
THE CrossFit JOURNAL

3-2-1 ... Snow!

Functional fitness means being ready for the challenges of the real world. With winter upon us, we examine the connection between the barbell and the snow shovel.

By Hilary Achauer

February 2015



Mike Warkentin/CrossFit Journal

My husband and I decided our front lawn needed to go.

Short on money and sense, we grabbed pickaxes and shovels and attacked the mess of dying grass, weeds and dirt in front of our house. We worked for three hours on Saturday and Sunday, finally staggering into the house when our hands wouldn't close around the handle of the shovel.

1 of 6



Mike Warfentin/CrossFit Journal

When shoveling, apply the lessons from the gym for best results.

Monday came, and both of us reported to our respective CrossFit classes, as usual. By the end of the week, I couldn't sit in a chair for more than an hour before my back started to ache and pain radiated down my leg. My husband had to sit in his office chair with a pillow wedged into his lower back. We had to modify our workouts for weeks before our aching backs returned to normal.

The workout inside the gym wasn't to blame—it was what we had done outside the box that caused our thankfully minor injuries. I've been doing CrossFit for four years and faithfully show up at the gym four days a week. Between CrossFit, surfing and a general do-it-yourself attitude, I'm no stranger to fitness and hard work. Like most CrossFit athletes, I take warm-up, preparation and proper technique seriously inside the gym. Yet I blithely spent two days enduring intense physical work and didn't warm up or think once about my form and body position.

When putting fitness to practical use—like shoveling snow or swinging a sledgehammer—many people throw warm-ups and technique out the window.

What if we put the same amount of care into our yard work as we did our deadlift? How many people actually know the most efficient way to shovel snow and avoid injury when clearing the driveway?

The Warm-up

It may feel a bit silly to warm up before going outside to shovel gravel or snow, but jumping right into a grueling, full-body activity can easily lead to injury.

Blair Morrison, a three-time CrossFit Games competitor who took fifth in 2011, is the man behind [CrossFit Anywhere](#), which has two locations in Sacramento, California. Morrison also owns an adventure-travel company, [AnywhereFit](#), which takes groups of CrossFit athletes around the world for outside-the-gym fitness and exploration.

When asked how to prepare for a few hours of shoveling, Morrison's first piece of advice was simple: "Get help."

After you've assembled the neighbors, Morrison agrees warming up is essential, especially if you have a large amount of snow to move.

The most important thing is to make sure your body is warm and limber before any strenuous activity in the cold.

"If you are shoveling for a long period of time, it's a posterior-chain exercise, so your hamstrings, your glutes and your back are doing most of the work," Morrison said. For warm-up, he recommends doing some good mornings and lunges to get blood to the muscles.

After the good mornings and lunges, do some air squats to further warm up the legs and increase your heart rate and respiration. Next up are torso rotations. Stand with your knees slightly bent, and rotate your upper body side-to-side. Snow shoveling involves upper-body rotation when you

throw the snow to the side. Few CrossFit activities include lateral or rotational movement, so it's important to warm up your body. Twisting your body while holding weight is not recommended, so any good shoveling technique will avoid excessive twisting, especially when holding a snow-filled shovel. However, the nature of shoveling means you will inevitably rotate your body slightly, so it's a good idea to warm up this movement pattern.

The most important thing is to make sure your body is warm and limber before any strenuous activity in the cold. Cold, tight muscles are more likely to get injured, so get the heart rate up before picking up the shovel.

Bracing

Just as you wouldn't lift a barbell without paying attention to your set-up position, it's important to brace yourself and prepare your body for each load on the shovel.

Julien Pineau, owner of StrongFit in Torrance, California, is a strength coach and strongman. He's studied sports and sports applications since an early age, and he has 25 years of weightlifting experience. Pineau trains five-time CrossFit Games competitor Val Voboril.

"I'm a movement specialist," Pineau said. "My whole point is to detect weaknesses and build a better foundation."

Pineau recommends bracing the core before filling the shovel with snow. Few people think about the position of their spine when clearing the sidewalk, and round-back positions are very common. Shoveling without bracing your spine is equivalent to doing 200 round-back kettlebell swings at 20 lb. It's inefficient, and it doesn't feel great. By bracing your midline you're able to save your spine and efficiently transfer force through the shovel. However, it's important to brace correctly.

"Most people think bracing is pushing the stomach out. Most people think core strength is in the abs," Pineau said. According to Pineau, that's not true. He says the obliques are the pillars of strength.

"Whenever you want to brace, you don't want to push your stomach out. That does not stabilize your spine at all. What you want to do is push your obliques out, like sideways," Pineau said.

Isolating the obliques is not easy. To help athletes locate this part of their anatomy, Pineau recommends having them carry a heavy sandbag in a bear-hug hold for about 100 feet.

"Once you do that, your obliques will be sore. That will create a link between your head and your core," he said.

Another way to locate the obliques is the overhead yoke carry.

