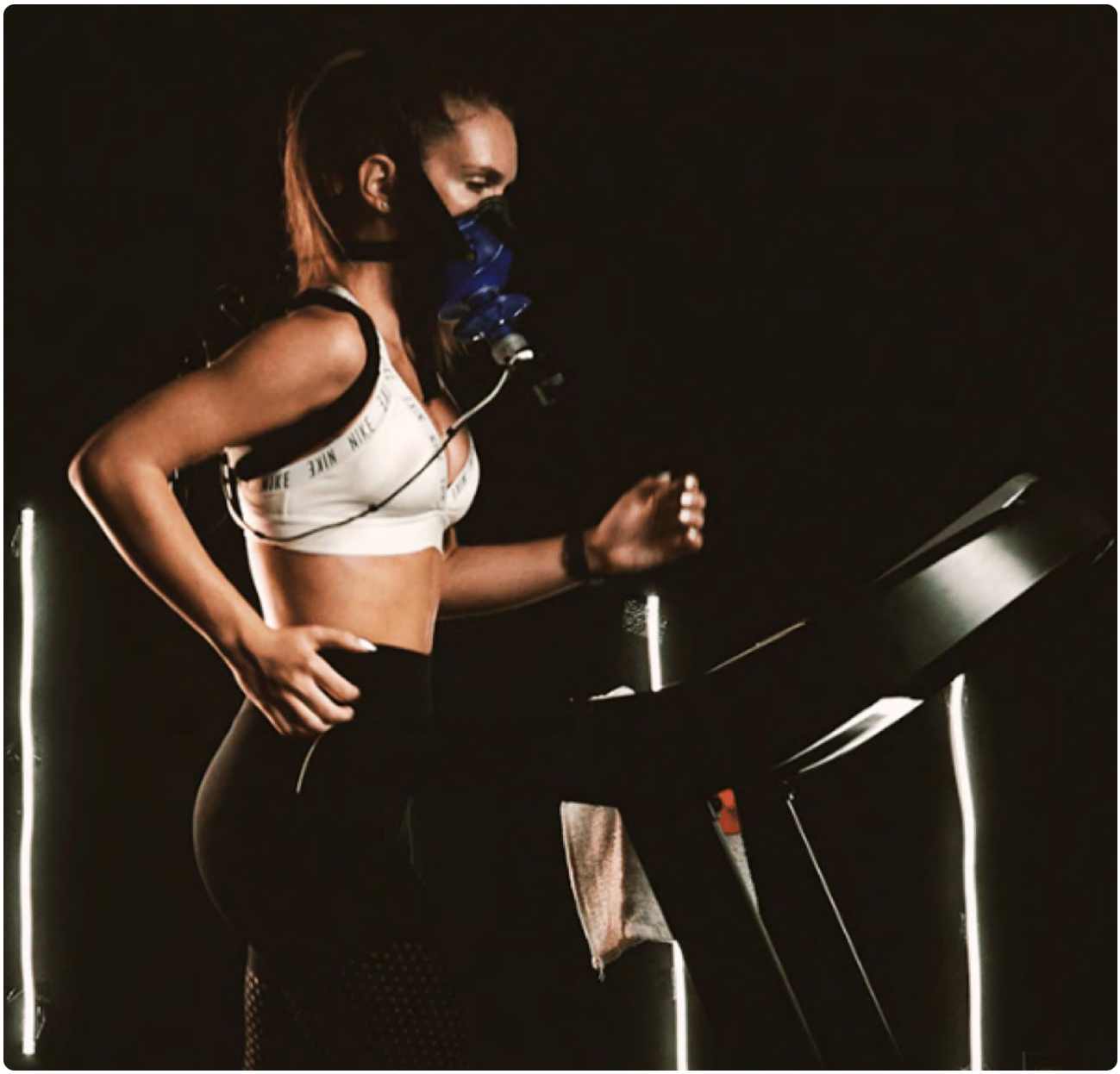
