

Fitness for Life

[Pete Matthews Jr](#) – <https://3nt.xyz> – © December 22, 2020; August 13, 2021

Exercise is the only activity that has been demonstrated to reduce the risk and progression of dementia across the board. We can do sudoku or crosswords, and that will help our ability to do sudoku or crosswords, respectively. Only exercise helps our mental abilities across the board. Staying fit also helps us physically, of course.

In addition, we are in this for the long haul. Any decent exercise plan includes accommodations that encourage exercising the next time. If we stop exercising, the benefits of past exercise decline. What have we done for ourselves lately? Fitness for Life!

The author is writing from a lifetime of personal experience, but has no training as either a personal trainer or physical therapist. Be sure to consult your doctor before embarking on a new exercise program. Start small: select a small number of exercises and repetitions with modest weight and resistance.

Getting Hurt

Ultimately, the person doing the exercise is responsible for not getting hurt. Here are some situations with increased risk of injury:

Increasing the difficulty. Going up on the weight or resistance, or increasing the reps can stress the exercise. The chance of damage increases both from current bad form and from causing the form to degrade when tired. Furthermore, muscles strengthen faster than tendons and ligaments, so increasing the weight too soon puts connective tissue at risk.

Starting a new exercise. Since a new exercise should work on an area you have not been working enough, that area may be vulnerable to damage. Start easy, with a low number of repetitions and low weight or resistance.

Resuming an activity. After being away from a particular physical activity for a while, your muscles will remember how to do it, but your body may not be capable. Ease back into it.

Warm up. Don't jump into high-stress activity. Start easy, and be sure to stretch out any areas at risk.

Many years ago, I played softball. More than once, I hurt myself running to first base, in the first game of the season. I learned to stretch before every game.

Hyper-flex, hyper-extend, cross-motion. Recovering from an injury to a joint can take years (one of mine took a decade). Listen to your body, and don't push joints to their limits, either within their normal motion, or crossways. If a joint hurts – especially when not at the gym – change or drop the offending exercise.

Jump, bounce, pop, explode, jerk, lunge. Motions with speed and momentum definitely increase the chance of injury, often multiplying the effect of other flaws. Jumping jacks seem like good exercise, but I have been hurt by them several times, over the years. My son tore a tendon trying to jerk open a stuck window: a combined effect of fast motion and connective tissue weaker than muscles. It makes sense to have a coach or partner for momentum exercises, such as serious weight lifting – clean and jerk, anybody? However, with extensive experience, I do explode off the wall in the swimming pool.

Swing, Sway, Slow, Stop

When doing an exercise with weights, swinging the weights or swaying the body cheats you of the full difficulty. Similarly, doing the exercise quickly tends to be easier, and it could be more risky. Instead, do each exercise slowly, and stop the weight smoothly at the end of travel, before the joint resists.

However, when rising from an exercise, controlled momentum can be your friend. When rising from a supine position, I usually rock myself back, and use momentum to sit. Similarly, when seated on the bench with heavier weights in hand (below the bench), I swing the weights slightly, and time my rise when the weights are forward by my feet. This makes perfect sense, when moving from exercise to exercise – it may even reduce the chance of injury.

Transitions

My general workout plan grew out of the exercise alternation ideas of the 7-minute workout (see below). I order the exercises to provide:

- Convenient, smooth transitions,
- Changes of body areas worked, and
- Resting recently-used muscles while exercising others.

In addition, I minimize setup time for each exercise, often dedicating equipment to a station or series of exercises. The point is to limit the part of the workout when I cannot exercise, enabling me to begin the next exercise promptly.

Camping

At the gym, a camper is a person who takes a seat at a piece of equipment and camps there. The camper usually spends most of the time playing with a phone, and occasionally does some exercise. While it can be necessary to stop and rest,

camping destroys aerobic aspects of a workout. (It's also rude to block a machine at the gym that way.)

Counting

While some folks count seconds interleaved with Mississippi or thousand, I just use a measured count, two counts per second. I originally checked this out with a clock, and suggest that you do. However, I now tend to sync with whatever music is playing, so my actual timing can vary with the beat.

When appropriate, I count by tens on my fingers, using a fist for five, since I don't exceed 60 (30 seconds). Come up with a scheme that suits you.

Number of Sets

Many years ago, I overheard a trainer telling a client that you get 90% of the benefit from the first set of an exercise. When I started to train at Answer Is Fitness, Janine commented, that's for beginners. Nevertheless, if you are just starting gym workouts, are short on time, or not feeling your best, it's a good plan to do single sets.

Later on, I asked Ed whether it was better to do more different exercises, or to do more sets of fewer exercises. He said to do more sets of fewer exercises. I have too many exercises to do triple sets, so I have compromised at doubles, most of the time.

