

Orange County Fire Authority Wellness and Fitness Program

PEER FITNESS TRAINER MANUAL



Created by:
Nancy Espinoza, WEFIT Exercise Physiologist
Michael Contreras, WEFIT Program Coordinator

This manual is intended for OCFA's Peer Fitness Trainers. Use of this manual for any other purpose is strictly prohibited.



Table of Contents

I. Introduction

- A. WEFIT Mission Statement
- B. Wellness and Fitness Initiative

II. Program Description

- A. Peer Fitness Trainer Program
- B. Peer Fitness Trainer Requirements
- C. Peer Fitness Trainer Service Log

III. Fitness Assessment

- A. Pre-Screening Procedures
- B. Testing Protocols
- C. Peer Fitness Trainer Fitness Assessment Data Sheet

IV. Functional Movement Screen

V. Flexibility

- A. Movement Prep
- B. Stretches and Low Back Strengthening Exercises
- C. Regeneration

VI. Stability

- A. Prehab
- B. Core Strength and Stability
- C. Physioball Training

VII. Mobility

- A. Functional Body Movements
- B. Foundational Dumbbell Exercises
- C. Resistance Training
- D. Medicine Ball Training
- E. Tubing and Band Exercises

VIII. Program Design

IX. Nutrition

X. Forms and Notes

- A. ACSM Cardiac Risk Profile Worksheet
- B. Health History Form
- C. Physical Activity Readiness Questionnaire (PAR-Q)
- D. Physician Consent Form
- E. Peer Fitness Trainer Service Log
- F. Peer Fitness Trainer Fitness Assessment Data Sheet
- G. Percent Body Fat Estimation
- H. Training Log

XI. Articles and Research



WEFIT Mission Statement

“The Orange County Fire Authority Wellness & Fitness Program (WEFIT) serves to provide OCFA firefighters and professionals with knowledge, support and opportunities to improve their physical health, wellness and fitness in order to enhance job performance and encourage an overall healthy personal lifestyle.”

Wellness and Fitness Initiative

OCFA’s WEFIT program is based on the Fire Service Joint Labor Management Wellness and Fitness Initiative. The Fire Service Joint Labor Management Wellness and Fitness Initiative is a complete physical fitness and wellness program. Both the International Association of Fire Chiefs (IAFC) and the International Association of Firefighters (IAFF) endorse the initiative and recommend all fire departments follow the guidelines set forth by the initiative. The WEFIT initiative includes five major components:

- Medical Examinations
- Fitness Evaluations and Physical Fitness Programs
- Medical/Fitness/Injury Rehabilitation
- Behavioral Health
- Data Gathering and Reporting

The Wellness and Fitness Initiative was the result of a long-term comprehensive project involving ten departments across North America. Together, technical committees, exercise physiologists, fitness coordinators, department physicians, behavioral health professionals and training officers designed a program that addresses the needs of fire department personnel. The IAFF facilitated this effort and provided resources needed to complete this project and the IAFC, as an organization, participated in all phases of this Wellness and Fitness Initiative.

Peer Fitness Trainers Program

One of the key components of the IAFF/IAFC Wellness and Fitness Initiative is the Peer Fitness Trainer (PFT) program. Peer Fitness Trainers are firefighters who have received the necessary training to earn a certification by the American Council on Exercise (A.C.E.) in the following aspects:

- Individual Assessment
- Program Design
- Program Implementation
- Program Administration

PFT's encourage safety and participation in fitness, through guidance and supervision of firefighting personnel. OCFA's PFT program supports the IAFF/IAFC Wellness and Fitness Initiative and provides PFT's the opportunity to stay current on the latest wellness and fitness information that addresses the specific needs of firefighters. PFT's are responsible for sharing this knowledge with other firefighters by being available to answer health- and fitness-related questions, performing individual fitness assessments, developing individual fitness and exercise programs, and by participating in OCFA's WEFIT program.

PFT's are available to all uniformed personnel at the fire station level. They can provide one-on-one contact and follow up to meet the individual needs of OCFA personnel.

OCFA Peer Fitness Trainer Requirements

1. *Basic certifications/training:* ACE PFT Certification
2. *Additional certifications/training:* Within six months of earning the ACE PFT Certification, all PFT's must complete the Functional Movement Screen class (as available), the Flexibility class, the Core Strength and Stability class, the Functional Bodyweight Movements class, the Foundational Dumbbell Exercises class, the Resistance Training class and the Program Design class.
3. *Monthly requirements:* Each PFT is responsible for performing four hours of individual or group training per month. These hours may include working with an individual or a group at the station, battalion or division level.

Each PFT is responsible for recording these hours and submitting them to the WEFIT program coordinator at the end of each month (see *Peer Fitness Trainer Service Log on the following page*)

4. *Quarterly Classes:* All PFT's must attend a minimum of two quarterly classes each year.
5. *Continuing education:* 20 hours of annual continuing education credits (CEC's) are necessary in order to maintain the ACE PFT certification. Each PFT is responsible for keeping track of their own CEC's and assuring that all necessary CEC's will be earned by his/her annual deadline. (WEFIT will pay ten hours of backfill or overtime)
6. *Communication:* All PFT's are responsible for staying in communication with the WEFIT program coordinator and responding to all emails and phone calls.

Category/Name	Monthly Requirements	Annual Requirements
Clients/Groups	4 hours	
Quarterly classes		Attend 2 classes
CEC's		20



Peer Fitness Trainer Service Log

PFT Information

Name: _____

Date: ____/____/____

Client Information (check one of the following)

Individual Group Station Battalion Division

Number of attendees: _____

Time spent w/ client: _____ min

Client Name: _____ Location: _____

Contact Number: (____) _____ - _____

Purpose of session (Check all that apply)

Increase strength Weight loss Increase muscular endurance
 Injury rehabilitation Injury prevention Improve cardio fitness
 Flexibility Specific health condition: _____ Other: _____

Briefly describe the services provided (activities, recommendations, & contraindications)
Activities/Recommendations

If exercise recommendations were given, please describe the recommendations.
Frequency, Intensity, Time, Type

Additional comments/notes

Will you follow-up; or have you already followed-up with this client? YES NO

Signature: _____

Date: ____/____/____



Fitness Assessment

I. Pre-screening Procedures

- A.** Mandatory Pre-Evaluation Procedure
- B.** Indications For Stopping Evaluation

II. Testing Sequence and Protocols

- A.** Resting Heart Rate (RHR)
- B.** Resting Blood Pressure (RBP)
- C.** Target Heart Rate (THR)
- D.** Bodyfat
 - 1. Bioelectrical Impedance
 - 2. Skin Fold
- E.** Seven-Point Functional Movement Screening
 - 1. Deep squat
 - 2. Hurdle step
 - 3. In-line lunge
 - 4. Shoulder mobility
 - 5. Active straight leg raise
 - 6. Trunk stability push-up
 - 7. Rotary stability
- F.** Aerobic Fitness
 - 1. Treadmill
- G.** Muscular Strength
 - 1. Grip strength
- H.** Muscular Endurance
 - 1. Push-up
 - 2. Curl-up
- I.** Flexibility
 - 1. Sit and Reach

III. Fitness Assessment Data Sheet



I. Pre-Screening Procedures

1. PRE-EVALUATION PROCEDURE

The following is a mandatory pre-evaluation procedure. It shall be conducted for all uniformed personnel prior to conducting the fitness evaluations:

Days prior to the evaluation:

- Review and confirm client's current medical status. It is required that all uniformed personnel be medically cleared through the WEFIT medical evaluation within 12 months prior to any fitness evaluation. (Use "ACSM Cardiac Risk Profile Worksheet" and "Health History Form" located in the forms and notes section).
- Notify client in advance of the scheduled time and place of their physical fitness evaluation. The individual should understand the protocol and what is expected before, during and after the evaluation, including start and stop procedures.
- Notify client that they must wear comfortable clothes and either sneakers or athletic shoes.
- Notify client that they must refrain from eating, drinking, smoking and any physical activity prior to the evaluation to ensure accurate heart rate and blood pressure measurements.

