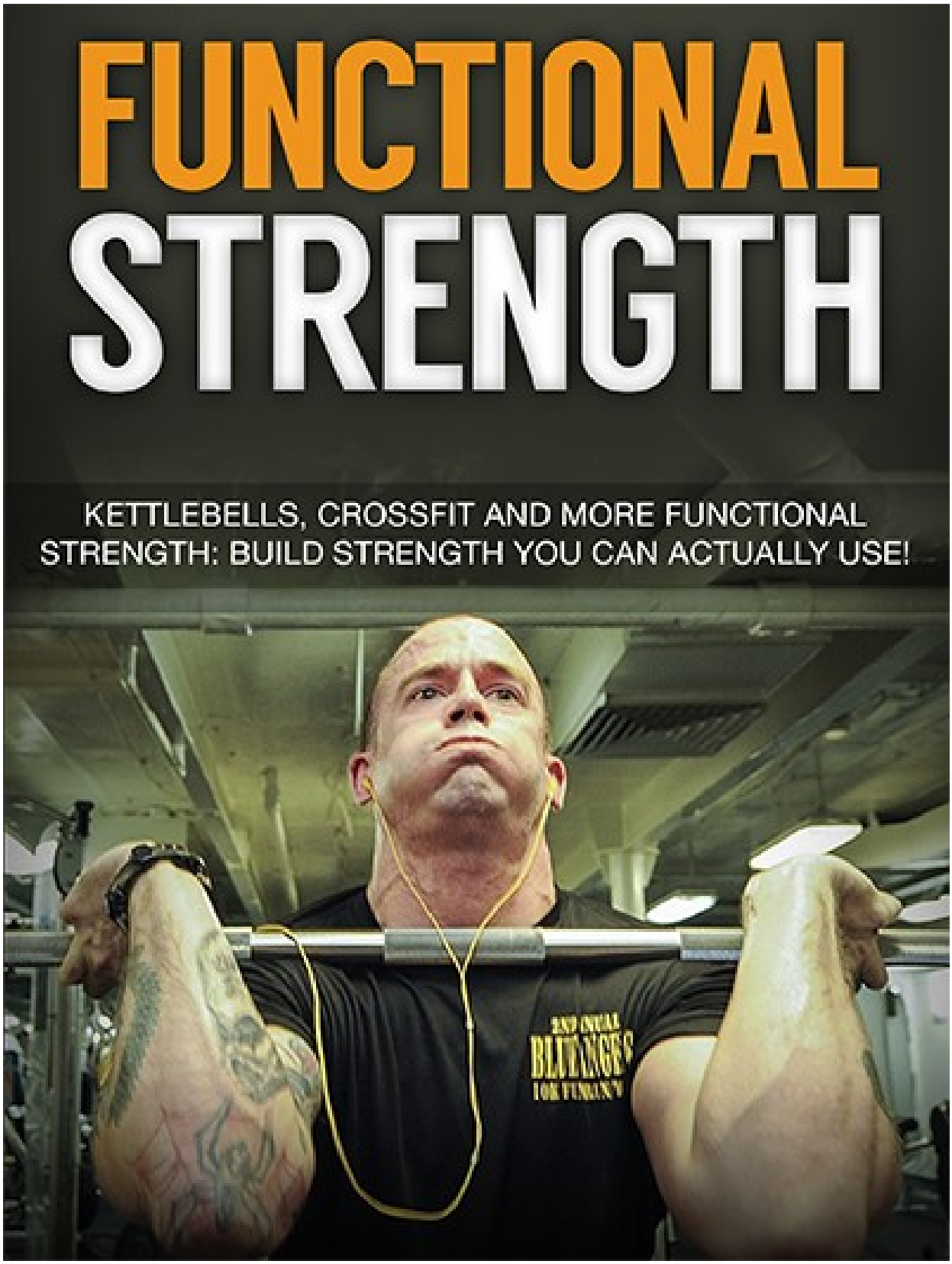


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Functional Strength Report: The Way You're Training ISN'T Maximizing Your Strength!

When you first start working out and going to the gym regularly, you most likely will have fairly modest goals. If you're like most people, then your aim is probably to build muscle, burn fat and improve your body composition. If you manage that and you look and feel better after a month or so than you did before… then likely you'll take that as a win.

