



# Resistance Training

## Lesson - 7

Level 1

### Lesson Objectives

Time

Page

<b>Warm-up</b> .....	15 min.	
<b>Prepare Students</b> .....	1 min.	68
<b>Explain/Demonstrate/Practice</b>		
 Knowledge.....	5 min.	68
B. Vocabulary 7, 26, 54		
C. Facilities and Equipment 2a(8)		
E. Etiquette 2a(2)		
F. Guidelines, Benefits and Principles 1g(1-8), 2(a-b)		
G. Sportsmanship 2		
H. Safety and Injury Prevention 1b(1-3), c, 2a(7), c(1), 3e-g, 4d-e		
K. Fitness Components Influencing Participation 2b(1-2, 4), c(4, 6-7)		
 Skill.....	18 min.	71
A. Pre-Lift Fundamentals 5a, 6d, f		
B. Arm/Shoulder Resistance Exercises 1. Biceps		
C. Abdominal/Low Back Resistance Exercises 1. Erector Spinae		
D. Thigh/Leg Exercises 1. Quadriceps		
<b>Review and Preview</b> .....	1 min.	80
<hr/>		
<b>Total Time</b> .....	<b>40 min.</b>	

### Equipment & Materials

- ✓ Bars or bar alternatives—  
one per four students
- ✓ Low racks, or pairs of  
cans, books or other  
small items to place bars  
on—one set per two  
students
- ✓ Power racks—four
- ✓ Exercise mats—one per  
20 students

### Drills

- Spotting a Stumble Drill
- Spotting Standing Lifts  
Drill (One Person)

### Graphics

- Biceps Exercise
- Erector Spinae Exercise
- Quadriceps Exercise
- Spotting Standing Lifts  
(One Person)

### See Following Page

Facility Set-up

## Facility Set-up

The following stations should be available:

- Biceps exercise: bars or bar alternatives, low racks or alternatives, and floor space
- Erector spinae exercise: exercise mats
- Quadriceps exercise and spotting standing lifts (one person): power racks or floor space,<sup>1</sup> and bars or bar alternatives

Make sure there are qualified assistants to safely supervise enough stations to keep all students engaged throughout the class period.

## Warm-up

15 min.

**Use** the appropriate lesson in the **EPEC** Personal Conditioning sequence.

Alternatively, have students do an aerobic activity, teach them stretches for today's activities, and provide them with basic safety information related to working out.

## Prepare Students

1 min.

**Gather** students.

**Tell** students the lesson objectives. They will:

- Continue to practice the biceps exercise and the erector spinae exercise.
- Learn another pre-lift fundamental: the one-spotter technique for spotting a lifter doing a standing lift.
- Learn an exercise for their quadriceps muscles that requires the spotter.



## Knowledge

5 min.

## Explain/Demonstrate

## Practice

**Review** the information presented in the previous class (i.e., vocabulary, benefits, injury prevention, including dangers of steroid use, and fitness components).

**Ask** open-ended questions to help students integrate concepts (e.g., What are some of the benefits of resistance training? Wouldn't it be easier to take steroids or other substances to get strong and look good? Why not?).

**Explain** and demonstrate the new knowledge content.

**Teaching Tip:** *New knowledge content should be integrated with the explanation and demonstration of the new spotting and quadriceps exercise skills.*

<sup>1</sup>Use of power racks is optional, because no weight is used.

## Facilities and Equipment

## 2. Equipment

## a. Free Weights

(8) **Power Rack** – The power rack is a rectangular metal box that provides supports for holding barbells and parallel, metal safety bars on each side of the lifter designed to hold or catch the barbell if the lifter is unable to lift the weight. A power rack is an important piece of equipment designed for the safety of the lifter.

(a) To be effective, the safety bars must be adjusted to the correct height for the lifter and/or the bench.

**Point** out the power rack and its components, especially the safety bars.

**Tell** students today they will use the power rack to do a quadriceps exercise, and also learn how to spot their partners when they do the standing lift.

## Etiquette

## 2. Behavior

## a. Do's

(2) Assist other lifters when spotting help is requested.

## Guidelines, Benefits and Principles

## 1. General Guidelines

## g. Spotting

(1) Spotters must know and be aware of the following items:

- (a) The proper exercise technique for the exercise being spotted
- (b) The proper spotting techniques for the exercise
- (c) Their own capability—spotters should not spot beyond their abilities
- (d) The verbal cues for both the lifter and the spotter<sup>2</sup>
- (e) The number of repetitions the lifter intends to do

(2) Spotting is required for exercises where a free weight is lifted over the head (such as the triceps extension), placed on the shoulders (such as the half squat), or racked above the shoulders or face (such as the bench press).

(3) To ensure the safety of the lifter and the spotters, all standing overhead exercises and exercises where the bar is held on the front or back of the shoulders should be done within a power rack.

(4) The spotter(s) must be strong enough to assist the lifter with the lift.

(5) Spotters spotting a standing lift should be at least as tall as the lifter.

*Continued....*

<sup>2</sup>Let students know that although verbal cues will be standard in the classroom, in the outside world they may differ from person to person and facility to facility. In order to work safely together, the lifter and spotter must agree on verbal cues before beginning to lift.

- (6) Number of spotters
  - (a) One spotter is preferred for one-spotter exercises, because it is more difficult to coordinate movements between two spotters and a lifter.<sup>3</sup>
  - (b) Use two spotters if one spotter who is able to handle the weight alone is not available.
  - (c) Two spotters working together must communicate well, because uncoordinated movements may result in injury.
- (7) The spotter must watch the entire movement of each repetition and be attentive to the condition of the lifter.
- (8) The spotter should stop the exercise if the lifter is using incorrect technique.

