

## Preferred Workouts

**Elliptical:** This is our preferred cardio workout. Please see our video regarding proper technique. It is ideal for patients with patellar (frontal) knee pain, but may be strenuous for those with advanced medial or lateral arthrosis. Dr Prodromos can tell you if it is right for you.

**Technical keys are:**

**Low resistance , high rate:** Designed to get your heart rate up (see “heart rate” above)

**Do not use the moving arm attachments:** They slow you down, can cause shoulder pain, and prevent you from leaning forward which is the key to avoiding knee pain. They provide very little cardio benefit (view our video for proper technique). Just hold on to the stationery handles instead.

**Stationery Bike:** Usually good for those with hip pain or advanced knee arthrosis. Should be done, as with the elliptical, for 15 minutes as a high rate, high intensity, low resistance workout.

**Swimming:** Free style swimming is best. The frog kick of breast stroke often aggravates knee pain. However, to get a good workout it is necessary to swim with good technique and at high speed to elevate your heart rate sufficiently.

**Water Aerobics:** This can be an excellent choice for those with lower body arthritis.

**Land Aerobic classes:** These can be effective but you should avoid any squatting exercise which tends to cause knee pain.

**Level Ground Fast Walking :** It is very difficult to get your heart rate to a high level with any kind of walking. Walking is certainly beneficial, but use of an elliptical to supplement it is preferred.

3 miles every other day is a prudent run, preferably not on asphalt or concrete. Rubberized tracks are best, cinder trails are good. Grass is soft but eventually results in ankle injury in most due to unseen holes.

## Workouts to Avoid

**Steppers/Stair machines:** Over time stair masters, although providing an excellent workout, are very destructive to the knee for most. This is why they have largely disappeared from health clubs.

**Rowing Machines:** Over time rowing machines, although also providing an excellent workout, cause both knee and back pain in many if not most. As with stair masters, they have also largely disappeared from health clubs for this reason.

**Uphill treadmill walking:** This can be ok ,but tends to cause kneecap pain over time. An elliptical is a much better choice.

**Squats/leg press/leg extensions/lunges/step ups:** All tend to cause patellar tendinitis or chondromalacia of the patella. This is the most common cause of knee pain. Unfortunately, many workout programs emphasize these exercises - which are designed to work the quadriceps muscle. There is no significant performance upside to them and a sore kneecap will rob you of functional strength and can take months to resolve.

**Overhead exercises:** Many classes emphasize bringing your arms to shoulder level or above. This tends to cause rotator cuff irritation and chronic shoulder pain. The arms should be elevated to no more than 45 degrees to avoid it. We will show you proper technique in our physical therapy clinic.

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## ISMOC Workout

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# ISMOC Workout

## Principles Goals

Improved health and well being from cardio fitness

Maintained and increased muscle mass  
Avoidance of injury

## Components

### Cardiovascular

This portion of any workout develops an “oxygen debt”. You become out of breath which

stimulates your body to lay down new blood vessels. This increases oxygenation to your tissues and increases your overall health.

Virtually every major disease including heart disease, cancer and diabetes benefit.

### Strength training

Strength or resistance training stimulates your body to increase your muscle mass, and more importantly, to prevent it from decreasing as you age. This also preserves bone strength.

Strength training is best accomplished on an every-other-day basis since you break down muscle when you strength train. Recovery and new muscle formation takes at least 48 hours. If you workout every day you cannot recover and injury often results: You will also not be able to build new muscle.

The main focus of strength training is on upper body strength. Your legs do not need strength training because you maintain strength when you walk and with cardio training. Lower body resistance training is thus unnecessary, and worse, often results in injury.

## Schedule

3 days per week upper body and core strengthening every other day: e.g. Monday, Wednesday, Friday

3 days per week cardiovascular every other day: e.g. Tuesday, Thursday, Saturday

1 day of rest

The strength training exercises outlined below should be done in a circuit going directly from one exercise to another for best results.

**Time** - The workout below should take about 20 minutes.

## Equipment

To be properly done health club or home fitness equipment should be used. Exercises that rely on your body weight only such as push up or pull ups are inherently high resistance exercises and often result in overuse injury.

## Instruction

Our physical therapists will instruct you in proper technique on the equipment in our clinic which you can then transfer to your home or health club or trainer.

### No Pain:

There should be no pain during or after any workout. If there is, stop and consult with Dr. Prodromos.

### Type of workout:

If you have joint pain Dr Prodromos will tell you which workout is best.

## The Workout

### Exercises: Repetitions - Level of Resistance

90-90 stomach crunches: 50 repetitions

Bent over rows: 10 reps with each arm - light weight

Chest press: 10 reps - light weight

Lat pull down: 10 reps - light weight

Lat pull down: 25 reps - medium weight

Lateral raises: 25 reps - medium weight

Chest press: 10 reps - heavier weight

Lat pull down: 10 reps - heavier weight

Standing triceps pull downs: 25 reps - medium weight

Dumbbell arm curls: 25 reps each arm - medium weight

### Cardiovascular

**Maximum Heart Rate** : The key to cardio

exercise is prolonged maintenance of a high heart rate. Your maximum heart is roughly 220 minus your age: e.g. 200 for a 20 year old and 160 for a 60 year old.

**Consult your doctor — You should check with your doctor as to your safe maximum heart rate before beginning any workout regimen. Exercise can cause heart attack, stroke and other dangerous health problems. You should always stop your workout if you have chest pain, shortness of breath or any other discomfort.**

**Target heart Rate** — If there is no medical

contraindication, our workout is designed to elevate your heart rate over a 3 minute warm up to 90% or even 100% of heart rate and maintain it there for 12 minutes, for a total workout time of 15 minutes.

**Intensity** — Research has shown that maximum health, and endorphin (feel good) benefits occur with shorter - usually 15 minute -