

the **CrossFit** JOURNAL ARTICLES

You Can't Lift What You Can't Hold On To

Tony Young

Although we CrossFitters do our share of both heavy slow lifts and Olympic lifts, where grip plays an important role, grip is probably not something many of us actively focus on training. But grip strength is no less important to us than to full-time powerlifters, Olympic lifters, strongmen, or grapplers. In fact, the nature of our broad training approach means that we have a greater need for healthy hands and multi-dimensional hand strength than most sport-specific athletes. We are also exposed to more potential hand and forearm injuries. Those CrossFitters in law enforcement and combat duties and sports are already aware of the importance of a strong grip and may want to give this training area even more emphasis. This article is an overview of grip strength and will suggest ways to add hand and forearm strength and conditioning work to your training, complete with a sample weekly workout plan at the end.

There are three broad categories of grip strength: crushing, pinching, and supporting. Crushing strength is actively closing the hand, bringing the fingers across the palm with the thumb in essentially a supporting role. Think shaking hands. Pinch grip is a supporting grip, that is, a static grip that holds an object, with the fingers on one side of an implement, usually but not always flat, and the thumb on the other side. Holding a 2 x 6-inch board by

the edge and doing rafter pull-ups, for example, require pinch strength. Support or open-hand grip is set around an object to hold it (or you) in place. Deadlifting and rock climbing use this grip.

A fourth type of hand control which is closely related but not strictly considered grip strength is wrist and forearm strength, which stabilizes the fingers and hands and includes levering, twisting/turning, and curling. I also include object lifting involving the arms as part of this category.

Warm-up and beginner routine

If you take nothing else away from this article, please believe that a thorough hand and forearm warm-up can be instrumental in your long-term success and comfort as an athlete. Through overuse and blatant neglect I gave myself a two-year running case of tendonitis in

my forearms that left me too hurt to lift anything heavier than a fork. Two weeks after using the movements in this routine, I was pain-free and nearly good as new; I have felt better and better ever since.

You can add a hand warm-up to your daily regimen in just a few minutes with the simplest of tools. Start with a clean, five-gallon plastic bucket. Now, add fifty

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pounds of medium sand from your local building supply store. That's it. If you want to get fancy, or if you have large hands and arms, you can use a second bucket and another bag of sand, one bucket for each hand. Rice is an option here, particularly if the sand is too much resistance at first. Though neater, rice is less dense, so it is easier to move through. As your strength and dexterity improve, you can move up to coarser sand, small gravel, then large gravel, and, if you're really into it, even various metal grits and shots. Sit in front of your high-tech tool on a low stool.

The elements in the warm-up/beginner routine can be done in any order:

1. Work your hands down in to the sand to about the knuckles on your hand. Slowly open and close your hands, concentrating particularly on the opening part of the movement. This limbers the fingers using a moderate load to get things moving. And focusing on opening the hand strengthens that set of muscles opposite to the ones we use most, the closing muscles. Do a gentle set of twenty.
2. Now, with closed fists, make circles using just your wrists. You can brace your arms lightly on the insides of your legs. Do ten clockwise and ten counterclockwise.
3. Again with closed fists, raise and lower your hands relative to your forearms against the resistance of the sand. Do a set of twenty.
4. Still with closed fists, twist your hands back and forth as if turning a doorknob. Do twenty.
5. With a rigid wrist, make circles with your whole

arm. Go around the inside of the bucket. This is a static move and will build the strength to resist. Do ten each direction with each arm.

6. "Ripple" the fingers back and forth in a wave pattern. Concentrate on the eccentric portion, that is, the opening direction, of this movement. It may be awkward in the beginning, but it's worth the effort to learn as it helps build independent finger strength and coordination.

As you advance, and if you have time, you can repeat the closed-fist exercises above with open hands, both with the fingers together and spread apart. This builds strength and independence in the digits. Other variations to the above include the depth of your hands in the sand and the speed at which the movements are performed. Vary the intensity for your goals: lighter for warm-up and rehab, heavier for strength building. Experiment.

