

# **SPECIAL REPORT: KETTLEBELL COMPLEXES FOR RAPID FAT LOSS**

## **Fat Loss: The Elusive Obvious.**

Most people have no idea how to train for fat loss beyond “eat less” and “exercise more.” And admittedly, that’s a darn good start. But where do you go from there?

Kettlebell training has become increasingly popular in the last five years or so and users have become devotees claiming outrageous results from just a few sessions each week. Tracy Reifkind, RKC, lost over 100lbs in a less than a year from “just” swinging a kettlebell for approximately twenty minutes twice weekly. (Her blog, <http://tracyrif.blogspot.com>, details her journey.)

But what about those who “need” more—more than just swings? What about those who are proficient in the use of the kettlebell and are familiar with most, if not all of the exercises and have already been swinging one for quite some time?

For those, it may just be time to “turn it up a notch.”

But first, let’s understand what we’re going to be doing.

## **Compound Lifts**

Compound lifts are two or more compound exercises placed together to form one exercise. Examples are the Clean and Press or the Clean and Jerk. Compound lifts are not limited to the Olympic lifts and their variations: As long as an exercise is categorized as a compound, meaning, crossing more than one joint and working more than one muscle group, it can be included in a compound lift. For example: Front Squat and Press.

There are two types of Compound Lifts we can use: Complexes and Chains, both of which have their unique differences. In this Special Report, we will be discussing Complexes in detail later on. In the mean time, let us review the benefits of Compound Exercises and Compound Lifts.

For strength, resisted metabolic conditioning and even fat loss, research and experience already tell us that compound exercises cannot be beat. Here's a quick review of the top three benefits:

1. Recruit more muscle fibers per unit of time than isolation exercises, which produces greater systemic and localized strength gains.
2. Stimulate sex hormones and therefore elicit a greater anabolic response both intra and post exercise, which produces greater potential muscle growth.
3. Cost more energy to perform therefore greater number of calories expended intra and post exercise compared to isolation exercises.

In a perfect world, we'd have all the time we need to focus on these exercises with plenty of required rest, the perfect frequency, and adequate nutrition to make the best and fastest progress limited only by our dreams.

However, we don't live in a perfect world.

That's where Complexes come in.

### **What are Complexes?**

I first discovered Complexes as an underpaid Division 1 Strength and Conditioning Coach. I figure I was underpaid because all the money had been blown on Nautilus equipment and the "all" the previous coaching staff had to do was "HIT" the athletes with their non-effective, fatigue-inducing, injury-increasing, time-wasting, machine-dominant, "strength training program:" One set to failure was "all" the athletes needed. (I kid you not, the extent of the former Head Strength Coach's interaction with the athletes was to tell them to put the seat belt on when using the Hammer Strength machines—but I digress.) So with limited equipment and athletes with limited motivation, I was forced to improvise.

It's said you always find what you need when you need it most. Someone left a *Muscle and Fitness* (like you've never read one) in the weight room and I saw an article by Romanian Coach Emeritus, Istvan "Steve" Javorek, about a system he'd developed to stimulate lean body mass, power-endurance, strength-endurance,

and improved coordination in his Olympic lifters. Well since I was an Olympic lifter, I read the article. It was on Complexes.

Complexes are a series of exercises performed in a sequence with the same weight without rest: all the reps for a given exercise are performed first before moving on to the next exercise. For example: Perform five Cleans followed immediately by five Front Squats and finally five Presses, using the same weight for each.

I used complexes with great success with some of the varsity wrestlers. They could get in the weight room and get out in less than 30 minutes. They had usable mat strength, mental toughness, and unlimited stamina. The wrestlers were pleased. Their coach was pleased. I had instant credibility. Since then, I've used many, many variations of complexes with other athletes and my private clients. (Many authors have written briefly on them, but I thought I'd offer my own little twist since I've used them as a coach, a trainer, and a lifter for ten years now with great successes.)

**Complex:**

**A series of compound exercises performed sequentially without rest in which all the reps for one exercise are completed before moving on to the next exercise in the sequence.**

I believe the true power of Complexes is fully realized with the use of kettlebells. [It should be obvious by now that] The shape of the kettlebell allows for more torque on the joints and therefore more stimulation of the affected joint musculatures. Plus, when performing ballistic exercises, there is a longer stroke when compared to traditional barbell, and even dumbbell variations. Therefore, since complexes were originally designed to improve multiple motor qualities using a barbell and/or dumbbells, it stands to reason that using kettlebells for complexes will only enhance the improvement of those particular motor qualities.