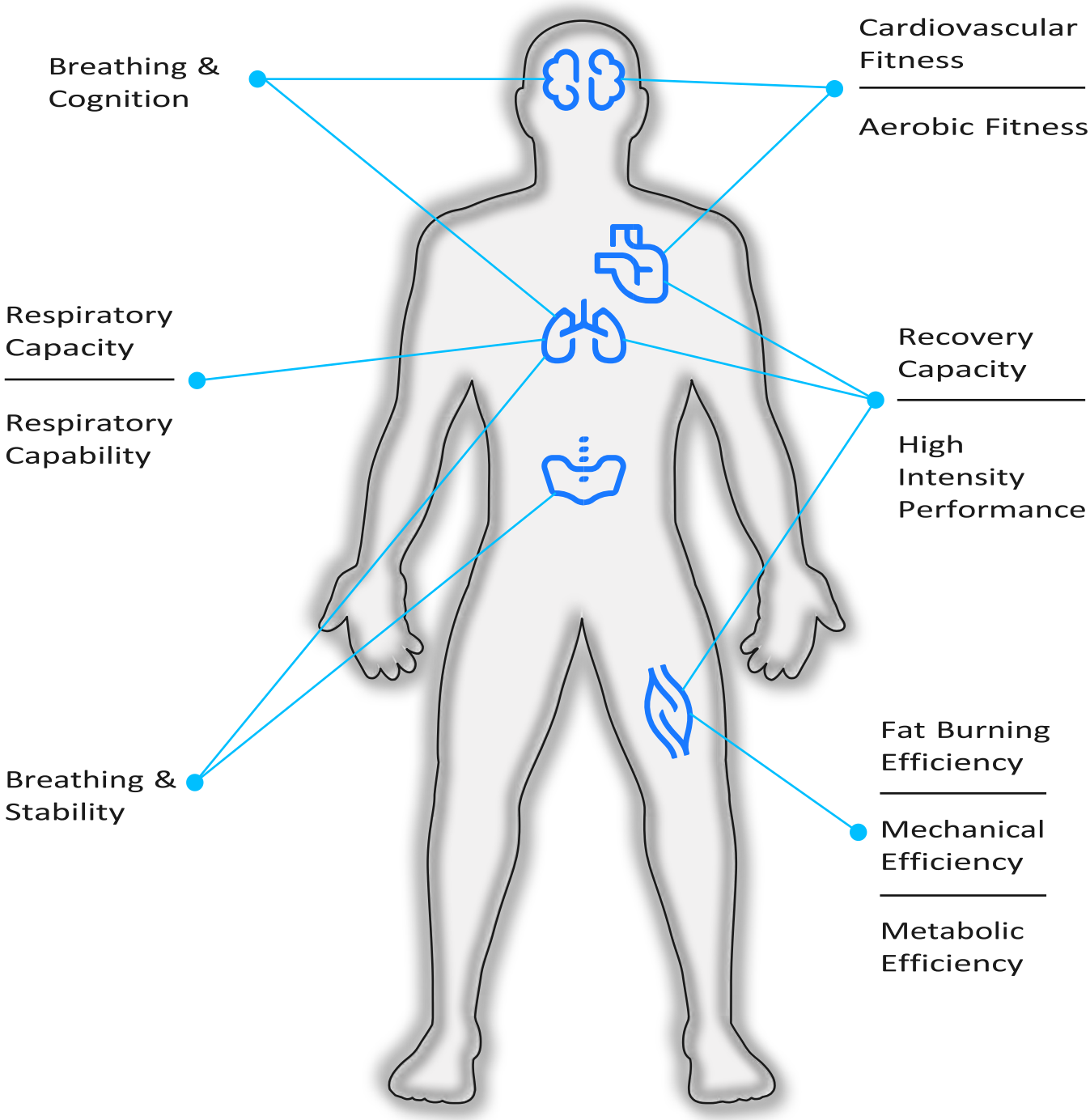