"If you carry the yoke in an overhead position for 100 feet, it's your obliques that will give up. If you let go of your breathing when it's heavy, you will dump the yoke right away. The obliques stabilize you, and that's where most people hurt their back. You push your stomach forward, and that doesn't help you at all. That's why people hurt themselves on a deadlift," Pineau said.

Similarly, letting your shoulders roll forward puts strain on the upper back. Ensure the thoracic spine is locked in extension, and hinge at the hips rather than the spine.



Julien Pineau

One way to activate your obliques is to carry the yoke overhead. Pictured: Val Voboril.

It's difficult to remember all this after the first few shovels full of snow, but just as it's important to pay attention to your form during a workout, make an effort to brace your core—especially your obliques—before filling the shovel.

Stance and Grip

After stabilizing the obliques, the next point of performance is getting into the correct stance.

Dan Hollingsworth owns Kitsap CrossFit in Poulsbo, Washington. He's been a member of CrossFit's Level 1 Seminar Staff for four years, and he's also on the CrossFit Kids and CrossFit Endurance staffs. He holds a master's degree in physical therapy.

Hollingsworth said the setup for shoveling is the same as the setup for a deadlift or a prowler push.

"(Shoveling is) more about pushing a load," Hollingsworth said. "I prepare myself the way I would do a prowler push:

big breath in, start pushing, and then try to maintain tension in the core while still breathing."

When setting up, Pineau says it's important to make sure the stress is in your glutes, not your lower back. He recommends sticking out your rear and feeling a stretch in the hamstrings and glutes.

"That will put you into the right position," Pineau said. "Do this while you are shoveling. Your lower back should not give up if you do this."

Hollingsworth said the general idea is to minimize how much you are scooping and tossing. If it works with your space, try to get the shovel down and push it as far as you can, and then get it off to the side. This movement is similar to the prowler push and minimizes the amount of twisting and tossing. As mentioned earlier, twisting under load is not ideal. Using your feet to rotate while holding the shovel is easier on the body, especially if you have a lot of snow to clear.

Mike Warkentin/CrossFit Journal



Bracing your midline when shoveling will save your spine and efficiently transfer force through the shovel. Note the braced position on the left and the rounded position common to shoveling on the right.



Mike Warkentin/CrossFit Journal

Using a large snow scoop can help you move a lot of snow without lifting it. The movement is very similar to a sled push.

“The key here is to keep that shovel close to the body,” Hollingsworth said. “You want the best mechanical advantage so you can push without stopping.”

Unlike barbells and plates, the weight and the quality of snow varies considerably. The shoveling strategy has to change if you are dealing with feet of snow rather than inches.

The shoveling strategy has to change if you are dealing with feet of snow rather than inches.

“Pushing multiple feet of snow is not going to be an option,” Hollingsworth said. “Then you are going to have to scoop and toss. . . . The big thing there is to create a long lever. Keep one hand down low, for the scoop part, and one hand up high on the handle for a lever action.”

The bottom hand toward the scoop should be palm up, and the top hand should be palm down. To preserve your grip, don’t squeeze the shovel. It should fit into your palm. Hinging should happen at the hips and knees, not in the spine.

A trick Morrison uses to avoid fatigue on one side is to switch sides.

“Shoveling is a lopsided exercise,” Morrison said. “Most people are comfortable having one foot forward or one hand lower on the shovel, and you can get lopsided soreness. To alleviate that, switch sides.”

At first it will feel like doing a cartwheel on the wrong side—very awkward—but Morrison said it’s relatively easy to adjust.

“You need to force yourself to do it on both sides, especially if you are going to be doing it for an hour,” Morrison said.

Hollingsworth said another factor that plays into shoveling technique is the type of snow.

"Where I live in Washington, it tends to be really wet snow. It's heavy," he said. "You have to take smaller scoops or push smaller amounts of snow. Whereas in Colorado they have dry, powdery snow. There's no load to it whatsoever."

To make the task more entertaining, set goals or challenges for yourself while maintaining good form. You could even set up a timer and make this the workout of the day: shovel driveway for time.

Ready for Anything

The good news about being a CrossFit athlete is the direct connection between the movements in the gym and snow shoveling. If you've been diligent about your workouts, there's no need to prepare for shoveling season or your next date with a pile of gravel.

However, it's essential to approach shoveling snow with the same amount of thought and preparation as a workout—especially if you're clearing a large area.

When the shovel is in your hands, Hollingsworth said to keep in mind the prowler push, deadlift, and clean and jerk.

"It's all about driving with your hips," he said.

With the right technique, shoveling will be easier and you'll be more likely to avoid an injury that will keep you from doing the things you love—things that probably do not include shoveling snow.



About the Author

Hilary Achauer is a freelance writer and editor specializing in health and wellness content. In addition to writing articles, online content, blogs and newsletters, Hilary writes for the CrossFit Journal. To contact her, visit hilaryachauer.com.



Kenny Joseph

With the right technique, you'll be more likely to avoid injury when shoveling, which will mean more time for training.