

**Profile Part 1: Robson Hidalgo**

**Please include the questionnaires when you upload to Blackboard.**

**1. Pre-Health Screening – Appendix A in your text. All questionnaires are in the link on Blackboard.**

- a. Par-Q: The client has responded no to all questions and does not report any additional injuries or issues that appear—Ready for moderate exercise.
- b. Medical History/ Checklist Signs & Symptoms of Disease: The client, a 34-year-old man with a penicillin allergy and sensitivity to pork, underwent his last physical examination six months ago. He had two cancer-related hospitalizations, the most recent of which was in 2015. During the past year, the client occasionally struggled with sleep, experienced weight changes, felt particularly nervous or anxious for no apparent cause, and attempted to lose weight through diet and exercise. Due to cancer and the fact that there is no family history of the disease, the client currently goes for a checkup every year while appearing to be in good health.
- c. Lifestyle Evaluation: The client does not smoke. On any given occasion throughout the previous month, he never drank more than one glass of wine or one can of beer. The client works a desk job and participates in resistance training and sometimes does swimming. He invests in intense exercise 3 sessions weekly for 55 minutes each. However, if he had an exercise regimen, he would like to partake in stair climbing, cycling, running, jogging, or stationary running. The client is 6'0" tall and currently weighs 215.8 pounds. The client often eats out six times a week. He regularly eats meals—breakfast, lunch, dinner, midafternoon snacks, and occasionally more than one—in moderate to big portions. He skips mid-morning and after-dinner snacks. For most of the week, the client likes to eat fruits, nuts, protein bars, and popcorn.

## **2. Cardiorespiratory Fitness (CRF) (show all work)**

### **I. Queens College Step Test**

- The Queens College Step test is conducted using a bench stepping – 16 ¼ inches high, and we are looking for a very efficient error capacity. There are two different measurements, stepping rate, and stepping cadence. Stepping cadence is the beat the metronome is set to because you have to go up and down that step to a certain pace. For example, men go at 96 beats per minute (bpm), and women go at 88bpm. On the other hand, the stepping rate measures how many steps per minute someone takes at the specified cadence. A stopwatch is also necessary because the test must be timed. This test takes three minutes to complete. We often demonstrate how to go up and down the step, perform practice checks, and arrange familiarization sessions because most clients experience anxiety before tests. They don't want to do badly because they don't know what to expect. If you have a familiarization session in this situation, it helps to reduce anxiety.
- What else, except the three-minute time limit, would terminate the test, then? We have individuals that cannot keep up because they are not fit. Therefore, you have the clients doing the step up and down. If they stop before the three minutes because they suddenly find themselves unsupported (knocked off their feet) or while they should be coming down, they are instead going off as a result of their slowing down due to fatigue. Thus, your goal should be to get them back at least once. If they slow down and break cadence once more, you must terminate the test because the basis for the prediction equation is that a person can maintain a clean energy cadence. You should, however, record how long they were able to complete the test and their post-exercise heart rate. That's your baseline. You know right away that they may not be very aerobically fit. Since you may retest them in twelve to fifteen weeks, you train them based on the fact that they have low CRF. Assume that you know this vital knowledge and that they completed the first test in 1 minute. Now, they have finished the test after giving it a

second try. Consequently, we now possess two crucial pieces of information; we have an improvement simply because now they have completed the three minutes, and we have a minute and the heart rate. We have a prediction equation and thus can estimate the VO<sub>2</sub> max from here.

- Then, from the step test, what variable is used to estimate oxygen uptake? After three minutes, the test is stopped, and we have until twenty seconds to determine the heart rate by palpating their carotid or radial pulse rates. As a result, the heart rate may drop rapidly after twenty seconds when the body starts to recover. If you wait too long, probably the heart rate won't accurately reflect the test's stress. You must count every beat for 15 seconds, and then multiply it by four, and put it into the prediction equation to estimate VO<sub>2</sub> max, so the variable used to estimate the step test is the minute heart rate, which is called the post-exercise heart rate.
- The bench height is one limitation because the tension is much greater on someone smaller than on someone taller with longer legs. The other limitation is age. The test was designed for college-age students; there are alternative step tests you might select that would be suitable for persons of smaller stature or a little older. Furthermore, it could lead to measurement errors if you must ensure that the height of your bench is appropriate, whatever timepiece you use doesn't malfunction, and there are unclear instructions or cues.