Crushing grip

The simplest way to train crushing grip is to use a gripper. There are many on the market but far and away the granddaddy of them all is the Captains of Crush series from [Ironmind](#). They are the grip world's standard of excellence. Don't fool around with the models sold in most sporting goods stores; you'll just be disappointed. Grippers are also just about the only hand-strength tool I haven't figured out how to make for myself satisfactorily, and don't think I haven't tried. They come in a wide variety of resistance strengths, so everyone can find a comfortable place to start. An important word to the wise: treat these or any grip tool as you would a heavy barbell. They're not toys, and it's easy to overdo it at first (without realizing it until serious soreness sets in). Start conservatively and



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train two sets of five on a model you can handle three days a week until you're comfortable, then add reps as you can. When you can do three sets of ten, you're probably ready to move on to a more difficult gripper. There are excellent manuals on this tool; the best is probably *Captains of Crush Grippers: What They Are and How to Close Them* by Strossen, Kinney, and Holle, also available from Ironmind.

Another crushing grip tool is a floor model machine that allows plate loading for progressive resistance. These look a little like guillotines and work well for the gradual resistances between the strengths of the grippers. Still another is a plate loading leveraction device that closely mimics the action of a gripper.

A classic crushing grip exerciser is the rubber ball. Try a few until you find one that's challenging but not impossible. Work the whole hand, and the thumb and each finger in different combinations. Please, though, I beg you, don't do what I've seen suggested by the well-meaning and do these exercises while you drive. Just don't.

You can progress from these sublime tools into the realm of the ridiculous by including produce in your repertoire. Apples and potatoes are crushable with enough practice.



Pinch grip

Pinch grip is an often overlooked aspect of hand strength training. It's vital, however, since it's the only grip focus that directly trains the thumb. And as you can easily recognize, the thumb is the potential weak link of the grip. For example, the escape from a wrist grab is to twist the arm and pull away through the gap between the assailant's thumb and fingers. A crushing grip only partially addresses this vulnerability.

An easy pinch grip tool can be made from a chunk of 4 x 4-inch wood with an eye screw added to one side. Put a length of rope through the eye and hang a weight from it. With the wood pinched between your thumb and fingers, do timed holds—longer for lighter loads, shorter for heavier—as well as lifts to the front and side. A thinner board, such as a piece of 3/4" plywood, with a hole and a cord attached will build a close pinch grip. This close pinch can be taken all the way down



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to finger tip strength by drilling a hole in a quarter-sized metal disc, running a wire keychain loop through the hole, and hanging the weight from it. Again, timed holds at arm's length and lifts to eye level will build complete hand strength.

Support grip

Thick bars are good tools for building support or open-hand strength. You can make a thick bar to be reckoned with from any length of 1½-inch pipe. This diameter will accept your Olympic plates. It's not a perfect fit but you're not going to be throwing them around a lot. If it gets too sloppy, you can add a layer of grip or athletic tape to the loading area. Do deadlifts for reps or do timed holds. Heavy dumbbells or specially made handles can be used for farmer's walks. Do one- and two-hand varieties for a great grip and total-body workout.

Other useful tools are softballs and baseballs with added eye screws and a short length of rope to hang a plate from. Grip these from the top, not letting your fingers get underneath the curve of the ball, which would defeat the whole purpose.

Try putting an eye screw in the flat center of a hockey puck or PVC end cap and you've got a hub gripper that you can hold flat, with your fingers around the outside edge. As with the ball grippers, don't let your fingers stray to below the lower edge of the puck. Make them work.

Plain old pull-ups done from ledges, overhangs, and overhead beams are great open-hand strength builders. To build strength for rope climbing, do pull-ups with a 4-foot length of 2-inch diameter rope thrown over your pull-up bar, with one end in each hand. Substitute a heavy rolled towel if you don't have a rope. Do these with an even grip and with an offset grip (one hand higher than the other). Don't forget thin-rope pull-ups and rope climbing, too. Functionally speaking, you probably aren't going to have to carry a 25-foot length of 2-inch rope to make a climbing assault, but you might want to climb a 3/8-inch rope. Try it; it's a whole new ball game.

Forearms

On to levering, twisting, and turning. The exercises in this category are not strictly about hand strength, but your hands don't operate in isolation, and without

Seven-day sample grip workout

Here's a seven-day routine combining all the elements we've discussed so far. It's a mix of dynamic and static moves spread out to allow adequate recovery from each one. The set/rep scheme is just to get you started. Add reps until you're doing twice the starting number, then add weight and start again. Do the holds until the last hold is twice the starting time, and then add weight and begin again. Yes, this is conservative, but you don't want to hurt yourself. There are other training schemes; once you're comfortable, conditioned to this work, and confident, you can easily adapt your training to your needs and desires.