Sweat

When you are first starting out, you may not sweat much. However, as time goes on, if you don't drip sweat, need a towel while working out, and long for a shower, you are not working hard enough. Of course, I may be biased, because the best thing I do in the gym is sweat 😊

Chuffing

It's best to synchronize breathing with the exercise, especially for difficult exercises. Sometimes it helps to chuff on the outbreath. Think of all those tennis players who grunt and scream when they drive the ball. In addition to providing a mental release, explosive breathing drives air deeper into the lungs. The exercises where I am most likely to chuff are: Lat Pulldown, Squat, Swim, RDL & Push-Up (see my "Home Gym Workout" spreadsheet and linked descriptions on my Fitness for Life page).

Grips and Stances

Varying the exercise. A change in the grip or stance can affect the exercise. I often adopt a variation for the second set of an exercise.

Elbow pain. If an exercise seems to hurt the elbow, try shifting the grip to move the thumb toward the center of the handle or dumbbell, and the pinky to the edge. This shifts effort from the weaker side to the stronger side of the hand. If this does not help, reduce the weight/resistance, try again another day, or stop altogether.

Stagger stance. Some exercises, such as squats and toe-raises, need to be done with feet parallel. On other exercises, balance may be improved, if you slide one foot forward. This can be particularly important when working with weights or bands in front of the body.

Leaning

On some exercises, the effort is pulling on bands looped around a post or pole. An illustration of such an exercise may shows the person standing straight, with feet parallel. This is only possible with light tension. As the person progresses, the tension will become higher, and a vertical position will become unstable. Facing the pole, an aggressive stagger stance can stabilize the body, but the exercise will still be somewhat different from before (e.g. the back may arch).

The alternative is aggressively leaning away from the pole. I believe this is better, so long as the amount of lean does not change when doing the exercise. When facing the pole, stabilize the body with weight on the heels at the start of the exercise. When pulling, press down with the toes, to maintain the body in the same position.

When the exercise is done with the side to the pole, stabilize the lean by increasing or decreasing the weight on the foot away from the pole.

Attaching the bands higher on the pole helps to keep the angle of the band to the body closer to perpendicular – thereby counteracting the effect of the lean on the exercise. I discuss this further with the Bent Arm Row exercise, where I feel a stagger stance is detrimental.

Physical Therapy

Physical therapy for ailments is quite a boon. When you are there, you may get massage, manipulation, electro-therapy, heat, or other temporary treatment. Insurance and your real life won't let you continue that forever.

The main thing you get to take away from physical therapy is the exercises. Don't give up this splendid opportunity! Add the good ones to your repertoire, and keep doing them. If they made your problem go away, they may be the best way to keep the problem from coming back. This how I got many of my exercises.

Workout Plans

The building blocks of my workouts are

1. Swimming,
2. Gym exercises,
3. Other activities, such as cardio, yardwork, kayaking and especially walking.

When possible, my first priority is to swim two or three days a week. Each gym exercise should be done at least two days a week, so when swimming, I would normally do “the full boat” (all of them) on each of two days. Other days would be for other activities, especially walking or cardio, and resting.

In the COVID era, it does not make sense to churn up and down a pool shared by others, *breathing hard*. My COVID plan was to do half a gym workout, four days a week: of the five groups, I did either groups A-B-E (weights) or A-C-D (bands). On those four days, I also did some other activity, usually cardio on my Sole E95 Elliptical machine, or walking.

Interval Training. This is the way swimmers train, especially for races. In the pool, this means alternating swimming and resting at the end of the pool. Coaches have many variations on this plan, including some easy swimming, medium hard, all out, different strokes, etc. In college, the typical workout was up to two hours long. More recently, I worked out with Tech Masters at MIT, where the typical workout was up to an hour and a quarter.

As a practical matter, the swimmer goes faster on shorter distances or with more rest, and slower on longer distances or with shorter rest. All you need to make such workouts feasible are a lane to swim in, a clock that clearly shows seconds, relatively cool water (the only source of cooling for the swimmer), and a plan. Multiple swimmers usually share the same lane, swimming in an elongated “keep-right” circle. The starting time for the first and fastest swimmer is usually stated as, for example, “10 x 100 on 1:40.” That means, the first swimmer leaves the end of the pool every minute and 40 seconds, swims 100 yards, and then rests. Subsequent swimmers leave five seconds apart. Slower swimmers catch up during their rest period, but tend to fall farther behind due to getting less rest. It is common for the slower swimmers to stop and let the lead swimmer(s) go by, or to skip two lengths to get sufficient rest, especially on longer distances. Three of the major psychological “hooks” in this process: staying ahead of the swimmer behind you (who may be the lead swimmer), completing as many planned swims as possible, and earning more rest by swimming faster (which is actually more work).

Unfortunately, after moving farther away from MIT, the water in the new pool where I swim is usually too warm for interval training, so I mostly do laps. Soon, I’ll be able to do an occasional Sunday workout at MIT.

On a machine, interval training is more convenient without consideration of distance. This plan lacks the hooks I note above. Interval training by distance, within a fixed time period (as for swimming) requires calculating the goal in your head, based on the displayed starting value, and then remembering that goal. Repeatedly. While your brain is deprived of oxygen.