On the day of the evaluation, prior to the evaluation:

- Review health status with your client. Contraindications for evaluations shall be reviewed, addressing any changes in the individual's health status since his or her last medical evaluation that would warrant deferring the evaluation, including:
 - Unexplained chest pain
 - Loss of consciousness
 - Loss of balance due to dizziness (ataxia)
 - Recent injury resulting in bone, joint or muscle problem
 - Current prescribed drug that inhibits physical activity



- Chronic infectious disease (e.g., hepatitis)
 - Pregnancy
 - Any recent disorders that may be exacerbated by exercise
 - Any other reason why the individual believes that he or she should not be physically evaluated
- Inform client of all evaluation components. Ensure that the individual is in proper clothing and footwear, is comfortable and understands all facets of the evaluation.
 - Review all indicators for stopping the evaluation with client (see “Indications for Stopping Evaluation” on the following page).
 - Choose the aerobic capacity protocol and worksheet.
 - Place and secure heart rate monitor transmitter around the individual's chest, in accordance with the manufacturer's instructions. Evaluator shall hold or wear the heart rate monitor wrist receiver.
 - Obtain a resting heart rate and blood pressure prior to aerobic capacity evaluation.
 - If resting heart rate exceeds 110 beats per minute and/or resting blood pressure exceeds 160/100 mm Hg, ask the individual to relax in a quiet place for five minutes and re-test. If the heart rate and/or blood pressure remain at these levels, cancel the fitness evaluation and refer the individual to the fire department physician. If the re-test indicates a reduction in heart rate and blood pressure, the evaluation may be given.
 - Obtain and record weight and age.



2. INDICATIONS FOR STOPPING EVALUATION

For all fitness evaluations, observation of any of the following requires premature cessation of the evaluation:

1. Onset of angina or angina-like symptoms
2. Signs of poor perfusion: light-headedness, confusion, ataxia, pallor, cyanosis, nausea or cold clammy skin;
3. Failure of heart rate to increase with increase in exercise intensity;
4. Individual requests evaluation be stopped;
5. Physical or verbal manifestations of severe fatigue; or
6. Malfunction/failure of the testing equipment.



II. Testing Protocols

1. RESTING HEART RATE (RHR) MEASUREMENTS

Purpose:

- To give valuable information to aid in both the development and maintenance of a member's program.
- Provide information about cardiovascular health status and program progress information.

Protocol: (choose one of the following)

- **Carotid artery sites:**



1. The carotid pulse is taken by placing the first two fingers in the groove between the Adam's apple and the sternocleidomastoid muscles, and pressing inward gently (see figure above).
2. The pulse should be taken for 15 seconds then multiplied by 4 to get the number of beats per minute.
3. Care should be taken when using this site because baroreceptors in the carotid sinus may be sensitive to pressure, which can result in a reduction in heart rate in some individuals.
4. Care should be taken when taking the carotid pulse after exercise as it may cause feelings of lightheadedness.



- **Artery sites:**



1. Place the first two fingers over the space on the lateral aspect of the forearm and near the distal head of the radius, and gently press until the radial pulse can be palpated (see figure above).
2. The pulse should be taken for 15 seconds then multiplied by 4 to get the number of beats per minute.
3. The radial pulse can be difficult to obtain with individuals who have large amounts of areous fat over the palpation site.



2. RESTING BLOOD PRESSURE (RBP) MEASUREMENTS

Purpose:

- Measurement of resting blood pressure (BP) is an integral component of the pretest evaluation.
- It is one of the first steps in determining coronary health risks and avoiding contraindicated fitness assessment tests.

Note: be vigilant of high blood pressure readings of systolic >140 mm Hg and diastolic >90 mm Hg.

Protocol:



1. Patient should be seated for at least 5 min in a chair with their back supported and their arms bared and supported at heart level.
2. Wrap cuff firmly around upper arm at heart level; align cuff with brachial artery (see figure above).
3. The appropriate cuff size must be used to ensure accurate measurement. The bladder within the cuff should encircle at least two-thirds of the upper arm.
4. Place the stethoscope bell below the antecubital space over the brachial artery (see figure above).
5. Quickly inflate the cuff pressure to 20 mm Hg above estimated systolic BP.
6. Slowly release pressure at rate equal to 2 to 3 mm Hg/, the systolic pressure is determined by the first perception of sound.



7. Continue releasing pressure, noting when sound disappears or becomes muffled, to establish the diastolic pressure.
8. A duplicate measurement should be taken using the other arm if the first reading is abnormally low, or high.

Table 1. Blood Pressure for Uniformed Personnel Who Completed a Medical Exam within the Past 12 Months

Low Risk	Moderate Risk	High Risk
<139/89	140-159/90-99	>160/100



3. TARGET HEART RATE (THR)

1. Plug the required information into the following formula to determine estimated Maximum Heart Rate (HR_{max}).

$$\text{Estimated } HR_{max} = 220 - \text{age of client}$$

Example:

$$HR_{max} = 220 - 35$$

$$HR_{max} = 185 \text{ beats per minute (bpm)}$$

2. Plug in HR_{max} into the following formula to determine Target Heart Rate (THR) for the Gerkin Treadmill Test.

$$THR = [(HR_{max} - RHR) \times .85] + RHR$$

Example:

$$= [(185 - 60) \times .85] + 60$$

$$= (125 \times .85) + 60$$

$$= 106 + 60$$

$$THR = 166 \text{ bpm}$$



4. BODYFAT

Bioelectrical Impedance

Warning! This device is not to be used with individuals with pacemakers, pump-oxygenator or any other electronic medical device attached to the body.

Explanation: This device sends an extremely weak electric current through the body. The analyzer measures the resistance the body gives off as the current flows through it. Since fat tissues have little to no electric conductivity, it can detect the ratio of adipose tissues to other tissues. People with the following conditions may show inaccurate measurement of body fat percentage or may have a higher or lower degree of bodyfat content and bone density than average: elderly people, post-menopausal women, bodybuilders, professional clients, people with a cold or fever, people experiencing swelling, people with osteoporosis, pregnant women and patients undergoing dialysis. In these people the Bioelectrical Impedance test will be helpful in monitoring any changes in body fat.

This body composition method may be used in conjunction with the Jackson, Pollock & Ward, 3-site skinfold test to establish reliability between the tests.

Protocol:

1. Push the ON/OFF button.
2. Push the HGT button and input member's height in feet and inches.
3. Input weight in pounds (weight range 221bs-440.51bs).
4. Input age.
5. Input gender.
6. Push the set button.
7. When the "READY" symbol is displayed, hand the unit to the client.



8. Client will hold the unit in his hands at shoulder level with his/her arms fully extended.
9. Press the START button and inform client to remain still until the measurement is completed.
10. Record results on the Assessment Data Sheet (pg. 39).
11. Turn the ON/OFF button to turn off the power.

Note: Avoid the following postures when taking a measurement, as it may result in an inaccurate reading:

- Bent elbows
- Fingers are not making good contact with the electrodes
- Arms are held at an angle, either too high or too low
- The electrodes are not grasped evenly
- Moving your body or arms during the measurement
- Taking the measurement in the seated or supine position



Skin fold (Jackson, Pollock & Ward 3-Site Skinfold Measurements)

Purpose: The 3-site skinfold measurement is the most accurate method of body composition assessment next to the hydrostatic weighing method. The accuracy of predicting percent fat from skinfolds is $\pm 3.5\%$, assuming that appropriate techniques and equations have been used.

Protocol:

1. Offer the participant the option between the skinfold test and the circumference test to avoid any anxiety or embarrassment.
2. Perform the skinfold test in relative privacy and record the results on the Assessment Data Sheet (pg. 39).
3. Take all measurements on the right side of the body.



