

## Sarcopenia / Sedentarism

Sarcopenia is a process of weakening and wasting in the muscles, primarily a result of a mostly sedentary lifestyle. A progressive loss of muscle mass and muscle function, sarcopenia is also linked to poor balance, gait speed and quality, falls and fractures. The combination of osteoporosis and sarcopenia results in the significant frailty often seen in the elderly.

Moderate exercise is not enough to reverse sarcopenia. Ideally, your exercise routine will include elements of stress and recovery. Take yourself out of balance and then back to balance.

**Gentle movement on a regular basis is healthy. Twice a week, do something intense.**

Two 15-minute interval sessions have been shown to be better for people with heart conditions than multiple long walks.

### The Tabata Pattern:

The pattern of work and rest that we did in class is based on the work of Izumi Tabata:

- 20 seconds of high intensity
- 10 seconds of rest
- Repeat 8 times

This will give you a 4-minute workout. If you do 3 rounds of Tabatas with 1 minute of rest between each round, you will have a 15-minute workout.

You can start with moderate intensity. If you are in good condition, then no more than twice a week do 2-3 rounds of very high intensity Tabatas with 1-2 minute rests.

For example, you might choose 4 body-weight exercises and perform them in a pattern like this (10 seconds of rest between each 20 second burst of high intensity):

**A A B B A A B B**

**rest 1-2 minutes**

**C C D D C C D D**

**rest 1-2 minutes**

**A B C D A B C D**

You can search for body-weight exercises on YouTube. The exercises that we did in class are on the next page.

### Tabata Timer Resources

You can find Tabata Timers online. Here are a few sources:

<http://fitlb.com/tabata-timer>

[www.tabatatimer.com/](http://www.tabatatimer.com/)

[www.Beach-Fitness.com/Tabata/](http://www.Beach-Fitness.com/Tabata/)

The standard intervals are 8 rounds of 20 seconds of work and 10 seconds of rest. If you need more recovery time, adjust the intervals on the timer.

You can also find Tabata Timer apps for your smart phone or iPod Touch. The one that I used in class is called **Simply Tabata**. I like it because it is free and does not require me to create a username or give any personal info.

You can read more about it here:

<https://itunes.apple.com/us/app/simply-tabata/id557076883?mt=8>

## Exercises

### Sitting in a Chair:

**Deltoid tug-of-war on the diagonal:** Put your R hand across your body on your L hip. Place your L hand on your R wrist. Your L hand works hard to keep your R hand on the L hip while the R arm works really hard and wins to take the R arm back across the body and out to the right. Repeat several times. Then keep the L hand on the R wrist and start with both arms out to the R. The R arm tries to stay here. The L arm works really hard and pulls the R hand back to the L hip. Repeat several times and then switch sides.

**Can-Opener:** Start with your fingers interlaced and your hands at forehead-height, elbows together. Some muscles work to keep your elbows together. Other muscles win and pry your elbows apart. Repeat several times at forehead, eyes, nose, chin. Then, start with your hands interlaced at chin-height with your elbows open. Some muscles try to keep the elbows apart, but other muscles win and bring your elbows together. Repeat several times at chin, nose, eyes and forehead.

**Leg Lift:** Sit a little toward the front edge of your chair. Place your hands on the chair behind you and lean back. Keep your spine long (don't round your back) and alternate lifting your R foot off the floor, then the L foot. If you really want a challenge, lift both feet at the same time without allowing your back to cave.

**Stand Up and Sit Down:** Bring your feet a little closer to each other and a little closer to the chair. Keep your knees wide so that your kneecaps point toward your second toes. Lean your upper body forward so that your head is in front of your feet and your pelvis is behind your feet. Press your feet into the floor and use your leg strength to stand up. When you

sit down, lean your upper body forward and reach back with your hips for the chair. Make sure your chair is against a wall or on a non-slip surface. You will be using your leg muscles the whole time so it's fine to take your time and pay attention to alignment—no need to rush and get sloppy.

### Standing:

**Arm Circles:** Stand with your arms at your sides. Turn your hands so that your palms face forward and raise your arms out to the sides about shoulder-height. Keeping your thumbs back and your palms toward the ceiling, make circles with your hands. (can also be done in sitting)

**Chest Pulls:** Hold a Thera-band out in front of you at shoulder-height, hands together. Pull against the band to open your arms out to the sides and return to the middle. Repeat several times.

**Step-Back Lunges:** Stand with your feet together, hands on your hips or on a chair or table in front of you. Step one foot back and bend your front knee—try to keep the knee over the ankle (not going forward over the toes). Return to feet together and step the other foot back. If you want a real challenge, take the knee of the back leg all the way to the floor. If you want a more moderate challenge, just bend both knees slightly.

**Air Squats:** Stand with your feet a little wider than hip distance, arms up in front of you about shoulder-height. Bend your knees and reach back with your hips approaching chair height, then return to standing up straight. Repeat several times.