**The Top Three Reasons Complexes Are Superior for Fat Loss:**

**1. Hormone Manipulation.**

Every single function in your body is regulated by hormones. One of your body's major hormones is Growth Hormone. It controls or is involved in the regulation

of many things in your body including fat loss. Complexes, by their nature, take between 30 seconds and two minutes to perform. This time period generates an exercise by-product called lactic acid. Because the lactic acid production can be so high while performing complexes, growth hormone is released and lipolysis, or fat-burning occurs. Studies by William Kramer and his colleagues have demonstrated that the body releases growth hormone in response to large amounts of lactic acid in the blood stream. Elevated Growth Hormone has been shown to induce lipolysis. Growth Hormone is released in various ways: at night while you sleep, in response to specific dietary guidelines—low carbohydrate, high fat, and through exercise.

Complexes produce fat loss through another mechanism: EPOC, or Excess Post-Exercise Oxygen Consumption. That's just a fancy way of saying an elevated metabolism. Traditionally, EPOC has been studied using traditional aerobic exercises, such as cycling and running, in either an aerobic or anaerobic fashion. Well, what about weight training? In one recent study on resistance training's effects on EPOC the research team (Schuenke, MD, Mikat, RP, & McBride, JM. *Effect of an acute period of resistance exercise on excess post-exercise oxygen consumption: implications for body mass management*. Eur J Appl Physiol 2002 Mar; 86(5):411-7.), found that 3 exercises, Squat, Bench Press, and Power Clean, performed at momentary 10RMs in a circuit fashion, resting 2 minutes between exercises, for 4 circuits, produced a 20% increase in EPOC for 38 hours. Read that again: **a 20% increase for 38 hours**. Those are huge numbers. This means if your body requires 3000 calories a day, for the next 38 hours you will burn an *extra 600 calories*. Now consider this: the late sports scientist Mel Siff, in his magnum opus, *Supertraining*, states that a 1RM Clean and Jerk costs 14.28 calories. How many calories does a Clean and Jerk with 50% of a 1RM burn if performed repeatedly? Answer: A lot. Now what happens when you combine the increased ranges of motion that kettlebells give you with multiple repetitions of Clean and Jerks and other exercises, such as the squat, in a circuit fashion, without ever putting the weights down (a complex), *without* rest? You achieve very high heart rates, high levels of blood lactate, growth hormone release, and therefore, fat loss.

I recently performed a body composition assessment on one of my clients. She's 49 years old, has a sedentary office job, but an athletic background. In the short time span of only three weeks (between assessments), she dropped five pounds of fat using only complexes, training with them an average of twice per week. (Of course, she was on a fat-loss diet as well, but the caloric expenditure of these is outrageously high.) In the past ten weeks, she's lost approximately eight

percent body fat training an average of two hours per week. That's pretty time-efficient.

Just to ram home a point, another female client of mine lost four-and-a-half inches off her waist in an eight week time period, taking three weeks off of training due travel for work (That's only five weeks of training averaging two training sessions per week.). Why am I using females as examples here? Because they always assume that it's much harder for them to lose fat then for men. And just in case you think I only train women and that this only works for them, yet another client of mine, Marc, recently dropped five pounds breaking through his plateau at just above 200lbs using a variety of kettlebell complexes. I must also mention here that these are not huge, long, complicated complexes. They are for the most part complexes that contain only three or four exercises. Want to try one that contains five?

## **2. Increased lean body mass.**

What is the number one necessity for muscle gain? Tension, be it slow or fast, tension is the name of the game. The time under tension for the average complex is approximately 60 seconds, right down the middle of the 45-75 second time-under-tension philosophy of some strength coaches. But here's the really neat part, for the longer complexes, some as long as two minutes, tension shifts from one muscle group to another, exposing multiple muscle groups to various tensions. Soviet sports scientist and weightlifting champion Vorobyev found a greater increase in strength when the training load was adjusted sharply, as opposed to smoother, stepwise progress in training loads. This means more possibility for increased strength and muscle growth due to increased frequency under various training loads of each muscle group participating in a complex. For example, one day you perform a shoulder dominant complex, the following training session a leg dominant complex, and the following, a back dominant complex. However in each training session the shoulders, legs, and back are exposed to a training stimulus. This means there is greater potential for muscular growth of each of these muscle groups not only because of multiple training frequencies but also due to the varying intensities of the different loading parameters.

The same 49-year-old female client I mentioned as an example in the previous point on fat loss, gained four pounds of lean body mass in that same three-week period! Are you paying attention? This is a 49-year-old female training for fat loss! If she can achieve these types of results using kettlebell complexes, how much

more can you achieve? (As an aside, she's gained six pounds of lean body mass since January '07.) What are you waiting for?

