

**Daniel Fulham O'Neill, M.D., Ed.D, F.A.A.O.S.**  
*Board Certified Orthopaedic Surgeon & Sports Psychologist*

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*PO Box N, Holderness, NH 03245  
Tel: 603 536 2270 Fax: 603 536 2277*

## WEIGHTLIFTING FOR EVERYONE



Weightlifting can be used to help people return to normal activity after an injury, to increase a person's athletic performance, or to help prevent osteoporosis. The majority of people, however, simply want to "get in shape". Weightlifting, combined with proper diet and cardiovascular (aerobic) exercise, is one of the best and easiest (that's right, easiest) ways to accomplish this. In addition to making you feel better both mentally and physically, strength training has been proven to increase metabolism, making it a key component in weight loss.

Contrary to popular belief, lifting doesn't have to involve a lot of grunting and sweating under enormous amounts of iron. A routine that fits your needs and goals can be planned that is both efficient and enjoyable.

### Getting Started

Just like any other exercise program, talk to your primary care doctor before starting a weightlifting program. This is especially important if you have a history of high blood pressure, heart or lung disease, or are taking any medications. A personal trainer, strength and conditioning specialist, certified athletic trainer or other fitness expert at your local gym will help you select the proper weight to start with and make sure you are using equipment correctly. You don't need to work with a professional every time you want to lift, but an initial visit for testing, instruction, and program setup is key. By consulting an expert initially, you (and your doctor) will have peace of mind knowing you are working safely and efficiently.

### Warm Up

The warm-up is a way of gently preparing the mind and body for the more vigorous activity that will follow. Although many people perform some sort of minimal warm up before beginning to exercise, too often it is rushed and inadequate. The risk of injury is reduced by increasing heat and blood flow not only to the muscle groups, but also to the heart and respiratory systems. Because of the explosive, sometimes anaerobic nature of weightlifting, the warm-up is critical.

Begin with a general, "total body" warm-up. This usually consists of about 5 minutes of light aerobic exercise. Using the bicycle, elliptical machine, stair-master, or treadmill are good examples.

The second stage of warm-up should be sport or activity specific. This means that some variation of the exercise you are about to perform should be done at a low intensity. For example, someone about to do a lower extremity workout could do squats without weight. Push-ups or bench presses with light weight are good examples of specific warm-up activities for someone about to begin an upper body workout.

## Stretching

Stretching is an integral part of a healthy day to increase flexibility and muscle suppleness. Stretching should be done after the warm-up, between weightlifting exercises and during the “cool down”. If you are planning a leg strengthening routine, spend some extra time stretching the quads and hamstrings, but don’t neglect the rest of the body. Many muscles have to work to stabilize the body while performing exercises that appear specific to one area. At the end of each exercise set, get in the habit of immediately stretching those muscles you have just been using.

Stretching with bouncing or quick movements should be avoided. This “ballistic” type of stretching can trigger reflex mechanisms that inhibit the stretch. Stretching should be slow and controlled. Hold each stretch for 10-30 seconds with mild tension felt in the muscles. Make sure to focus on your breathing, slowly exhaling while you relax and allow the stretch to go just a bit further.

S T R E T C H before you lift, between sets, and after your workout.

## Cool-Down

Muscles have a “memory” and tend to stay in the position we leave them. Too often this is tight and stiff. Therefore, it is important to spend time cooling-down after you have completed a weight-lifting session. A cool-down is essentially an abbreviated warm-up. It should include some very light cardiovascular activity followed by self-massage and stretching. Icing is also helpful for a sore or recently injured area. The cool-down allows the muscles to cleanse themselves of waste products and helps avoid stiffness later.

## Overtraining

Not providing your muscles with enough rest between workouts will prevent you from improving. Weightlifting produces micro trauma, or tiny tears in the muscle tissue. When your body repairs these tears the muscle is “re-enforced” thus becoming stronger. Often your muscles may feel fine the day after lifting, but uncomfortable the following day (delayed muscle soreness). This is normal and is why rest is an integral part of your training program. At least 48 hours or more between sessions is recommended for this repair process. Icing and massage are also helpful for the recovery of sore muscles. Never feel guilty about skipping a workout. That extra rest could be exactly what your body needs.

REMEMBER: Training = Exercise + Rest

## Progression and Resistance

The gradual addition of weight to exercises over time is known as progressive resistance. By increasing the resistance, your muscles are constantly being asked to work harder and get stronger. This principle demands that as soon as the weight you are using is no longer a challenge, you increase it. Generally an increase of up to 5% from the previous week is a safe rule of thumb provided that you are able to complete all of the repetitions with PERFECT TECHNIQUE. Do not just add weight because you “feel strong today”.

## Repetitions

Your muscles become adapted to the weight you are lifting and the exercise movement. As noted previously, one of the tricks to avoid this is to increase the weight. The other trick is to “cycle” your weightlifting program. For instance, a ski racer would be doing heavy weightlifting during the summer, say two to three times a week with varying weights. A bicycle racer on the other hand, would be doing his or her heavy lifting in the winter. During the competitive season, both of these athletes might be going into the weight room just for strength maintenance once a week.

For some endurance athletes, rehabilitation patients, or those just looking for some muscle tone, more repetitions with lighter weights are recommended. Thus, starting a program with a weight you can handle for twenty reps is about right. In an effort to avoid boredom, we then recommend a four to eight week block of heavier weights with only 6 reps. Here you might increase the number of sets to four or six. The strength maintenance phase usually involves about 10 reps. In this phase you’ve usually begun your competitive season and are just maintaining the strength gains you’ve made in the past weeks.

