

FITNESS *Revolution*



Daily Movements
that Inspire
Healthy Living

CONTENTS

Why Exercise	3
The Benefits of Exercise	4
Foundations of Physical Vitality	5
Accountability	6
The Best Time of Day to Exercise	7
The Best Type of Exercise	8
Movements That Make a Workout	9
Frequency, Duration, Intensity	10
Oxidative Stress and Exercise	12
Nutrition	13
Hydration	14
Rest and Recovery	15



WHY EXERCISE



DR. PAUL STRICKER

"Why exercise?" "Can't I just eat right?" These are questions I hear from people who don't like to exercise because they think they have to jog. Let's break it down into two parts: Which kind of exercise, and why exercise.

Exercise generally refers to either aerobic or strength training. Both types are important! Aerobic exercise gets the heart rate going, which helps build endurance and the ability for the blood to carry oxygen. Strength training keeps our muscles strong and toned.

But that's not all! Moderate aerobic exercise stimulates immune function and increases our metabolism. Stronger muscles help improve bone density and also increase our metabolic rate. The benefits of both types of exercise work together to provide positive effects on our bodies.

Mixing different types of exercise keeps it from getting boring and decreases the risk of overuse injuries.

Keeping our bodies moving improves flexibility, which decreases when aren't active. Scientists are now saying "sitting is the new smoking" since they're finding out that sitting for hours causes many negative health effects and an increased risk of death.

So now you know more about why we should exercise! Mix different kinds of exercise with proper nutritional fuel. Add more water and rest. Decrease your stress levels. And voila--your own healthy living revolution!

THE BENEFITS OF EXERCISE



DR. ROY VARTABEDIAN

CO-AUTHOR, *THE WINNING EDGE:
FUELING & TRAINING THE BODY FOR PEAK PERFORMANCE*

Next to eating a nutrient-dense diet, exercise is the best one thing that you can do to improve your health, stay healthy, and extend your life. We are designed to move. When we don't exercise each day, our body's thousands of chemical reactions become altered in a negative way. That's why we say that "sitting is the new smoking." The negative effects are devastating. On the positive side, exercise, say 30 minutes of walking or any light to moderate exercise each day, can increase your metabolism and energy levels, help you maintain your weight (decrease fat and increase muscle mass), control your blood sugar and fats, improve your mood, burn off the effects of stress, stimulate your immune system, sharpen your memory, and help you sleep better. Exercise can help prevent obesity, diabetes, heart disease, cancer, hypertension, hyperlipidemia, and depression. Exercise truly is a "wonder drug" like no other. There is no medicine that can match its ability to make and keep your body healthy. It's free for the taking! Choose the exercise you love and do it every day!

FOUNDATIONS OF PHYSICAL VITALITY

SLEEP. HYDRATE. EAT. MOVE. REPEAT.



LINDSAY HAHL

There is no such thing as overtraining, only under-recovery.

Eating and hydrating well play a huge role in your body's restoration, rejuvenation, and recovery processes. Hydrating well typically means drinking, in ounces of water, your weight in lbs. divided by two! There are easy ways to help our bodies get plenty of water. I personally use a water bottle with times on it to show how much I need to be drinking every hour throughout the day to ensure I'm getting enough. Water aides in daily detox and helps flush our

body clean. For example, lactic acid is a byproduct of our energy systems that helps aid in the breakdown of muscle so that muscle can build bigger and stronger. Water helps flush lactic acid away from your muscles after it has done its job.

As far as eating well, the more plants we can consume aide in elevating antioxidant levels in our body, which in turn reduces oxidative stress and damage. A good example of this process: If you were to cut an apple in half and leave it on the counter, what would happen over the course of a couple of hours? Oxidation is the apple turning brown. Spritz that apple with lemon juice and you preserve it for a bit and reduce its browning (i.e, reducing oxidative damage). Fruits and vegetables are simple, super foods than contain a powerful array of antioxidants. Inside your body, they reduce the oxidative damage and help activate, modulate, and protect physiological function. When we consume a wide variety of fruits and vegetables, everyday, our cells become conditioned to work well. Hard-core exercise creates oxidative stress. Eating nutrient-dense foods (i.e, matter that matters) everyday provides a cascade of great biochemistry to allow our body to perform and recover much more efficiently.