## **II. 1.5-mile Run – On your own.**

- You need a quarter-mile track for the 1.5-mile run test because you must complete six laps. Usually, we stay in lanes one and two because you want to stay close to the center since the more you go on any given track, the longer it gets. A clock that keeps track of time is necessary. Typically, you would go there and practice it during a familiarization session. You can run, jog, or do whatever you want and choose the ideal weather condition. Following that, you perform one warm-up lap before beginning to count the required six laps for the test. The goal is to

finish it in the fastest time possible. Once you're finished, walk one lap to cool down and then stretch. If you become fatigued during the test, you must jog; however, if you continue to feel tired, you may slow down and walk for a little while. Then, after you've recovered, you might start running again. You must remember the number of laps you completed to keep track. Make sure the shoes are tied up.

- There are 2 limitations to this test: De-conditioned individuals and older individuals.
- The 3 measurement errors that could lead to obtaining poor data are miscount laps, forget time and don't understand the concept of pacing.
- Record run time: 14 min & 29 sec  
To calculate time – convert walking time from minutes & seconds to minute units  
(14 min & 29 sec = 14 + (29/60) or 14.48 min)
- Equation:  $VO_{2\max} \text{ (ml.kg.min)} = 3.5 + 483/1.5\text{-mile time (min)}$   
Equation:  $VO_{2\max} \text{ (ml.kg.min)} = 3.5 + 483/ 14.48$   
Equation:  $VO_{2\max} \text{ (ml.kg.min)} = \underline{36.86}$
- Rating for  $VO_{2\max} = \underline{\text{Poor}}$
- The test was given on October 11, 2022, around 11:00 AM at the outdoor track of Queens College. The weather was a little chilly but pleasant. I was a bit apprehensive prior test, but after the warm-up lap, I felt good and ready to go. I felt exhausted but fine after the test. I wanted to finish more quickly than I did.
- The client aerobic test indicated that his fitness level is poor compared to other men his age. This suggests that while he is exercising, his heart, lungs, and muscles' efficiency is not adequate but needs improvement. Therefore, his fitness in this area must be prioritized to at least achieve another level. With this development, he might have less exhaustion while engaging in aerobic exercises.

### 3. Body Composition

#### I. **Body Mass Index (BMI)**

- The procedure's key points of BMI are the subject's weight and height, which are obtained using a calibrated physician's scale or a digital scale paired with a rigid stadiometer, respectively.
- When you use the physician scale and move both the growth measure and the falling measure to zero, that bar is equidistant from top to bottom. We measure in very specific attire (lightweight clothing) and sneakers are always off. Make sure there are no items in the pockets because anything extra to the body will affect how much weight when step on the scale. We round the weight up to the nearest ¼ pound.
- Sneakers are taken off as well when we measure height. Hats must be removed. No slouching is allowed since the body must be upright. As a technician, you must follow the proper posture; it is a requirement. It is therefore preferable to view from the side rather than the front or back because you can see everything from there. In order to see that the person's head is level when you move away from them and set the height bar on their head, the chin must be level with the floor and the eyes must be forward-looking. You intend to read the height to the closest ¼ inch.
- The limitation of this test is that it cannot be applied to populations of athletes because it does not account for excessive quantities of muscle mass.
- The three measurement errors could be caused by an uncalibrated scale, a bad scale reading technique, or failure to notice improper posture.
- Please show your work for calculation of BMI:

Height: 72.0 in.                      182.9 cm                      1.83 M                      3.35 M<sup>2</sup>

Weight: 215.8 lbs.                      98.1 Kg

Calculate: BMI: weight (Kg) / height (M<sup>2</sup>) = 98.1/3.35 = 29.28                      rating: Overweight

### Conversions

Height (in) to centimeters (cm)	=	$72.0 \times 2.540 = 182.9$
Centimeters to meters (M)	=	$182.9 \times 0.01 = 1.83$
M to M <sup>2</sup>	=	$1.83 \times 1.83 = 3.35$
Weight (lbs) to Kilograms (Kg)	=	$215.8 / 2.2 = 98.1$

- BMI value: 29.28 and rating: overweight
- The interpretation of a 34-year-old male with a BMI value of 29.28 classifies him as overweight according to this measure, and his weight is not ideal for his height which places him at risk for obesity and chronic disease. Therefore, it would be beneficial to have a program to lower his bodyweight.