**Tell** students that effort and focus are essential attributes of effective resistance training.

### Sportsmanship

- 2. Effort refers to staying on task and willingly trying new and difficult activities. For example:
  - a. Resistance training requires using appropriate techniques that are frequently new and sometimes feel odd. There may be a more comfortable position to use when performing a lift; however, this may change the lift sufficiently to emphasize different muscle groups than those intended. Effort is required to perform the lifts correctly every time.
  - b. To get maximum benefit from your workout, on every repetition of every set you should concentrate on the muscles that are moving the weight.
  - c. Spotting a fellow student safely requires that you focus your attention and not allow yourself to be distracted.

**Integrate** information about spotting in the skills part of the lesson, when introducing the one-person spotting technique and the standing lift.

### Safety and Injury Prevention

- 1. Equipment
  - a. Free Weights
    - (1) Keep the floor area for both the lifter and spotter(s) clear of all obstacles.
    - (2) Conduct exercises that involve raising a barbell overhead or placing a barbell on the back or front of the shoulders inside a power rack.
    - (3) Adjust the safety bars on the power rack to the appropriate height.

*Continued....*

<sup>3</sup>See descriptions of individual exercises in the Skills section of the teaching/learning progression for the number of spotters needed.

- 2. Technique
  - a. General
    - (7) Protect your knees by avoiding deep knee bends or any action where the thigh is taken below a parallel position to the floor while bearing weights.
- 3. Precautions
  - e. Use a spotter when working with free weights. If doing standing lifts, the spotter should be at least as tall as you.
  - f. Make sure your spotter knows the exercise and the number of reps you intend to do.
  - g. If you have trouble with a weight while lifting, say, "Take it," and work with the spotter to return the weight to the supports.

**Teaching Tip:** *Emphasize the importance of the spotter knowing which exercise the lifter will do by sharing the following scenario: A lifter will be doing a lunge, but the spotter believes he or she is spotting a half squat. When the lifter takes a step forward for the lunge, the spotter will likely misinterpret this movement as a lifter in trouble and act accordingly.*

**Fitness Components Influencing Participation**

- 2. Flexibility
  - c. Thigh/leg flexibility contributes to successful execution of all lifting skills. Stretches to increase thigh/leg flexibility include:
    - (4) Standing Quad Stretch
    - (6) Straight Leg Hamstring Stretch
    - (7) Wall Stretch



<i>Skill</i>	<i>18 min.</i>
<i>Pre-Lift Fundamentals</i>	
<i>Arm/Shoulder Exercises</i>	
<i>Ab/Low Back Exercises</i>	
<i>Thigh/Leg Exercises</i>	

**Explain/Demonstrate**

**Practice**

**Tell** students:

- There are stations set up for biceps, erector spinae and quadriceps exercises.
- You will review or introduce all the skills and procedures for each station.
- They will participate in a few drills together, and then they will rotate through the stations in groups of four.

**Ask** students to point out their biceps muscles.

**Review** and demonstrate the biceps exercise, using the cue words.

## Arm/Shoulder: Biceps

Form for the biceps exercise is in Lesson 5 and in Chapter 3 of the User's Manual.

**Lead** students in warm-up/cool-down stretches (e.g., shoulder squeeze, standing biceps stretch).

**Ask** students to point at their erector spinae muscles.

**Review** and demonstrate the erector spinae exercise, using the cue words.

## Ab/Low Back: Erector Spinae

Form for the erector spinae exercise is in Lesson 5 and in Chapter 3 of the User's Manual.

**Lead** students in warm-up/cool-down stretches (e.g., the cat, lying back stretch, sit and lean stretch).

**Introduce** standing lifts for the thighs and legs.

**Emphasize** that these exercises will be done:

- with a barbell held behind the neck and across the shoulders;
- in a power rack;
- with a qualified spotter.

**Ask** students to discuss why a spotter is required for standing lifts (refer to knowledge content above).

**Tell** students they will learn and practice the spotting technique at the same time they learn the exercises that require them, beginning with the quadriceps exercise.

**Locate** the quadriceps muscles on the **EPEC** poster and on one or more students.

**Explain** and demonstrate the quadriceps exercise with an assistant as spotter, using correct spotting technique.

**Emphasize** correct adjustment of the power rack supports and safety bars.

## Thigh/Leg: Quadriceps Exercise

## 1. Quadriceps Muscles

## a. Description

The quadriceps muscles are four muscles on the front of the thigh. The four muscles extend from the pelvis or femur down across the knee. The quadriceps muscles are powerful extensors of the leg at the knee. They also help to flex the hip. The quadriceps muscles allow one to lift with the legs and climb stairs, and they supply most of the power used to kick a ball.