ACCOUNTABILITY



KELSIE MAHER

We have all heard "misery loves company." But guess what? So does success!

One of my main responsibilities as a personal trainer is to discover my clients' goals and help them reach those goals, or in other words, hold them accountable. When they work independently it's far too easy to make excuses and justify their way out of the daily grind required to reach the goals they set. I don't set their goals. They do, and yet they tend to be their own toughest obstacle.

The power of accountability, being held to action, is so important. Having someone in your life, whether it's a personal trainer, a gym partner, or your Facebook followers can make the difference in you reaching your health goals or still struggling down the road. There are many avenues for accountability, and finding the right one for you will be key in your success.

Social media is the easiest, sometimes scariest, form of accountability. You don't just get one buddy looking out for you, but hundreds. For some people this is the only tool they need; however, it can also provide a false sense of accountability because those followers are only spectators and not invested with you.

I recommend having at least one friend, or even a local community with similar goals, to motivate, meet up with, and keep you energized.

Another form of accountability is loss-motivation. Apps provide a place where you can put your money on the line, and if you fail to meet the tasks or work required you lose your money. If you succeed, you get your money back. It's a simple concept, but might hold more power for you on your journey.

Having, and using, all the tools to be successful is vital. Good nutrition, fitness experts, and accountability from a group or friend can be some of the most important tools at your disposal, and we have all these resources for you to truly succeed.

THE BEST TIME OF DAY TO EXERCISE



KEVIN SULCER

NFPT CERTIFIED PERSONAL TRAINER
IRONMAN TRIATHLETE

Any time of day is good to exercise. However, physiological principles suggest that certain times work best for specific objectives. For example, midday to evening workouts are best suited for more rigorous training because your body's muscles are warmed up and energy levels are highest. If your objective is weight loss, then morning workouts can improve your ability to burn calories more efficiently as your body tends to draw more energy from fat stores. While you're sleeping, your body uses glycogen stores to sustain bodily functions. Light nutrition and warming up your muscles for morning workouts are important for avoiding injury and fatigue. Finally, the most important time of day to exercise is whenever you can. Try to set a specific time each day to create a consistent healthy habit. The bottom line is exercise is beneficial regardless of the time of day you do it.

THE BEST TYPE OF EXERCISE



ERIC RICHARDS, DC

MASTERS EXERCISE PHYSIOLOGY, CROSSFIT LEVEL 1, OWNER OF FOUR CROSSFIT GYMS, FOUNDER OF THE GARAGE GAMES FITNESS COMPETITION, AND DEVELOPER OF THE 60-DAY TURNAROUND

The question "Which type of exercise should I do?" is as old as the idea of moving for sport--and what we have learned from sport, we can apply to everybody. Therefore, step one, think of yourself as an athlete, with the goal of training for life. With that in mind, we can focus on the goals of improving fitness as a component of health. High intensity interval training is where you will find the best answers.

Research has shown that low duration, high intensity training is better for the following:

1. Improving strength and endurance in the shortest time.
2. Improving blood sugar levels and increasing function of growth hormone to promote healing and health, as well as increasing testosterone.

Fortunately, high intense intervals come in all sorts of shapes and sizes, and can be worked to fit anybody's fitness levels.

