

# Department of Youth Services

## Preparing for the Post Offer Physical Abilities Test (PAT) for Direct Care Workers

### Background

Employees responsible for the care and custody of youth must be able to meet the intermittent heavy physical demands of their position.

- They must respond to emergency situations which requires the ability to get quickly to an emergency site and/or area by ***running and climbing stairs***,
- Assist injured or ill staff or youth requires ***heavy lifting and carrying***, and
- Occasionally, physically restraining a youth by using ***whole body pushing and pulling***.

Due to the critical nature of these situations, it is essential that every direct care worker be capable of meeting the physical demands of the job. Therefore, the Department of Youth Services utilizes a Physical Abilities Test (PAT) to determine that selected applicants have sufficient physical capacity to safely meet all the physical demands of the position.

### 1. What are the requirements of the Physical Abilities Test (PAT)?

The PAT is a ten (10)-step test designed to assess candidates physical ability to respond to an actual emergency situation on the job, by simulating a response to a “code” requiring direct care assistance.

### SCENARIO

You are working in a program at one area of the facilities; your beeper goes off indicating a **Code Red**, which at your facility means for all available direct care workers to respond to a sudden emergency situation. The location for responding to the code, is at the far corner of the campus, which is approximately a half mile.

1. You will ***run a half mile on the treadmill at 5 mph (6 minutes)*** to simulate getting to the building where the emergency situation is occurring. Upon arriving at the building you realize the code is on the top floor. You run up the steps to the top floor.
2. You will perform ***a step test, stepping up and down a twelve inch high step for three minutes*** at a pace of ninety-six steps per minute. When you arrive at the top floor, you note that the youth have created a disturbance. Two of your fellows Workers are lying on the floor unconscious, while the youth are now fighting among themselves. Your first responsibility is to remove the fallen Workers to safety. You will remove the first Worker (weighing 110 pounds) using the assistance of another Worker that has responded to the scene. This means you must be able to lift and carry 55 pounds (half the body weight) by yourself.
3. You are required ***to lift a 55 pound mannequin*** from the floor and ***carry it in your arms for a distance of 100 feet***. You now remove the second fallen Worker (weight 155 pounds) from the scene. In this part of the scenario, the Worker who was

assisting you is now busy trying to subdue the youth. You must remove the 155 pound Worker by yourself. He/she is too heavy for you to carry from the scene by yourself, so you will remove the Worker by dragging him/her on a sheet.

4. You are required to ***drag the 55 pound mannequin and a 100 pound box both placed on a sheet, for a distance of 25 feet*** on a smooth tile or concrete floor. Now that you have removed the fallen Workers to safety, your next responsibility is to assist the other direct care workers that have responded to the code, by restraining the violent youth. This task requires repetitive forceful whole body pushing and pulling on your part to move the uncooperative youth against the wall or onto the floor.
5. You are required to ***push a weighted sled a distance of 20 feet forward and pull 20 feet backwards five repetitions in two minutes or less***. The wood sled is carpeted on the bottom and pushed across a concrete floor with 40 pounds of weight in the sled. Now that the youth are subdued injured Workers and/or youth can be removed from the area by stretcher to receive medical care. Lifting of an individual placed on an ambulance stretcher requires the individual on each end of the stretcher to lift at least 90 pounds from floor to waist and may also require lifting of at least 60 pounds to chest level.
6. You will be required to ***lift a box weighted at 90 pounds from the floor*** to an upright standing position with the elbows remaining straight. The test requires five lifts in thirty seconds or less.
7. You will be required to ***lift a box weighted at 60 pounds from the floor*** to an upright standing position with the elbows bent to approximately ninety degrees (forearms parallel to the floor). The test requires five lifts in thirty seconds or less. Control of this emergency situation concludes with applying passive restraints (handcuffs and/or shackles) to the combative youth such that they can be moved back to a secure area in a controlled manner. To apply passive restraints to youth on the floor you will need to be able to stoop (bend at the waist with legs straight), squat and kneel for extended periods.
8. You will be required to ***stand bent over at the waist (about two thirds of the way down, approximately sixty degrees)***, with knees straight, for sixty seconds.
9. You will be required to ***maintain a full squat position for sixty seconds***. It is not required that you keep both feet flat. Squatting with the heels off the floor is permitted.
10. You will be required to kneel on both knees with the rest of the body upright for sixty seconds.

Your heart rate will be monitored throughout the test for safety purposes, and for determination of your overall fitness. Heart rate performance will not be used for pass-fail determinations.

