Entry Level Kettlebell Training

Prepared by Nanimo Kettlebell Club

OVERVIEW & PURPOSE

Beginners should focus on bodyweight movements, however older populations may require strengthening of the supporting muscles first, as well as redevelop normal anatomical readiness for strenuous training (i.e. develop tone and quality of muscles, ligaments, tendons, etc.)

Your scope of training should be to:

- Build exercise repertoire - develop a consistent, challenging and enjoyable routine
- Activate all muscles, ligaments, tendons
- Restore symmetry & balance to neglected muscles
- Prevent injury through *progressive* adaptation
- Increase cardiorespiratory and local muscular endurance
- Train all muscle groups, 2x per week

ENTRY LEVEL DESIGN | EACH MUSCLE 2x PER WEEK | 6 WEEKS

Use circuits to develop coordination and familiarity with each exercise.

8-12 Exercises	3 sets / exercise	1 hour
- Perform each exercise in sequence, 1-3 min between circuits **OTHER TRAINING:** 30+ minutes aerobic exercise sessions, 1-2x / week to start - This should be something you enjoy (e.g. walking, biking, sports, etc.)		

EQUIPMENT NEEDED

It is useful to have a timer/clock/stopwatch and access to 10, 15, 20, and 25 lb kettlebells, a sturdy bench, a stability/swiss ball, and resistance bands.

Strength Training
Progressive Overload: The Story of Milo
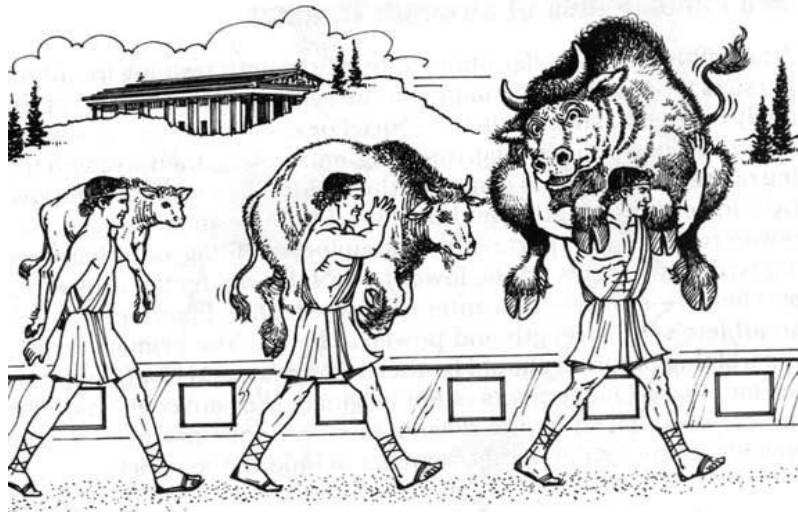
"Milo of Croton was a wrestler with several ancient Olympic titles under his belt, considered by most historians to have been the greatest wrestler of antiquity. His heyday was the sixth century B.C., but to this day, his name is associated with strength.

Milo built his strength by using progressive overload before it was a categorized as a **Grand-daddy Law** or principle at all. Milo had a baby bull or a calf; Milo lifted that calf every single day, and as the calf grew bigger, Milo became stronger. Milo did this all the way until the calf was a full-grown bull and then he was the strongest man in the world. Milo eventually carried the adult bull on his shoulders around the Coliseum.

Milo started small, used micro progressions daily and became the strongest man in the world. Progressive overload worked then and it works now. **The law of overload is one of the first principles learned in exercise physiology.**

It means:

Mother Nature overcompensates for training stress by giving you bigger and/or stronger muscles. **No resistance training program will be successful without progressive overload at its foundation**."

