

## LAB 4.2 • ASSESSING YOUR MUSCULAR ENDURANCE

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Instructor: \_\_\_\_\_ Section: \_\_\_\_\_

**Materials:** Leg press machine, bench press machine, exercise mat, yardstick or ruler, tape

**Purpose:** To assess your current level of muscular endurance

**Note:** This lab should be performed in the presence of an instructor to ensure proper form and safety.

### SECTION I: MUSCULAR ENDURANCE WEIGHT-LIFTING ASSESSMENT

#### Twenty Repetition Maximum (20 RM) Assessment

The 20 RM assessment is a weight-lifting assessment of your muscular endurance. By performing the assessments before and after completing 8 to 12 weeks of muscular fitness exercises, you can measure your improvement.

1. Prepare for the muscle endurance assessments. If you have just completed the muscular strength assessments in Lab 4.1, you will already be warmed up. If not, follow the position, form, and warm-up instructions for bench press and leg press in Lab 4.1.
2. Find your 20 RM for chest press and leg press. Set a weight that you think you can lift a maximum of 20 times. Perform the lift to see whether you were correct. If not, increase or decrease the weight and try again until you find your 20 RM. In order to be sure that muscle fatigue does not affect your results, try to find your 20 RM within three tries. If it takes longer, rest and perform the test again on another day. Record your results below.

#### Muscular Endurance Weight Lifting Results

Chest Press: 20 RM weight lifted \_\_\_\_\_

Leg Press: 20 RM weight lifted \_\_\_\_\_

### SECTION II: MUSCULAR ENDURANCE CALISTHENIC ASSESSMENT

#### Push-Up Assessment



In this muscular endurance assessment, you will perform as many push-ups as you can. This test will assess the muscular endurance of your pectoralis major, anterior deltoid, and triceps brachii muscles. If you work with a partner, your partner can check your positioning and form and count your repetitions.

1. Get into the correct push-up position on an exercise mat. Support the body in a push-up position from the knees (women) or from the toes (men). The hands should be just outside the shoulders and the back and legs straight.
2. Start in the “down” position with your elbow joint at a 90-degree angle, your chest just above the floor, and your chin barely touching the mat. Push your body up until your arms are straight and then lower back to the starting position (count one repetition). Complete the push-ups in a slow and controlled manner.



3. Complete as many correct technique push-ups as you can without stopping and record your results in the Muscular Endurance Calisthenic Results section below.
4. Find your muscle endurance rating for push-ups in the chart at the end of this lab and record your results.

## Curl-Up Assessment



In this muscular endurance assessment, you will perform as many curl-ups as you can (up to 25). This test will assess the muscular endurance of your abdominal muscles.

1. Lie on a mat with your arms by your sides, palms flat on the mat, elbows straight, and fingers extended. Bend your knees at a 90-degree angle. Mark the start and end positions with tape. Your instructor or partner will mark your starting finger position with a piece of tape under each hand. He or she will then mark the ending position 10 cm (or close to 4 inches) away from the first piece of tape, one ending position tape for each hand. Your goal is to rise far enough on the curl-up to achieve a 30-degree trunk elevation.
2. Your instructor or partner will set a metronome to 50 beats/min and you will complete the curl-ups at this slow, controlled pace: one curl-up every three seconds (25 curl-ups per minute).
3. To start the test, curl your head and upper back upward, reaching your arms forward along the mat to touch the ending tape. Then curl back down so that your upper back and shoulders touch the floor. During the entire curl-up, your fingers, feet, and buttocks should stay on the mat. Your partner will count the number of correct repetitions you complete. Any curl-ups performed without touching the ending position tape will not be counted in the final results.
4. Perform as many curl-ups as you can without pausing, to a maximum of 25. Record your score below. Determine your muscular endurance rating for curl-ups using the chart below and record your results.



**\*\*Alternative:** One-minute timed curl-ups. Your instructor may choose to have you complete as many curl-ups as you can within one minute (without the metronome pacing). Using the same start and end positions, perform controlled repetitions of curl-ups for one minute and record your results below.

### Muscular Endurance Calisthenic Results

Push-Ups:      Repetitions \_\_\_\_\_ Rating \_\_\_\_\_

Curl-Ups:      Repetitions \_\_\_\_\_ Rating \_\_\_\_\_

**\*\*Alternative:** One-minute timed curl-ups: Repetitions \_\_\_\_\_

## SECTION III: REFLECTION

1. What was surprising about your muscular fitness results, if anything?  
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 \_\_\_\_\_
2. Based upon your assessment results, which aspect of muscular fitness will your program focus on, muscular strength or muscular endurance?  
 \_\_\_\_\_  
 \_\_\_\_\_

## Muscular Endurance Rating

Push-ups						
Men	Superior	Excellent	Good	Fair	Poor	Very Poor
20–29 yrs	>36	31–36	24–30	21–23	16–20	<16
30–39 yrs	>30	24–30	19–23	16–18	11–15	<11
40–49 yrs	>25	19–25	15–18	12–14	9–11	<9
50–59 yrs	>21	15–21	12–14	9–11	6–8	<6
60–69 yrs	>18	13–18	10–12	7–9	4–6	<4
Women	Superior	Excellent	Good	Fair	Poor	Very Poor
20–29 yrs	>30	22–30	16–21	14–15	9–13	<9
30–39 yrs	>27	21–27	14–20	12–14	7–11	<7
40–49 yrs	>24	16–24	12–15	10–11	4–9	<4
50–59 yrs	>21	12–21	8–11	6–8	1–5	<1
60–69 yrs	>17	13–17	6–12	4–6	1–3	<1
Curl-ups						
Men	Superior	Excellent	Good	Fair	Poor	Very Poor
20–29 yrs	>25	22–25	16–21	13–15	10–12	<10
30–39 yrs	>25	19–25	15–18	13–14	10–12	<10
40–49 yrs	>25	19–25	13–18	8–12	5–7	<5
50–59 yrs	>25	18–25	11–17	9–10	7–8	<7
60–69 yrs	>25	17–25	11–16	8–10	5–7	<5
Women	Superior	Excellent	Good	Fair	Poor	Very Poor
20–29 yrs	>25	19–25	14–18	7–13	4–6	<4
30–39 yrs	>25	20–25	10–19	8–9	5–7	<5
40–49 yrs	>25	20–25	11–19	6–10	3–5	<3
50–59 yrs	>25	20–25	10–19	8–9	5–7	<5
60–69 yrs	>25	18–25	8–17	5–7	2–4	<2

Source: Adapted from Canadian Society for Exercise Physiology. *The Canadian Physical Activity, Fitness & Lifestyle Approach: CSEP-Health & Fitness Program's Health-Related Appraisal & Counseling Strategy*, 3rd ed. Canadian Society for Exercise Physiology: 2003.

To submit the completed lab, save the form to your computer and email it to your instructor or upload it to their digital dropbox as directed.