Clearly, it's superior to have the software on the machine fully support you in your workout. Having an online instructor (e.g. Peloton or iFit) is an alternative. See my article "Sole E95 Elliptical" for how I train on the E95.

HIIT.

***High-intensity interval training (HIIT)**, also called **high-intensity intermittent exercise (HIIE)** or **sprint interval training (SIT)**, is a form of interval training, a cardiovascular exercise strategy alternating short periods of intense anaerobic exercise with less intense recovery periods, until too exhausted to continue. Though there is no universal HIIT session duration, these intense workouts typically last under 30 minutes, with times varying based on a participant's current fitness level. The intensity of HIIT also depends on the duration of the session. ...*

HIIT exercise sessions generally consist of a warm up period followed by repetitions of high-intensity exercises separated by medium intensity exercises for active recovery, then a cool down period. The high-intensity exercise should be done at near maximum intensity. The medium exercise should be about 50% intensity. The number of repetitions and length of each depends on the exercise, but may be as little as three repetitions with just 20 seconds of intense exercise. The specific exercises performed during the high-intensity portions vary. ...

There is no specific formula to HIIT. Depending on one's level of cardiovascular development, the moderate-level intensity can be as slow as walking. A common formula involves a 2:1 ratio of work to recovery periods, for example, 30–40 seconds of hard sprinting alternated with 15–20 seconds of jogging or walking, repeated to failure.

The entire HIIT session may last between four and thirty minutes, meaning that it is considered to be an excellent way to maximize a workout that is limited by time constraints. Use of a clock or timer is recommended to keep accurate times, the number of rounds, and intensity. – Wikipedia

While 2:1, 3:1, or "10 seconds rest" are common in swimming, when it's rest and not easy exercise, 1:1, 1:2 or even less exercise can make sense on land. Here's a link to another take on HIIT:

https://www.washingtonpost.com/lifestyle/wellness/hiit-belly-fat-burn-workout/2020/12/14/b6ad8b7a-3668-11eb-8d38-6aea1adb3839_story.html

Sources

Dr Peter Gale, Chiropractor. In the 80s and 90s, I had intermittent mid-back problems. Dr Gale helped much in the beginning. In 1990, I returned to swimming. As I swam more, my back problems recurred less, and Dr Gale was less effective when I did have a problem. Eventually, I had no further need for his services.

Chiropractic is an art, the laying on of hands, as well as a science. None of Dr Gale's string of associates could come close to his art.

Dr Gale was a runner; he said he found running to be the best warmup for running. He would stop and stretch after a half mile. I found this to be a good plan when I was still running, and I use it in my multi-set cardio workouts. He gave me the Twister exercise for my back, and I could often be seen doing it when waiting, perhaps on a train platform.

Lori Feole Morin, MSPT. I went to Lori in two Newton locations of Sports & Physical Therapy Associates from about 2006 to 2010. She was great. I probably have more exercises from her than anybody else, and they work. My maladies were significant: compression in my neck and blowing out my elbows at the gym. (I also kept on swimming.) Lori married, and a couple of years later, she moved to Hamilton.

Jason Trenouth at S&PT Assoc in Cambridge said he taught Lori. That shop swapped me around between several physical therapists, but the outcome was good (recovering from jamming my shoulder by falling on ice).

Jennifer Plourde, PT, DPT. After abusing my lower back, I went to Jennifer in 2018 at New England Sinai, an outpatient and rehab hospital in Stoughton. Jennifer helped me substantially with my back, and she also reviewed the exercises that I do at the gym. She straightened me out in short order. My occasional, self-inflicted back problems have gone away before I have been willing to schedule an appointment with Jennifer (considering COVID). Karen sees her whenever anything crops up, and is very happy to recommend her. In August 2021, I started a new course with Jennifer, to address neck issues, possibly brought on by misbehavior on Squats.

Answer Is Fitness. When I joined this gym, five minutes from my house in Canton, I took some personal training from Janine and Ed. Their ideas definitely helped. (I also took indoor cycling classes until they were cancelled due to insufficient sales of class-level memberships.) I cancelled my membership after I set up my home gym, due to COVID.

The Scientific 7-Minute Workout, Gretchen Reynolds, *The New York Times*, May 9, 2013, <https://www.nytimes.com/search?query=7-minute+workout>. I did these

dozen exercises mostly as written; however, I had to drop many of the exercises because they hurt me: Jumping jacks, Step up onto chair, High knees running in place, Lunge, and probably the Abdominal crunch and Triceps dip on chair (the last possibly redundant with my Swim exercise). I was never willing to brave the Push-up and rotation, so I immediately substituted the second side of the Side plank for that. My workout still contains Wall sit, Plank and Side Plank in one group, plus the Squat (with weights) and Push-up in my weights group.

The search link above should also bring up the excellent **Can't Do the 7-Minute Workout? Neither can I**, by Tara Parker-Pope, which shows how to adapt the workout.