- C. Hatfield, J. Bryant

YOUR PROGRAM:

(Note: these are suggested loads. The load determines the duration - use a weight that challenges you within the time domain)

8 x 30:15 / 4 *translates to* **8 kg x (30 sec WORK : 15 sec REST) x 4 rounds**

No.	Exercise	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
		Perform in a series, 4 rounds					
1	Halo (SHOULDER MOBILITY)	8kg x 30s ——— 4	8 x 45s ——— 4	8 x 60s ——— 4	10kg x 30s ——— 4	10 x 45s ——— 4	10 x 60s ——— 4
2	Goodmorning (HINGE PATTERNING)						
3	Around the Body to Hold (DYNAMIC CONTROL)						
		Perform all 4 rounds, alternating sides, *before* moving on					
5	½ Kneeling Clean (HIP CONNECTION)	8 x 30/30 ——— 4	8 x 45/45 ——— 4	8 x 60/60 ——— 4	10 x 30/30 ——— 4	10 x 45/45 ——— 4	10 x 60/60 ——— 4
6	½ Kneeling Bottoms Up Press (CORE STABILITY)	8 x 30/30 ——— 4	8 x 45/45 ——— 4	8 x 60/60 ——— 4	10 x 30/30 ——— 4	10 x 45/45 ——— 4	10 x 60/60 ——— 4
7	Hip Shift (SHOULDER STABILITY/HIP MOBILITY)	8 x 30/30 ——— 4	8 x 45/45 ——— 4	8 x 60/60 ——— 4	10 x 30/30 ——— 4	10 x 45/45 ——— 4	10 x 60/60 ——— 4
		Perform as a superset					
8	KB Swing (DYNAMIC HINGE)	12 x 20:20 ——— 6	12 x 20:20 ——— 8	12 x 20:20 ——— 10	16 x 20:10 ——— 6	16 x 20:10 ——— 8	16 x 20:10 ——— 10
9	Hip Thrust (GLUTE ISOLATION)						

Resources

UNLISTED VIDEO LINKS

- [WEEK 1](#)
- WEEK 2
- WEEK 3
- WEEK 4
- WEEK 5
- WEEK 6

Below is a table of the percentage-to-reps relationship.

REPS	1	2	3	4	5	6	7	8	9	10	11	12	15
%RM	100	95	93	90	87	85	83	80	77	75	72	67	65

For each specific lift there is a maximal amount of weight that you can load it to successfully complete only one repetition before reaching absolute failure. This is your "1 Rep Max" (1RM).

Evidence for training with specific intensities to yield specific training goals is preeminent in the scientific literature:

Endurance / Hypertrophy	Hypertrophy / Strength	Power / Strength / Hypertrophy
8 – 12 repetitions	6 – 8 repetitions	< 6 repetitions

Repetition ranges correlate with **contractile intensity**, not overall workout intensity. For example, training with low-intensity resistance becomes more difficult if you ignore proper rest protocols.

Accurate intensity should be a reflection of your 1RM, not how *tired* you are.

Endurance / Hypertrophy	Hypertrophy / Strength	Power / Strength / Hypertrophy
8 – 12 repetitions	6 – 10 repetitions	< 6 repetitions
65-75%	76-85%	>85%

It should however be stated that **intensities as low as 30% 1RM can be used for the purpose of optimizing hypertrophy (muscle development)**, but any lower than that will likely stifle hypertrophy gainz.

Required Reading:

Enter The Kettlebell, Pavel Tsatsouline

Kettlebell Kings Workout Series / Demos

FAQ

Q1: *I am a female and I don't want to get "big", but I do want to build muscle, because "muscle burns fat" (or something along those lines).*

A: *Well I want to know YOUR secret for getting "big" (muscularly speaking) because this is hard enough for a man to do, even with an order of magnitude more natural testosterone than a woman. In short, FAT tissue creates a "big" physique, not muscle - at least not the amount of muscle that is achieved naturally (without the use of anabolic agents).*

The reality is that millions of men around the world train for hours a day, up to 7 days per week, eat as much protein as possible, research the most effective training methods, and STILL never get "big". As a coach and counsellor, in my experience MOST people rarely have the discipline to check all those boxes, let alone have the God-given genetics to noticeably increase their actual muscle mass and size.

Finally, let's be real for a moment. In Canada, 35-40% of the population are either overweight or obese as defined by body-mass index measurements (BMI) - as a culture we are not experiencing any issues getting "big" from weightlifting.

Q2: *What is the "best" exercise / routine to do, and are there exercises that burn more calories and are therefore better for fat loss?*

A: *The "best" exercises are often the most simple and basic ones (e.g. deadlift, squat, press, pull, carry, plank) because they represent the fullest expression of human movement under load, and because they permit the most focus and concentration (least complex) for developing efficiency and progression in your movement skills.*

Simply put, the better you can get at a task, the more intensely you may perform that task, the more it challenges you and the more return on investment you get.