4. Place the caliper approximately one cm away from the thumb and finger, perpendicular to the skinfold, and halfway between the crest and the base of the fold.
5. Maintain the pinch while reading the caliper.
6. Take duplicate measures at each site and retest if duplicate measurements are not within 1 to 2 mm.
7. Rotate through measurement sites or allow time for skin to regain normal texture and thickness before re-measuring.
8. Once all measurements have been taken, calculate the average score for each site.
9. Refer to the Jackson and Pollock Percent Body Fat Estimation Sheet on the following page to tabulate percent body fat.

Sites (Males):

- Chest/Pectoral: diagonal fold approximately half way between the anterior axillary line and the nipple line (see first picture below).
- Abdominal: vertical fold approximately two cm to the right side of the umbilicus (see second picture below).
- Thigh: vertical fold on the anterior midline of the thigh, midway between the proximal border of the patella and the inguinal crease (hip) (see third picture below).



Sites (Females):



- **Triceps:** vertical fold on the posterior midline of the upper arm, halfway between the acromion and olecranon processes, with the arm held freely to the side of the body (see first picture below).
- **Suprailiac:** diagonal fold, in line with the natural angle of the iliac crest taken in the anterior axillary line immediately superior to the iliac crest (see second picture below).
- **Thigh:** vertical fold on the anterior midline of the thigh, midway between the proximal border of the patella and the inguinal crease (see third picture below).



General Body Fat Percentage Categories

<i>Classification</i>	<i>Women (% fat)</i>	<i>Men (% fat)</i>
Essential fat	10 - 13%	2 - 4%
Athletes	14 - 20%	6 - 13%
Fitness	21 - 24%	14 - 7%
Acceptable	25 - 31%	18 - 25%
Obese	32%+	25%+



Jackson and Pollock Percent Body Fat Estimation for Men

Sum of Skinfolds	Age Groups								
	< 22	23-27	28-32	33-37	38-42	43-47	48-52	53-57	> 57
8-10	1.3	1.8	2.3	2.9	3.4	3.9	4.5	5.0	5.5
11-13	2.2	2.8	3.3	3.9	4.4	4.9	5.5	6.0	6.5
14-16	3.2	3.8	4.3	4.8	5.4	5.9	6.4	7.0	7.5
17-19	4.2	4.7	5.3	5.8	6.3	6.9	7.4	8.0	8.5
20-22	5.1	5.7	6.2	6.8	7.3	7.9	8.4	8.9	9.5
23-25	6.1	6.6	7.2	7.7	8.3	8.8	9.4	9.9	10.5
26-28	7.0	7.6	8.1	8.7	9.2	9.8	10.3	10.9	11.4
29-31	8.0	8.5	9.1	9.6	10.2	10.7	11.3	11.8	12.4
32-34	8.9	9.4	10.0	10.5	11.1	11.6	12.2	12.8	13.3
35-37	9.8	10.4	10.9	11.5	12.0	12.6	13.1	13.7	14.3
38-40	10.7	11.3	11.8	12.4	12.9	13.5	14.1	14.6	15.2
41-43	11.6	12.2	12.7	13.3	13.8	14.4	15.0	15.5	16.1
44-46	12.5	13.1	13.6	14.2	14.7	15.3	15.9	16.4	17.0
47-49	13.4	13.9	14.5	15.1	15.6	16.2	16.8	17.3	17.9
50-52	14.3	14.8	15.4	15.9	16.5	17.1	17.6	18.2	18.8
53-55	15.1	15.7	16.2	16.8	17.4	17.9	18.5	19.1	19.7
56-58	16.0	16.5	17.1	17.7	18.2	18.8	19.4	20.0	20.5
59-61	16.9	17.4	17.9	18.5	19.1	19.7	20.2	20.8	21.4
62-64	17.6	18.2	18.8	19.4	19.9	20.5	21.1	21.7	22.2
65-67	18.5	19.0	19.6	20.2	20.8	21.3	21.9	22.5	23.1
68-70	19.3	19.9	20.4	21.0	21.6	22.2	22.7	23.3	23.9
71-73	20.1	20.7	21.2	21.8	22.4	23.0	23.6	24.1	24.7
74-76	20.9	21.5	22.0	22.6	23.2	23.8	24.4	25.0	25.5
77-79	21.7	22.2	22.8	23.4	24.0	24.6	25.2	25.8	26.3
80-82	22.4	23.0	23.6	24.2	24.8	25.4	25.9	26.5	27.1
83-85	23.2	23.8	24.4	25.0	25.5	26.1	26.7	27.3	27.9
86-88	24.0	24.5	25.1	25.7	26.3	26.9	27.5	28.1	28.7
89-91	24.7	25.3	25.9	26.5	27.1	27.6	28.2	28.8	29.4
92-94	25.4	26.0	26.6	27.2	27.8	28.4	29.0	29.6	30.2
95-97	26.1	26.7	27.3	27.9	28.5	29.1	29.7	30.3	30.9
98-100	26.9	27.4	28.0	28.6	29.2	29.8	30.4	31.0	31.6
101-103	27.5	28.1	28.7	29.3	29.9	30.5	31.1	31.7	32.3
104-106	28.2	28.8	29.4	30.0	30.6	31.2	31.8	32.4	33.0
107-109	28.9	29.5	30.1	30.7	31.3	31.9	32.5	33.1	33.7
110-112	29.6	30.2	30.8	31.4	32.0	32.6	33.2	33.8	34.4
113-115	30.2	30.8	31.4	32.0	32.6	33.2	33.8	34.5	35.1
116-118	30.9	31.5	32.1	32.7	33.3	33.9	34.5	35.1	35.7
119-121	31.5	32.1	32.7	33.3	33.9	34.5	35.1	35.7	36.4
122-124	32.1	32.7	33.3	33.9	34.5	35.1	35.8	36.4	37.0
125-127	32.7	33.3	33.9	34.5	35.1	35.8	35.4	37.0	37.6



Jackson and Pollock Percent Body Fat Estimation for **Women**

Sum of Skinfolds (mm)	Age Groups								
	< 22	23-27	28-32	33-37	38-42	43-47	48-52	53-57	> 57
23-25	9.7	9.9	10.2	10.4	10.7	10.9	11.2	11.4	11.7
26-28	11.0	11.2	11.5	11.7	12.0	12.3	12.5	12.7	13.0
29-31	12.3	12.5	12.8	13.0	13.3	13.5	13.8	14.0	14
32-34	13.6	13.8	14.0	14.3	14.5	14.8	15.0	15.3	15.5
35-37	14.8	15.0	15.3	15.5	15.8	16.0	16.3	16.5	16
38-40	16.0	16.3	16.5	16.7	17.0	17.2	17.5	17.7	18.0
41-43	17.2	17.4	17.7	17.9	18.2	18.4	18.7	18.9	19.2
44-46	18.3	18.6	18.8	19.1	19.3	19.6	19.8	20.1	20.3
47-49	19.5	19.7	20.0	20.2	20.5	20.7	21.0	21.2	21.5
50-52	20.6	20.8	21.1	21.3	21.6	21.8	22.1	22.3	22.6
53-55	21.7	21.9	22.1	22.4	22.6	22.9	23.1	23.4	23.6
56-58	22.7	23.0	23.2	23.4	23.7	23.9	24.2	24.4	24.7
59-61	23.7	24.0	24.2	24.5	24.7	25.0	25.2	25.5	25.7
62-64	24.7	25.0	25.2	25.5	25.7	26.0	26.7	26.4	26.7
65-67	25.7	25.9	26.2	26.4	26.7	26.9	27.2	27.4	27.7
68-70	26.6	26.9	27.1	27.4	27.6	27.9	28.1	28.4	28.6
71-73	27.5	27.8	28.0	28.3	28.5	28.8	29.0	29.3	29
74-76	28.4	28.7	28.9	29.2	29.4	29.7	29.9	30.2	30.4
77-79	29.3	29.5	29.8	30.0	30.3	30.5	30.8	31.0	31
80-82	30.1	30.4	30.6	30.9	31.1	31.4	31.6	31.9	32.1
83-85	30.9	31.2	31.4	31.7	31.9	32.2	32.4	32.7	32
86-88	31.7	32.0	32.2	32.5	32.7	32.9	33.2	33.4	33.7
89-91	32.5	32.7	33.0	33.2	33.5	33.7	33.9	34.2	34.4
92-94	33.2	33.4	33.7	33.9	34.2	34.4	34.7	34.9	35.2
95-97	33.9	34.1	34.4	34.6	34.9	35.1	35.4	35.6	35.9
98-100	34.6	34.8	35.1	35.3	35.5	35.8	36.0	36.3	36.5
101-103	35.3	35.4	35.7	35.9	36.2	36.4	36.7	36.9	37.2
104-106	35.8	36.1	36.3	36.6	36.8	37.1	37.3	37.5	37.8
107-109	36.4	36.7	36.9	37.1	37.4	37.6	37.9	38.1	38.4
110-112	37.0	37.2	37.5	37.7	38.0	38.2	38.5	38.7	38.9
113-115	37.5	37.8	38.0	38.2	38.5	38.7	39.0	39.2	39.5
116-118	38.0	38.3	38.5	38.8	39.0	39.3	39.5	39.7	40.0
119-121	38.5	38.7	39.0	39.2	39.5	39.7	40.0	40.2	40.5
122-124	39.0	39.2	39.4	39.7	39.9	40.2	40.4	40.7	40.9
125-127	39.4	39.6	39.9	40.1	40.4	40.6	40.9	41.1	41.4
128-130	39.8	40.0	40.3	40.5	40.8	41.0	41.3	41.5	41.8