### **3. Improves coordination of lifting technique.**

This seems like a strange benefit for a fat loss program. But stop just a minute and think of what happens when your form falls apart. That's right, you stop. Well this may seem blatantly obvious, but if you stop training too soon, you lose the ability to produce a greater training effect, in this case, the promotion of fat loss. Generally speaking, technique should be trained in the absence of fatigue. And I completely agree with that...95% of the time. When I was a novice weightlifter, I noticed something very interesting. I had some of my best lifts (keep in mind, Olympic-style weightlifting is very, very technical) when I was sometimes the most tired. I mean, I'd feel like I'd just been run over by a truck and I'd attempt a lift. Most of the time, I made the lift. This never stopped amazing me. I'd try this little trick out on some of my athletes and clients with some less technical lifts and the same would hold true. When I started training clients with kettlebells, I noticed the same thing. Although I don't think I can explain this phenomenon technically, I think I can explain it psychologically. I call it, the "Lombardi Principle" after the great Green Bay Packers coach, Vince Lombardi. Lombardi would drill and drill and drill his players on plays and technical aspects of plays long after many normal teams' practices would be over. His players would be exhausted and he'd keep pummeling them until they mastered what he wanted them to master. His philosophy was, "Fatigue makes cowards of us all." He figured if his players could execute plays under extreme fatigue, they'd have no problem when they were fresh. And guess what Lombardi's teams became known for? Executing plays all the time, especially in the fourth quarter.

As another example, I recently took on a new client—a referral from a very good client of mine—who is already in great shape (great shape = almost a full six-pack, defined arms, etc). She teaches a group resistance training class three times a week at a local gym and thought she had good stamina. I was attempting to teach her the snatch, but I could see that she was trying to muscle it with her arms, banging up her wrists in the process. My solution? Tons of swings, followed by clean and presses (compound lift). At this point, she was soaking wet and thoroughly winded, her upper body feeling very heavy and her glutes feeling trashed. Then we approached the snatch again. The result? Perfect snatches. So again, perfection of coordination of lifting technique leads to more work performed which leads to higher caloric expenditures during training sessions and greater post-workout energy expenditure/metabolic increases. This

in turn leads to greater opportunities for potential fat loss as the body requires more energy to function.

### **Complex Program Design**

There are two things to keep in mind when designing a complex for fat loss:

1. You are actually training for fat loss so your program needs to be set up accordingly.
2. What is your weakest exercise that you are including in your complex and you need to structure your complex accordingly.

Once you elaborate on these two concepts, the design is relatively easy.

Let's look at each concept more in depth.

#### **1. Training for fat loss and structuring the program accordingly.**

In order to train for fat loss with complexes, we need to have a longer than normal time under tension—at least 60 seconds and sometimes approaching a two minutes. This allows for the production of lactic acid in the body and the resulting growth hormone release and lipolysis.

Not only that, but rest periods must be appropriate to maintain relatively high levels of lactic acid and not diminish force production, which of course cuts down the training volume and therefore the post-workout caloric expenditure. Current recommendations for lactic acid training is to have a work to rest ratio of 1 to 2—that is, for every minute of work, there should be two minutes of rest. This is a great place to start. However, practical experience has shown me that with a fixed weight like a kettlebell, the best way to force the adaptation of fat loss is to start the work to rest ratio at 1 to 2, but to gradually decrease it to 1 to 1.

#### **2. Structuring your complex around your weakest exercise.**

Coach Steve Javorek, the first coach to actively write about complexes states that the weakest exercise should be the first in your complex. When training for fat loss, I agree. Because you are generating high levels of lactic acid, you are going to lose the ability to produce force. If you place your weakest exercise last, you will likely fail to meet your repetition requirements. By placing it first, you will likely ensure success.

## A Closer Look

Here's a Kettlebell Complex training program for fat loss using one kettlebell.

It uses an A-B rotation, meaning there are two workouts, A and B and you rotate between the two. Perform your workouts three (3) days each week. Over a 6-week period, you should repeat the following sequence three times:

Weeks 1,3,5: A-B-A

Weeks 2,4,6: B-A-B

### Program A:

One Hand Swing x10

Snatch x10

Clean + Press x5+5

Front Squat, rack position x5

### Program B:

One Hand Swing x10

Clean and Press x5+5

Snatch x10

Reverse Lunge x5

Row x5

Perform your weak side first followed immediately by your stronger side.

### Guidelines:

- Perform each complex "Hard Style" —no energy sparing techniques
- Start with 5 sets of each complex, if you can
- Use the appropriate weight—not too light, but not so heavy that you can't complete the complex or you have to put the weight down
- Start with a work to rest ratio of 1 to 2.
- Decrease the rest each workout by 10 seconds until you are at a work to rest ratio of 1 to 1
- Once the above is too easy, use a larger kettlebell and restart the program with a work to rest ratio of 1 to 2.

REMEMBER! Part of the sinister brutality of a Complex is that you can never put the kettlebell down until the complex is over. If you do, you have failed to complete the complex correctly.

### **Wrap Up**

There you have it—A simple, yet brutal way to lose fat with just one kettlebell. Remember, as Coach Dan John says, “Simple doesn’t mean easy.” These complexes are deceptively simple looking, but they’ll make you pay a heavy price. The return on your investment? A leaner, stronger version of the current you.