Every day

Sand bucket warm-up/cool-down (see the "Warm-up and beginner routine" section of the article)

Monday

Crushing: Gripper, 3 x 5, done with a gripper you can close pretty well

Support: Vertical bar holds, 20 seconds x 5

Tuesday

Lever: Thick bar side/front levers, 3 x 8

Pinch: Two-hand thick board holds, 20 seconds x 5

Wednesday

Twist: Thick bar twists on pin, forward and back x 5

Crushing: Assisted gripper, 3 x 5, with the next harder gripper up from the one can close unassisted; use your other hand to help you close it.

Thursday

Lever: Thin bar front/side levers, 3 x 8

Support: Thick bar deadlifts, 3 x 5

Friday

Pinch: One-hand thin board holds, 20-seconds x 5

Twist: Thick/short twists, forward and back x 5

Saturday

Support: Hub holds, 20-seconds x 5

Crushing: Gripper, 3 x 5

Sunday

Carries: Large-object bear-hug-style carries (rock, bag, fire hydrant, garbage can, etc.), 50 meters x 3

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sturdy wrists and forearms, the strongest grip in the world is a pretty abstract thing.

The classic forearm strengthener is the wrist roller. This can be made from a wood dowel or piece of iron or PVC pipe. Fasten a cord either by locking it on with a muffler clamp or drill a hole and knot the cord through it. You should have a thin one, maybe one inch in diameter, and a thick one that is two inches or more. These can be used either freehand or mounted on a pin. Be sure to roll in both directions (toward and away from your body). Another roller can be made from a short (3- to 4-inch) piece of 4-inch PVC fitted with end caps. Twist it up by the ends, mimicking a jar twist.



A loadable dumbbell handle makes a handy lever bar. Using a light weight to start, lay your arm out across a handy bench or table with enough room for the implement to clear the edge, and twist the bar straight out in front of you from horizontal to vertical. With your arm in the same position do the same levering action from side to side. One thick and one thin bar will cover your levering strength needs.



Curls for girls. There, happy? I said it. Any tool can be used for the wrong purpose, and curls are not inherently evil; they just been utilized improperly. Thick bar curls are actually excellent for hand and wrist strength and can be improvised from 1 1/2-inch black iron pipe. Again, your Olympic plates will fit nicely on these bars. Another option is to wrap a towel around your implement of choice and secure it with a couple of rubber bands. With three to five layers of towel on it, the bar will feel like a bone in an arm. (Great for grapplers and the parents of slippery toddlers.) One of the best variants is the power curl. Using a curl grip on a moderately heavy barbell, slide the weight to just above the knees and “curl-clean” the bar. This is just like it sounds: drive the weight up using the legs, hips, and back, and finish with the curl movement. Let it come down under control. This is good practice for rock or stone lifting and other odd object and “round back” lifting.

This brings us to lifts using the whole arms. Stone lifting is functional strength at its most basic, as well as a great overall workout. Stones can be purchased, but it's much more fun to hunt (or make) your own. A duffel bag filled with sand is a good, adjustable substitute rock. When it's light you can just lift it on up and carry it any way you like, though, for our purposes, you'll want to hold it with the arms around it in front. As you progress to a

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heavier stone, you'll have to pull it up and "lap" it—that is, pull the bag or stone to about knee height and squat your knees under it. Let it rest there on your lap for a second while you get your arms around it, and then stand the rest of the way up. Now, go. Walk with your object. Carry it for either time or distance, and enjoy. Use your imagination when it comes to objects. Logs, chunks of concrete, children, sacks of groceries (you knew it was coming), or stacks of weight plates are all fair game.

This barely scratches the surface of grip training. The hands and arms are capable of such a wide range of movements that the variety is truly endless. Grip can in fact be a discipline all its own. There are performers who specialize in tearing telephone books and decks of playing cards, rolling up license plates, bending spikes, and other truly astounding feats.

Of course, as athletes and workers, we know that, like the man says, you can't lift what you can't hold onto. First responders, law enforcement officers, combat troops, and fighters of all kinds need a dependable set of hands to do their jobs. The sky's the limit if you're willing to do the work.



Tony Young is an aspiring grip athlete as well as a level-2 CrossFit trainer. As a mature athlete, Tony looks for new and non-destructive ways to continually improve his training regimen. He recently moved away from Dayton (and his affiliate, CrossFit Ohio), and he now lives in warm, wonderful Columbus, Georgia.