## II. 3 Site Skin Fold (Triceps, Subscapular, Suprailiac)

- Anytime we measure a single side of the body is to be done on the right side. Triceps, subscapular, and suprailiac are the three skinfold sites that we use between subcutaneous fat. And why do we choose only to do those three? Because being touched makes people feel uncomfortable. People don't like it when you interact with their facts. So the three-site skin folds (triceps, subscapular, and suprailiac) are the best choice since people are hesitant to enter spaces where they feel nervous in other sites. For the measurement, you will use a skinfold caliper and a measuring tape, and to provide the most accurate results, be sure to tell them to wear athletic attire. Generally, we go in rotation fashion: triceps, subscapular and suprailiac and we record time one. But then, after you do this, you go back and record time two. If the difference between these two records is higher than 2 mm, you must go to time three and use the closest numbers because otherwise, the standard error will increase. With this in mind, the standard error keeps going up because you might not be using the proper caliber, you might not have a good pinch technique or good side location, or you might not be paying attention to how the two values differ from one another. All these are to be mindful of.

- The key points of the procedures for the triceps, you must stand directly behind the subject and use tape to mark the midpoint between the acromion and the olecranon. Right after, calipers are placed on the mark for grasping the ball between the thumb and the index finger. You lift and fold it vertically, waiting at least two seconds while pinching the caliber, and write down the value. Now for the subscapular, you have to go just below the inferior angle of the scapula to mark the point; with the skinfold caliber, use a diagonal fold, and firm off your fingers and, pinch, take the value. And lastly suprailiac, here you have to place the tape directly down from the center of the armpit to the front forward protrusion of the hip bone, mark the point just above the iliac crest, and use a vertical fold to pinch, and take the measurement.
- Regarding limitations, individuals within different populations cannot be measured. Sometimes, the thickness or density of the skinfold is one such limitation; for example, you might discover some triceps that are too thick to apply that pinch or that pull-away pinch. Occasionally, you can locate some dead subscapular that lift pinch cannot be found. There is another limitation when the triceps ball exceeds the caliper jaws' width. Therefore, without it, we cannot measure the percent body fat. Next, for the measurement errors, we have the technician's training and skill with the pinch technique, the location, and the anatomical site. So, if you don't know how to do your pitch technique and find the location, or the quality of the caliper, these are things that increase the error data of measurements.
- Data from SKF, you divide the results to obtain the average for the triceps, subscapular, and suprailiac (take record time one divided by record time two). The next step is calculating the total SKF, which is expressed in millimeters; you must then add the three averages. Upon calculating your total SKF, proceed to the skinfold table. You will see the columns total SKF, male, and female. Find your total SKF first, and then select the appropriate gender to pick the correct % Body Fat value. Now that you must rank it move to Table 8.1. The most accessible

approach to provide the information would be to find your age and body fat percentage. From there, you can determine which category you fit into.

- Consider the following scenario using me as an example:

Time 1: Tricipes: 7 mm                      Time 2: Triceps: 7 mm                      Avg Triceps: 7

Time 1: Subcapular: 14 mm                      Time 2 Subscapuar: 13 mm                      Avg Subscapular: 13.5

Time 1: Suprailliac: 25 mm                      Time 2 Suprailliac: 24 mm                      Avg Suprailliac: 24.5

- Take the sum of the 3 measures:

Avg Triceps 7 + Avg Subscapular 13.5 + Avg Suprailliac 24.5 = Total SKF: 45

- Take the total SKF and look up % body fat table (skinfold measurements), then go to table 8.1

% Body Fat = 19.8                      Rating: Average

- According to the skinfold measuring present, which indicates a %BF of 19.8%, the client may have an average fat level than lean mass tissue, and could have significant implications on his health. As a result, it would be advantageous to implement a program to reduce the % BF, and increase the lean mass tissue.

### **III. Compare the measurement of BMI and % Body Fat.**

- BMI: 29.28
- %Body Fat: 19.8%

- As a result, the client's BMI value of 29.28% categorizes him as overweight. He is at risk for developing chronic diseases since his body weight is not ideal for his height.
- As a result, the client's %Body Fat of 19.8% classifies him as average. It has an at-risk classification associated with the client's apparent average fat level.
- The client has a higher likelihood of getting a chronic condition, according to the two assessments. These two measurements allow us to calculate the amount of weight and fat the client needs to lose in order to improve lean mass tissue, therefore a program to reduce them would be beneficial.