*Continued....*

*Adjust Equipment*  
*Elbows Out*  
*Hands Over Shoulders*  
*Hands More Than*  
*Shoulder-width*  
*Overhand Grip*  
*Take Bar*  
*Weight on Shoulders*  
*Stable Stance*  
*Toes Out 10 Degrees*  
*Chin Up*  
*Eyes Forward*

*Inhale and Squat*  
*Back Flat*  
*Slight Forward Lean*  
*Shoulders Above Knees*  
*“Sit”*  
*Thighs Level*  
*Feet Flat*  
*Exhale Up*

## b. Form

Demonstrate all elements of form, including appropriate pre-lift fundamentals, in a smooth, continuous motion when executing one quadriceps exercise, three out of three times.<sup>4</sup>

## c. Exercises

(1) Half Squat<sup>5</sup>**Preparation**

**Note:** *One spotter is required. Two spotters must be used if the spotter is not as tall as the lifter or is unable to handle the weight load.*

- (a) Adjust the supports within the power rack so that they are at armpit height.
- (b) Adjust the safety bars so they are just below the level of the bar when the bar is at its lowest level.<sup>6</sup>
- (c) Place an appropriately weighted barbell on the supports within the power rack.
- (d) With the elbows pointing out (i.e., with the elbows flexed and the shoulders abducted), hold the hands slightly wider than shoulder-width apart in an overhand grip behind the head and over the shoulders.
- (e) Walk under the supports, facing outside the power rack.
- (f) Grasp the barbell and rest it on the shoulders (on the trapezius muscle over the top of the scapula).
- (g) Move slightly back to clear the supports and assume a stable standing position inside the power rack with the toes pointed slightly outward at a 10-degree angle.
- (h) Keep the chin up and look straight ahead. This is the starting position.

**Action**

- (i) Inhale and lower the body (i.e., flex the knees and hips) to a point where the thighs are parallel to the floor. Keep the back straight with a slight forward lean so that the shoulders are in line with the knees. Keep the feet flat on the floor.
- (j) Exhale and stand (i.e., extend the knees and the hips), keeping the shoulders in line with the knees, and return to the starting position.

**Completion**

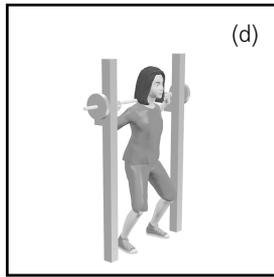
- (k) Repeat steps (i) and (j), one repetition, for the number of determined repetitions.
- (l) Return the barbell to the supports. Ask the spotters for help, if necessary.

<sup>4</sup>Have the participant do the half squat over a bench or chair so they may sit down if unable to complete the exercise.

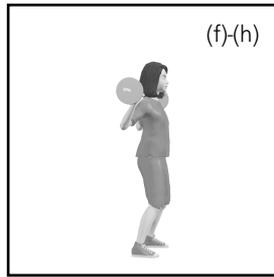
<sup>5</sup>The NSCA (National Strength and Conditioning Association) holds the position that squats that are performed correctly may be significant deterrent to knee injuries.

<sup>6</sup>Have the student get down on one knee, and set the safety bars just below the level of the shoulders.

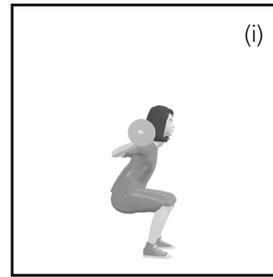
<sup>7</sup>Use this cue word to remind students to use the posture they would assume for preparing to sit in a chair.



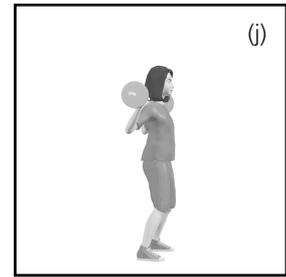
Grip Bar



Stand



Squat



Rise

### (2) Free Weight Options

- (a) Dumbbells may be used in place of a barbell. The dumbbells may be held close to the shoulders or with the arms extended down at the sides.
- (b) Spotters are also needed when using dumbbells.

**Teaching Tip:** To help keep the feet, hips and shoulders properly aligned, have the student start from the down position. Place a bench behind the student and have him or her sit in a stable position with the buttocks at the edge of the bench, with the bar correctly placed and gripped over the shoulders. When ready, begin with step (j). It may also be useful to have students imagine sitting back on a bench as they lower the barbell.

### (3) Weight Machine Option - Leg Extension

#### Preparation

- (a) Place the pin in the correct position for the intended load.<sup>8</sup>
- (b) Assume a stable seated position at the leg extension station.
- (c) Flex the knees and place the ankles behind the foot roller pads so that the front of each ankle is in contact with a pad.
- (d) Adjust the seat or the roller pads so that the legs are parallel to each other and the knees are just over the edge of the seat, aligned with the axis of the machine.
- (e) Grasp the handles or the sides of the seat. This is the starting position.

#### Action

- (f) Exhale while extending the knees, keeping the back straight and the buttocks in the seat, and raise the roller pad until the knees are fully extended. Do not lock the knees.
- (g) Inhale while flexing the knees, keeping the back straight and the buttocks in the seat, and return the legs to the starting position.

#### Completion

- (h) Repeat steps (f) and (g), one repetition, for the specified number of repetitions.

**Stable Seat**  
**Ankles Behind Rollers**  
**Legs Parallel**  
**Knees at Axis**  
**Grasp Seat**

**Exhale and Straighten Legs**  
**Back Flat**  
**Seat in Seat**  
**Don't Lock Knees**  
**Inhale Down**

<sup>8</sup>While students are learning correct form, remove the pin for no load.

*Lie on Floor*

*Left Foot on Floor*

*Band Around Right Instep*

*Right Knee and Hip at  
90 Degrees*

*Hold Band at Waist Level*

*Slight Tension*

*Exhale and Straighten Leg*

*Shoulders and Head on Floor*

*Don't Lock Knee*

*Inhale and Return*

*Repeat Other Side*

(4) Resistance Band Option - Leg Press

### Preparation

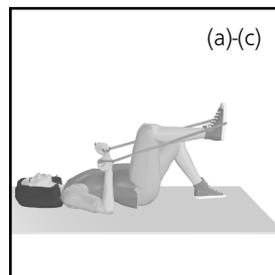
- Assume a supine position on the floor or a mat with the hips and knees flexed and the feet flat on the floor. Wrap the middle of the resistance band around the instep of the right foot.
- Flex the right hip and knee 90 degrees, so the right foot is above the floor and level with the knee.
- Hold the upper arms near the body and flex the elbows about 90 degrees. Hold the ends of the resistance band at about waist level, wrapping the ends of the bands around the hands to maintain a slight tension. This is the starting position.

