

IMGPT: Exercise After a Heart Attack

610-944-8140 805 N. RICHMOND ST (Located next to Fleetwood HS)

Why is exercise important following a heart attack?

- Slow progression back into daily activity is important to strengthen the heart muscle and return blood flow to normal. By adding aerobic exercises, your resting heart rate (HR) and blood pressure (BP) will decrease and during exercise increase at a slower rate. The heart will no longer have to work as hard. There will be less stress on the heart and alleviate angina (chest pain) symptoms.
- As you build endurance, your body will begin to efficiently use the oxygen you breathe in and your heart pumps to the muscles. The muscles will have more energy and can work longer and harder before fatiguing. Some activities you perform during a typical day may be considered moderate intensity and therefore require more oxygen and energy. By improving your aerobic capacity, your body will better utilize the oxygen and require less work from the heart to pump blood.

When Can I Start Physical Activity?

- While in the hospital, physical activity will be reintroduced slowly. Basic self-care tasks or walking the halls may now be difficult and fatiguing. Slow progression and frequent breaks will allow you to begin activity when your heart condition is stable. Once leaving the hospital it is important to begin a formalized cardiac rehab program for safety and continue the short bouts of exercise.

What is Cardiac Rehabilitation?

- It is highly recommended that you follow a structured cardiac rehabilitation program following your heart attack to ensure you do not do too much too soon. Patient education is incorporated into this rehab so you are aware of what lifestyle changes to make, what signs and symptoms you should be aware of, and how to safely exercise following your heart attack. Below are descriptions of the phases of therapy you should work through in order to have the most beneficial recovery:
 1. Phase 1: Acute hospital phase
 - Goal: short bouts of activity necessary to perform self care activities and improve function prior to returning home. This is typically only a week in length or less depending on the severity of the damage to your heart.
 2. Phase 2: Outpatient Rehab with heart monitoring
 - Goal: slowly increase the amount of work your heart is doing by adding aerobic activity with a heart monitor for safety. Slow increases in activity will allow proper healing of the heart muscle. The time frame of this phase is typically week 2 after attack and lasts until week 6 or 8 depending on progress.

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3. **Phase 3: Outpatient Rehab- (Performed at IMGPT: 610-944-8140)**

- Goal: This is a continuation of phase 2, but heart monitors are no longer needed. You will be supervised by a PT to monitor the increase of intensity and begin to add more difficulty to the exercises. This phase, you may begin the exercise program on the following pages. This typically begins between weeks 6 and 8 after your heart attack and should last up to week 12.

4. Phase 4: Maintenance (IMGPT Fitness Program: 610-944-8140)

- This phase is about long-term lifestyle changes. Since you no longer need supervision, it is important to continue with the program you have been given. Use your judgment on when to progress the exercise by adding more reps and then more weight for strength training, or increasing time, incline, and/or speed for walking.

How Can I Safely Exercise Following a Heart Attack?

Safety Tips

- ALWAYS begin a new exercise program with a trained professional to avoid any injury
- Start with low intensity exercises and progress slowly to avoid over exertion; determine your rated perceived exertion (RPE-scale on following page) or HR range for safety before beginning an exercise program
- Do not perform exercise on days when you are not feeling well
- ALWAYS breathe while doing any activity and resistance training. Holding your breath will increase your blood pressure and increase the workload of the heart
- STOP exercise if you experience chest pain, shortness of breath, or if you begin to feel the exercise is overly hard or outside your RPE or heart rate max

If participating in cardiac rehabilitation, the “training zone” will be determined for you, and you will be taught how to judge when your HR is within the zone. A sample exercise regimen to complete is on the next page.

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Borg Rated Perceived Exertion (RPE) Scale

6		How you feel when lying in bed or sitting in a chair relaxed. Little or no effort.
7	Very, very light	
8		
9	Very light	
10		
11	Fairly light	
12		Target range: How you should feel with exercise or activity.
13	Somewhat hard	
14		
15	Hard	
16		
17	Very hard	How you felt with the hardest work you have ever done.
18		
19	Very, very hard	Don't work this hard!
20	Maximum exertion	

Warm Up/Cool Down

- Movements of arms and legs, slow paced walking for 5 min

Aerobic Training

- *Begin during phase 3 rehab at IMGPT; at least 8 weeks after your heart attack*
- **Frequency:** 3-5 times per week
- **Intensity:** RPE 11-13 using the Borg Scale (above), 70-85% of calculated HR max or no more than 30 bpm over resting HR
- **Time:** begin with 15-20 minutes of aerobic time (this does not include breaks); goal is to progress to 30-45 min of continuous aerobic exercise within the HR training zone
- **Type:** Aerobic- biking, walking, swimming, activities you enjoy
- **Progression:** increase time; once you are able to complete 30-45 minutes: increase the incline then at next plateau increase speed. Continue this progression.

