to put them on tight enough that they need loosening between sets. This level of support is quite different from the loose way. My loose wraps allow me to squat without further injury; tight wraps allow a lifter to squat more weight. They add greatly to the rebound out of the bottom normally provided by the hamstring/adductor stretch reflex. This is different from the function of a belt, in that a belt makes no direct contribution to actually getting the weight back up. If you are not going to a power meet, you are fooling yourself about how much you squat if you use wraps this way. Fooling oneself, of course, is not good.

Wrist wraps are useful too, since wrists are commonly injured joints. A wrist injury really screws up a clean or a snatch, and can hurt on a squat if the bar is held incorrectly. In these situations, a wrist wrap is necessary and good. But as a fashion accessory, not so much. An uninjured wrist does not need supporting. I don't know that they keep anything from getting strong, but there is just something offensive about wearing unnecessary gear that is designed for use by somebody that is not you. If you're not an injured Olympic lifter, or you derive no benefit from wearing a wrist wrap, leave it in the bag until you are or do.

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Elbow wraps are a little less commonly seen, since no powerlifting federation allows them for the bench press, but the same thing holds true for them as for knee and wrist wraps: good if used appropriately, bad if relied on for pounds on the bar, silly if worn because you think they look cool. One of the problems with elbow wraps is that when the elbow is in full flexion, the bulk of the wrap between the bicep and the forearm tends to “jack” the joint apart and produce a shearing force on the ligaments. This is uncomfortable in the bench press, press, back squat, front squat, and when racking a clean, and most people try them a couple of times and quit using them for this reason, even though they can be helpful on rather rare occasions when no acute elbow flexion is to be done.

Gloves are used by serious lifters only in the event of a skin injury to the palm of the hand that a glove would allow to be trained around. Under no other circumstances do I want to see a glove on anybody, not even a maxillofacial surgeon or a church organist. Not even a lawyer. Gloves add a layer of unstable material between the bar and the hand, destabilize the grip, prevent necessary callus formation, and actually make gripping harder due to the effective increase in diameter of the bar being held. Fat bars are used for this reason to work the grip, but gloves are not. Gloves are annoying. Inexperienced, non-serious people think they are supposed to wear them because they see them in the fitness magazines. Cindy Crawford wears them. Richard Simmons wears them. I’m sorry, I just can’t talk about this anymore.

And those “Ray” devices that hold the bar on your back or your shoulders for you, well I can’t stand to talk about them either. Except to say that anyone who uses them should be beaten with a hammer, in the parking lot.

Look, get some squat shoes and use them. Get some chalk if your gym doesn’t have it, or get another gym. Get a belt; use it when you need to. Get some wraps if you need them, but not if you don’t. And if you just *have* to shave anything but your face, do it at home, okay? Unless you’re Cindy Crawford.



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