

# Starting Strength

## Baby, Bathwater, Gear

When and Why to Add Supportive Apparel

by  
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Among the initiated the issue of gear is the sort of thing that spawns schisms, wars and the founding of new religions. As with religion, however, it's the narrow view of the fundamentalist that results in most of the misery. A broader, more encompassing view would save an awful lot of pain and misunderstanding. If you pan back a bit, the picture becomes clearer.

Let's start with the bar. It's gear. So is the shirt you really ought to be wearing when you squat. So is proper footwear. Gear can be considered everything you use that's not a part of your biological makeup. Gear exists on a spectrum and like everything else in life you have to pick your place along it based on your individual circumstances. Also, as with everything else in life, the extremes are dangerous and often foolish places to hang out; you should probably try to land somewhere sensible in the middle.

*"But the damned bar, Gary? That's gear? Really?"* Really. The barbell is a tool you use to generate more tension in your muscles than you could without it. The inclusion of this basic weighted implement on the gear spectrum may make my definition seem far too broad to some, but recall that we are taking a broad view on purpose. Believe it or not, there are some purists out there who will tell you with a straight face that proper training can be done with bodyweight-only exercises. Those of you reading this are a self-selected bunch who very likely considers the adjustable weight rotating barbell the most basic equipment, as necessary to a legitimate training program as the bones, muscles and nerves that will be lifting it. This sort of inanity probably never occurred to you. But there it is. And we therefore acknowledge that a weighted barbell is an artificial way of increasing the amount of tension you could generate on your biological lonesome.

(A chin up bar is another example of something that is often thought of as "equipment" as opposed to "gear." But think about it. A chin up bar just lets you direct force with those pulling muscles that would be difficult to work if all you had was a little floor space and your naked body, much the same way a belt allows your abs to generate more force than they could without it...but I get ahead of myself.)

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For the sake of keeping you with me, let's focus on things traditionally understood to be gear, i.e. things you **wear** (though I'd point out that you sort of *wear* the bar when you use it and that lifter and barbell—and bench in the case of the bench press—form one unit for the duration of the set).

We may as well start with the belt. Every powerlifting federation and even Olympic weightlifting federations allow the use of belts (although there may be a 140% RAW federation that doesn't), but there are many squatters—some of them very proficient squatters too—who mock belts as artificial crutches that inflate lifts.

True, virtually everyone in the world will squat more with the proper use of a belt, particularly if they low bar squat with a good helping of forward lean. That gives away the reason for the belt's effectiveness. The belt doesn't store the energy of the descending bar and return it on the upstroke like a squat suit does. Rather a belt allows the abdominal muscles to work harder by giving them something to push against, much like the barbell itself allows the leg and back musculature to work harder by giving it something to push against. Recall that little trick of physiology already mentioned; you will be able to generate more tension against an external resistance. That's why we use barbells in the first place. If we're smart, we use belts, too, because they make our abs work harder which in turn lets the muscles in our lower bodies work harder against more weight. Higher ab tension means higher internal abdominal pressure, which means a more rigid spine which means a more secure spine that transmits energy to the bar more efficiently. More muscle is worked, more weight is moved and moved more safely. These are Good Things. That extra 30 or so pounds the belt allows you to use each time means that your legs will get stronger faster. In fact, NOT using the belt essentially means undertraining your legs. Your abs get MORE stimulation with the belt...and so do your legs.

If you choose to squat with a high bar placement or you have a long torso relative to your legs that keeps you fairly upright no matter where you put the bar, then a belt won't do as much for you. But please understand that not everyone shares your leverages and that a significant portion of the population will indeed progress more quickly and more safely with the proper use of a belt.

There are some purists who believe a squat is tainted unless it's done in bare feet and presumably as close to naked as circumstances allow (One wonders if they feel the squat rack is an unnatural copout too since it holds the weight for you and lets you squat more because you didn't have to Steinborn the bar onto your back). But the more sensible among us will adorn our bodies appropriately. At the very least a shirt made mostly of cotton should be worn so that the bar does not slide around on your slick, sweaty back. We sensible folk will also give a lot of attention to what we put on our feet when we squat. We tend to like a non-compressible sole and a little bit of heel.

Scouring the internet gives me the impression that there are way too many people trying to barbell back squat in as close to a "natural" state as possible. And this extends to the angle of their feet relative to their tibiae. That is to say, they don't want their footwear to have *any* heel. They see the heel as a crutch for what they deem a flexibility problem in either the hamstrings or the calves. This betrays a profound disrespect for critical thinking and a flagrant disregard of the realities of anatomy and physics.