### Action

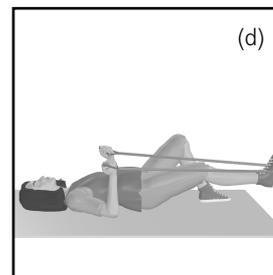
- Exhale while extending the knee and hip until the knee is fully extended, keeping the shoulders and head against the floor. Do not lock the knee when fully extended.
- Inhale while flexing the right knee and returning the right leg to the starting position.

### Completion

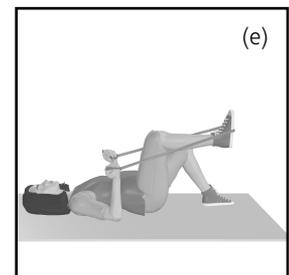
- Repeat steps (d) and (e), one repetition, for the specified number of repetitions.
- Repeat the exercise for the left leg.



Prepare



Straighten



Bend

**Thigh/Leg: Quadriceps**

(5) Common Errors and Corrections

<b>Error</b>	<b>Potential Consequence</b>	<b>Correction</b>
(a) Toes are pointed straight ahead. (FW)	• Angle at the hip joint makes flexion difficult.	• Point the toes out at a 10-degree angle.
(b) Shoulders are forward of the knees. (FW)	• Excess stress is placed on the low back.	• Keep the shoulders in line with the knees and toes.
(c) The back is arched excessively. (FW)	• Excess stress is placed on the low back.	• Keep the back straight with normal spinal curvature when lifting the weight. • Reduce the weight if unable to lift without arching the back.
(d) Thigh is lowered below the position parallel to the floor. (FW)	• Excess stress is placed on the knee joints.	• Do not go beyond a position of thighs parallel to the floor.
(e) The heels are lifted off the floor at the bottom of the exercise. (FW)	• Balance is lost.	• Keep the feet flat on the floor throughout the entire exercise. Work on flexibility exercises for the hamstrings and tibialis anterior.
(f) The lifter bounces at the bottom of the exercise. (FW)	• Excess stress is placed on the knee joints and low back.	• Pause at the bottom to check position, and then extend the knees to stand.
(g) Weight is not lowered all the way between reps. (FW)	• Lifter does not get full benefit of exercise.	• Move the weight through the full range of motion.
(h) The lifter looks down. (FW)	• The body follows the eyes and the lifter leans forward.	• Keep the head up and eyes focused directly ahead.
(i) Hips come off the seat. (M)	• Targeted muscles are not worked effectively.	• Keep hips against seat and lift with legs only.

**Repeat** the demonstration of the quadriceps exercise, emphasizing the cue words.

**Explain** and demonstrate how one person spots a lifter, with your assistant doing the half squat inside the power rack.

**Pre-Lift Fundamentals: Spotting**

5. Spotting<sup>o</sup>

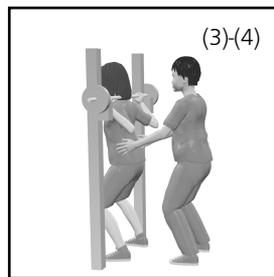
Spotting is a very important skill. The spotters' primary responsibility is the safety of the lifter. Poor execution during spotting may result in injury to the lifter and/or the spotter(s). Spotting techniques must be practiced and executed properly to ensure safety.

*Continued....*

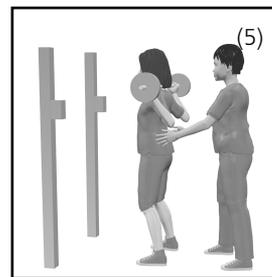
<sup>o</sup>If not conducted properly, spotting can cause more problems and injuries than no spotting. EPEC resistance training exercises are designed to use minimal spotting. The bench press requires one spotter. The half squat, lunge, plie and standing calf raise require one spotter if the spotter is as tall as the lifter and able to handle the weight; otherwise, two spotters must be used. Communication between two spotters is essential, because two spotters not working together can result in an unsafe situation. Consequently, the teacher will need to be sure the spotters receive adequate instruction and practice. Also, the teacher will need to evaluate each spotting situation.

**Check Safety Bars**  
**Behind Lifter**  
**Stable Stance**  
**Feet Shoulder-width,**  
**One Foot Forward**  
**Hands Under Arms,**  
**Level With Lower Ribs**  
**Flex Knees**  
**Move With Lifter**  
**Form Fists**  
**Catch Lifter Under Arms**