5. SEVEN-POINT FUNCTIONAL MOVEMENT SCREENING (FMS)

This segment of the assessment should only be performed if you have been trained in the Functional Movement Screening.

The following is a summary of the Functional Movement Screening. For more detailed instructions and pictures, refer to the FMS tab in this manual.

Functional Movement Screen: Test administration process

- Follow the test in succession as described in the FMS manual.
- The Functional Movement Screen studies fundamental movement patterns in an effort to determine a weak link in a client's movements. This makes it important to perform the entire screen prior to attempting to interpret the score. The tester must take into consideration the scores from all tests in order to make a proper deduction about the client's functional movement patterns.
- Remember that this is a screening process and the purpose of the screen *is not* to make a diagnosis.

Equipment/Tools Required:

- 2x6 board
- 5 ft. dowel
- Hurdle
- Tape measure

Scoring:

- 0: If there is pain at any time during the testing, anywhere in the body.
- 1: If the client is unable to complete the movement pattern or is unable to get into the position to perform the movement.
- 2: If the client is able to complete the movement but must compensate in some way to perform the fundamental movement.



- 3: If the client performs the movement correctly without any compensation.

FMS Tests and Protocols:

Deep Squat

Description:

The individual assumes the starting position by placing his/her feet approximately shoulder width apart with the feet aligned in the sagittal plane. The individual then adjusts their hands on the dowel to assume a 90-degree angle of the elbows with the dowel overhead. Next, the dowel is pressed overhead with the shoulders flexed and abducted, and the elbows extended. The individual is then instructed to descend slowly into a squat position. The squat position should be assumed with the heels on the floor, the head and chest facing forward and the dowel maximally pressed overhead. The individual may repeat the movement up to three times. If the criteria for a score of three is not achieved, the client is then asked to perform the test with a 2 x 6 board under their heels.

Tips for testing:

- When in doubt, score it low.
- Try not to interpret the score while testing.
- If in doubt, view the individual from the side.

Verbal Instructions:

- "Hold the dowel with both hands over your head, maintaining a 90-degree angle at your shoulders and elbows."
- "Place your feet approximately shoulder width apart with toes pointing forward."
- "While maintaining an upright posture, with the dowel over your head and your heels on the floor, descend into a deep squat until your thighs are parallel with the floor." (Score the individual.)
- "Return to the starting position." (Repeat up to three times if necessary.)



- Repeat the instructions as stated above using a 2 x 6 beneath the subject's heels, if necessary.

Hurdle Step

Description:

The individual assumes the starting position by first placing the feet together and aligning the toes so that they are touching the base of the hurdle. Adjust the hurdle to the height of the client's tibial tuberosity. Instruct the individual to position the dowel across the shoulders and below the neck, then step over the hurdle and touch their heel to the floor while maintaining the standing leg in an extended position, and finally return the moving leg to the starting position. The hurdle step should be performed slowly and as many as three times bilaterally. If one repetition is completed bilaterally meeting the criteria below, a score of three is given.

Tips for testing:

- Score the leg that is stepping over the hurdle.
- Ensure that the individual maintains a stable torso.
- Ensure that toes stay in contact with the hurdle during and after each repetition.
- Instruct individual not to lock knees during test.
- Maintain proper alignment with the string and the tibial tuberosity.
- When in doubt, score low.
- Do not try to interpret the score when testing.

Verbal Instruction:

- "Place the dowel across your shoulders. Now, stand comfortably with your feet together and your toes against the base of the hurdle."
- "While maintaining an upright posture, step over the hurdle without touching the string. Touch the floor with your heel and return to the starting position."
- Repeat instructions for the left foot. (Score the subject.)
- Repeat up to three times per side if necessary.



In-Line Lunge

Description: Attains the individual's tibia length, by measuring it from the floor to the tibia tuberosity or acquiring it from the height of the string during the hurdle step test. Ask the individual to place the end of their heel on the end of the board. The tibia measurement is then measured from the end of the toes on the board and is marked. The dowel is placed behind the back, touching the head, thoracic spine and sacrum. The hand opposite to the front foot should be the hand grasping the dowel at the cervical spine. The other hand grasps the dowel at the lumbar spine. Instruct the individual to step on the board, placing the heel of the opposite foot at the mark on the board, then lower the back knee enough to touch the board behind the heel of the front foot and finally return to starting position. The lunge is performed up to three times bilaterally in a slow, controlled fashion. If one repetition is completed successfully, then a score of three is given.

Tips for testing:

- The front leg identifies the side being scored.
- Dowel should remain in contact with head, thoracic spine and sacrum.
- The front heel should remain in contact with the board and the back heel should touch the board when returning to starting position.
- When in doubt, score low.
- Remain close to individual in case he/she has a loss of balance.

Verbal Instruction:

- "Hold the dowel with both hands and position it along your spine with your right hand against the back of your neck and your left hand against your low back."
- "Step onto the 2 x 6 with your right foot along the back edge and place your left foot with the heel just past (length of the tibia) the black line (or mark). Point your toes forward and keep them pointing forward."



- "While maintaining an upright posture, descend into a lunge, touching your right knee along the black line (or mark) behind your left heel. Maintain contact with the dowel against the head, thoracic spine and sacrum."
- "Return to the starting position, making sure to place the right heel flat on the board."
- Repeat instructions one through four with the left side. (Score the subject.)
- Repeat up to three times per side if necessary.

Shoulder Mobility

Description: The tester first determines the hand length by measuring the distance from the distal wrist crease to the tip of the third digit. The individual begins by standing with feet together, and remains in this position throughout the test. Instruct the individual to make a fist with each hand, placing the thumb inside the fist then to assume a maximally adducted, extended and internally rotated position with one shoulder, and a maximally abducted, flexed and externally rotated position with the other. During the test, the hands should remain in a fist and they should be placed on the back in one smooth motion. The tester measures the distance between the two closest bony prominences. Perform the shoulder mobility test as many as three times bilaterally.

Clearing exam:

There is a clearing exam at the end of the shoulder mobility test. If the movement produces pain, a positive is recorded and a score of zero is given to the entire shoulder mobility test.

Tips for testing:

- The flexed shoulder identifies the side being scored.
- If the hand measurement is exactly the same as the distance between the two points, then score low.
- The clearing test overrides the score on the rest of the test.



