



Teen Weight Training Manual



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Course Test

Written Test (70% = pass)	
Practical Test (70% = pass)	

INTRODUCTION

PURPOSE

- Introduce youth 13-17 years of age to strength training and cardiovascular principles so assist in obtaining personal fitness goals.
- Allow youth 13-17 years of age to safely use City of Oshawa Fitness Centres located at the Civic Recreation Complex, Legends Centre and South Oshawa Community Centre.

OBJECTIVES

By the end of the program, each participant should:

- Know the importance of a fitness program.
- Be able to safely use strength training machines and cardio equipment at City of Oshawa Fitness Centres.
- Have a basic understanding of the F.I.T.T. principle.
- Be able to design a fitness program to achieve individual goals.
- Know the major muscles of the body.

SAFETY PRECAUTIONS

As with any type of physical activity, safety is very important.

1. Do not perform an exercise if you feel pain, discomfort, dizziness or sick.
2. Wear proper attire while using the weight room (i.e.: clean, indoor running shoes and sweats or shorts).
3. Allow proper time for warm-up, cool down and stretching.
4. When performing an exercise for the first time, begin at the lowest weight and gradually increase until you meet your physical demand and ability
5. Only use a load that can be lifted using proper lifting technique.
6. Ask a qualified Supervisor if you have any questions or concerns, especially when using an unfamiliar piece of equipment

BENEFITS OF STRENGTH TRAINING

Several benefits have become associated with strength training over the years. Strength training will:

- Improve performance in recreational and/or competitive sports.
- Help to prevent injuries in physical activities.
- Improve posture.
- Improve self-confidence, self-esteem and body awareness.

STRENGTH TRAINING TERMINOLOGY

Repetition (rep):

Each individual movement of an exercise is called a repetition.

Set:

A group of repetitions is a set (e.g. "one set of 10 reps".)

Rest Period:

A rest period between sets lasting anywhere from 30 – 60 seconds.

Exercise:

A set or group of sets performed on a specific body part.

Strength:

The force that can be exerted in one maximal contraction.

Muscle Endurance:

The ability to perform repeated contractions or hold a contraction for a period of time.

Strength Training:

Any method used to improve strength: free weights, machines or body weight resistance.

Flexion: The joint angle decreases.

Extension: The joint angle increases.

Abduction: Moving a limb (arm or leg) away from the midline of the body.

Adduction: Moving a limb (arm or leg) toward the midline of the body.

F.I.T.T. Principle

The F.I.T.T. what is necessary to gain a training effect from an exercise program.

F.I.T.T. =

Frequency

Intensity

Time

Type

We use the FITT principle for ALL training:

- Warm up
- Cardio
- Resistance
- Stretching

WARM UP

A thorough warm up, completed before training is important because it prepares the body for additional stress and overload.

It also:

- Increases muscle and core temperature
- decreasing the likelihood of injury

Frequency: Warm up at the beginning of every workout.

Intensity: It should feel easy. You should be able to easily carry on a conversation.

Time: 5-10 minutes.

Type: Any type of cardio activity involving the major muscles of the body.

CARDIOVASCULAR TRAINING

Frequency: 3-5 times per week

Intensity: Beginners should start at 50- 70% of their maximum heart rate

Calculating Maximum Heart Rate (MHR):

$220 - \text{Age} = \text{Max Heart Rate}$

Calculating the target heart rate zone for a 16 year old person:

Example:

$220 - 16 = 204 \text{ bpm (beats per minute)}$

BEGINNER: 50%-70%
$204 \times 50\% = 102 \text{ bpm}$ $204 \times 70\% = 143 \text{ bpm}$
Range → 102 bpm-143 bpm

To assure you are training at the right intensity your heart rate should fall in the range calculated above.

HOW TO CHECK YOUR HEART RATE:

- Wrist- on the thumb side approximately an 2 cm above the wrist
- Neck- at the side of the neck below the ear, next to the windpipe
- On cardio equipment- hand held sensors

Knowing your heart rate is important because:

1. It ensures you are training at the right intensity to gain benefits.
2. It ensures you are exercising at a safe intensity.
3. It can tell you the amount of time you exercised in your target heart rate zone.