**Failure of any test item indicates that you are currently not able to safely perform all the essential functions of the job and you will not proceed further in the hiring process.**

## **2. How can I begin preparing now, to give me a better chance of passing the PAT?**

- 1. First, assess your current health and fitness level**

- a) **Before starting exercise** - If you have been sedentary (not exercising for quite a while), have or suspect health problems such as heart disease, diabetes, high blood pressure, high cholesterol, joint problems, etc., or are over 40 or overweight, it is recommended that you have a physical with your doctor before starting a vigorous exercise program. If you know you have no major health problems, it is still advisable to speak with your personal physician, to determine if your physician feels a physical may be indicated in your specific case.
- b) **Warm up** - Begin with 5-10 minutes of light walking, progressing to brisk walking, followed by light stretching of the trunk, arms, and legs.
- c) **Perform a trial simulation of the PAT** - You will need a treadmill that can be set at 5 mph, or measure a half mile course to run, a stopwatch, a sturdy box or crate with handles that can hold 110 pounds of weight, a 12 inch high step, and a sheet placed on a smooth floor with something weighing about 75 pounds on the sheet. Simulating the sled push and pull will likely not be possible unless you are doing your simulation in a gym. To simulate the sled push and pull, you can use pulleys for pushing and pulling at a gym weighted at 50 pounds.
- d) **To perform a simulation of the PAT:**
  - a. Run 6 minutes on treadmill at 5 mph, or a half mile course in 6 minutes.
  - b. Immediately following, begin going up and down a 12 inch step at a pace of 96 steps per minute. You can check yourself with a stopwatch counting 24 steps (up, up, down, down equals 4 steps) every 15 seconds. Step for 3 minutes total.
  - c. Pick up your box that you have weighted to 55 pounds and carry 100 feet.
  - d. Place the box on the sheet with an additional 100 pounds in the box. Drag the sheet 25 feet.
  - e. If you have pulleys set at 40 pounds, pull the pulley handle out four feet ten repetitions, then push the pulley handle out four feet ten repetitions.
  - f. Load your box or crate with 90 pounds of weight. Lift it from floor to standing upright five repetitions.
  - g. Reduce the weight of the box to 60 pounds. Lift it from floor to standing upright with bending elbows to about ninety degrees (forearms parallel to the floor) five repetitions.

Remember these steps are all done in a continuous circuit, similar to what would be required on the job. The last three steps of the PAT (sixty seconds each of stoop, squat, and kneel) can be tested separately. Simply make sure that you can stoop (bend at waist), squat, and kneel, for sixty seconds each without difficulty.

## **2. After testing yourself on the PAT, begin a personal training program to maximize your fitness, specific to how it will be measured in the PAT:**

Human fitness has four components: cardiopulmonary endurance, musculoskeletal endurance, muscular strength, and flexibility. Cardiopulmonary endurance is basically the ability of your heart and lungs to supply oxygenated blood to your tissues for sustained activity. The half mile run and step test of the PAT are measures of your cardiopulmonary endurance in relation to the physical demands of the Worker job description. Musculoskeletal endurance is the ability of your muscles to exert sustained or repetitive muscle contractions, such as is required

for physical restraint of uncooperative youth. The sled push and pull, the mannequin carry, and sheet drag of the PAT are measures of whole body musculoskeletal endurance. Muscular strength is the ability of your muscles to exert maximal force for very brief periods of time. The lift floor to standing upright of 90 pounds and lift floor to elbow of 60 pounds of the PAT are measures of muscular strength. Flexibility is the ability of the body to obtain and maintain required positions and is related to individual muscle and ligament length. The stoop, squat, and kneel of the PAT are measures of flexibility.

It is also important to note that a Worker must be ready throughout his/her career to respond immediately to emergency situations that are highly physically demanding. It is therefore strongly recommended that this physical training become an ongoing lifestyle as opposed to simply preparation for the initial selection and training process.

Maximal improvement in physical fitness, as measured by the PAT, will be achieved through a fitness program that incorporates the actual assessment items of these two tests. Below are some sample training regimens to progressively improve your fitness in these areas:

Ongoing analysis of applicants performing this test strongly indicates that **a minimum of six weeks of specific progressive physical fitness training should be conducted just prior to participating in the PAT. Those who fail the test are consistently those individuals who have performed little or no physical fitness training prior to the PAT.**

**a) How to train for the .5 mile run of PAT:**

The schedule below is a proven, progressive routine designed to gradually increase your cardiopulmonary endurance. Begin at the level you can safely accommodate (e.g. if you are able to walk/jog 2 miles in 26 minutes, start at week 7). Starting at week 7 will allow you to be ready in six weeks. If you are unable to start at week 7, you will need a longer period of time to train for the PAT. Advance the schedule on a weekly basis, then proceed to the next level. If you can do the distance safely in less time, do so. If you experience any difficulty advancing the level each week, consult your physician and an exercise specialist.

Week	Activity	Distance in Miles	Duration in Minutes	Times Per Week
1	Walk	1	17-20	5
2	Walk	1.5	25-29	5
3	Walk	2	32-35	5
4	Walk	2	28-30	5
5	Walk/Jog	2	27	5
6	Walk/Jog	2	26	5
7	Walk/Jog	2	25	4
8	Walk/Jog	2	24	4
9	Jog	2	23	4
10	Jog	2	22	4
11	Jog	2	21	4
12	Jog	2	20	4

At the end of week 12, you will be able to easily complete the .5 mile run of the PAT.