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I'd ask heel-haters to try to squat with the balls of their feet elevated to demonstrate the aforementioned anatomy and physics at work. It's not flexibility at issue here. What we have are changes in balance resulting in stresses being shifted to different muscle groups. Balls of feet elevated will require the lifter to perform more of a good morning in order to stay in balance and get depth; the shins will be nearly vertical and the knees well behind the toes which means the hip angle will be much more acute than the knee angle. Therefore the stress of moving the weight is placed almost entirely on the glutes and hamstrings. As the angle of the foot moves to flat and then to heels elevated, the balance shifts and with it so does the stress. The higher the heel, the farther out over the toes the knees have to move to maintain balance as the lifter descends with the barbell; the more acute the knee angle and more open the hip angle. The quads are able to get more of the action while the hamstrings have less to do (the glutes and hamstrings still have to work hard to maintain the resulting more open hip angle). The higher the heel, the more the stress is shunted to the quads and away from the posterior chain.

A slightly elevated heel distributes the stress equitably between the knee extensors and the hip extensors. An elevated heel is not a copout due to lack of flexibility; it's a legitimate training device with a specific function. I know it will make some angry or sad to read it, but Nature did not provide you with an ideal foot angle on flat ground for the purpose of balancing the work between the anterior and posterior muscles in the barbell back squat.

Insistence on barbell squatting *au naturale* is a waste of effort. Squatting is natural. Barbell squatting certainly is not. The plate-loaded barbell with rotating collars is an artifact of industrial civilization. (So is a squat rack, by the way.) Again, the equipment that allows us to perform this wonderful, strength-building movement is in a sense "gear" itself. It is no crime to add more accessories to make their use safer and more productive.

And again, one must be careful not to go too far with this sentiment. A smith machine (I refuse to use the capital "s" when referring to this contraption) goes way too far. Knee compression, however, allows the lifter to continue to lift in three dimensions while localizing the groove restriction to where it's needed: the ligaments of the knee. You don't want the bar's path to be guided by anything but you; the ligaments, however, will convey energy more efficiently if they are slightly compressed so that deformation is kept to a minimum during joint articulation. A little compression goes a long way toward making joint function under heavy load a much happier experience. Anyone who has worn knee sleeves or comfortably tight knee wraps for a few heavy sets will testify to this. Wraps obviously provide more compression than they do warmth as opposed to sleeves which provide more warmth than they do compression. And now we come to one of those slippery slopes your mother warned you about; as every competitive powerlifter knows, tight wraps can add 50 lbs to your squat. But then again a belt can add almost as much. And even the 100% RAW powerlifting federation has deemed the belt worthy of wear in its competitions while they won't even let their lifters wear knee sleeves... which add almost nothing to the lift (an example of illogic and—I suspect—of appearance's sake since wearing nothing at all on the knees *looks* more RAW). We'll address the addition of pounds as opposed to the increase in safety and efficiency in a little bit.

Some knee protection (and a belt) is just good sense, especially if you're not an injury-free 18-25 year old male. But even if you are a physically perfect specimen with beautifully intact ligaments, using a

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belt to be able to work harder along with some neoprene to keep those ligaments happy (remember: a warm ligament is a happy ligament) and lightly compressed is a very Good Idea. Warm ligaments will perform better under load than cold ones. Warm ligaments are much less likely to get injured than cold ligaments. But here's some news that may shock you; simply "warming up" gets the muscles warm and leaves the ligaments relatively cool. That's because muscles have plenty of blood coursing through them and ligaments do not. Knee sleeves trap the warmth generated by the muscles and make it available to the nearby ligaments. Think of the sleeves as providing a greenhouse effect on your joints.

The naked purists will also claim—wrongly—that the use of heel will prevent a lifter from developing the proper flexibility. These same purists like to claim—again wrongly—that using sleeves and wraps will prevent the knees from getting strong. One assumes that the purists are talking about the integrity of the joint itself since they couldn't possibly be talking about the surrounding muscles getting strong. Knee sleeves allow lifters to lift heavy weight for more volume and last I checked that sort of thing makes muscles get bigger and stronger real good.

The argument from the purists is that the sleeves and wraps absorb some of the stress that should be borne by the joint. This is true and it's not a bad thing. The compression prevents the type of deformation under repeated loaded articulation that could become a problem over time or even in the course of a single session. Joint resilience and structural integrity vary wildly across the training population, much like height. Strength sport selects for certain body types, just like every sport does, and is going to be overrepresented by naturally strong, thick people with naturally thick, strong joints. But even such people understand the incredible trauma inflicted on the poor, ol' knee joint in training up to a triple bodyweight squat. This is why knee protection of some kind has been a part of strength sport from its very beginning. Some compression and warmth will make squat training more comfortable and safer for absolutely everybody. For some folks it will mean more progress more quickly and for others it will *only* mean a bit more comfort. At the very least, the very feel of something slightly constrictive on the joint causes a proprioceptive feedback that makes things run more smoothly. I don't know enough physiology to explain this well beyond the use of the phrase "proprioceptive feedback." Feel free to look into it further with Google and educate me.

As long as we're talking about compression and the absorption of stress by the material a lifter might wear, let's go ahead and address the bench shirt. It's not often you see any nuanced views on bench shirts. People either love bench shirts or think of them as sentient and sneaky agents of Satan. Even people who use them and are good at using them will confess in their unguarded moments that they wish the bench shirt had never been invented.