The Talk-Test Method

Especially useful for beginners, the talk test is used to determine your aerobic intensity.

If you can carry on a conversation during your workout, you need to work harder

If you are gasping for air, you are working too hard and need to scale it back.

Time:

For a training benefit, maintain the proper intensity (target heart rate zone) for the following times:

Beginners aim for 12-15 minutes of continuous activity

Interval training is good for increasing fitness level and fat loss.

Type:

Choose an exercise that will involve as much muscle mass as possible
I.e. Walking, running, cycling, swimming, rowing, cross-country skiing.

RESISTANCE TRAINING

Muscle strength: how much you can lift 1 time

Muscle endurance: how many times you can lift a weight

Frequency:

2 - 3 times per week with a day of rest/ recovery in between

You can do full body program or a split program

Intensity:

For a beginner, if you cannot complete 12 reps in good form, you are lifting too much weight

If 15 reps can be completed comfortably, you are not using enough

At the end of each set you should feel fatigued because the weight was challenging.

Time:

Each rep should take no longer than 8 seconds.

Four counts on the way up and 4 counts back down.

Type

Multi jointed- more than 1 muscle group is used to lift the weight. I.e. Squat- uses more body parts to do the exercise

Single Joint- Specific to 1 muscle group. I.e. Leg extension- specific to the quads

STRETCHING (Static Stretching)

Is used to stretch muscles while the body is at rest and warmed up from the exercise. NO bouncing, done at the end of a workout.

Frequency:

Always allow enough time after **every** workout to stretch out all the muscles that you worked.

Intensity:

Mild tension, **no pain**. You should be able to feel the targeted muscle.

Time:

Hold each stretch for 20-30 seconds. If you want to increase your flexibility, hold the stretches longer.

Type:

Stretch each muscle that you used in the workout. Refer to the stretching chart.

F.I.T.T. Principle IN A NUT SHELL

	Warm up	Cardio	Resistance	Stretch
F Frequency How often	Every time	3-5 times per week	2-3 times per week	Every time
I Intensity How hard	50% MHR	50-70% MHR (beginner)	10-15 reps (beginner) 1-3 sets	Mild tension, no pain
T Time How long	3-5 min.	12-15 min. (beginner)	4-6 sec/rep 30 sec. to 1 min. between sets	20-30 sec.
T Type What kind	Large muscle groups Easy cardio	Large muscle groups Rhythmic	Major exercises for large muscles first. Then target specific, single or smaller muscles	Each muscle group

CALORIES AND EXERCISE

You need to eat healthy foods. Food provides the energy that the body needs to remain active. This energy is measured in calories. Some foods provide more energy than others do.

TIPS FOR TRAINING

- 1) **Set a Goal.** Decide what you want to get out of your workout. Be sure your goal is something specific like 'I want to lift an extra 5 pounds today' or 'I want to be able to run a 5 kilometre fund raiser next month'.
- 2) **Be Consistent.** Once you commit to weight training, stick with it.
- 3) **Learn Proper Form and Technique.** Make sure your whole body is properly aligned in order to protect your joints and back.
- 4) **Get Tired.** Working muscles to fatigue builds endurance and strength. Do one set of 12 reps or 3 sets of 15 as long as it tires the muscle.
- 5) **Vary Your Exercises.** Change the exercises about every 6 or 12 weeks using a different exercise for the same muscle group to keep progressing.
- 6) **Move Slowly.** Take 1-2 seconds to contract the muscle, hold the contraction for 1 second, and then slowly release for 3 or 4 seconds.
- 7) **Work Balanced Muscles Groups.** Every muscle has an opposing muscle so be sure to work the entire pair. For example, follow stomach crunches with back extensions and bicep curls with tricep kickbacks.
- 8) **Choose a work out partner.** A lifting partner is helpful not only for spotting but for motivation and encouragement as well. When your arms are feeling like Jell-O and you think you've got nothing left to give, a little encouragement from a friend may be all you need to push out that final rep.
- 9) **Be Patient.** It takes time to see the benefits of weight lifting. Changes in muscles won't show for four to six weeks, but in the meantime, your muscles are learning how to perform more efficiently.