**b) Preparation for the Step Test of the PAT:**

The Step Test is performed utilizing a 12 inch high step. You are required to step up and down the step for 3 minutes total at a pace of 96 steps (up, up, down, down equals a count of four steps). It is easiest to practice this test with a metronome, but a stopwatch can be used as well. To practice with a stopwatch count the number of steps you perform every 15 seconds (goal 24 steps every 15 seconds). To train for this test you can start with a smaller height step (8 or 10 inches high) or start with a slower pace (60 steps per minute). To improve your performance, practice this test every day for at least three minutes. Some people find it beneficial to practice for 5 minutes. Gradually increase the pace and/or step height until the test goal is easily achievable for you.

- c) How to improve performance for the Lifting and Carrying Requirements of the PAT:** The requirements of the PAT include lifting and carrying an 55 pound mannequin a distance of 100 feet, lifting a 90 pound box from floor to standing upright with elbows straight (“floor to knuckle”) five repetitions, and lifting an 60 pound box floor to waist height, elbows bent to ninety degrees (“floor to elbow”) five repetitions. If you are unable to easily perform these three tasks, it will be necessary for you to utilize a progressive strengthening program to increase your lifting capacity. It is important to realize that proper warm up, stretching, and lift technique are essential to maximizing performance and preventing injury. If you have not previously been taught how to train in a weight lifting program, it is very important that you consult with a physical therapist, athletic trainer, or personal trainer.

One of the best methods for increasing performance in lifting and carrying activities is the Daily Adjusted Progressive Resistance Exercise (DAPRE) program. This method allows you to place enough stress on your muscles to gradually increase strength while reducing the risk of injury to the muscle as much as possible. This program utilizes four sets of an exercise performed every other day to progressive increase strength. To understand this approach, let’s use an example of improving your ability to conduct the floor to elbow lift. The first step is to determine your one repetition maximum. Perform a floor to elbow lift with a barbell or weighted box. Keep adding weight to the barbell or box until you cannot lift any more without losing proper technique (examples of improper: jerking on the box or having to lean backwards to bring the box higher). This is your one repetition maximum (RM). In this case, let’s say your one repetition maximum for floor to elbow lift is 40 pounds. To pass the PAT you need to be able to do this lift with 60 pounds five repetitions. Your every other day lifting program will begin with a first set of 10 repetitions at 50% RM (20 pounds), followed by a 30 second rest, then second set of 6 repetitions at 75% RM (30 pounds), rest, then a third set at 100% RM (40 pounds) doing as many repetitions as you can (Table 1). Depending on how many repetitions you can do in set three, you will adjust the weight for the fourth set, and you will also make an adjustment to your next exercise session (Table 2). For example, if in set three you can only do 2 repetitions, you will drop the weight for set 4 by 5 pounds and drop all the weights next session (day after tomorrow) by 5 pounds. But, as you improve over the next few sessions you are now able to perform nine repetitions with the 40 pounds on the third set. At this point you would add 5 pounds to set 4 and five pounds to each of your sets next session. In this way, you should be able to safely improve your strength to meet the test requirement of 60 pounds for five repetitions.

**Table 1: DAPRE Strengthening Regimen**

Set	Weight	Repetitions
1	50% RM	10
2	75% RM	6
3	100% RM	As many as possible
4	Adjusted working weight	As many as possible

**Table 2: Guidelines for determining adjusted working weight**

Number of repetitions done in third set	Adjusted working weight for fourth set	Amount to adjust each set for next exercise session
0-2	-5 pounds	-5 pounds
3-4	-5 pounds	Same weight
5-6	Same weight	+5 pounds
7-10	+5 pounds	+5 pounds
11+	+10 pounds	+10 pounds

**d) How to improve performance for Dragging, Pushing and Pulling Requirements of the PAT:**

The PAT requires dragging of 155 pounds on a sheet across a smooth floor for a distance of 25 feet. The PAT also requires pushing and pulling of a weighted sled for 5 continuous cycles of forty feet. The dragging, pushing and pulling requirements are approximately the same amount of force as pulling and pushing 40 pounds on a cable pulley system that is found in most gyms. It is recommended that you test how much weight you can comfortably push and pull on a pulley system. To test yourself, simply hold onto the pulley handle at waist height and walk backwards (pulling) or walk forwards (pushing) the distance the pulley will extend from its attachment. If you can comfortably push and pull repetitively 40 pounds on the pulleys you should be able to successfully complete these portions of the PAT. If you have difficulty with, or are unable to push and pull the 40 pounds, it is recommended that you begin a progressive strengthening program on the pulleys utilizing the DAPRE technique noted above.

**e) Comments regarding the Stooping, Kneeling, and Squatting requirements:**

Healthy individuals who are free from spinal and lower extremity pathology should be able to pass the sixty second requirements for stooping, kneeling, and squatting without difficulty. If any of these positions cause you to experience pain, consult your personal physician to address and alleviate the source of this pain prior to participating in the PAT.

**Important Note: Stressing your body for improving physical fitness does include the risk of sustaining injury. Muscle soreness on beginning an exercise program is common. Sharp pain in the muscles, or any pain in the joints, is not an expected outcome of exercise. In the case of sharp pain, joint pain, or any unexpected pain, discontinue your exercise regimen until you consult your physician.**