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## Axels, Salchows and Thrusters

With only eight weeks to train, Italian athletes use CrossFit to prepare for the World Figure Skating Championships in Torino, Italy.

By Maurizio Guarrata

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All images courtesy of Maurizio Guarrata

It is my great pleasure to write about the marvelous success obtained by my athletes, who will soon compete at the World Figure Skating Championships, March 22-28, 2010, in Torino, Italy.

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### Weak Core No More

As a former athlete, I've always had a taste for natural, compound, functional movements. Almost two years ago while surfing the web in search of something new, I came across CrossFit, and it was love at first sight. I started collecting all the information on the method, and I read, practiced and studied to be well prepared for my Level 1 Certification, which I got along with a CrossFit Kids Certification in June 2009.

I found many applications for CrossFit as strength and conditioning coach of the Italian National Ice Skating Team. I'm very lucky to work with the majority of the best national athletes, both women and men, though I haven't got the honor of training European champion Carolina Kostner, who trained in the U.S. in the past months.

When I watch our athletes training on ice, they're simply outstanding. It seems everything is possible. The athletes show power, grace, strength and balance as they skate, jump, spin and launch partners in the air and then hold them in a perfect overhead position—all on ice skates.

When I first saw these athletes, I thought I had my job almost done: what could I give them that they hadn't got? After just a few discussions with the national technical trainer, the one in charge of ballet and all technical figures on ice, I discovered they all lacked core stabilization and had never followed a core strength and conditioning program in their entire lives as elite athletes. You can imagine what I thought at that moment.

The athletes soon started to learn and practice the nine fundamental CrossFit movements, which they digested quite well and incorporated into their daily workouts. After just one month of working out five days a week, the athletes were moving differently on the ice. They were more aware of their bodies and much more secure in their legs. Even though, at first glance, ice skating would appear to be based on the lower part of the body, the athletes tested to be strong in their quads and partly in the butt but very weak in their hamstrings. An attentive study of the squat and deadlift has been used to start readjusting this muscle imbalance.

After CrossFit training, the athletes felt much more stabilized in the midsection, especially women in the couples disciplines, as the majority of the movements—twisting, jumping, bending—originate from the core. We now see more power and strength in these particular actions.



*Stefania Bertone and Ondrej Hotarek demonstrate the impressive core strength needed to succeed on the ice as an elite figure skater.*

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By watching these athletes train six days a week for four to five hours a day on the ice, I discovered their absolute lack of a metabolic-conditioning program. The work done on ice includes repeatedly performing four or five movements, which takes about 30 seconds. The athletes briefly rest, talk to the chief ice-skating coach and then perform again. To remedy any conditioning deficiencies, I introduced some met-con couplets and triplets based on body-weight exercises (squats, push-ups, pull-ups with band assistance as needed) to build up cardiorespiratory endurance, as well as muscular endurance. Then I introduce some weighted exercises alternated with short periods of sprinting to produce strength and power.

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These athletes have to sustain anaerobic activity with the production of a high dose of lactic acid, and the allotted time for a performance in a normal competition is about four minutes. In that short, intense period, athletes have to perform their routine, which usually includes CrossFit elements such as strength, power, cardiovascular and respiratory endurance, balance, coordination, stamina, and flexibility. Figure skating also includes three elements Coach Glassman emphasizes in *Fundamentals, Virtuosity and Mastery: An Open Letter to CrossFit Trainers*. Yes, I'm talking about risk, originality and virtuosity. I work to pass Coach's message on to my athletes so they will perform the common uncommonly well.