But invented it was, and with good and noble intent (Thank you, John Inzer). Heavy bench presses can be murder on the oh so vulnerable shoulder joint, even when performed properly. The shoulder has many degrees of freedom of movement and the cost is an inherent tradeoff in stability. The knee is more vulnerable than the hip when it comes to the squat, but the shoulder takes the beating in the bench press while the elbow rarely has a thing to worry about.

Much like knee sleeves or wraps provide the sort of compression and warmth that allows one to squat heavy weight for more volume and with a greater margin of safety: a bench shirt allows you to bench heavy weight for more volume and with a greater margin of safety.

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Aye, here comes the rub.

Use of a bench shirt here does not mean the latest space age polymers and having a couple large buddies stuff you into a garment several sizes too small so you'll get more "pop" and more pounds in competition. **No, we're just talking about the equivalent of knee sleeves for the shoulders.** A basic shirt properly sized won't add much at all to the weight that the lifter can bench, but it will add comfort, a margin of safety and will allow for more volume in training. In fact, these basic shirts by Inzer still exist, can be bought cheaply and are often gently and lovingly mocked by competitive powerlifters because they *don't* add more than about ten measly pounds to the amount that can be bench pressed absolutely naked.

The same sort of thing goes for squat suits. If sized properly—that is to say, you can get it on yourself without squat suit slippers of some sort—they won't add much at all to the weight you can use. Rehband's neoprene mix compression shorts will work here too. Again, the idea is to provide a little warmth for the relatively bloodless, cold connective tissue and a little compression to the joint so that that connective tissue doesn't deform in bad ways during joint articulation under load.

This is as good a place as any to address when gear goes too far. Of course *too far* is a matter of interpretation. I've already said that extremes are bad places to hang out and then made a little fun of bodyweight-only types and naked purist squatters in order to underscore my point. On the other end of the gear spectrum lie the multi-ply people with shirted bench presses almost as big as their deadlifts—or bigger!—and competition squats several hundred pounds in excess of their deadlifts (though the yearly Raw Unity meet is proving that all those people are still the strongest even without of their extreme gear). Of course the deadlift is the benchmark because it's the lift lacking an eccentric. Gear helps it the least because there is no chance to load the energy of the descending barbell into the material of the suit.

If you've been paying attention, you'll have noticed that the gear use I've advocated has been for the purpose of support and for making the joints operate a bit more efficiently and lot more safely. I've been careful not to suggest gearing up enough so that more weight is handled because the gear is tight enough to store and return the energy of the descending barbell to any appreciable degree. I'm advocating that trainees add gear as they get stronger for the purpose of support in the right places to allow for more work and greater gains; not for the sake of *rebound* helping get more weight.

But this is not an indictment of traditional powerlifting. Each federation decides which level of gear is acceptable. Each lifter is free to choose how he competes by choosing a federation. I *will* say that it burns me a little when the gear changes the movement itself. Multi-ply squat suits and monolift racks change the squat into the extreme wide-stance, relatively high affairs one sees in the federations that mandate the use of multi-ply squat suits and monolift racks. And the more extreme the shirt, the lower the touch point for the bar and the more triceps lockout strength determines the lift than pectoral and deltoid strength; this leads to the so-called belly benches in even the single-ply federations.

But the point of this little ramble isn't to judge any of that. And the incredibly strong people who do their belly benches and ultra-wide squats in multi-ply really could not care less about my opinion. I

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would like, however, to dispel the far too frequent conflation of extreme gear usage in competitive powerlifting with sensible gear usage in training for even the non-powerlifting athlete. Knee sleeves, light wraps, a belt...even a very loose (properly sized) bench shirt or squat suit do not make you a gear whore who needs the gear to put up decent weight. What's more, no gear merely "gives" all those extra pounds. It takes a lot of work and practice with that awfully uncomfortable material to get the carryover.

Whether you want to go completely naked in your training or wrap yourself in canvas armor is up to you. You could also run barefoot through the park, do nothing but Hindu squats and pushups, squat wearing nothing but your underwear (if that) or in the most advanced gear you can afford. We still all know that people who want to get really, really strong perform barbell back squats and bench presses at the very least. I've just tried to explain why a belt, the appropriate footwear, a little joint compression and some warmth will help make these barbell movements (and other movements too for that matter) more comfortable, a bit safer and quite likely a good deal more productive, something that becomes increasingly clear as you get both older and stronger.

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*Gary Gibson has been voted "least likely to powerlift" by everyone who's ever known him. Yet he ended up competing in the USAPL's new unequipped division and keeps managing to set state records in the squat, deadlift and total as a raw 75 kg lifter, though he's the first to note how few competitors there are in that division. He also spends way too much time reading, thinking and performing the three powerlifts and believes that everything important in life can somehow be related to the barbell back squat.*

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