MACHINE EXERCISES

1. Seated Row (Trapezius, Rhomboids, Teres Major)

- Adjust seat height so that chest pad is in middle of your chest.
- Adjust chest pad so that you can reach handles with arms outstretched.
- Grasp handles and pull towards you **squeezing shoulder blades together.**
- Slowly lower the weight and repeat.



2. Lat Pull Down (Latissimus Dorsi, Rhomboids, Teres Major)

- Adjust seat so your feet are directly under your knees and knees are bent at a 90 degree angle
- Lower the knee pad onto your thighs.
- Grasp bar at the bend, lean back slightly and pull the bar down to the front of the chest.
- Slowly let the bar go up so that the arms are extended again.
- Always look up at the bar.



3. Chest Press (Pectoralis Major/Minor, Triceps, Deltoids)

- Adjust seat height so handles are even with the middle to upper chest.
- Slowly push the weight forward so that the arms are extended but not locked at the elbow.
- Slowly lower the weight to just above the weight stack and repeat.
- This machine has a cheater foot bar.



4. Shoulder Press (Deltoids, Triceps)

- Adjust seat height so that the handles are even with the top of the shoulders.
- Push the weight upwards and extend arms fully **but do not lock elbows.**
- Lower weight slowly; do not let your hands come lower than shoulder level.



5. Leg Extension (Quadriceps)

- Adjust back pad so that your **knee joint aligns with the red dot marker** on the side of your machine.
- Adjust ankle pad so that the pads rest at the front of ankle joint.
- Slowly extend the knee full **but not locked.**
- Lower the weight and repeat



6. Leg Curl (Hamstrings)

- Adjust back pad so that **knee aligns with the red dot marker** on the side of your machine.
- Adjust ankle pad so that it lies across the Achilles tendon of the ankle
- Lower the thigh pad to fit across lower thigh
- Flex the knee and curl the ankle pad towards your buttocks
- Raise slowly and repeat



7. Leg Press (Quadriceps)

- Adjust back pad so that upper thigh and knee form 90 degree angle
- Extend legs until knees are straight **but not locked**
- Lower the weight to near the starting position, just above weight stack and repeat



8. Tricep Press Down (Triceps)

- Adjust the pulley so that the attachment is above your shoulder. Use the V-bar, short bar or rope.
- Grasp bar and pull down so that the forearm and upper arm form a 90 degree angle- This is the starting position.
- Now extend the forearm by pressing the bar downwards- **do not lock the elbows.**
- Slowly return to the starting position and repeat.



9. Bicep Curl (Biceps)

- Adjust the pulley to the bottom.
- Use bar attachment.
- Stand with feet apart and knees bent.
- Curl the bar towards you, flexing your elbow.
- Slowly lower and repeat.



10. Bicep Curl (Biceps)

- Adjust chest pad to align elbow joint with red dot marker
- Stand and grasp bar and anchor elbows to pad
- Lift weight half way up and sit down
- Lift weight to the shoulder keeping wrists stacked
- Lower weight back down keeping elbows slightly bent not locked
- Repeat



BODY WEIGHT EXERCISES

1. Squats (Gluteals, hamstrings, quadriceps, calves, abs)

- While looking straight ahead, lower body as if going into a seated position. **Lower no further than hips level with knee joint.**
- Rise to standing position.
- Can use your arms for balance
- Repeat till set completed
- **Can use your arms for balance**



2. Pushups (Pecs, Triceps, Biceps, Abs)

- With palms directly under the shoulders and shoulder width apart extend legs out lift the body into plank position (start position)
- Engage the shoulder girdle and the core
- Slowly lower the body towards the floor
- Slowly lift the body back to start position



3. Planks

- Palms directly under the shoulder and shoulder width apart with legs extended on toes; hold this position
- Shoulder girdle and core engaged