### **CrossFitting for Figure-Skating Gold**

I started introducing the CrossFit method of training in October 2009 with the two couples who will most likely participate at the World Championships. We have one junior couple and one senior couple. The junior couple is Carolina Gillespie (16) and Luca Demattè (19) (this couple is still waiting to be confirmed to participate at the world games). The senior couple, Stefania Berton (19) and Ondrej Hotarek (26), is the best known, and both members are top skaters. Hotarek, a naturalized Italian (2005), is from Czech Republic. He is a kind of hero in Czech Republic and would be competing in the Olympic Games in Vancouver if he did not choose to come to Italy. Luckily, it is his intention to live in Italy, and he has brought couples figure skating to a level unseen in Italy since 2002.



***Lifting a partner overhead in figure skating is almost identical to a thruster, push press or jerk. Strength and core stability are essential, and any deficiency can result in poor performance and injury.***



***Athletes must be both powerful and graceful, and a four-minute routine requires a great deal of stamina. Interestingly, Hotarek's Fran time is around four minutes.***

In preparing these athletes for the World Championships, the final goal is to bring them to the next Olympic Games in 2014 in Sochi, Russia. During the year they have various competitions, and the European Championships and the World Championships are the most important. They always have to be at the top of their game.

As far as specific training preparation and general conditioning is concerned, these couples—and a great many national athletes—have never had any idea how to start or what this training would do for them. Actually, they only had a few basic thoughts on some past exercises introduced by some guy who showed them how to train strength in a normal bodybuilding way: leg presses, lateral raises, biceps curls and bench presses. In a certain way, it was easy for me to start from the beginning and set them up with CrossFit, so we started with all fundamental movements, as well as Oly-lifting drills and powerlifting lifts.

I started the training preparation in October 2009, but many of the national and international ice-skating competitions, as well as Grand Prix and other test events, start in September each year, and they are mainly held on weekends at least twice a month. Conditioning and preparation have to be scheduled accordingly. All these events then culminate with the European and World championships. I wanted the athletes to start CrossFitting with a general three-on, one-off cycle, but that was impossible

due to their competitions, many of which were outside Italy. So from October to early December, I just saw them once a week (sometimes twice, thank God!).

The competition schedule limited their CrossFit training, but so too did their lack of confidence in training hard, and they didn't yet trust CrossFit as the best way to lead them to their best levels of fitness. I finally introduced a simple training plan based on working three times a week at the beginning of December and gaining one more day before Christmas. At the beginning of January, John Zimmerman, their American figure-skating coach and one of the best Olympic skaters in the world, told me that the couples were finally ready to participate at the next World Championships and that he needed me to prepare them to do their best.

"Maurizio, you only have eight weeks to give them the best preparation possible," he said.

Good to know! This was a heavy responsibility, but I thought I might pull off the miracle. I met with the couples and talked to them nicely, recalling the purpose of what we were all doing, the reason and the goal. I asked them for their total willingness to work with an eight-week total-immersion program. They have an intense training schedule already: four hours of on-ice skating training seven days a week, ballet choreography for two hours



three days a week, posture and presentation work two hours a day twice a week, and pilates for one hour once a week. Besides that, they had a great many medical and lab checks to test their improvements and proprioceptive training on a stabilometric plate. I train them every day of the week for almost one hour.

In pairs figure skating, as in most sports, the diet is critical. Females have to keep very fit, and weight is a very important factor given that their partners have to train hard for all the lifts to be performed during the routine. All of them, as with many Italians, were starving for carbs, and when they had their carb intake reduced or limited, they started to cry and get furious. Luckily it was only for a few days.



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In order for them to get used to the Zone, we evaluated their meals and made plans for the rest of the day. It was important to find a new balance and a good mix of macronutrients consumed five or six times a day. We worked out a plan to help them stick with the diet, but none of them got used to the idea of consuming good fats. The females especially were afraid to gain weight. We soon started to talk about fish oil and “good fat,” and we talked about how to prepare a healthy snack when they are away from home all day long.

Now things are going much better. They have finally left that weird sense of hunger behind for a better health balance, and they all feel much better, with clearer minds and more strength than before.

### CrossFit on Ice

For all CrossFitters worldwide, movements such as the squat, deadlift and press are very challenging in the gym. Now imagine trying to do all the CrossFit movements while balancing perfectly on a sharp blade.