But as you get more involved in your training and you start to really get into the swing of things, you might find yourself feeling that your ambition grows. Instead of just wanting to improve your fitness generally, you'll probably start getting a buzz from setting new PRs (personal records), from shifting more weight and from feeling the power in every movement you make. Eventually, you become like a coiled spring, waiting to pounce and explode into action.

And when you get to that point – where you start wanting to be *better* than 'normal' – you need to reassess the type of training you're using. Is your current training program optimal in terms of building muscle? More importantly: is it optimal in terms of building *strength*? Are there other things you could be doing that would help you to become more powerful more quickly?

Instead of aiming to be like a *Men's Health* cover model, you're now aiming to be *Bruce Lee*. Or why not? Goku.

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Who cares about washboard abs? That's easy! We're talking about being sharper, faster, stronger and more powerful than all your contemporaries. And that's what we call *functional* training. Functional because it's a type of training that helps you to function better out there in the real world – not just look a bit 'sexier'. Come on, what kind of a goal is that?

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So if you take a look at your current methods of training, there's probably a fair amount wrong with them from a functional stand-point. That's fine: to begin with you were most bothered about getting into 'slightly better shape' and for that purpose, they sufficed. It's just that *now* you're upping your game.

So what's the problem with regular training? What does that even look like?

Well, no doubt you're probably training either full-body with some light exercises (press ups, curls, pull ups, jogging, tricep extensions) or you're training using a 'split' so that you hit different muscle groups on different days and can challenge them with a slightly more intense workout.

With that program as the basic outline, you're probably then lifting weights relatively quickly and performing maybe 10 or 12 sets for 3 reps on each exercise. Hit each muscle group a few times and put a fork in you – you're done.

Again, there's nothing wrong with this method and it's perfectly fine for just improving your shape a little. But it's not optimal for strength and it's not optimal for health even.

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Let’s start by looking at the problem with regards to strength. We’re going to go over a few concepts here which will include:

- Compound vs isolation movements
- Sarcoplasmic vs myofibrillar hypertrophy
- Muscle fiber recruitment
- Muscle fiber types

We’ll begin with the issue of compound vs isolation movements…

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As mentioned earlier, your average workout regime will involve a whole lot of bicep curls, tricep extensions and resistance machines (like chest press) which means you're going to be isolating the muscle group. In turn, that means that you're focussing on just that one muscle through a movement that only uses one 'joint' as the hinge. When you curl a dumbbell – if you do it correctly – you are using *only* the bicep and nothing else. The same goes for performing bench press – this isolates the chest as much as possible.

On the other hand, were you to perform a regular bench press, you would actually be involving a ton of smaller supporting muscles as well as completely different muscle groups. A bench press utilizes the pecs, the deltoids, the triceps, the core and more.

So which is more functional do you think? Which is the more likely to be useful in the real world? Of course it's the bench press, which is the same movement you'd use if ever you were trapped under a boulder, or perhaps if you were playing with your kids by holding them over your head. The bench press? That would probably *never* be useful in real life.

Likewise for the bicep curl: this movement is completely non-functional. When do you ever curl something in real life? The closest you would come is carrying shopping but of

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course you don't *curl* your shopping bag! In reality, carrying shopping is much closer to a movement known as the 'farmer's walk' which happens to be a more functional move.

Compound movements include things like bench press, squats, deadlift, pull ups, press ups – all things that use multiple muscles working together. Why? Because that's how you use your musculature in real life. You almost *never* isolate just a single muscle group! If you want to train yourself to be more functional, you should aim to use as many muscles at once as possible.

Another point to consider is that when you train with these kinds of moves, you activate more of your body. The result is that you burn more calories *and* your body produces more 'anabolic hormones' like testosterone and growth hormone – which leads to more muscle growth even once you've put the weights back down.

Of course when you train with *only* big lifts like the bench press and the deadlift, the individual muscle groups don't get as intense a workout. Pull ups *don't* hit the biceps as hard as pull ups and they don't create as many microtears (more on that in a moment). So in other words, you might not see the same bodybuilder-type physique immediately if you use this more functional training. But you will see more *overall* growth and you will be able to lift and push more weight in a real-world setting.

One way to think about planning your workouts with that in mind, is to base them on the '7 primal movements'. These are:

- Squatting
- Lunging
- Bending

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- Pushing
- Pulling
- Gait (walking or running)
- Twisting

According to experts, these 7 moves form the natural basis for everything our bodies are designed to be able to do. These are all the movements we would have used in the wild and they are all the movements that you *should* be able to perform easily and powerfully as a functional human being.