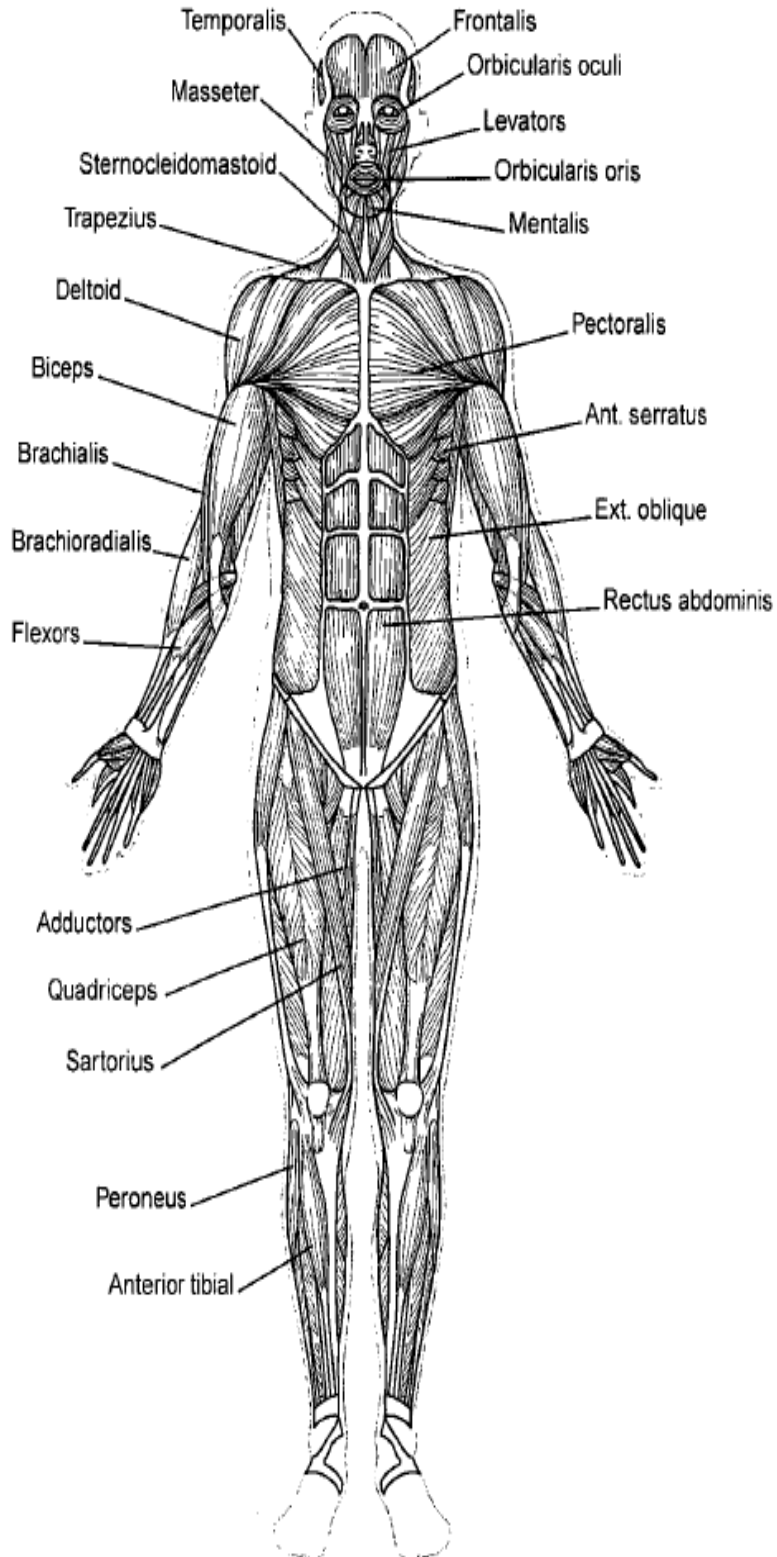




Full Body

Anatomical Line Drawings

Muscular System - Anterior View

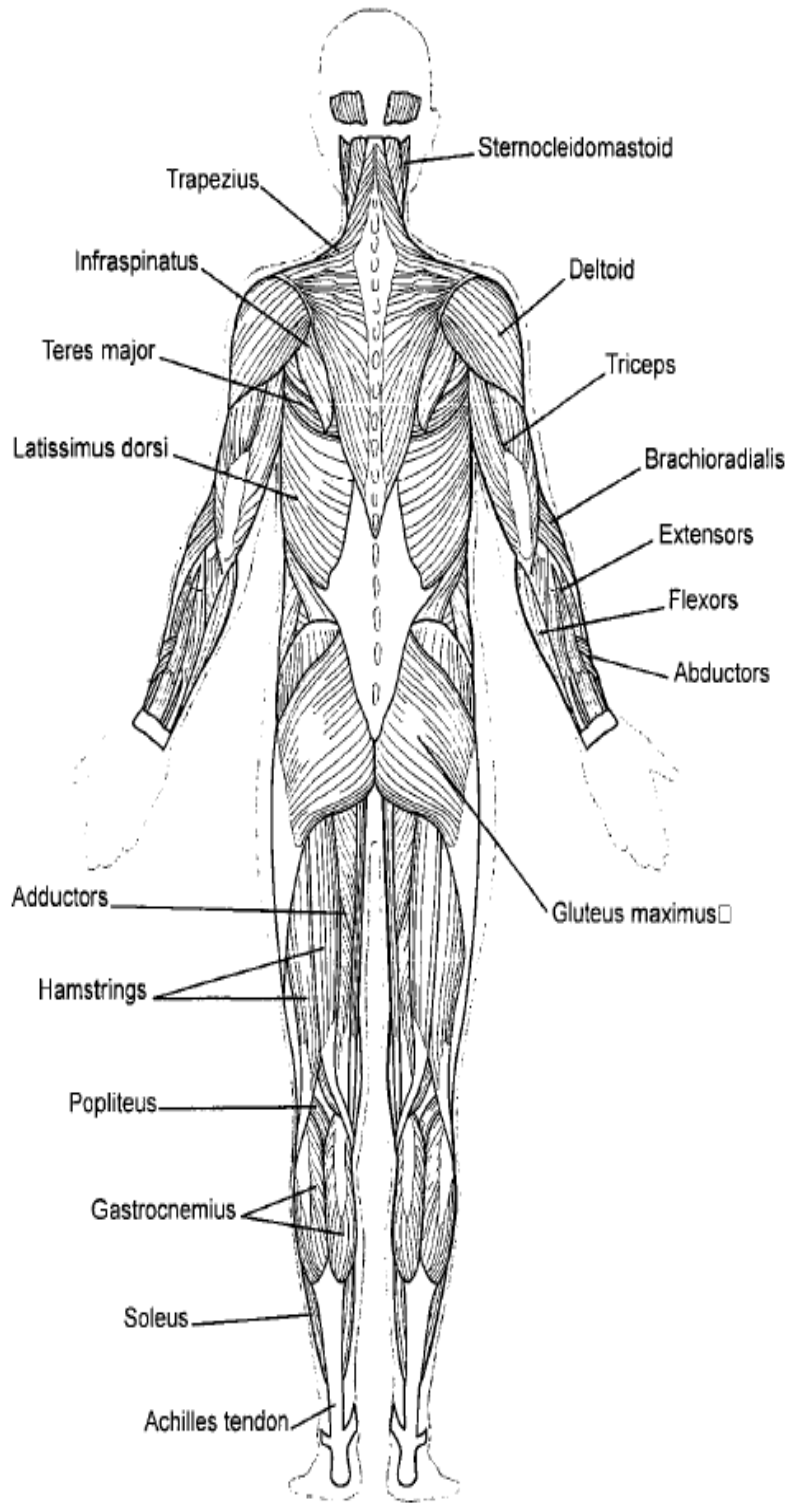




Full Body

Anatomical Line Drawings

Muscular System - Posterior View





Exercise Program Card

Name: _____
Start Date: _____

Personal Trainer: _____

Date																				
Warm Up																				
Stretching																				
Cardiovascular																				

Date																							
Resistance Training																							
	Relaxation																						

Notes: _____