- Make sure individual does not try to "walk" the hands toward each other.

Verbal Instruction:

- "Make a fist with the thumbs tucked in the fist."
- "In a single motion, place your right fist over your head and on to your back. Place your left fist behind your back, attempting to touch the fists."
- "Do not move your hands closer after their initial placement." (Measure the distance between the fists.)
- Repeat instructions with the opposite hand placement. (Score the subject.)

Active Shoulder Stability Verbal Instruction:

- "Place your right hand on your left shoulder."
- "While maintaining that hand placement, raise your right elbow toward your forehead."
- "Do you feel any pain?"
- Repeat instructions one through three with the left side. (Score the subject.)

Active Straight Leg Raise

Description: The individual first assumes the starting position by lying supine with the arms in an anatomical position and head flat on the floor. Place the board under the knees. Identify the mid-point between the anterior superior iliac spine (ASIS) and the mid-point of the patella and place the dowel at this position, perpendicular to the ground. Next, instruct the individual to lift the test leg with a dorsiflexed ankle and an extended knee. During the test the opposite knee should remain in contact with the board, the toes should remain pointed upward, and the head should remain flat on the floor. Once the end range position is achieved, and the malleolus is located past the dowel, record the score. If the malleolus does not pass the dowel, then the dowel is aligned along the medial malleolus of the test leg, perpendicular to the floor and scored. The active straight leg raise test should be performed as many as three times bilaterally.



Tips for testing:

- The flexed hip identifies the side being scored.
- Make sure the leg on the floor does not externally rotate at the hip.
- Both knees should remain extended and the knee on the extended hip should touch the board.
- If the dowel resides at exactly the mid-point, score low.

Verbal Instruction:

- "Lie on your back with the back of your knees against the 2 x 6, arms at your side, palms facing up, and toes pointing up."
- "Lift the toes of your right foot toward your shin. With your legs straight and toes pointing toward the ceiling, raise your right leg as high as possible, without any movement occurring in the left leg." (Measure lift in relation to opposite leg.)
- Repeat instructions with the left side. (Score the subject.)

Trunk Stability Push-Up

Description: The individual assumes a prone position with the feet together with hands placed shoulder width apart at the appropriate position. The knees are then fully extended and the ankles are dorsiflexed. Instruct the individual to perform one push-up in this position and to lift the body as one unit. There should be no lag in the lumbar spine when performing this push-up. If the individual cannot perform a push-up in this position, the hands are lowered to the appropriate position per the criteria.

Clearing exam: A clearing exam is performed at the end of the trunk stability push-up test. If the movement produces pain, a positive score is recorded and a score of zero is given to the entire push-up test.

Tips for testing:

- Instruct individual to lift the body as one unit.
- Make sure original hand position is maintained.



- Make sure the chest and stomach come off the floor at the same time.
- When in doubt, score it low.
- The clearing test overrides the test score.

Verbal Instruction:

- "Lie on your stomach with your hands positioned shoulder width apart."
 - Males: thumbs in line with the forehead.
 - Females: thumbs in line with the chin.
- "Raise your toes toward your shin and place them on the ground. Extend your knees off of the ground."
- "Maintain a rigid torso; raise yourself as one unit into a push-up position." (Score the subject.)
- Repeat up to three times if necessary.

Prone Press-up Verbal Instruction:

While lying on their stomach, instruct the individual to:

- "Place both hands (palms down) beneath your shoulders."
- "Press your chest off of the floor by extending your elbows, arching your back as much as possible, keeping your hips in contact with the floor."
- "Do you feel any pain?" (Score the subject.)

Rotary Stability

Description: The individual assumes the starting quadruped position with shoulders and hips at 90-degrees relative to the torso. The knees are positioned at 90-degrees and the ankles should remain dorsiflexed. The board is placed between the knees and hands so they are in contact with the board. The individual then flexes the shoulder and extends the same side hip and knee. The leg and hand are only raised enough to clear the floor by approximately six inches. The elbow, hand and knee that are lifted should all remain in line with the board and the torso should remain in the same plane as the board. The same shoulder is then extended and the knee flexed enough for the elbow and knee to touch. This is performed bilaterally for up to three repetitions. If a score of



three is not attained, then the individual performs a diagonal pattern using the opposite shoulder and hip in the same manner as described above.

Clearing exam: A clearing exam is performed at the end of the rotary stability test. If the movement produces pain, a positive score is recorded and a score of zero is given to the entire rotary stability test.

Tips for testing:

Scoring is identified by the upper extremity movement on the score sheet. However, even if an individual scores a three, both diagonal patterns must be performed and scored. The information should be noted on the score sheet.

- Make sure the knee and elbow remain over the board and the back remains flat
- Make sure the elbow and knee touch during the flexion part of the movement.
- Provide cuing to let the individual know it is not necessary to raise the hip and arm above six inches off of the floor.
- When in doubt, score low.

Verbal Instruction:

In a hands and knees position, instruct the subject to:

- "Position your shoulders and hips at 90-degrees, with your thumbs and knees touching the sides of the 2 x 6. Lift both your right arm and leg off of the ground, pointing the arm forward and leg backward."
- "Next, touch your right elbow and knee over the board then return to the extended position. Perform this movement keeping your back as flat as possible."
- Repeat instructions with the left side. If necessary, instruct the subject to use a diagonal pattern of right arm and left leg. Repeat diagonal pattern with left arm and right leg. (Score the subject.)

Passive Spinal Flexion Verbal Instruction:

While in a hands and knee position, instruct the subject to:



- "Keep your hands on the floor and rock back onto your heels."
- "Lower your chest to your knees, reaching your arms in front of you on the floor."
- "Do you feel any pain?" (Score the subject.)

OCFA



6. AEROBIC FITNESS

TREADMILL EVALUATION: Gerkin Protocol Submaximal Graded Treadmill Evaluation

Contraindications:

- A score of 3+ on the ACSM Cardiac Risk Profile Worksheet
- Orthopedic injury to back and/or lower limbs

Premature Termination of Test

The individual should be instructed about the test protocol and what is expected before, during and after the evaluation, including the start and stop procedures. The procedures could be terminated early if the individual experiences:

- Onset of angina or angina like symptoms or extreme shortness of breath;
- Signs of poor perfusion (blood flow): light-headedness, confusion, ataxia, pallor, cyanosis, nausea or cold clammy skin;
- Failure of heart rate to increase with increase in exercise intensity or signs of arrhythmias;
- Individual requests to stop;
- Physical or verbal manifestations of fatigue; or
- Failure of the test equipments.

Equipment

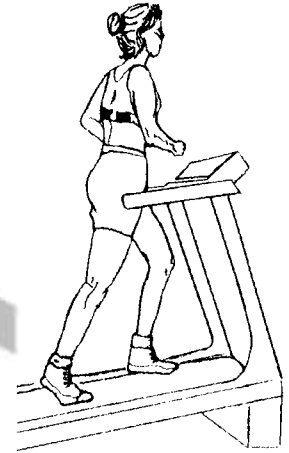
- LifeFitness 9100HR or verified equivalent commercial treadmill Polar Heart Rate Monitor
- Stopwatch

Protocol

1. Conduct Pre-Evaluation Procedures.



2. Instruct the individual to straddle the treadmill belt until it begins to move.
3. At approximately one mph, instruct the individual is to step onto the belt. The belt speed is increased to three mph at 0% grade.
4. The individual warms up at three mph at 0% grade for three minutes.
5. During the warm-up, inform the individual that the evaluation is submaximal and will terminate once their monitored heart rate exceeds their target exercise heart rate for 15 seconds.
6. Inform the individual that the target exercise heart rate is 85% of their predicted maximal heart rate.
7. Advise the individual that the evaluation is a series of one-minute exercise stages, alternating between percent grade and speed (i.e., first minute percent grade is increased; second minute speed is increased, etc).
8. Inform the individual that if at anytime during the evaluation they experience chest pain, lightheadedness, ataxia, confusion, nausea, or clamminess, they should ask the evaluator to terminate the evaluation.
9. Inform the individual that the belt speed will gradually increase to the starting speed of 4.5 mph and 0% grade, at which Stage I begins. The individual may walk or run, whichever feels more comfortable.
10. During the evaluation, the individual's heart rate is continuously monitored and the heart rate is recorded during the last quarter (15 seconds) of each stage.
11. At the completion of the first minute (stage 1: 4.5 mph @ 0% grade), the grade should be increased to 2%. Subsequently, after every odd minute the grade will be increased an additional 2%.
12. After every even minute the speed will be increased 0.5 mph. This will continue until the individual's heart rate exceeds their target exercise heart rate or demonstrates any of the criteria for early termination of the treadmill evaluation.