Even though it might sound crazy to most of you, I proposed my that athletes train the complicated CrossFit movements on the ice and off the ice. If you have ever tried proprioceptive training, you know it is challenging, but you should know CrossFitting on ice is terribly devastating. Of course, I had to ensure perfect movement off the ice before introducing it on ice.

The challenge for me was to think up some weird variation to reproduce in training the most realistic version of what they are called to perform when competing on ice, and I was amazed to see how they perform some of the CrossFit movements with a partner. Just imagine a push jerk done with a partner instead of a barbell, the female with straight arms outstretched and held at shoulder level by the partner. Or imagine a crazy Fran executed this way: thrusters with the partner as load followed by pull-ups.

Many CrossFitters have seen Jeff Martone do a Turkish get-up with his wife. While some might view that as a party trick, consider the strength, balance and core stability required to perform many of the lifts one sees in figure skating. Push-pressing a partner or using a partner for a thruster may seem strange at first, but think about what this type of training could do for an elite pairs figure skater.

Training the athletes' strength and endurance, all 10 recognized domains, and the three metabolic pathways was very hard. It was also very mentally challenging for athletes who are under great pressure to perform. Even though I try to stick with a schedule of five days on and two off, I always have to bear in mind that I am working with athletes who have tremendously busy schedules and are also human beings at the end of the day. Despite these facts, the athletes are still able to amaze me. The more I push them beyond their limits, the more they respond. I'm not sure if they perform well out of a desire to show me how good and strong they are or if they just want to prove it to themselves. Either way works so long as they succeed with consistency and feel confident.

As far as metabolic conditioning and strength are concerned, I noticed a big difference in less than one month of training. Now all the skaters feel much stronger and have much more stamina. They don't feel fatigue as before. At the start of training, only the Czech athlete had an acceptable level of general conditioning and, generally speaking, none of them had good midline stabilization, which is so very critical to figure skating. After just a few weeks of hard training, the core stability has changed dramatically, and squatting, overhead squatting and deadlifting have been of great help optimizing this midline stabilization.

Initially, the PR numbers of both the females and males were outdated and quite ridiculous. Females started the program with the following data: 77-lb. bench press, 132-lb. back squat, 100-lb. deadlift, 30-lb. overhead squat, 44-lb. clean, 15 jumping pull-ups or 3 elastic-band-assisted pull-ups. The junior male numbers were as follows: 135-lb. bench press, 177-lb. back squat, 180-lb. deadlift, 55-lb. overhead squat, 90-lb. full clean, 5 pull-ups. For the senior male: 200-lb. bench press, 240-lb. back squat, 198-lb. deadlift, 60-lb. overhead squat, 88-lb. full clean, 10 pull-ups.

At the time of writing, I checked them on these exercises, and they registered new PRs averaging between 30 and 50 percent more than their previous numbers. On the metabolic-conditioning side, I registered an average increase in resistance and intensity of about three to five times, with similar decreases in time noted.

The athletes also tried Fran for the first time very recently. We scaled for the females, while the men did the WOD as prescribed. The women averaged around 5 minutes, and the men were around 4—not bad at all!

### On to the World Championships

I must say that CrossFit gave me the necessary confidence and strength to make the difference. I always wanted to transfer these feelings to my colleagues, athletes and friends, and I know we can change people. I saw this in CrossFit, and also in life in general. I hope the best for my athletes in the long run and also hope to give you the announcement of first place at the World Championships.



### About the Author



*Maurizio Guarrata is a fitness manager, personal trainer and the strength and conditioning coach for the Italian National Figure Skating Team. He is a Level 1 CrossFit trainer and has also obtained his CrossFit Kids Certification. He is also a IV Dan Judo and self-defence coach for FJLKAM (Judo, Wrestling, Karate and Martial Arts Italian Federation).*