#### **IV. Waist Circumference**

- Waist Circumference (WC) is a measure of fat distribution. Where is my fat located? Although it is not a body composition measurement, we now have an assessment that we use to provide us with guidelines. Because of this, we take WC in two locations: one inch above the navel and at the level of the navel. So in most cases, 1" above the navel is the standardized area we use for adults.
- You must locate the navel in order to measure someone's skin with a tape measure. Next, you can realize that from the tip of your thumb to your knuckle is about one inch. You can also assess that by eye. And then, place the tape around the person's waist; after that, do the skin alterations about one inch from the navel. Thus, as you rise and start the conversation, they should face the posture of taking an inhale and then an exhale. It's crucial to make sure the tape is taut or tight but not taught. Do not pinch the skin. Take two measures and average the measures. And then, you go to table 4.8 for ratings. So, that's the one WC involved.
- The second option involved is at the level of the navel. And so when we take the measure at the level of the navel, we use an Ashwell body-shaped chart. We solve the same procedure regarding how the tape should be taught, but not pinching. Take the inhale, exhale, and take two measures and average the measures. And then you see adjectives like "ok" or "take care." These are guidelines that maybe you need to be careful of regarding this ratio of waist to height. The benefit of the Ashwell body-shaped chart applies to all adults of all ethnicities and children five years and older.
- So it becomes the measurement errors when the tape is twisted, the tape pinches the skin, and the finger is under the tape. So these would be the same regardless of viewing one inch or at the level of the navel.

- The limitation of one inch above the navel is not applicable for children, adolescents, & pregnant women, but at the level of the navel, the limitation is only for the pregnant woman.
- Let's take the example of me below:

Waist (1" above navel) = 35.3 in. Risk Assessment: Moderate

Waist (at the level of the navel): 36.0 in. Ashwell's Body Shape Chart: OK

- The client has a 35.3-inch waist (1" above the navel). It is categorized as being at moderate risk. Demonstrate the centralized fat accumulation that may impair health; thus making a program to lower WC will be adequate.
- The client's waist (at the level of the navel) is 36.0 inches. According to this measure, his waist-to-height ratio places him as OK. As a result, maintaining a focus on an exercise program will have a good impact because we are aware of the advantages of exercise in preventing chronic disease.

#### 4. Muscle Fitness (endurance)

##### I. YMCA Bench Press

- For YMCA bench press we are using the flat bench and free weight bar. The weight requirement for men is 80 pounds and for women is 35 pounds. There is a rhythm that you lift at a cadence of 60 beats per minute. So we set on the metronome; you will hear the beep. Every beat is one move. Additionally, you must also retain the same cadence. Your entire body is flat against the back of the bench, and the only permitted curve is the natural lumbar curvature. Therefore, the hip and knee are in line. In other words, your knee should be over your ankles and your toes out in front when lying down. While holding the bar, your fingers should be bent, your wrist extended, and your elbow and arms should be at your sides. The hands should be around shoulder-width apart for the grip to be equal on the right and left sides. This test begins with the bar in the down position, and you count every other move as one repetition. You want to move through the entire range of motion without the elbow

popping out and without applying any additional pressure. You lift until you cannot maintain cadence, or you start using leg drive to cause the belt to move more to raise the bar, or you lift at an angle that is not level will cause test termination. You keep track of the number of lifts, and the test is to fatigue.

- As a result, the limitation is that the test does not consider body weight. And when it comes to measurement errors, you don't put the right weight or the incorrect start location, or you have an incorrect lift cadence, the body moves with weight, you're off cadence or not level, as soon as you observe something wrong, the test must be terminated.
- Following is my own data:

Muscle Endurance (YMCA Bench Press Test) score of 44RM = below 95<sup>th</sup> percentile

- Client's ME norms for bench press score below 95th percentile threshold. This measurement shows an above-average rate of muscular endurance in his upper body. Therefore, the objective would be to preserve and, if possible, enhance this area's fitness.

## **II. Push-up**

- Regardless of their level of fitness, men must execute the standard pushup, while women must perform the modified pushup. Men's pivot points are on their toes, whereas women's pivot points are on their knees. The body must initially be in a straight line from the pivot point to the hands; you are not permitted to sink out or have a high body. Hands flat under the shoulders, fingers pointing forward, wrists in line, and legs together. The elbows are in line and not stretched out. Using the pivot point, the clients lift themselves from the down position, completely extend their elbows, and then lower themselves back down, only the chin nearly touching the floor. There is no pause at the top and the bottom because it is a continuous movement as the clients complete as many consecutive repeats as possible. There is no time restriction; you must merely count each successful pushup before ending the test.