Fat loss is dependent on a balance of how much fat you deposit vs. how much you expend (notice how I didn't say "burn") over a long enough timeline to see appreciable loss. How much energy you expend is a combination of several mechanisms: your basic daily energy requirements (BMR), your non-exercise activity (NEAT), the thermic effect or digestive requirements of food (TEF/DIT), and finally exercise or work (EA).

$$BMR + NEAT + TEF + EA = Energy\ Out$$

If all these add up to more than the food energy you take in, you will lose fat. Some exercises burn more calories per minute on average than others - but of course this is dependent on how much effort you put into the exercise. No matter what exercise you do, the harder or faster you work, the more calories per unit time you burn.

If you perform kettlebell swings with a challenging weight, and burn 20 calories per minute, then that is very effective for fat loss... but not if you only do 20 seconds worth for 8 rounds and call it a day. Yes, it is hard! But you only worked for 2$^1/_2$ minutes total. That's only 52 calories! If you eat at maintenance calories (the amount to sustain weight), you need to burn at least 300 calories per day to see appreciable and consistent weight loss, until that loss slows of course.

*You may have also been told that high-intensity or "HIIT" training is great for fat loss because of EPOC (*Excess Post-Exercise Oxygen Consumption).* The American Council on Exercise describes EPOC as "the amount of oxygen required to restore your body to its normal, resting level of metabolic function (called homeostasis)." Following intense exercise an "oxygen debt" accumulates, and this increases your resting energy expenditure for several hours. Thus it is argued that HIIT can help you lose weight because you are burning more calories than if you were not in oxygen debt.*

Unfortunately this logic suffers from the same practical flaws as the ketogenic diet and intermittent fasting. The rate of energy expenditure at a single point in time does not dictate <u>end of day energy balance</u>*. You can expend more calories at rest than normal, but if you eat more calories than your oxygen debt accounted for, you will not lose weight. In fact, what we observe is that subjects who undergo intense training protocols typically move less for the rest of the day because they are so exhausted and mentally fatigued, thus offsetting the mild EPOC effect that occurs.*

It's the total calories burned by the end of the day that matters, not what exercise burns the most per minute. Unless your goal is to only lose 1 pound, you need to do the exercise routine that you can stick to for the minimum amount of time necessary for that fat loss to happen. If your goal is 10 lbs, your minimum timeline is 5-6 weeks, and that's if you do everything right (i.e. food tracking, not missing workouts, getting enough protein, maintaining an adequate calorie deficit, etc.)!

Q3: *Does exercise get easier?*

A: *Exercise is a broad term. I think of exercise as "activity": moving around. Does moving around get easier? - Absolutely! But it gets easier because you get better at it, because you enjoy it more, and because it becomes a part of your routine, meaning that it becomes your new normal. Training to get results however is a constant process of self-challenge.*

In the beginning you get **some** *results from* **some** *effort. However, as it becomes your new normal, those results slow, so you have to increase the challenge. Once you do that - either by increasing weights/intensity, duration and/or volume of work performed - you start to see progress again. Soon you adapt to this new normal, and the process repeats itself.*

So weights get heavier, workouts get longer, and recovery gets more important - but your perception of how hard you're working only moderately increases. That is to say, for example, 10lb bicep curls for 20 reps used to be an 8/10 on the exertion scale for you. Now, 6 weeks later, you do 15lb bicep curls for 20, but it's still 8/10 on the exertion scale. It certainly feels heavier - you notice the weight - but it doesn't feel 30% more challenging (the difference between 15 and 10lbs).

Q4: *What is better for results? Diet or exercise?*

A: *Modifying diet and exercise are tools to reach an end goal. To only focus on one or the other is dichotomous thinking that makes reaching that goal more difficult than it has to be. We want to modify both to maximize their effects of our body composition. If we want to gain muscle we must challenge the muscle through routine resistance training, stimulating remodeling of that tissue. However, you cannot build a wall without bricks, so you need to consume adequate protein and calories as well.*

If you want to lose fat, you have to create a calorie deficit. Research indicates that though energy balance is influenced by both dietary intake and energy expenditure (i.e. exercise), food restriction has the upper hand. Compared to exercise alone, diet changes alone have been shown to produce around 3x the weight loss. How is this?