SAMPLE Report

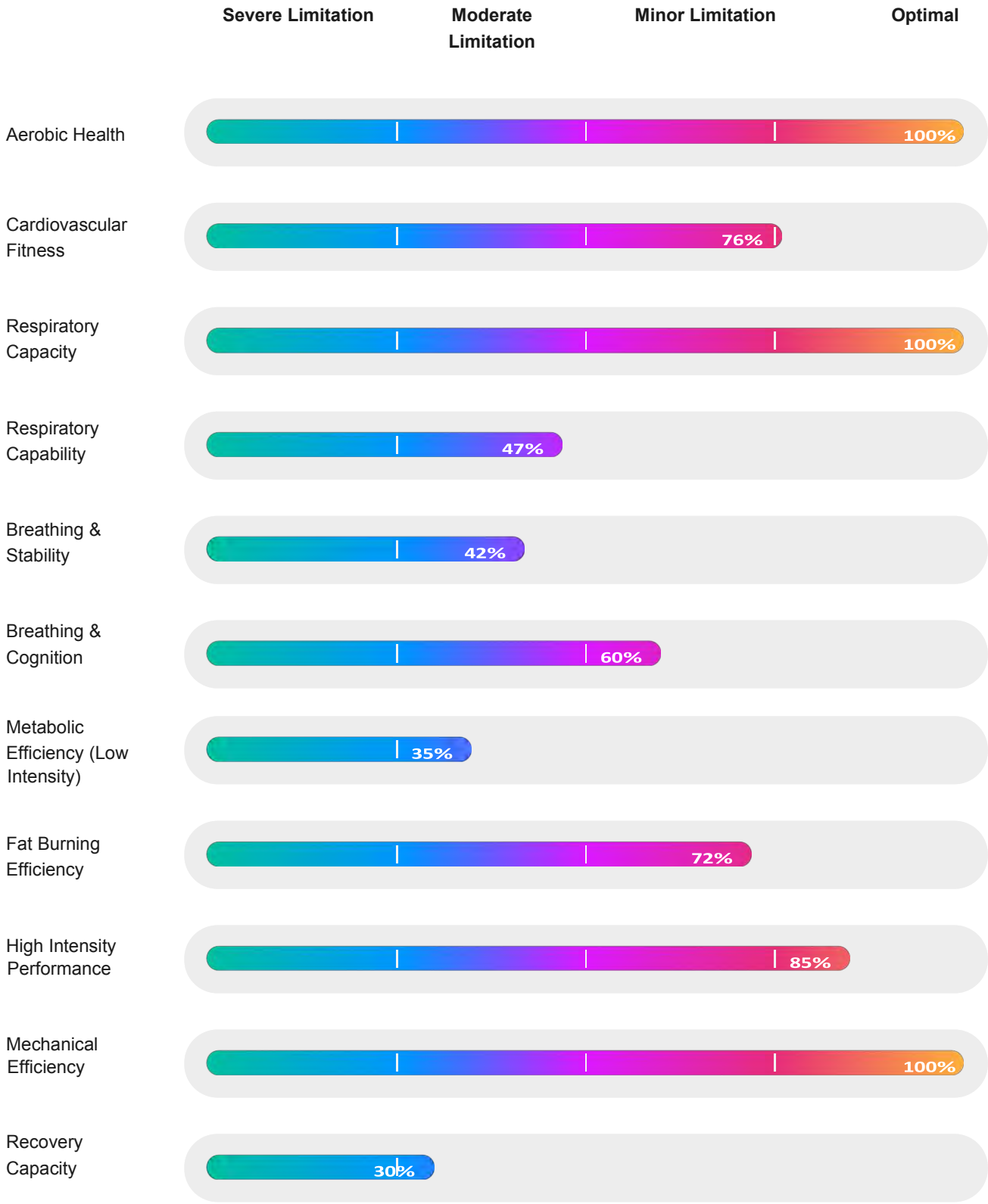
11/01/2022

We are what we repeatedly do.

Assessment Overview



Assessment Overview



Assessment Metrics Explained

Aerobic Health

This metric represents your ability to exercise at high intensities. Aerobic health is one of the best indicators of overall health and best predictors for developing cardiovascular disease. The value of this metric is based on VO2peak – the maximum amount of oxygen you can use per kilogram per minute – achieve during your test.

A sedentary lifestyle, lack of cardiovascular exercise or excessive weight training will lower this score. Cardio and interval training will improve the score of this metric.

Cardiovascular Fitness

This metric represents your cardiovascular systems (heart, blood vessels and blood) ability to deliver oxygen to your muscles and will indicate if this system poses a limitation to your ability to exercise and function. The value of this metric is based upon your VO2peak score in comparison with others the same gender and age, as well as the trendline of your VO2pulse (the amount of oxygen used per beat of the heart (VO2/HR) as intensity increases).

A low VO2peak in combination with a decline in your VO2pulse during your test will reduce your cardiovascular score.

A sedentary lifestyle and a lack of cardiovascular training or excessive weight training will lower your cardiovascular score whereas low intensity cardio and interval training will improve it.