Several examples from beginner to advanced (escalate your effort as your fitness level allows):

1. 30 seconds of work, followed by 30 seconds of rest – using jumping jacks for your 30 seconds of work. Perform 5 sets (5 minutes), followed by a second set of 5 minutes doing another movement (push-ups, partial depth squats, etc.)
2. Dr. Tabata developed a more advanced interval of 4 minutes – 20 seconds of work, 10 seconds of rest. To further intensify this, perform 4 intervals back, to back. One of the best known examples is 4 minutes (8 sets) of pull-ups, followed by push-ups, followed by sit-ups, followed by squats.

Experimenting with high intense intervals will allow each individual the opportunity to identify both strengths and weaknesses. Don't ignore your weaknesses.

MOVEMENTS THAT MAKE A WORKOUT



ERIC RICHARDS, DC

MASTERS EXERCISE PHYSIOLOGY, CROSSFIT LEVEL 1,
OWNER OF FOUR CROSSFIT GYMS, FOUNDER OF THE GARAGE
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DAY TURNAROUNDS

Developing a routine that is convenient and effective is often the key to progress. The idea that exercise requires both a significant amount of time and a significant amount of equipment in order to effect positive change is simply false. Movements can be equally as simple as the amount of time invested, which effectively eliminates reasons for failure, as well as excuses. Moving your center of mass is the key to

increasing your heart rate while building strength.

Use these basic movements, several times a day, to generate cardiovascular change along with strength building. Squats: one of the most beneficial for hip, knee, and ankle function and will quickly impact the heart rate. The greater the range of motion, the greater the value in a squat. Burpees: described as “get on the floor, and get back up.” This moves your center of mass the greatest distance in the shortest time, which is why the burpee is the best for elevating the heart rate quickly. Push-ups, plank holds, and hollow holds: holding a plank or push-up position builds core strength; turning that “upside down” and lying on your back with arms and legs slightly in the air activates core and abdominal muscles. Both positions develop great strength and fatigue, providing dual benefit.

Movements that together elevate heart rate and build strength can be put together in different order to create simple, short, and effective work outs, multiple times a day if desired.

FREQUENCY, DURATION, INTENSITY



STEPHANIE PRITCHARD

B.S. IN EXERCISE AND WELLNESS

Resistance Training

Frequency: Each major muscle group should be trained at least two to three days a week. Training days can consist of full body or be divided into split routines. Example: Upper body first day, lower body second day. Allow 48 hours of recovery time before training the same muscle group to prevent over-training or injury.

Duration: There is no specific time for resistance training sessions. Each muscle group should be trained for at least 2 to 4 sets. To improve muscular endurance, you should increase your repetitions (15-20 per set). To improve muscular strength and power, repetitions should be between 8-12 per set.

Intensity: Intensity is based on the training goal of each individual. The amount of weight you will use to train each muscle is based off a percentage of your 1 repetition max (1RM). A 1RM is the greatest amount of weight you can lift with proper technique for 1 repetition. Very light intensity is 40% - 50% RM to improve strength. Moderate to vigorous intensity is 60%-75% RM to improve strength. Anything above 80% RM is recommended for experienced strength trainers. Individuals training to improve muscular endurance should use less than 50% of 1RM.

Cardiorespiratory Fitness

Duration: Each individual should get at minimum of 150 minutes of moderate aerobic activity or 75 minutes of vigorous aerobic activity each week. Moderate-intensity aerobic activity should be done at least 30 minutes a day. Vigorous intensity aerobic activity should be done at least 20-25 minutes a day. You may do a combination of moderate and vigorous aerobic activity throughout the week. For weight loss and training purposes, duration may need to be increased.

Frequency: Moderate-intensity aerobic activity should be done five days a week or vigorous-intensity aerobic activity at least three days a week. You may do a combination of moderate and vigorous aerobic activity three to five days a week. For weight loss, frequency should be increased.

FREQUENCY, DURATION, INTENSITY

CONTINUED

Intensity: Two ways you can determine your intensity level for aerobic activity are the target heart rate method and the Borg Rating of Perceived Exertion scale.