7. MUSCULAR STRENGTH

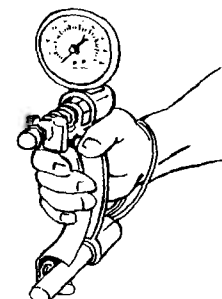
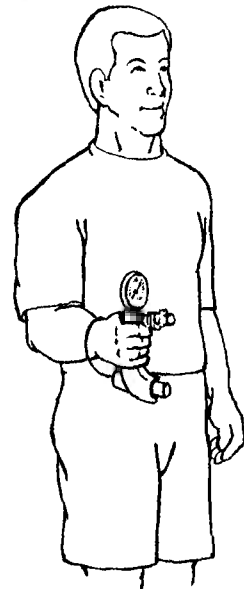
GRIP STRENGTH: Handgrip Muscle Strength Evaluation Protocol

Equipment

- Jamar Hydraulic Hand dynamometer
- Towel

Protocol

1. Conduct Pre-Evaluation Procedures.
2. Instruct the client to towel hands to ensure they are dry.
3. Instruct the client to place the dynamometer in the hand to be evaluated. Evaluator should adjust the dynamometer to ensure that the bottom of the handle clip is adjusted to fit snug in the first proximal interphalangeal joint.
4. The red peak-hold needle should be rotated counterclockwise to the "0" position.
5. Advise the client that the evaluation is a series of six measurements - three for each hand. Inform the individual that the isometric contraction (squeezing) required during this evaluation must be eased into and then released slowly, without swinging arm, pumping arm or jerking the hand.
6. Inform the client that if at any time during the evaluation he or she experiences chest pain, light-headedness, ataxia, confusion, nausea or clamminess, he or she should terminate the evaluation
7. Instruct the individual to assume a slightly bent forward position, with elbow bent at a 90-degree angle, shoulder adducted and neutrally rotated, forearm and wrist in neutral position.





8. Instruct the individual to squeeze with maximum strength for two to three seconds while exhaling and then slowly release grip (the peak-hold needle will automatically record the highest force).
9. Measure both hands alternatively, allowing three evaluations per hand.
10. Reset the peak-hold needle to zero before obtaining new readings.
11. List the scores for each hand to the nearest kilogram.
12. Record the highest score.

General Grip Strength Categories

<i>Classification</i>	<i>Males</i>	<i>Females</i>
Excellent	>64	>38
Very good	56–64	34–38
Above average	52–56	30–34
Average	48–52	26–30
Below average	44–48	22–26
Poor	40–44	20–22
Very poor	<40	<20



8. MUSCULAR ENDURANCE

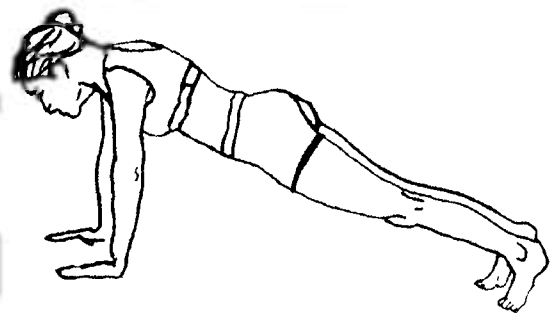
PUSH-UP: Push-up Evaluation Protocol

Equipment

- Five-inch prop (i.e., cup, sponge, roll of bathroom tissue)
- Metronome
- Stopwatch

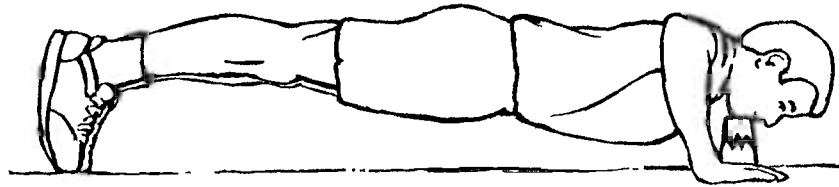
Protocol

1. Advise the individual that the evaluation is a series of push-ups performed in a two-minute time period.
2. Advise the individual that the evaluation is initiated from the "up" position (hands are shoulder-width apart, back is straight, and head is in neutral position.)
3. Inform the individual that they are not allowed to have their feet against a wall or other stationary item. Additionally, the back must be straight at all times and they must push up to a straight arm position.
4. Instruct the individual to continue performing push-ups in time with the cadence of the metronome, one beat up and one beat down.
5. Inform the individual that if at any time during the evaluation he or she experiences chest pain, light-headedness, ataxia, confusion, nausea, or clamminess, he or she should terminate the evaluation.
6. The evaluator should place the five-inch prop on the ground beneath the individual's chin and the individual must lower the body to the floor until the chin touches this object.





7. The metronome should be set at a speed of 80, allowing for 40 push-ups per minutes.
8. The individual has two minutes to complete a maximum of 80 push-ups.
9. The administrator shall stop the evaluation if the individual:
 - performs 80 push-ups;
 - performs three consecutive incorrect push-ups; or
 - does not maintain continuous motion with the metronome cadence.
10. Record the highest number of successfully completed push-ups.



CURL-UP: Curl-up Evaluation Protocol

Equipment

- Gym mat
- Metronome
- Stopwatch

Protocol

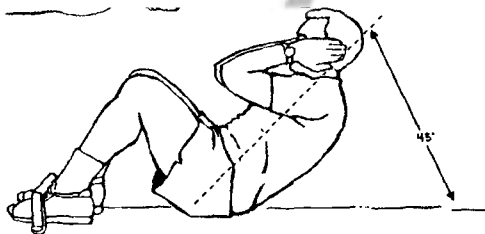
1. Advise the individual that the evaluation is a series of curl-ups performed in a three-minute time period.
2. Inform the individual that the evaluation is initiated from the supine position with knees bent at a 90-degree angle and the hands cupped over the ears or at the





temples. Hand and arm position must be maintained for the entire duration of the evaluation.

3. Advise the individual that his/her feet will be secured by a bar or a second administrator, but the holding or bracing of the knees and or ankles is not allowed.
4. Instruct the individual that the curl-up is initiated by flattening the low back, followed by actively contracting the abdominal muscles and then continuing the movement until the trunk reaches a 45-degree angle with respect to the floor.
5. This is followed by curling down of the trunk with the low back fully contacting the mat before the upper back and shoulders.
6. A rocking or bouncing movement is not permitted and the buttocks must remain in contact with the mat at all times.
7. Instruct the individual to continue performing curl-ups in time with the cadence of



the metronome, one beat up and one beat down. Inform the individual that if at any time during the evaluation he or she experiences back pain, chest pain, light-headedness, ataxia, confusion, nausea, or clamminess,

he or she should terminate the evaluation.

8. The metronome is set at a speed of 60, allowing for 30 curl-ups per minute.
9. The individual has a three-minute time limit to successfully complete a maximum of 90 curl-ups.
10. The administrator shall observe the evaluation from the side to ensure that each curl-up is performed correctly and shall stop the evaluation if the individual:
 - reaches 90 curl-ups;
 - performs three consecutive incorrect curl-ups; or
 - does not maintain continuous motion with the metronome cadence.
11. Record the highest number of successfully completed curl-ups.