Respiratory Capacity and Respiratory Capability

This metric represents your respiratory systems (lungs, respiratory muscles, and thoracic and rib mobility) ability to effectively provide oxygen to your muscles and will indicate if this system poses a limitation to your ability to exercise and function. The value of this metric is based upon three metrics:

1. Respiratory capacity which is measured using two values assessed through spirometry
    a. The maximum volume of air you can breathe in (FVC)
    b. The maximum volume you can breathe out in one second (FEV1)
2. Respiratory capability which is your ability to USE your capacity during exercise based upon two values measured by the PNO**Ē** unit throughout your Fitness Test
    a. The volume of air you move per breath (Tidal Volume or VT)
    b. The frequency you breath per minute (Breathing frequency or BF)

An inability to use your capacity and a high breathing frequency at any intensity throughout the test will reduce your Respiratory Capability score.

A sedentary lifestyle, history of asthma or exercise induced bronchospasm (EIB) or a lack of cardio or interval training will lower the score of this metric. Limitation specific breathing exercises concentrating on frequency and volume in conjunction with cardio and interval training is the most effective way to improve your score.

Breathing and Cognition

This metric represents how your breathing frequencies are affecting the amount of carbon dioxide (CO2) in your blood/cells. A low level of CO2 (hypocapnia) due to breathing too quickly (hyperventilation) will lead to vasoconstriction of the vessels in the brain resulting in less oxygen being available to your brain cells thereby affecting your cognition (the ability to think and react rapidly).

This score is based upon two metrics:

1. Your breathing frequency at different intensities during the test
2. The amount of carbon dioxide you exhale during the test

A high breathing frequency (hyperventilation) at one or more intensity level in combination with low CO2 levels being exhaled during the test will result in a lower score.

More than 10% of people chronically hyperventilate without knowing it and are reducing their cognitive capacity through incorrect breathing. Limitation specific respiratory training exercises concentrating on coordinating breathing volumes and breathing frequencies is the best method of improving this score.

Breathing and Stability

This metric represents how your respiratory volumes are affecting your spinal stability, limb power and posture. Your score is based upon your tidal volumes (VT) or the volume of air you breath per breath throughout your test.

Breathing a low volume of air each breath during the test will lead to decreased spinal stability thereby affecting your ability to develop power at your limbs and ability to maintain an upright posture.

A low VT in relation to your respiratory capacity (FEV1) will result in a lower score. A low VT (along with hyperventilation) is a predictor of musculoskeletal dysfunctions such as lower back pain. Limitation specific respiratory training exercises concentrating on volume is the most effective way to improve the score of this metric.

Fat Burning Efficiency

This metric represents your muscle cell's ability to utilize oxygen and burn fat as a fuel source. Fat burning efficiency is highly correlated with cellular health. The score of this metric is based on the heart rate at which you attain the crossover point (the point when you start burning more carbohydrates than fat) in relation to your maximum and starting heart rate during the test.

A sedentary lifestyle, lack of cardiovascular exercise or excessive weight training will lower the score of this metric. Low to medium intensity cardio training in Zone 2 and Zone 5 intervals will improve your score.

Metabolic Efficiency (Low Intensity)

This metric represents the number of calories you burn during exercise and whether you are burning more or less calories than the average person of the same age, gender, height and weight. This metric does not represent your resting metabolic rate (RMR). PNOĒ can provide you with your RMR through a separate testing protocol.

The value of this metric is based on the calories burned during the initial stages of the protocol. Caloric restriction, chronic dieting and excessive cardio training are among the most common factors that reduce the value of this metric. Strength training in combination with re-feeding cycles will improve the score of this metric.

High Intensity Performance

This metric represents how well you use oxygen at higher intensities. The value of this metric is based upon how well you use oxygen (VO2) per beat of heart (VO2/HR or VO2pulse) and per breath (VO2/BF). A reduced score indicates areas of inefficiency at higher intensities. You can improve your score through interval training at the intensities in which you demonstrate inefficiency.

Mechanical Efficiency

This metric represents the relationship between the work you produce (output) vs. the calories you use (input) or the efficiency ratio with which a person's body is transforming energy from nutrients (kcal/min) into work (watts).

Recovery Capacity

This metric represents your ability to recover from high intensity exercise. Your recovery score is based upon two variables:

1. Cardiovascular Recovery

The percentage your heartrate (HR) drops in the first one minute of the inactive recovery phase of the exercise protocol in relation to your base HR (your average HR during warm up phase) and maximum HR (your highest HR during the test phase).