Target HR method: You will need to calculate your max heart rate, which can be done by using this formula ($220 - \text{age} = \text{HR max}$). Next you will take your HR max and multiply it by the intensity desired. Moderate intensity is 40% -60% of HR max. Vigorous intensity is 60% to 85% of HR max.

Borg Rating of Perceived Exertion scale: This is a scale ranging from 6-20, 6 rated as no exertion at all (at rest) and 20 rated at max exertion. This scale can be found in many exercise and fitness facilities. Moderate intensity on the scale is ranged between 11-14. Vigorous intensity on the scale is 15 and above.

Borg's Rating of Perceived Exertion (RPE) Scale

Perceived Exertion Rating	Description of Exertion
6	No exertion. Sitting & resting
7	Extremely light
8	
9	Very light
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard
16	
17	Very hard
18	
19	Extremely hard
20	Maximal exertion

OXIDATIVE STRESS AND EXERCISE

PROTECT YOUR PERFORMANCE!



DAVID PHILLIPS, M.D.

Have you ever had a real hard workout at the gym and “paid” for it with muscle pain and soreness for the next two to three days? Welcome to DOMS or Delayed Onset of Muscle Soreness! To understand one of the reasons for this relatively common problem many people experience, we need to look at the micro physiology behind energy production during exercise. The powerhouses of our cells are mitochondria, where energy from the food that we eat, combined with the oxygen that we breathe, makes energy in the form of ATP (remember from biology?). Unfortunately, this is not an airtight process; and its by-product is the formation of reactive oxygen species otherwise known as free radicals. Free radicals have been documented to do damage to various cell structures and contribute to inflammation. Along with skeletal muscle tissue micro tears, this pro-inflammatory oxidative “stress” can last two to three days. So, how do we minimize this ongoing process of our daily metabolism and by-product of exercise? Fortunately, we are all born with an anti-oxidant enzymatic cascade that acts as a frontline defense system in attempting to neutralize free radicals. However, in order for our internal system to work efficiently, we need to fortify it everyday through our diet. Specifically, diets that are rich in fruits and vegetables provide a wide variety of phytonutrients and antioxidants that help bolster our own antioxidant system. It’s important to balance energy production while minimizing oxidative stress and free radical production; DOMS is a reflection of a relative imbalance of this process. The good news is that providing a constant source of phytonutrients from fruits and vegetables is an excellent way of maximizing the benefits of exercising while minimizing the potential side effects from oxidative stress and free radical production.

NUTRITION

PRE AND POST WORKOUT



JADY NUGENT, RD, RDN, MHSC

Fueling your body with good nutrition at all times is important. However, it's especially important when being physically active. The average workout recommended during the Shred10® program doesn't require additional fueling before you start your exercise. Having the recommended meal structure on the program (meals and snacks) throughout the day should provide the needed energy to complete the workout. The ideal meals or snacks prior to a workout would be ones that include a complex carbohydrate. Examples of these can be found in our Revolution cookbook (e.g. Banana Bread Overnight Oats, Complete Pancakes, Greek Lentil Salad, Edamame Kale Salad or Falafel).

After a workout, your body will require protein and carbohydrate to support recovery.

We consume carbohydrates to

replenish our depleted muscle glycogen stores. Protein is consumed to provide the needed amino acids that will help build muscle and bones. The current research has shown that consuming a snack or meal that contains both within the first two hours after a workout is optimal.

Dr. David Phillips, M.D., tells us, "Complete by Juice Plus® shake mix stands superior to other protein shake mixes on the market today because it's a clean-burning, macronutrient-rich, plant-based drink. The primary plant protein, non-GMO water-washed soy, is a complete protein which means it contains all of the essential amino acids necessary to build muscle as well as maintain other vital bodily functions." In addition, this product provides a good source of complex carbohydrate from whole plants. Don't have the shake? Simple snacks such as hummus with crackers, nut butter with fruit, or our Complete bars are other options.