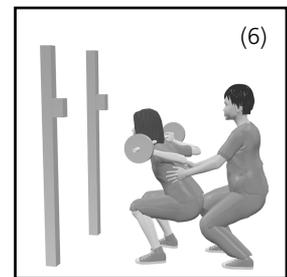
- a. One spotter spots a lifter who is performing a standing lift inside a power rack with a barbell (such as the half squat, lunge or plié).
  - (1) Check for correct position of the safety bars in relation to the lifter's size. Safety bars should be just below the level of the bar when the lifter is at his or her lowest point in the exercise (e.g., when the lifter does the half squat, the safety bars should be just below the bar when the lifter's thighs are parallel to the floor).
  - (2) Find out the lifter's intended number of reps.
  - (3) Stand behind the lifter in an erect, stable position with the feet shoulder-width apart, one foot slightly forward, and both feet flat on the floor and pointing straight ahead or out slightly. Keep the knees slightly flexed and the back straight.
  - (4) When the lifter takes position and grips the bar, flex the elbows and extend the hands under the lifter's arms, four inches away and facing the lifter's torso, and level with the lifter's bottom ribs.
  - (5) Listen for the lifter's verbal "lift-off" signal and stay close to the lifter as he or she takes the bar and moves away from the supports.
  - (6) Flex the knees and hips as the lifter lowers the bar. Keep the hands in the same position relative to the lifter's body (i.e., four inches away and level with the lifter's bottom ribs).
  - (7) *If the lifter staggers or loses control of the bar, make fists and push the arms forward and up so the elbows catch the lifter under the arms. Help the lifter either to regain stability or to lower the weight onto the safety bars.*
  - (8) Extend and flex the knees and hips respectively as the lifter rises and descends.
  - (9) When the lifter has finished the intended number of reps, if necessary assist the lifter in returning the barbell to the supports.



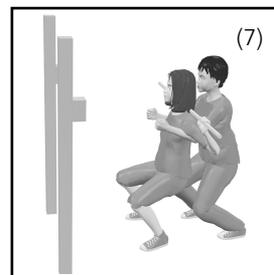
Prepare



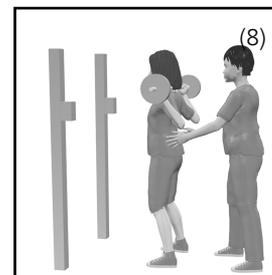
Ready



Lower



Catch\*



Rise

\*Weights have been removed to provide an unobstructed view of the arm position of the spotter.

## Pre-Lift Fundamentals: Spotting

## f. Common Errors and Corrections

Error	Potential Consequence	Correction
(1) Spotter's feet are too close together.	<ul style="list-style-type: none"> <li>Spotter loses balance.</li> </ul>	<ul style="list-style-type: none"> <li>Place feet at least shoulder width apart.</li> <li>Place one foot slightly forward of the other when spotting standing lifts as a single spotter.</li> </ul>
(2) Spotter's knees are not bent when the weight is being lifted.	<ul style="list-style-type: none"> <li>Low back is stressed.</li> </ul>	<ul style="list-style-type: none"> <li>Keep the knees flexed slightly when the weight is being lifted.</li> </ul>
(3) Spotter's hands are not in position for correct grip when the lifter runs into trouble.	<ul style="list-style-type: none"> <li>The weight rolls out of the hands onto the lifter.</li> </ul>	<ul style="list-style-type: none"> <li>Use alternate grip form when spotting seated or supine lifters.</li> </ul>
	<ul style="list-style-type: none"> <li>The spotter drops his/her end of the bar.</li> </ul>	<ul style="list-style-type: none"> <li>Keep the hands cupped and palms up when spotting one end of a bar.</li> </ul>
(4) Spotter is not watching the lifter during the exercise.	<ul style="list-style-type: none"> <li>The lifter is injured because the spotter does not realize the lifter needs help.</li> </ul>	<ul style="list-style-type: none"> <li>Watch the lifter throughout the exercise.</li> </ul>
(5) Spotter is too aggressive when catching the lifter.	<ul style="list-style-type: none"> <li>Lifter performing standing lift is injured when spotter catches him or her on a stumble.</li> </ul>	<ul style="list-style-type: none"> <li>The spotter should use only enough force to support the lifter; the spotter should <b>not</b> jerk the lifter back up to a standing position.</li> </ul>

**Teaching Tip:** Be sure to emphasize and demonstrate adjustment of the bar supports and the safety bars for each lifter. The spotter's job includes helping the lifter attend to these crucial details.

**Tell** students they will all practice what to do in case the person they are spotting loses their balance.

**Explain** and demonstrate the Spotting a Stumble Drill.

## Drill

Description of the Spotting a Stumble Drill is in Appendix B of the User's Manual.

**Pair** students by size and gender, and have them scatter across the gym floor.

**Have** the students do the drill on your signal. When students seem comfortable with Exercise 1, move on to Exercise 2.

**Circulate** among the students, providing feedback on technique. Have your assistants do the same.

**Gather** students and tell them they will further practice the one-person spotting technique when they do the quadriceps exercise.

**Explain** that students will practice and give/receive feedback on quadriceps exercise technique and one-person spotting of standing lifts.

**Review** and demonstrate the drills and activities.

## Drill

Description of the Spotting Standing Lifts Drill (One Person) is located in Appendix B of the User's Manual. The drill is done simultaneously with the half squat activity.

## Activities

Students will do three sets of eight reps for each of the following muscles/muscle groups:

- biceps exercise (described in Lesson 5)
- erector spinae exercise (described in Lesson 6)
- quadriceps exercise (described above)

**Teaching Tip:** *In order to reduce demand on available equipment, you may choose to allow students to perform this lift outside a power rack when using a broomstick, a dowel or a bar with no weight. However, once students begin to add weight to the bar in Level 3, they must perform the lift within a power rack.*

**Combine** pairs of students into groups of four based on size and gender.

**Tell** students:

- There are three stations set up: biceps, erector spinae and quadriceps.
- They will rotate through the stations in their groups of four.
- They will work in their groups of four at the quadriceps station, with one student performing the lift, one spotting, one providing feedback to the lifter and one providing feedback to the spotter.
- They will work in pairs at the biceps and erector spinae stations, with one student doing the exercise and the other providing feedback.
- Also at the biceps station, the observing student will lift the bar off the floor using correct form and hand it to the lifter.