For those who are just weightlifting for fitness purposes only, we still recommend varying your weightlifting routine on a periodic basis. This involves changing the number of reps, the number of sets, the amount of weight, and the exercises themselves.

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|-----------------------------|--|
| • <b>Repetitions (Reps)</b> | = The # of times the lift is performed.  |
| • <b>Set</b>                | = Distinct group of repetitions.   |
| • <b>RM</b>                 | = “Repetition Maximum”- The most weight you can lift at one time, in good form.                          |
| • <b>Spotter</b>            | = A lifting partner used to assist you with lifting of heavy weights to avoid injury.                    |
| • <b>Aerobic</b>            | = Long bouts of exercise requiring oxygen for energy (e.g. distance running, x-country skiing, cycling). |
| • <b>Anaerobic</b>          | = Short intense bouts of exercise relying on stored energy (e.g. weightlifting or sprinting).            |

## Weight Training Safety

- Inspect equipment for wear and tear. Before beginning any exercise check to make sure everything is in good working order. Look for worn or loose fittings, frayed cables, and dry or rusted barbells or dumbbells.
- Use a spotter as often as possible. Always use a spotter when using very heavy weights or if you ever question whether you can perform a lift safely yourself. Sometimes busy schedules make it necessary to workout alone. If this is the case, stick to weight machines or light free weights.
- Barbell Collars. These are the metal clamps placed on the ends of the barbell to prevent the weight plates from slipping off. Never lift a barbell without a collar.
- Breathing. Never hold your breath while working to lift weight. Exhale while lifting or pushing the weight, and inhale while slowly returning to the starting position.

### Sample Workout

Warm up	5 minutes
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Stretch	5 minutes
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Resistance Exercises	30 minutes
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Core Strength

Lower Body

Upper Body

Core Strength

Lower Body

Upper Body

Core Strength

Lower Body

Upper Body

Crunch

Squats

Lat. Pull Downs

Sit-Ups

Hamstring Curls

Bench Press

Back Extensions

Quad. Extensions

Seated Row

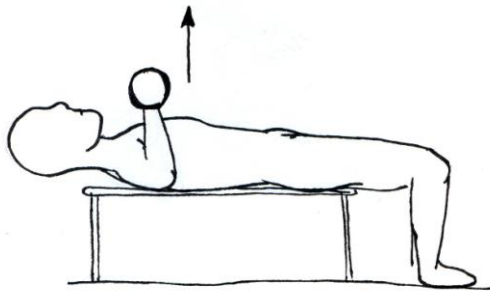
Cool-Down	5 minutes
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Stretch	5 minutes
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TOTAL Workout ~ 50 minutes

Perform one set of all exercises before completing the second set. Novice weightlifters might want to start with a “warm up” set using half the weight to be used in subsequent sets. As you get stronger and more comfortable you can make this first set more in line with sets two and three.

Hydrate and go home knowing that you had a great workout!



Bench Press

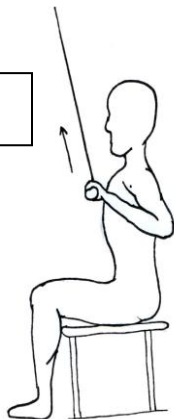
Elbow flexion to 90°- don't allow bar to hit your chest

Crunch



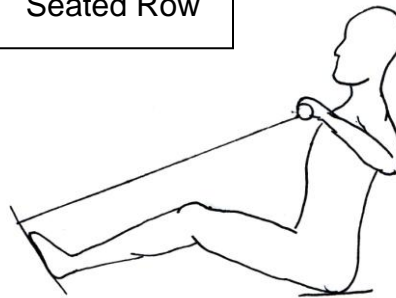
Be sure to focus on your breathing

Lat. Pull Down



Pull bar down to chest, not behind your back

Seated Row

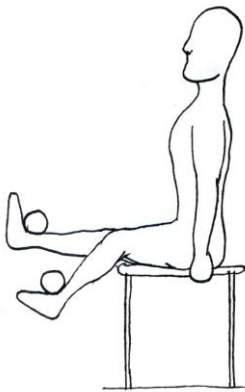


Pinch shoulder blades together

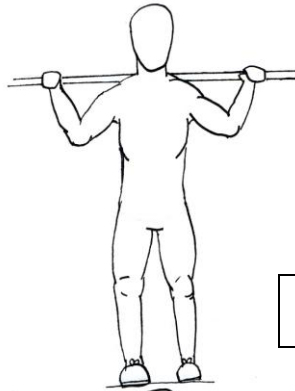
Sit-Ups



Quad. Extension



One leg at a time ( $0^{\circ}$ - $30^{\circ}$ )  
Don't go lower! (It's bad for your knee caps)

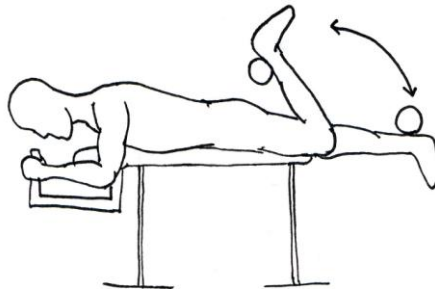


Squat

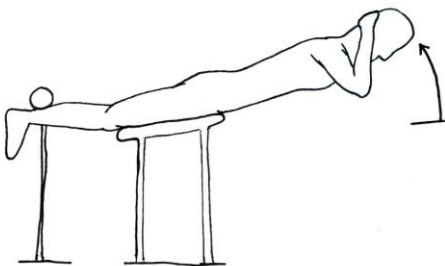


Keep your back straight,  
bending as if you were sitting in a chair

Hamstring Curl



One leg at a time



Back Extensions

This can also be done on the  
floor or a physioball