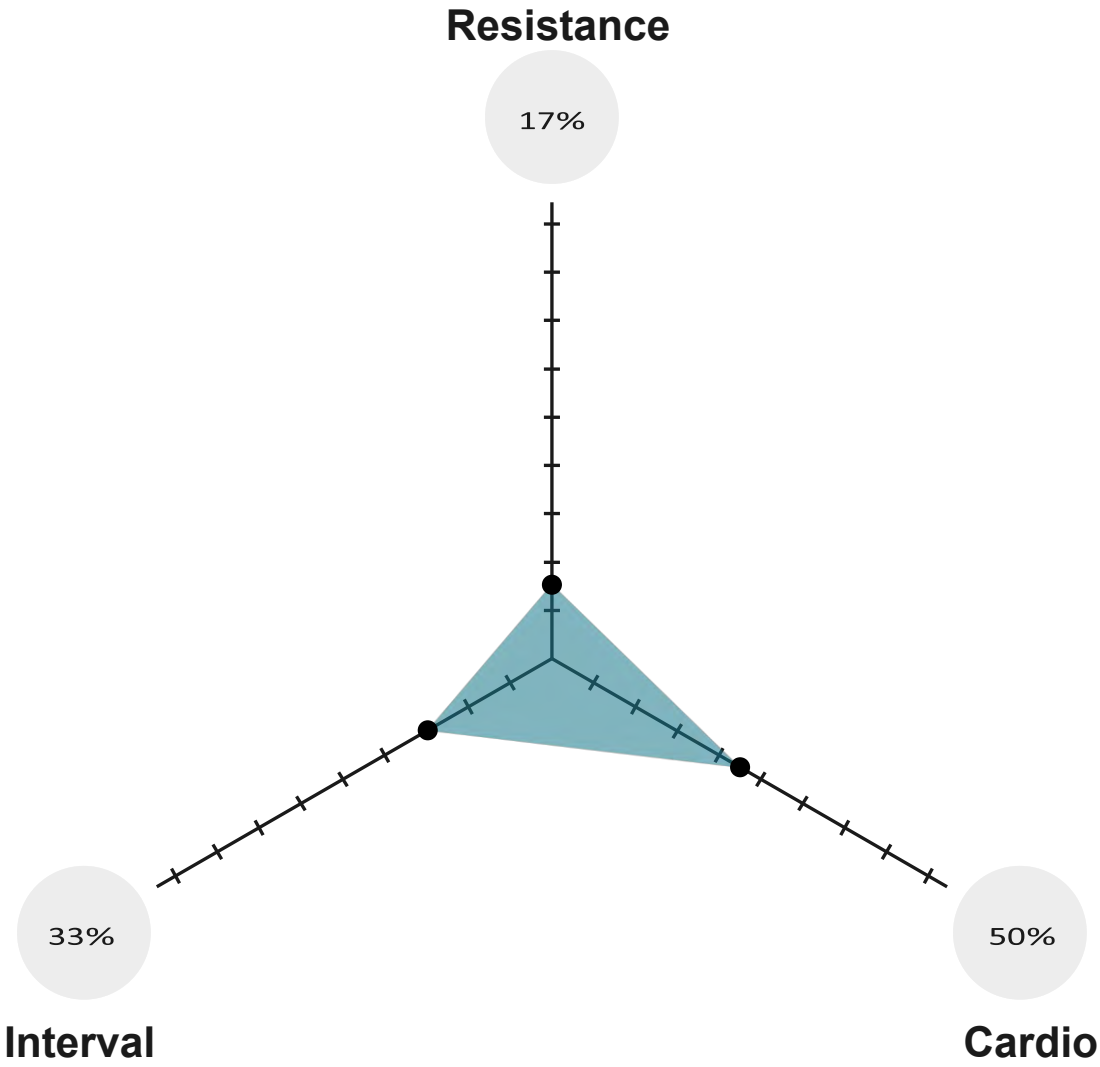
2. Metabolic Recovery

The percentage your VCO2 – the amount of CO2 you are breathing out - drops in the first two minutes of the inactive recovery phase of the exercise protocol in relation to your base VCO2 (your average VCO2 during warm up phase) and maximum VCO2 (your highest VCO2 during the test phase).

Your ability to recover is directly related to your level of cardiorespiratory and metabolic fitness. A nominal decrease in HR in the first one minute and VCO2 in the first two minutes will result in a low recovery score. Cardio, interval training and respiratory training (if required) will improve this score.