**Assign** groups to power racks or open floor space with you and your assistants as supervisors.

**Begin** the activities and drill.

**Facilitate** the small groups at the stations. The supervisor(s) at the power racks should:

- **Adjust** the power rack supports and safety bars, pointing out the fit for the lifter(s).
- **Have** one student demonstrate the quadriceps exercise while you demonstrate the one-person spotting technique.
- **Repeat** the cue words.
- **Invite** another student to take your place and demonstrate the spotting technique while you state the spotting cue words.
- **Model** effective feedback technique, pointing out what the students did correctly, as well as what they will want to change next time; e.g., for the quadriceps exercise, you might say, "Joaquim, you had a good starting position with your feet about one o'clock and eleven o'clock, your thighs lowered to just parallel to the floor, and your hips no lower than your knees. Next time you lift up, be sure to keep your back straight so your quads are worked instead of your back."

For the spotter, you might say, “You paid close attention to Joaquim and kept your hands in position under his arms. But instead of just moving your arms down and up, be sure to keep your back straight and bend your knees to move with him.”

**Rotate** groups of students through the power racks so each group has the opportunity to adjust the safety bars and supports.

**Provide** feedback on the exercises and on the spotting technique. Have your assistants do the same with students they are supervising.

**Teaching Tip:** To help identify common mistakes and corrections, refer to the *Errors and Corrections* charts in the form descriptions earlier.

**Circulate** if possible to monitor progress of the small groups and assistants, and provide additional feedback.

**Gather** students.

**Remind** students to check their muscle sensation to be sure they worked their quadriceps and stabilizer muscles. If not, they may need to correct their exercise technique.

**Comment** on what you saw students doing correctly, typical errors and correction tips.

**Ask** students and assistants what feedback they heard during the drill and exercise activity. What was the quality of the feedback? How could it be more helpful?

**Review and Preview****1 min.**

**Lead** students in cool-down stretching for the quadriceps exercise (see the Quad Stretch and Standing Quad stretch, described and illustrated in the **EPEC** Personal Conditioning module).

**Tell** students that next class, they will:

- Be assessed by you on lifting a barbell off the floor.
- Assess one another on the biceps exercise.
- Get more practice on the erector spinae exercise.
- Practice the quadriceps exercise, while they spot one another in the power rack.

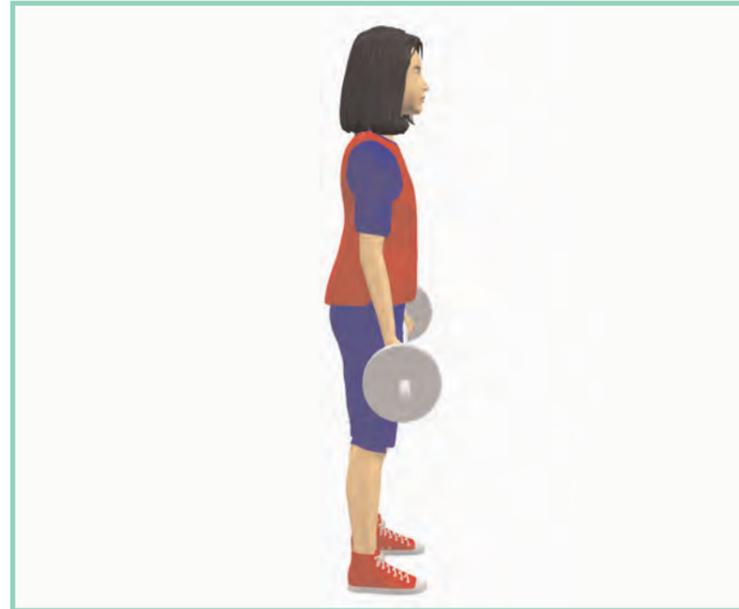
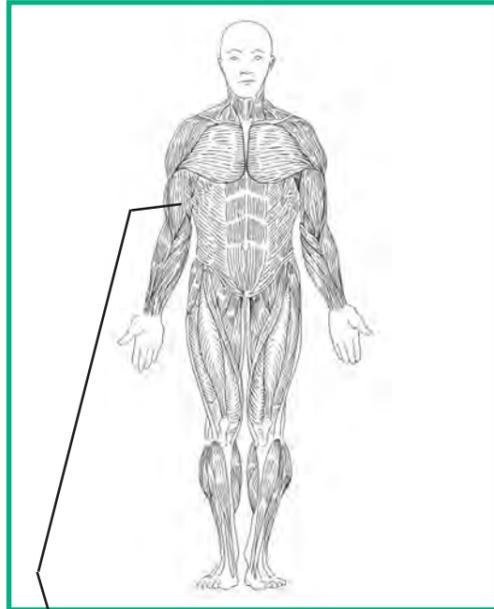