The repetitions that do not fit the specified requirements shouldn't be counted, and you terminate the test when the form is broken.

- Some limitations are initial fitness level, obesity, or overweight.
- Measurement errors when the shoulder-arm alignment is not correct and you see someone resting at the top or the bottom.
- Table 6.10 provides age-gender norms for the push-up test.

## 5. **Flexibility**

### I. **YMCA sit and reach**

- For the YMCA sit-and-reach test, you will need a yardstick and a piece of tape that is 12 inches long to secure the yardstick on 15 inches mark. The clients perform an aerobic exercise for at least five minutes to warm up before the test to stretch their hamstrings. The client sits with their legs straight and their shoes off. The heels of the feet meet the 15 inches line, and the feet are just 10 to 12 inches apart. Hands are either side by side or one over the other. The individual inhales and then extends their arm forward to contact the yardstick as they exhale (hold for 2 sec). Take the score from the best attempt after two more repetitions.
- Due to muscular atrophy, older persons cannot take this test, which is one of its limitations.
- Leaving shoes on during the test is one measurement error that may result in inaccurate data.
- Data below (from table 10.5 – V-sit & reach.)

Best score: 13 in.      Percentile: 30      Rating: Below average

- The client performed at the 30th percentile rank on the YMCA V-sit and reach test, which is below average for flexibility among men her age. In order to make the most improvement in this area, it may therefore indicate that the hamstrings need greater focus during a flexibility part session, but this has no bearing on his health. Thus, even though other techniques for evaluating flexibility, such as a lumbar range of motion, should also be carried out, additional flexibility training and stretching exercises are still necessary.

## 6. Balance

### I. Uni-pedal Eyes Open Stance Test. (Test dominant and non-dominant sides)

- So, hands are crossed at the chest, and shoes are off. When the foot placement of the raised leg is crucial to staying in the midpoint and knee without touching the standing leg, you want to be able to look straight ahead straight focus on one spot while standing tall. The hip is a line. While someone is time, you need to hold this. So 45 seconds is the maximum allowed—test one side before moving on to the other. Suppose your right leg takes 35 seconds to test, and your left side takes 45 seconds. You may retest the side on which you failed the 45 seconds requirement. And then you take that best score on the retest.
- The test limitation is for older adult.
- Two measurement errors could lead to poor data shoes being left on and the arms are not crossed. There is where you must immediately end the test.
- Data:
  - Right leg (total number of seconds): 45
  - Left leg (total number of seconds): 45
- This test demonstrates that the client has an excellent static balance by its relationship with gait performance, risk of falling, and ability to perform activities of daily living (ADLs).  
Thus, maintaining and, if possible, improving fitness of this area would be the goal.

## 7. SMART Goals

Using your fitness assessment information, develop a SMART goal for either improvement or maintenance for:

### a. **Cardiorespiratory Fitness**

- S I would like to achieve VO<sub>2</sub> of 43 ml.kg.min from my actual value of 36.86 ml.kg.min
- M After 15 weeks, I will test my improvement again with the 1.5-mile run
- A I desire this progress so that I can perform better in aerobic exercises
- R This progress is realistic because, in accordance with recommendations, the general population can observe a 20% improvement after 15 weeks of training
- T I will begin January 3 – June 3 2023

**b. Body Composition**

S I want to change my classification from average to lean  
M I will repeat both the BMI and the 3 Site Skin Fold measurements to see my evaluation  
A I'm done with my %body fat  
R The strategy is realistic because, if I improve my lean muscle tissue per week, I can advance to another level and will reduce my fat load in 12 to 15 weeks  
T I will begin January 3 – June 3 2023

**c. Muscle fitness**

S Keeping my upper body strong is something I wish to do  
M I can continue to do what I do, but there's no way I can add more time or extra time to improve these scores  
A I may not have time to devote to improving this semester  
R Well here is realistic as long as my intensity of my program does not change I will be able to maintain my capacity  
T I will begin January 3 – June 3 2023

**d. Flexibility**

S In order to enhance the flexibility of my hamstrings, I want to raise my sit & reach score from 13 inches to 15 inches  
M I will take the YMCA Sit and Reach Test again  
A I'm discomfort of experiencing hamstring stiffness  
R Due to the fact that the hamstrings will receive more focus during a flexibility component session, the objective is to make the most notable advancement possible in this area  
T I will begin January 3 – June 3 2023