It is "easier" to lose weight by controlling diet, rather than just exercise alone, for several reasons:

- *You probably don't burn as much as you think you do*

- *You probably eat to compensate for the exercise you did*
- *Your body can be very efficient at how it uses energy*
- *Your body can be very resistant to energy loss the longer you stay on a weight loss program*
- *exercising more does not result in a proportionate level of improvement (i.e. doubling your exercise does not double your results).*
- *Eating less is physically easier than exercising more, making it a more sustainable strategy*

This harks back to the old saying "you can't out-train a bad diet".

On a related note, taking a short break, even for a week, does not seem to negatively impact muscle or strength but can rather resensitize your body to the effects of exercise.

Q5: *If my muscles aren't sore after a training session, does this mean I didn't "work" them, or work them hard enough?*

    A: Muscle soreness is not a reliable indicator of how effective your training session was, because that is entirely dependent on what your goals are. Delayed-Onset Muscle Soreness or DOMS, is a normal response to training that has caused "micro-tears" in the muscle fibers themselves. Remodeling of these micro-tears forms the basis for muscle growth. A session that causes more micro-tears, causes more DOMS.

If your goal is to grow as much muscle as possible, then DOMS can be a - not THE - indicator of moving towards that goal effectively. However, if your goal is simply to get "fit" or more active, or if your goal is simply to induce a caloric burn and keep the pizza at bay, then DOMS is not a very important or telling metric.

Additionally, you may notice that you are the most sore when you do a workout after a long hiatus, or when you try completely new exercises, even though you may not be using more weight or working any more intensely than normal. These tend to be the most common and predictable instances of DOMS, because training regularly desensitizes your muscles to micro-tears, and as your muscles get stronger, you need proportionately more resistance to incur micro-tears.

In other words, the fitter you are, the less sore you get - unless you are very ambitious and are going out of your way to create soreness.

Q6:   My FitBit says I burned 600 calories in one hour of weight training - how accurate is that?

*For starters - Well Done! Secondly, we will need to balance our enthusiasm with reality. The reality is that calorie and step counters like **FitBits don't actually measure burned calories**. They take your heart rate and use an algorithm (math) to **estimate** how many calories you burned.*

According to Stanford Medicine, "the accuracy of seven wristband activity monitors showed that six out of seven devices measured heart rate within 5 percent. None, however, measured energy expenditure well."[1]

"Factors like body mass index and even skin colour had an effect on the ability of activity trackers to accurately measure calories."

"Each device uses its own proprietary algorithm for calculating energy expenditure", they said. It's likely the algorithms are making assumptions that don't fit individuals very well... energy expenditure is variable based on someone's fitness level, height and weight, etc."

A 2018 comparative study[2] by Xie et al. looked at five major health indicators (heart rate, number of steps, distance, energy consumption, and sleep duration) under various activity states (resting, walking, running, cycling, and sleeping), which were then compared with the gold standard (manual measurements of the heart rate, number of steps, distance, and sleep, and energy consumption through oxygen consumption). The devices used to gather this data included Apple Watch 2, Samsung Gear S3, Jawbone Up3, Fitbit Surge, Huawei Talk Band B3, and Xiaomi Mi Band 2) and 2 smartphone apps (Dongdong and Ledongli).

"Wearable devices had a rather high measurement accuracy with respect to heart rate, number of steps, distance, and sleep duration, with a mean absolute percentage error (MAPE) of approximately 10%, whereas poor measurement accuracy was observed for energy consumption (calories), indicated by a MAPE of up to 44%."

Fitbit Surge was the least accurate (MAPE of 0.67 and an SD of error of 0.80), with Apple Watch 2 a not too distant second (MAPE of 0.49 and an SD of error of 0.47).