# Biceps Muscles

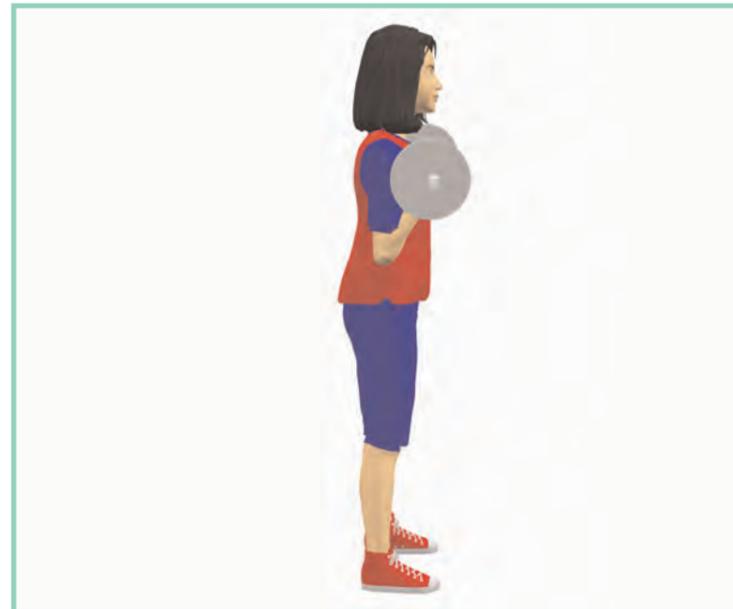
## Resistance Training



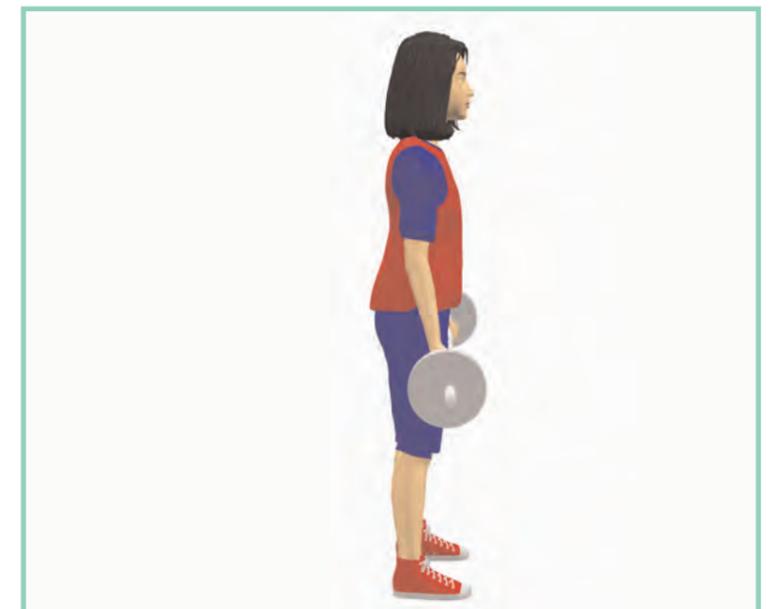
### Biceps Curl



**Prepare**

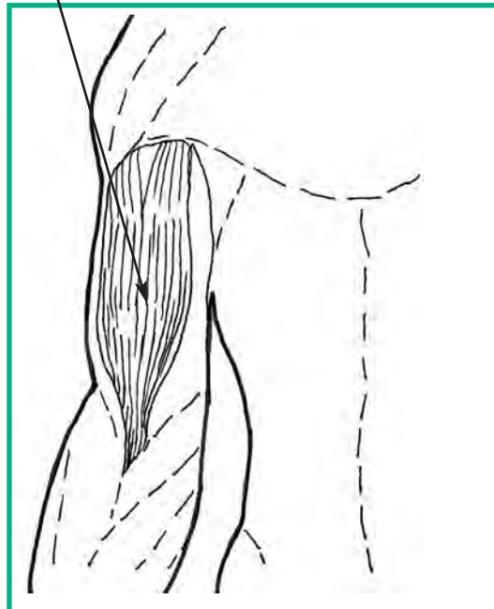


**Lift**



**Lower**

### Elbow Curl



**Prepare**



**Raise**



**Lower**



# Resistance Training Form Assessment: Level 1



**Triceps Muscles**

Date \_\_\_\_\_ Hour \_\_\_\_\_

Student \_\_\_\_\_

Observe the triceps extension nine times. Watch each part of the exercise three times. Each part has a picture and a description.

Look at each picture and read the description. Observe to see if this part is performed correctly. If correct the first time, check (✓) box 1; if correct the second time, check (✓) box 2; if correct the third time, check (✓) box 3. Place a dot (•) in the box if performed incorrectly. All three boxes will be checked only if that part of the exercise was correctly performed all three times.

Repeat this procedure for each picture. Start with "Prepare" and after you observe it three times, follow the arrow to the next picture.

### Free Weight Option: Triceps Extension

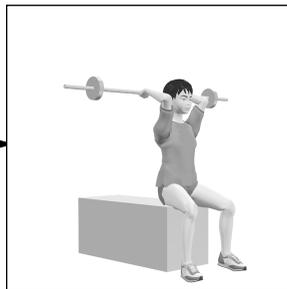
1    2    3



**Prepare**

- Stable seat
- Overhand grip
- Less than shoulder width
- Arms straight up

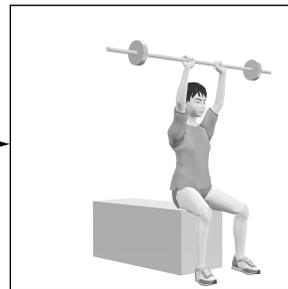
1    2    3



**Lower**

- Inhale back
- Bend elbows
- Elbows in
- Shoulders still
- Weight behind head

1    2    3



**Lift**

- Exhale up

How many pictures/descriptions have 3 boxes checked (✓)? \_\_\_\_\_

Observer \_\_\_\_\_



# Resistance Training Form Assessment: Level 1



**Triceps (cont.)**

Date \_\_\_\_\_ Hour \_\_\_\_\_

Student \_\_\_\_\_

Observe one of the exercises three times for each part of the exercise (e.g., observe the triceps pushdowns nine times, or three times for each of the three stages of the exercise). For the machine option, each part has a description and three boxes; use the pictures posted near the machine to help you determine correct form. For the resistance band option, each part has a picture, a description and three boxes.