9. FLEXIBILITY

Sit and Reach: Sit and Reach Evaluation Protocol (optional if FMS was performed)

Equipment

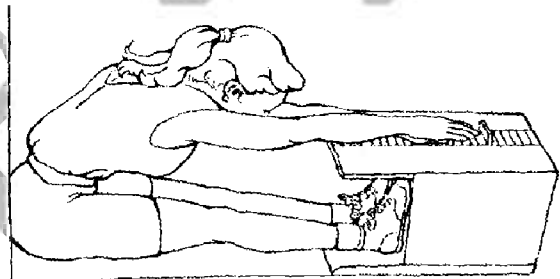
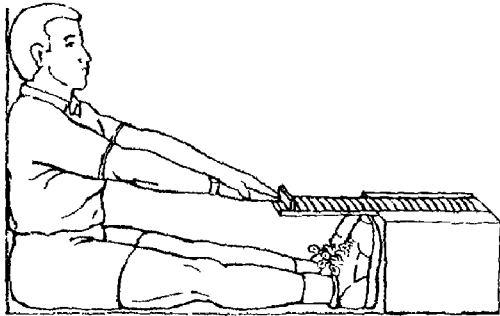
- Novel Acuflex I or equivalent trunk flexibility tester

Protocol

1. Advise the individual that the evaluation is a series of three measurements that will evaluate the flexibility of the low back, hamstring muscles and shoulders.
2. Inform the individual that the flexion required during this evaluation must be smooth and slow, as the individual advances the slide on the box to the most distal position possible. Inform the individual that if at any time during the evaluation he or she experiences back pain, chest pain, light-headedness, ataxia, confusion, nausea, or clamminess, he or she should terminate the evaluation.
3. Instruct the individual to sit on the floor ensuring the head, upper back, and low back are in contact with the wall.
4. Instruct the individual to place legs together, fully extended. The sit and reach box, with the sliding measurement guide, is placed flat against the feet.
5. While maintaining head and upper/low back contact with the wall, instruct the individual to fully extend the arms in front of the body, with the right hand overlaying the left hand and with middle finger of each hand directly over each other. The ruler is set to 0.0 inches at the tips of the middle fingers.
6. The individual is then instructed to exhale slowly while stretching slowly forward, bending at the waist and pushing the measuring device with the middle fingers. During the stretch, legs are to remain together and fully extended and hands are to remain overlaid.



7. The stretch is held momentarily and the distance recorded. If the individual bounces, flexes the knees or uses momentum to increase distance, the score is not recorded.
8. Instruct the individual to relax for 30 seconds (once the individual has completed the 30-second recovery period begin the second evaluation).
9. Repeat evaluation for the third time using the same procedure.
10. Record the furthest distance from the three trials (round to the nearest 1/4 inch) as the final score.





Peer Fitness Trainer Fitness Assessment Data Sheet

Client Name: _____ Date: ____/____/____

Station/Battalion: _____ Position: _____

PFT Name: _____ PFT Initials: _____

PRESCREENING

1. Risk classification from "ACSM Cardiac Risk Profile Worksheet": 1 2 3

2. Additional injuries and/or limitations: _____

PHYSICAL SCREENING

(1.) Age: _____ (2.) Date of Birth: ____/____/____ (3.) Male / Female

(4.) Weight: _____ lbs. (5.) Height: _____ ft. _____ inches

(6.) Resting Heart Rate: (trial #1) _____ bpm (trial #2) _____ bpm

(7.) Resting Blood Pressure: (trial #1) ____/____ (trial #2) ____/____

(8.) HR_{max} :

$$HR_{max} = 220 - Age$$

$HR_{max} =$ _____ BPM

(9.) THR:

$$Target\ HR = [(HR_{max} - HR_{rest}) \times .85] + HR_{rest}$$

= [(____ - ____) x .85] + ____

THR = _____ BPM



(10.) Bodyfat

Bioelectrical Impedance: _____ % _____ lbs in fat

Skin Fold:

Females

Triceps	_____	_____
Suprailiac	_____	_____
Thigh	_____	_____

Males

Chest/Pectoral	_____	_____
Abdominal	_____	_____
Thigh	_____	_____

(11.) 7 – Point Movement Screen

Test	RAW Score	Final	Comments
Deep Squat	0 1 2 3	0 1 2 3	
Hurdle Step L	0 1 2 3	0 1 2 3	
Hurdle Step R	0 1 2 3	0 1 2 3	
In-line Lunge L	0 1 2 3	0 1 2 3	
In-line Lunge R	0 1 2 3	0 1 2 3	
Shoulder Mobility L	0 1 2 3	0 1 2 3	
Shoulder Mobility R	0 1 2 3	0 1 2 3	
Active Straight Leg Raise L	0 1 2 3	0 1 2 3	
Active Straight Leg Raise R	0 1 2 3	0 1 2 3	
Trunk Stability Push-up	0 1 2 3	0 1 2 3	
Extension	0 1 2 3	0 1 2 3	
Rotary Stability L	0 1 2 3	0 1 2 3	
Rotary Stability R	0 1 2 3	0 1 2 3	
Flexion	0 1 2 3	0 1 2 3	



(12.) TREADMILL EVALUATION: Gerkin Protocol Submaximal Graded Treadmill Evaluation

THR (85%) = _____BPM

Test Results	
Stages Completed:	
Converted VO ₂ _{max} :	
Time Terminated:	
Reason for Termination:	

Stage	Minute	Speed (MPH)	Grade (%)	Heart Rate (last 15 seconds of stage)
Warm- up	3 minutes	3.0	0	
1	1	4.5	0%	
2	2	4.5	2%	
3	3	5.0	2%	
4	4	5.0	4%	
5	5	5.5	4%	
6	6	5.5	6%	
7	7	6.0	6%	
8	8	6.0	8%	
9	9	6.5	8%	
10	19	6.5	10%	
11	11	7.0	10%	
Cool-down	1 minute	3.0	0	





(13.) GRIP STRENGTH: Handgrip Muscle Strength Evaluation

Dominant Hand: LEFT / RIGHT

Left Hand

Right Hand

Trial #1: ____ kilograms

Trial #1: ____ kilograms

Trial #2: ____ kilograms

Trial #1: ____ kilograms

Trial #3: ____ kilograms

Trial #1: ____ kilograms

Highest strength score: ____ kilograms

If evaluation was terminated, give the reason: _____

(14.) PUSH-UPS

Number of successfully completed push-ups in two minutes: _____

If evaluation terminated, give reason(s): _____

(15.) CURL-UPS

Number of successfully completed curl-ups in three minutes: _____

If evaluation terminated, give reason(s): _____

(16.) Sit and Reach (optional if FMS was conducted)

Trial #1: _____ inches

Trial #2: _____ inches

Trial #3: _____ inches

Furthest distance: _____ inches

If evaluation terminated, give reason(s): _____



WARM UP MOVEMENT PREP STRETCHES

I. Definition of Movement Prep

- a. Ten exercises which require no equipment
 - i. Each exercise performed for five to ten repetitions
 - ii. Performed two to six times a week

II. Explanation of Movement Prep

- a. Process of actively lengthening the muscles (elongation), followed by contracting the muscles
- b. Stabilize muscles around the joints
 - i. Improved posture and performance and decreased the risk of injury
- c. Activate muscles around the joints
 - i. Muscles are available and participating

III. Goals of Movement Prep

- a. Prepares the body for movement
- b. Boosts heart rate
- c. Increases blood flow to muscles
- d. Raises core temperature
- e. Stimulates the nervous system

IV. Benefits of Movement Prep

- a. Improved mobility
- b. Increased flexibility
- c. Increased stability
- d. Increased speed and power output
- e. Improved balance
- f. Increased proprioception

V. Other advantages of Movement Prep

- a. Muscles remain activated for several hours
 - i. Prepares body for random, chaotic movement



Hip Crossover: Level 1



Start position: Lie face up with arms extended out to the sides, knees bent, and heels on the floor (toes pointing up toward the ceiling.)