Workout Programming

The workout recommendation mentioned below is based on your fitness goal of Conditioning and your scores from the PNOÈ test.



Due to the respiratory limitation(s) identified in your Fitness Report, we recommend that you add respiratory training to your weekly training schedule. The type/intensity/frequency/duration of the respiratory training will be specific to your limitation(s) and provided by your trainer.

A good cardiorespiratory fitness in combination with high-fat burning ability are the foundation of a well condition individual. Low to medium intensity cardio training will help you improve your fat-burning capacity and HIIT will help improve your VO2peak. According to the American Heart Association, VO2peak constitutes the most reliable indicator of cardiorespiratory fitness. However, excessive cardio in combination with HIIT training can “wear out” your muscles and reduce your metabolism making it harder to lose weight. So to make sure your metabolism is maintained at high enough levels you should also make sure to get sufficient strength training during the week.

The focus of your training should be on improving your caloric burn through strength training while maintaining your working on your fat burning efficiency through cardio training. After we achieve this we can focus on improving your cardio-respiratory fitness through HIIT training.

Training Zones

Zone	HR Range	Wattage Range	Speed Range	RPE	Benefits	Training Type
Zone 5	165 - 171 BPM	-	-	10/10 Feels impossible to continue, completely out of breath, unable to talk	Improves VO2peak, aerobic capacity and muscle metabolism	Short high intensity intervals
Zone 4	157 - 165 BPM	-	14 - 23 mph	8-9/10 Difficult to maintain exercise intensity, hard to speak more than a single word	Improves anaerobic capacity through improvements in buffering capacity	Medium high intensity intervals
Zone 3	144 - 157 BPM	-	12 - 14 mph	6-7/10 On the verge of becoming uncomfortable, short of breath, can speak a sentence	Improves VO2 and cardiorespiratory health through increases in cardiac strength and improvements in O2 dependent storage and lactate shuttle	Long medium intensity intervals/tempo
Zone 2	122 - 144 BPM	-	9 - 12 mph	4-5/10 Feels like you can exercise for long periods of time, able to talk and hold short conversations	Improves aerobic capacity and muscle metabolism through increased mitochondrial density and capillarization	Low intensity cardio training
Zone 1	112 - 122 BPM	-	8 - 9 mph	2-3/10 Feels like you can maintain this intensity for hours, easy to breath and carry on a conversation	Improves fat burning and increases oxygen delivery to the muscles without significant utilization leading to recovery	Recovery

	Units	11/13/2021
Fat-Max	at BPM	122
Ventilatory Threshold 1 (VT1)	at BPM	123
Ventilatory Threshold 2 (VT2)	at BPM	167
VO2 Peak	ml / min / kg	55

Fat Max

The exercise intensity where a person burns the most amount of fat and the least amount of carbohydrates

Ventilatory Threshold 1 (VT1)

The exercise intensity at which physical activity starts to be considered a workout

Ventilatory Threshold 2 (VT2)

The exercise intensity at which the body transitions into Zone 5 where anaerobic metabolism becomes a large part of the body's energy generation

VO2 Peak

The maximum oxygen consumption in milliliters per kilogram per minute (ml/kg/min) of body weight achieved during the test

Fuel Usage

Heart Rate	VOL L/min	Kc/L O2	Kc/min	Calories / hour	% Fat	% Carbs
170	3804.72	0	19	1139.85	12.49	87.51
165	3522.33	0	17.42	1045.23	19.32	80.68
160	3139.15	0	15.39	923.25	30.23	69.77
155	2760.3	0	13.4	804.13	43.5	56.5
150	2461.67	0	11.93	715.97	45.11	54.89
145	2223.01	0	10.74	644.37	50.51	49.49
140	2038.76	0	9.81	588.88	55.47	44.52
135	1941.27	0	9.27	556.43	66.86	33.14
130	1824.59	0	8.71	522.66	67.79	32.21
125	1764.41	0	8.42	504.97	69.82	30.18
120	1973.96	0	9.37	562.12	72.8	27.2
115	1351.14	0	6.7	401.74	15.11	84.89
110	1482.4	0	7.12	427.46	53.88	46.12
105	1251.03	0	5.94	356.33	73.22	26.78

Your next assessment should be scheduled on:

02/02/2022

Download the PNOĒ Precision app to calibrate your wearable, get a personalized nutrition plan and track your nutrition, training, and recovery like never before!