Exercise increases our oxidative stress levels (along with the environment and other factors) which is why flooding your body with foods that contain antioxidant properties is also beneficial. Think

of antioxidants as the good guys that fight the oxidative stress in your body. Throughout our Shred10® program we encourage fruits, vegetables, and berries, which are some of the best sources of antioxidants. However, the reality is we often don't consume enough in our daily lives. The Juice Plus company's Garden, Orchard, and Vineyard capsules provide similar benefits to your body in a convenient and easy way. Our products are never meant to replace what we should be consuming from fruits and vegetables, they are only meant to bridge the gap.

If any of the below examples describe you, please consult with a nutrition professional to get further support. Our entire line of Juice Plus products will always provide needed nutrients, but getting guidance on pre-workout fueling and other potential needs will be beneficial.

- Your normal level of physical activity is more intense than the workouts provided in Shred10®
- You do regular weight training
- You have dietary restrictions
- You're an athlete

HYDRATION



TERRI FOX STOCKHOLM, BSC, RD

Q: Why is proper hydration important when you exercise?

A: Water is essential for good health. It is required to regulate body temperature, maintain blood volume, and allow muscle contraction to occur. Being active increases your needs due to fluids lost through sweat. If you don't replenish the water loss, you can become dehydrated. Dehydration negatively affects mental and physical performance and can lead to impaired coordination, inability to make appropriate decisions, a greater rise in body

temperature, and cardiovascular strain. Signs of dehydration include thirst, dizziness, headache, muscle cramps, dark urine, and excessive hunger between meals.

Q: Is it possible to drink too much?

A: Yes. Over-hydration is most often seen in recreational athletes. While it's important to drink enough fluids during exercise, it is also important to not drink too much. Consuming excessive fluids has the potential to cause low blood sodium levels (hyponatremia). Signs of over-hydration: swelling of hands and feet, weight gain during exercise, confusion and vomiting.

Tips to ensure you optimize your fluid intake:

- Always begin your exercise activity well hydrated.
- Drink at least half your body weight in ounces daily, and increase as necessary with exercise.
- Sip on fluids during your activity. Be sure to drink at a rate that's comfortable.
- Water is the most effective drink for people participating in low intensity or short duration sports.
- For those involved in high intensity training or endurance activities (>1 hour), sports drinks may be used to provide a source of carbohydrates and electrolytes.
- Weigh yourself before and after a workout to help develop an individualized plan for drinking based on your own sweat losses.
- If there was no weight change, drink according to your thirst and overall goal fluid intake for the remainder of the day.
- If weight loss was experienced, drink 16 to 24 ounces of fluid per 1 lb of weight you lost.

REST AND RECOVERY



HEIDI PHILLIPS

Rest and recovery are typically under-rated for people who exercise regularly. R & R is necessary for the body to rebuild energy stores, and repair tissue that was stressed during activity; it's also needed psychologically to prevent burn-out. It's so easy to think that more exercise is better however, the rest and recovery period is actually necessary, allowing the body to adapt to the stress of the workout. Without rest, the body can become overtrained, which can cause irritability, mood swings, and low energy stores. Lack of rest/recovery can also cause tissue and muscle breakdown—not the desired outcome of exercising. The actual benefits of exercise happen during the recovery time. Both exercise and adequate recovery are needed to stay healthy, become more fit, and/or improve athletic ability.

Recovery includes adequate sleep as well as rest days. Adequate sleep is necessary not only for human growth hormone but other hormones to balance as well. Active recovery days might include walking, an easy swim, or an easy bike ride around the neighborhood (nothing that causes stress to the muscles, including the heart muscle; so keeping the heart rate low is important on recovery days.) At a minimum one to two days of rest a week is recommended for those below age 40, and for 40+ the recommendation is for two to three days a week (The older we get, the longer the recovery process is.) Intensity, total workout time, and age all help determine the proper amount of recovery for your workout regimen.

Thank you to all of our contributors!

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