RESISTANCE TRAINING

The Physical Activity Guidelines for Americans advise that “adults do muscle-strengthening activities [in addition to aerobic exercise] that are moderate or high intensity and involve all major muscle groups on 2 or more days a week”. According to student data collected by MIT Community Wellness, almost half (47.6%) of MIT undergraduate students get at least 30 minutes of cardiovascular exercise on three to seven days of a week, but more than half (57.1%) of all students do not strength train at all! [2] But why is this when resistance training is so good for you?

You may feel some intimidation or slight fear when entering a weight room because you do not know what to do. You may also be afraid of getting injured or just feel like there is not enough time in your day to weight train. While these may all be genuine reasons for keeping you from the gym up until now, these feelings can be also be overcome in time with some determination and simple practice.

“THERE IS A TYPE OF RESISTANCE TRAINING FOR EVERYONE”.
– Director of Strength and Conditioning, Jennifer Williams, MS. in Exercise Science and Sports Science

Resistance training programs are different for everyone: Programs may center around using free-weights, weight machines or cables, bodyweight exercises, or a combination of these. To find which type of training works best for you, begin by identifying your starting point—where exercise fits [most] comfortably into your lifestyle. This starting point is naturally different for everyone. Fortunately, MIT Physical Education (PE) offers weight-training opportunities for students of all different levels of experience. Taking one of these classes for PE points could help you feel more confident, comfortable, and coordinated when weight training.

Physical Education Courses that focus on Resistance Training

- **Weight Training**: This course is designed for the beginning or novice weight lifter, or for those who have experience lifting but lack proper instruction. Class will provide students with an understanding of the biomechanics involved, muscles used for a given exercise, program development, proper lifting and spotting techniques, and proper gym etiquette.
- **Weight Training for Women**: This course teaches the same things as above, but is for females only.
- **Boot Camp for Athletes**: This course is designed to improve or maintain a high individual fitness level. Classes are workouts designed to increase endurance, agility, flexibility, speed, core strength as well as overall strength. The course is designed for individuals who are currently completing a moderate to high intensity physical fitness routine. It utilizes a combination of bodyweight and free weight training, as well as cardiovascular exercises.
- **Fitness & Nutrition and Fitness & Stress Management**: These classes teach the basics of fitness, as well as nutrition or stress management. Each class is half group discussion and half exercise. The exercise portion utilizes multiple bodyweight strength moves that can improve overall strength. These classes are ideal for beginner exercisers.

**BENEFITS OF RESISTANCE TRAINING**

It is important that you at least strive to meet the strength training requirements because strength training does more than just make you look good and feel stronger. It provokes so many great benefits that will improve your overall health, including your brain power!

- Improved energy level
- Increased confidence
- Better concentration
- Sounder sleep
- Enhances the immune system
- Lessens future wear and tear of your body
- Increased muscle mass and decreased fat mass
- Faster metabolism

References: Jennifer Williams, MS. and Spark, by John J Ratey
Body Sculpt: This free group exercise course teaches light dumbbell work, as well as proper bodyweight exercise techniques. This is another great option for beginners who may be intimidated by free weights. The class is instructed by MIT recreation group exercise instructors and is FREE for all MIT students every Monday, Wednesday and Friday from 12:00pm-1pm. Bring a friend!

Signing up for these classes is an easy way to fit muscle-strengthening activities into your schedule. Another great way to make resistance training accessible is through functional fitness, such as bodyweight exercise. These can be done almost anywhere, whether you’re outside running or inside in your dorm! Including a friend in your workouts can also help relieve some anxiety and make your workouts more fun. Just be sure not to become too reliant on your partner’s presence to get your workout done. Make your health, mind and body a priority in your day.

BODYWEIGHT EXERCISES

It is possible to resistance train without weights or any gym equipment, right in your room! Bodyweight exercises are effective strength exercises that can be done just about anywhere, making it easy to fit strength moves into your daily routine!

- Push-ups (Mix it up! Do standard, diamond, and staggered-hands pushups)
- Plank (don’t forget side planks!)
- Superman
- Wall Squat or air squats
- Lunge
- Crunches/Sit-ups
- Flutter Kick

Check out http://dailyburn.com/life/fitness/essential-bodyweight-exercises-video/ (Dailyburn.com) for other great bodyweight exercises. Mimic the technique used in these demonstrations as closely as possible, but be sure to ask your PE teacher/groupex/fitness instructors if you have the correct form!

THE PLAN

Your workouts should be a balance of cardiovascular and resistance exercise. MIT strength and conditioning coaches recommend striving for a ratio of cardiovascular-to-resistance exercise of 4:3 for any given workout. Remember, depending on your starting point, this may take a while to incorporate. For those just beginning resistance training, it may be necessary and safe to start at a 4:1 ratio (e.g. for an hour long workout do about 48 minutes of cardio and 12 minutes of resistance training), and incrementally increase your amount of resistance training when ready. In addition, you want to make sure you give your muscle and tendons enough time to recover between your workouts (tendons grow slower than muscles). Complete recovery time varies on an individual basis, but 72-96 hours between exercises that focus on the same muscle/muscle groups is generally an adequate amount of time. For example, if you do a lot of exercises for your legs one day, you are going to want to wait at least 72 hours until you do another hard leg workout.

SAFETY CONSIDERATIONS

- Practice your form. You need to know the proper lifting technique to perform an exercise safely. Ask a strength and conditioning professional to teach you a move or critique your current form. The PE instructors and staff at the Zesiger Center and Alumni Wang fitness centers are great people to ask!
- Don’t lift heavy weights before you master the form of a move. This will put you at the greatest risk for an injury.
- Be conscious and considerate of others exercising around you.

Resources:
[2] 2013 Community Wellness MIT Student Survey. Susanna Barry, MA Senior Program Manager Community Wellness @ MIT Medical.
Interview: Jennifer Williams, MS. in Exercise Science and Sports Science. Director of Strength and Conditioning and Head Coach of MIT Softball
Interview: Coach Halston Taylor, MS. Exercise Science, Director of MIT Track and Field