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[1] https://med.stanford.edu/news/all-news/2017/05/fitness-trackers-accurately-measure-heart-rate-but-not-calories-burned.html

[2] Xie J, Wen D, Liang L, Jia Y, Gao L, Lei J. Evaluating the Validity of Current Mainstream Wearable Devices in Fitness Tracking Under Various Physical Activities: Comparative Study. *JMIR Mhealth Uhealth*. 2018;6(4):e94. Published 2018 Apr 12. doi:10.2196/mhealth.9754

Among these two devices specifically, walking had the highest MAPE, and running had a larger variance (SD) despite a lower MAPE.
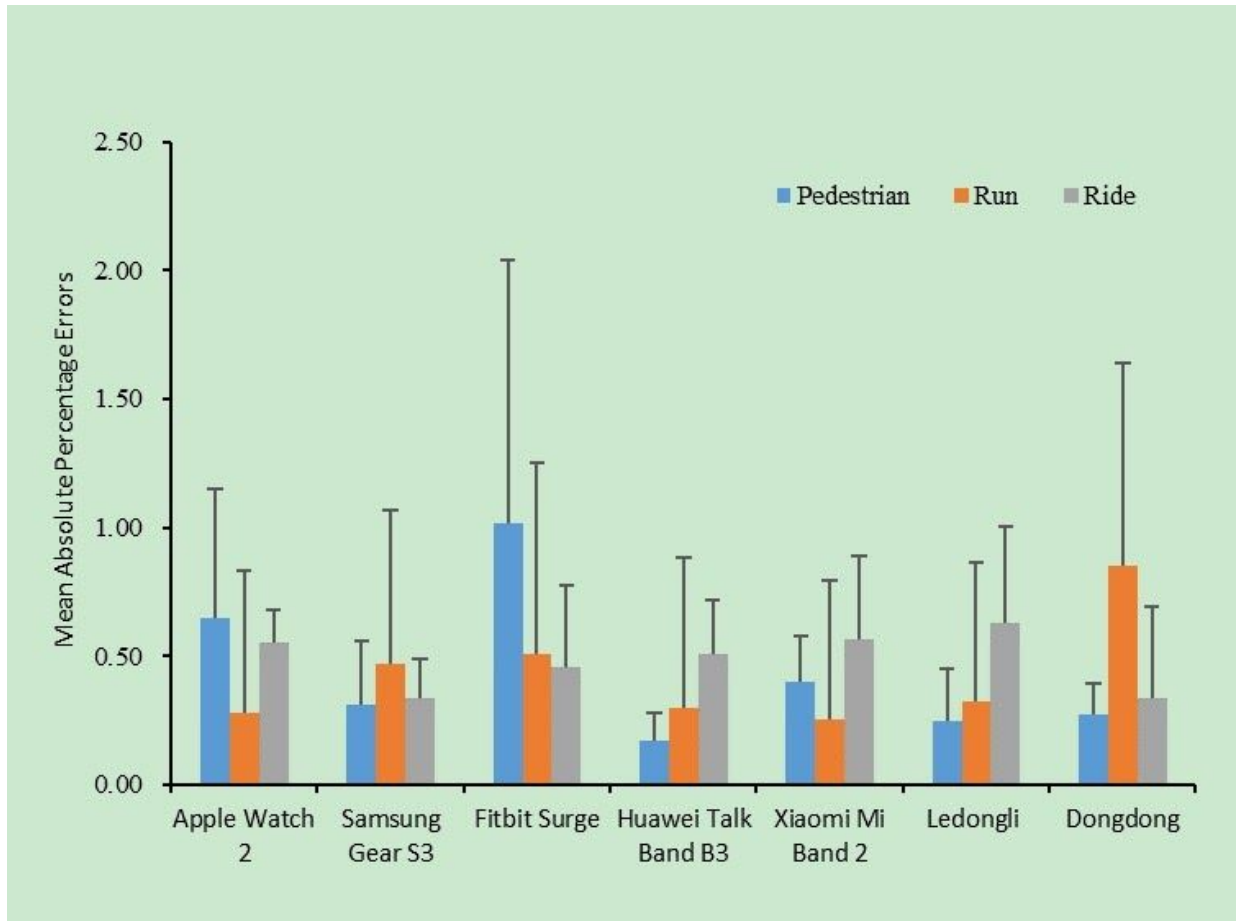
What's more accurate? H.I.I.T. or L.I.S.S.?

"Dannecker et al [36] found that in measuring energy consumption, the accuracy of wearable devices was affected by the activity status; the simpler the activity status, the higher the accuracy. Drenowatz et al [37] subjected 20 subjects to high-intensity PA and found that the accuracy of the Sense Wear Armband monitor in measuring energy consumption under high-intensity PA was much lower than that under low-intensity PA."