Look at each picture (when available) and read the description. Observe to see if this part is performed correctly. If correct the first time, check (✓) box 1; if correct the second time, check (✓) box 2; if correct the third time, check (✓) box 3. Place a dot (•) in the box if performed incorrectly. All three boxes will be checked only if that part of the exercise was correctly performed all three times.

Repeat this procedure for each part.

## Weight Machine Option: Triceps Pushdowns

1    2    3

### Prepare

- Stable stance
- Overhand grip near shoulders
- Hands shoulder-width
- Elbows at sides

1    2    3

### Lower

- Exhale
- Pull bar down
- No lean

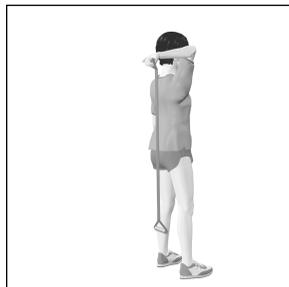
1    2    3

### Return

- Inhale up

## Resistance Band Option: Standing Triceps Extension

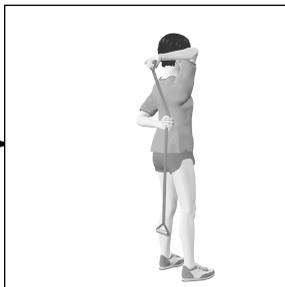
1    2    3



### Prepare

- Stable stance
- Handle in right hand
- Elbow pointed up
- Hand behind shoulder

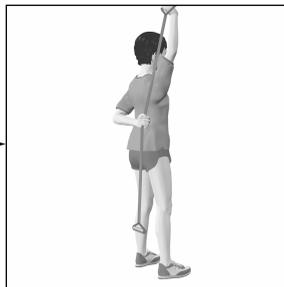
1    2    3



### Grasp

- Grasp behind body
- Slight tension

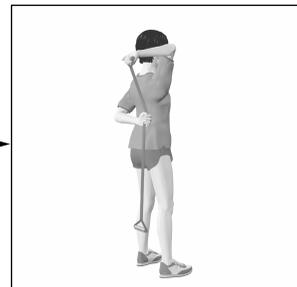
1    2    3



### Raise

- Upper arm still
- Exhale and straighten

1    2    3



### Lower

- Inhale and return

How many pictures/descriptions have 3 boxes checked (✓)? \_\_\_\_\_

Observer \_\_\_\_\_



***K-12 Content by NASPE Standards***

EPEC K-12 program objectives and benchmarks are consistent with the standards for physical education published by the National Association for Sports and Physical Education (NASPE) in 2004. EPEC K-5 and EPEC 6-12 each contain content to achieve the six NASPE content standards for physical education (see Table H.1).

The EPEC K-5 program is based on a physical education program that meets two 30-minute class periods per week. The EPEC 6-12 program is based on a physical education program that meets five 40-minute class periods per week (exclusive of dressing and showering).

	EPEC K-5	EPEC Lifetime Activity Modules	EPEC Personal Conditioning
<b><i>NASPE Content Standard 1</i></b> Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities.	✓	✓	
<b><i>NASPE Content Standard 2</i></b> Demonstrates understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities.	✓	✓	
<b><i>NASPE Content Standard 3</i></b> Participates regularly in physical activity.	✓	✓	✓
<b><i>NASPE Content Standard 4</i></b> Achieves and maintains a health-enhancing level of physical fitness.	✓	✓	✓
<b><i>NASPE Content Standard 5</i></b> Exhibits responsible personal and social behavior that respects self and others in physical activity settings.	✓	✓	✓
<b><i>NASPE Content Standard 6</i></b> Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.	✓	✓	✓

Table H.1. EPEC K-12 Content and NASPE Standards.

## **EPEC Resistance Training Module by NASPE Standards**

The **EPEC** Resistance Training module meets all NASPE Standards through a variety of knowledge and skill objectives, instructional procedures and assessments (see Table H.2).

The Resistance Training module is based on a physical education program that meets fifteen 40-minute class periods per instructional level over the course of three levels, for a total of forty-five 40-minute classes. Each 40-minute class period allows for 15 minutes of warm-up activities and excludes time required for dressing and showering.

<b>EPEC Resistance Training Module</b>	<b>NASPE Standards</b>					
	1	2	3	4	5	6
<b>Warm-Up Component</b>		✓	✓	✓	✓	
<b>Teaching/Learning Content</b>						
Vocabulary		✓				
Facilities and Equipment			✓			
Rules					✓	
Etiquette					✓	
Guidelines, Benefits and Principles					✓	✓
Sportsmanship					✓	
Safety and Injury Prevention		✓			✓	
Using Biomechanical Information	✓	✓				
Partner Observation and Feedback	✓	✓			✓	✓
Fitness Components	✓		✓			
Pre-Lift Fundamentals	✓	✓				
Arm/Shoulder Exercises	✓	✓				
Abdominal/Low Back Exercises	✓	✓				
Thigh/Leg Exercises	✓	✓				
<b>Assessment Content</b>						
Teacher Assessments of Skills	✓	✓				
Partner Assessments of Skills	✓	✓			✓	✓
Knowledge Assessment						✓
Interest Assessment	✓					✓
<b>Handouts</b>	✓					
<b>Drills</b>	✓	✓			✓	
<b>Graphics</b>	✓	✓				

Table H.2. EPEC Resistance Training and NASPE Standards