That's then where you have to ask yourself: how comfortably can you squat right down to the ground? The issue for many people is that squatting causes tension in the Achilles heel due to lack of practice. The result is that they've lost *basic* mobility that they *should* have. If you're in the same boat, then you're almost operating at a serious deficit.

If you incorporate these 7 movements into all your workouts though, then you'll be practicing these basic, essential move sets under heavy load. The result? You'll develop more power, strength and mobility in every way that counts. You'll feel more stable and you'll move faster and better.

So how might you combine your lifts in order to train each of the 7 moves? Here are some suggestions:

- Squatting – Squats, deadlifts, kettlebell swings
- Lunging – Lunges, side squats
- Bending – Deadlifts, sit ups, leg raises

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- Pushing – Bench press, overhead press, push up
- Pulling – Pull up, row
- Gait– Jogging, running, walking
- Twisting – Heavy bag, twisting sit ups, cable woodchop

Train using these moves and make sure to do a full body session each time. You'll be training your body to move better, you'll be triggering more growth and you'll become much more powerful and formidable.

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So now we've addressed precisely *what moves* train the muscles functionally, the next question to ask is *how do you perform those moves?*

Because there is a squat and then there is a squat. Let me explain…

As we discussed earlier, most people who start working out right at the start will use 3 sets of 10 or 12 reps on most of their exercises. This is great if your main concern is building size. Why? Because it increases the 'time under tension'. Time under tension refers to the amount of time that you spend lifting the weight, not counting the points during the movement where your arms are completely straight and locked out. Time under tension is important because it encourages the muscles to swell up with blood and then keeps that blood in the muscle. This is what creates the feeling of 'pump' when you're training that makes your arms feel like balloons about to burst.

As well as filling with blood though, your muscles have also swelled with metabolites. Metabolites are the chemicals produced by the body in order to encourage growth. The include the likes of growth hormone and testosterone which trigger hypertrophy (growth). Meanwhile, your muscle is *also* being fuelled with oxygen, with energy and with vitamins and minerals. The vitamins and minerals aid repairs while the constant need to *keep going* trains the cells to become more resilient and energy efficient. That

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means they gradually begin to increase in size by increasing the amount of sarcoplasm – fluid – that they hold onto. It's like filling a car's tank up with gas, except when this tank is filled, it expands and takes up more space.

So that's how bodybuilders build up their muscle – with lots of long sets that encourage the muscle to grow and that increase muscle *endurance*. This is called 'sarcoplasmic hypertrophy'.

Unfortunately though, for those of you who want to become incredibly athletes, or who just want to be physically formidable, this type of hypertrophy is not enough.

Instead, the type of training you need to be doing is called 'myofibrillar hypertrophy' which involves using heavier weights for fewer repetitions. Just go and take a look at the strongest guys in your gym who lift for power. You'll notice that they lift the weight two or maybe three times and then pace around for a while as they recover.

To get stronger you need to train heavier. Makes sense right? And to train heavier, you need to do fewer repetitions.

From a scientific standpoint, what's actually happening here is that the heavy weights are causing very slight tears in the muscle fibers. These tears are called 'microtears' and they're important because when this damage is done, the body then needs to repair it by building the fibers back thicker and stronger than before – using amino acids and satellite cells (stem cells that live around the muscle). The more tears you create, the thicker your muscle becomes and the stronger you become.

That is called 'myofibrillar hypertrophy'.

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Actually though, there's even more going on here under the hood.

Why?

Well, one important element that often gets overlooked, is the role of the central nervous system. Your central nervous system is your brain as well as all the nerves throughout your body that are connected to said brain. This is how signals get sent to your limbs and other parts of your body, giving you control over your movements.

Like everything else though, your central nervous system can be trained in order to become more efficient. With training, you can make the signal faster (thus allowing you to accelerate your muscles more) and stronger.

What's also important though, is that your signals from your brain need to be able to recruit lots of muscle fiber. In other words, when you consider that your muscles are made from lots of tiny bundles of fibers, you realize that not *all* of those fibers might be at work in order to lift something. In fact, you *never* use all the fibers in your muscles.