Strength Training

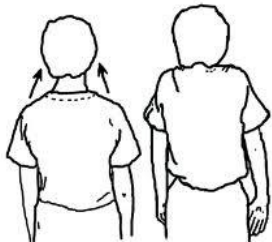
- *Begin after 3 weeks post heart attack; weight should not exceed 5 lb.*
- **Frequency:** 2-3 times per week on non-consecutive days
- **Intensity:** RPE 11-13, no pain or straining to perform exercise, 1-5 lbs. to start
- **Time:** 8-10 exercises with 10-12 reps of each, 1-2 sets of each as tolerated
- **Type:** Strength training with body weight, hand weights, resistance bands, etc.
- **Progression:** As the RPE fall outside the training zone and 15 reps have been completed and 2 sets of each, the weight should be increased by 1-3 lbs. per week
- An example of exercises to perform can be found at the end of this handout.

Gold Standard: 150 min moderate exercise or 75 min vigorous exercise per week.

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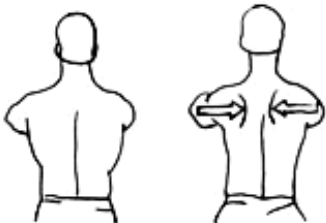
Shoulder Shrugs



Elevate shoulders towards ears, maintaining proper posture. Return to starting position

*2 sets of 10-12 reps

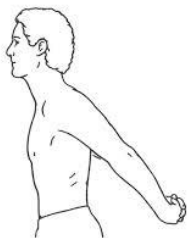
Shoulder Retractions



Arms at side with elbows bent to a 90⁰ angle. Attempt to pull shoulders back and pinch the shoulder blades together.

*2 sets of 10-12 reps

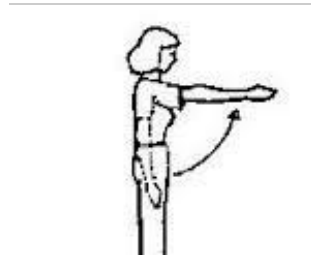
Shoulder Extensions



Begin with arms at the side. Push arms behind you and return to starting position

*2 sets of 10-12 reps

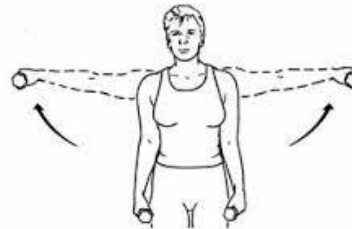
Shoulder Flexion



Raise arm directly in front of you until they are at shoulder level, and then return arm to side

*2 sets of 10-12 reps

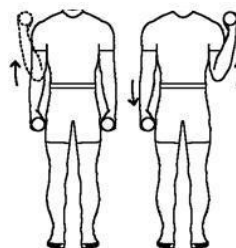
Shoulder Abduction



Raise arms up from sides to shoulder level to form a "T" and return arms to side

*2 sets of 10-12 reps

Bicep Curl



Begin with arms at side. Bend elbows until hand meets shoulder, and return to starting position

*2 sets of 10-12 reps

*****To increase difficulty, add ankle weight, hand weight, or resistance band *****

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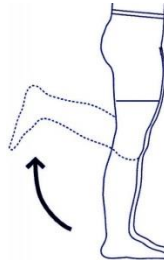
Hip Flexion



Standing with a chair in front for support, lift one foot off the ground and raise knee until hip is flexed. Return to starting

*2 sets of 10-12 reps both legs

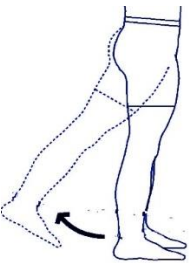
Knee Flexion



While standing, lift foot towards buttock while bending knee and return foot to ground

*2 sets of 10-12 reps both legs

Hip Extension



Lift one foot off ground and kick foot back and return to starting position

*2 sets of 10-12 reps both legs

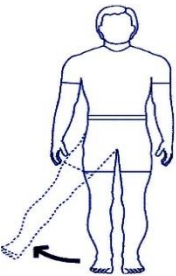
Mini Squats



Using chair for support, stand with feet shoulder width apart. Squat down, as if you were going to sit in chair and stand back up. Be sure knees do not go in front of toes

*2 sets of 10-15 reps

Hip Abduction



Lift one leg out to the side without bending trunk.

Return back to starting position

*2 sets of 10-12 reps per leg

Heel Raises



Using a chair for balance, raise your heels off the ground by pushing up on toes

*2 sets of 15 reps.

*****To increase difficulty, add ankle weight, hand weight, or resistance band *****

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Aerobic Training

Treadmill:



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Follow protocol from above on when to adjust the time, incline and speed. Stop exercise if you feel overly short of breath, outside your determined RPE, HR goes above the predetermined rate (if treadmill has a HR calculator)

Heart Rate Training Zone example for a 55 year old person:

HRmax= 220-age

HRmax= 220-55 = 195 beats per min (bpm)

Training zone for 70-80% of HRmax:

$(220\text{-age})(.70)$ to $(220\text{-age})(.80)$

= $(165 \times .7)$ to $(165 \times .8)$

Training Zone: 115 bpm to 132 bpm

Stationary Bike:



Follow protocol above for progression using the bike. To increase intensity, first increase time, then resistance, then speed.