Procedure: Slowly let knees fall to the right as far as comfortably possible, while turning your head to the left. Bring knees back to center and repeat to the left side. Continue for prescribed number of repetitions.

Coaching tips: Keep feet, torso and both shoulders in contact with the ground throughout the entire movement. Keep the knees together and keep the abdominals tight.

You should feel: Contraction of the abdominals and a stretch in the back, hips and glutes.

Hip Crossover: Level 2



Start position: Lie face up with arms extended out to the sides, legs up in the air with knees bent at a 90-degree angle (toes pointing up toward the ceiling.)

Procedure: Slowly let knees fall to the right as far as comfortably possible, while turning head to the left. Bring knees back to center and repeat to the left side. Continue for prescribed number of repetitions.

Coaching tips: Keep torso and shoulders in contact with the ground throughout the entire movement. Keep the knees together and keep the abdominals tight.

You should feel: Contraction of the abdominals and a stretch in the back, hips and glutes.



Hip Crossover: Level 3



Start position: Lie face up with arms extended out to the sides, legs straight up in the air.

Procedure: Slowly let legs fall to the right, while turning head to the left. Bring legs back to center and repeat to the left side. Continue for prescribed number of repetitions.

Coaching tips: Keep both shoulders flat on the ground throughout the entire movement. Keep abdominals tight and keep breathing slow and even.

You should feel: Contraction of the abdominals and a stretch through the back, hips and glutes.

Calf Stretch



Start position: From a push-up position, place your right foot over your left heel with your weight on the ball of your left foot.

Procedure: Pull the toes on your left foot up toward your shin as you use your right foot to push your left heel down toward the ground. Release the stretch and repeat. Repeat on the other foot.

Coaching tips: Pull your toes toward the shin while pushing the heel down.

You should feel: A stretch in your calf, ankle and Achilles tendon.



Backward Lunge with a Twist



Start position: Standing

Procedure: Step backward with the left foot into a lunge position, contracting the glutes. Rotate the torso toward the right leg while extending the right arm and reaching up with the left arm. Reverse the twist back to neutral and return to standing position by pulling through with left hip flexors. Immediately step into a lunge with the right leg.

Coaching tips: Maintain upright posture throughout the movement. Maintain a 90-degree angle in the front leg and do not let the front knee slide past the front foot.

You should feel: Stretch in the hip flexors of the back leg and in the glutes of the front leg.

Forward Lunge Elbow to Instep



Start position: Standing

Procedure: Step forward into a lunge with the right foot. Place the left hand on the ground and move the right elbow to the inside of the right foot. Hold the stretch for three seconds. Place the right hand outside of right foot and push hips toward the sky. Drop hips and step into next repetition with the other leg. Continue for prescribed number of repetitions.

Coaching tips: Keep the back knee off ground. Contract glutes during the stretch.

You should feel: A stretch in the back leg hip flexors, front leg glutes and the hamstrings.



Hand Walk: Level 1



Start position: Standing

Procedure: From a standing position, bend over at the waist and walk the hands out into a push-up position. Keeping the knees straight, walk feet toward hands. When stretch is felt in the hamstrings and it is no longer possible to continue to walk the feet up while keeping the knees straight, walk hands back out and repeat entire sequence.

Coaching tips: Keep abdominals tight and back straight. Keep the knees straight when walking the feet up.

You should feel: A stretch in the low back, hamstrings, Achilles tendon and calves.

Hand Walk: Level 2



Start position: Standing

Procedure: From a standing position, bend over at the waist and walk the hands out into a push-up position. Keeping the knees straight, walk feet toward hands. When stretch is felt in the hamstrings and it is no longer possible to continue to walk the feet up while keeping the knees straight, walk hands back out and repeat entire sequence.

Coaching tips: Keep abdominals tight and back straight. Keep the knees straight when walking the feet up.

You should feel: A stretch in the low back, hamstrings, Achilles tendon and calves.



Inverted Hamstring: Level 1



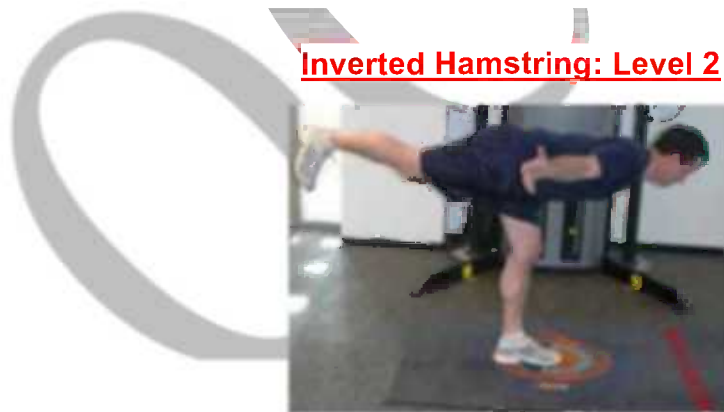
Start position: Stand on one leg with arms raised to the sides at shoulder level, with thumbs pointing back. Shoulder blades should be pinched together or retracted.

Procedure: Bend over at the waist and push right heel toward the sky while keeping toes pointed toward the ground. Keep the arms extended at shoulder level with thumbs pointing up (toward the sky). When body is in a straight line from heel to top of the head and stretch is felt in the hamstrings, return to standing position. Repeat on same leg for prescribed number of repetitions, then switch legs.

Coaching tips: Keep back flat throughout the movement.

You should feel: A stretch in the hamstrings.

Inverted Hamstring: Level 2



Start position: Stand on one leg with arms raised to the sides at shoulder level, with thumbs pointing back. Shoulder blades should be pinched together or retracted.

Procedure: Same as level one (above), except after lowering extended leg, take a step forward between repetitions.

Coaching tips: Keep back flat throughout the movement.

You should feel: A stretch in the hamstrings.



Scorpion



Starting position: Lie prone on the floor with arms extended out at shoulder level and toes, knees, hands and shoulders in contact with the floor

Procedure: Contract the left glutes to slowly raise the left leg up, pushing the left heel toward the ceiling. Slowly take the left leg across the body toward the right hand while keeping the left hip in contact with the floor. Alternate legs.

Coaching tips: Keep shoulders and hands in contact with the floor throughout the entire movement.

You should feel: A stretch in your quads and hips flexors and contraction of the glutes.

Lateral Lunge



Start position: Standing

Procedure: Step to the right with the right foot keeping toes forward and heel flat on the floor. The left leg should be extended with heel and toes in contact with the floor. Bend the right knee to a 90-degree angle to lower the body into a side lunge position.

Coaching tips: Keep bodyweight in the heel of the bent leg. Keep the head and chest up and keep the back flat throughout the entire movement.

You should feel: A stretch in the inner thigh of the extended leg.



Drop Lunge to Lateral Lunge



Start position: Standing

Procedure: Cross right foot over left keeping hips and shoulder square to the front and both feet flat on the floor. Bend both knees to lower body and drop into a full squat by pushing hips back and down. Push off the left foot to return to start. Switch legs and repeat.

Coaching tips: Keep body weight in the heel of the front leg. Keep the head and chest up and keep the back flat throughout the entire movement.

You should feel: A stretch in the hips and the inner thigh of the front leg.



Starting position: Standing with feet shoulder width apart.

Procedure: Bend over at the waist and grab toes of both feet. Drop hips down and lift chest and head up. Maintaining a straight back, push hips up and back until stretch is felt in hamstrings. Drop hips back to ground and repeat.

Coaching tips: Keep chest up and back straight. Keep both heels on floor throughout the entire movement. In the down phase of the movement, keep elbows in contact with the inside of knees.

You should feel: A stretch the quads and inner thighs on the downward phase of the movement and a stretch in the hamstrings and low back on the upward phase.