These fibers are grouped into little bunches called 'motor units' and each time you make a movement, your brain will recruit the necessary number of motor units and will choose the weaker or stronger units. If you're eating cereal, then just a couple of small motor units will be recruited in order to help you gently and steadily lift the spoon to

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your mouth. When you do a military press on the other hand, your brain will recruit as many of the big powerful motor units as possible in order to move the full amount.

But unfortunately, the human body will only ever recruit a portion of its muscle fiber at one time. If you try and lift a weight then the maximum fiber you can hope to use is about 30%. If you're a professional athlete, then you'll get up to 50%.

Why not 100%? Actually it's to protect us. If you could use all of your muscle power moving around, then you'd be in danger of tearing a ligament when you sprang into action. What's more, is that you'd completely exhaust your muscles and have no 'backup fibers' to use after you'd just lifted the really heavy weight. That would mean you couldn't move *at all* and you'd probably end up being eating by a lion (back in the wild this is, you probably won't be eaten by a lion today).

But what you can do is to increase your muscle fiber recruitment beyond 30% and possibly even slightly above 50%. How? By training at your 1RM or 1 rep max. In fact, you can also train by trying to lift weights that are too heavy for you, or even just trying to bend iron or push down walls. This is known as 'overcoming isometrics' when you stay in one position using all your might. Bruce Lee used to use this method of training (he had a dumbbell that was chained to the floor!) and so does Dennis Rogers – who is believed to be the strongest man alive today pound-for-pound.

What training like this does is that it forces you to recruit as many fibers as possible and to *practice* sending that signal and making it as powerful as possible. Your body realizes you don't have the necessary strength and as such it adapts by helping you to gradually move more and more weight.

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You can't train using only this type of exercise as you won't burn many calories and you won't be going through the 'full range of motion' (so much for the 7 primal movements!). However, if you incorporate this 100% exertion training into your routine, you'll see your strength improve at record-breaking speed. Just try it!



The final consideration is muscle fiber type. Basically, your muscle is made up of two types of muscle fiber: fast twitch and slow twitch. Fast twitch fiber is the type that is used for fast, explosive movements, while slow twitch is used for endurance and doesn't take as long to run out of energy and exhaust itself. (In reality, there are more types of muscle fiber but this simplified explanation will suffice for the purposes of this section.)

Now in any exercise you'll use both but depending on the challenge put in front of you, you'll probably use slightly more of one type of muscle fiber.

Clapping press ups = fast twitch

Plank = slow twitch

Sprinting = fast twitch

Jogging = slow twitch

Again, your body will only recruit the type of muscle fiber that's needed: so if you want to be more powerful you need to train *explosively*. That means lifting heavier weight but

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it *also* means lifting faster. Clapping press ups are an example of 'plyometric training' and so are 'box jumps'. This is perfect for developing speed and power.

Likewise though? You can simply explode through the movements and try to perform your usual set as quickly as possible. Again, this is something that Bruce Lee was a fan of. He called it 'speed training'.

Now you don't want to be entirely explosive throughout the move as you'll lose form and you won't be training the 'eccentric' portion of the move. The eccentric portion is the part where your muscle elongates again, usually as you put the weight back down – this is the opposite to the 'concentric phase' where you're working to move the muscle.

It's actually very easy to do eccentric training quickly – because you can just let gravity do all the work! This is a mistake though, seeing as our muscles are actually *stronger* when it comes to eccentrics. Often the recommendation then is to lift *fast* on the way up and to lower as slowly as you can.

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So that's a lot of information to digest but hopefully you now at least understand that there is a BIG difference between training for size and training for functional strength. Not only do the type of movements matter but even the *speed* at which you're training and the weight have a big impact too.

If you want to start training more functionally then try adopting some of these movements into your routine. Don't focus purely on them though – there's still something to be said for looking big and ripped as well. And actually, training muscle endurance with time under tension is useful too! The best strategy is to vary your training and to use both types – which is something we call 'power building'.

There's way more to functional strength and fitness than that though. Functional training comes down to flexibility, to diet, to running form and much more besides. Chances are you're not stretching the best way possible right now, or training for optimum cardio benefit. So if you want to learn how to make the very most of your body and to become the healthiest and most powerful you can be – check out the full book! We'll be looking at much more too like how to increase your grip strength, how to have more energy and whether you should consider CrossFit for your functional training!

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