Metabolic Blueprint & Nutrition Analysis

Performance

Sample Report



Test Type:
Resting

Test Date: 07/18/2022

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Pillars of Performance



Mental status

Mental status is a fundamental pillar of wellness since a healthy mind is a prerequisite for healthy choices and a healthy lifestyle. A well-functioning brain is tightly linked to effective breathing since our breath drives our brain's chemistry balance. On the contrary, poor breathing is linked to anxiety and lower cognitive capacity.



Heart fitness

A healthy heart is critical for overall wellness since cardiovascular dysfunction is the second most likely cause of mortality and one of the most common threats to the quality of life. A healthy heart is effective in pumping oxygen-rich blood into your body.



Cellular performance

Cellular performance is a fundamental driver of wellness as it provides one of the most potent shields against metabolic dysfunction and obesity. Healthy cells absorb oxygen efficiently, a prerequisite for burning fat and maintaining a high metabolism.



Lung fitness

High lung fitness is critical for a long and healthy life as lung dysfunction has become one of the most common causes of mortality. Healthy lungs are effective in transferring oxygen from their surface into the bloodstream.

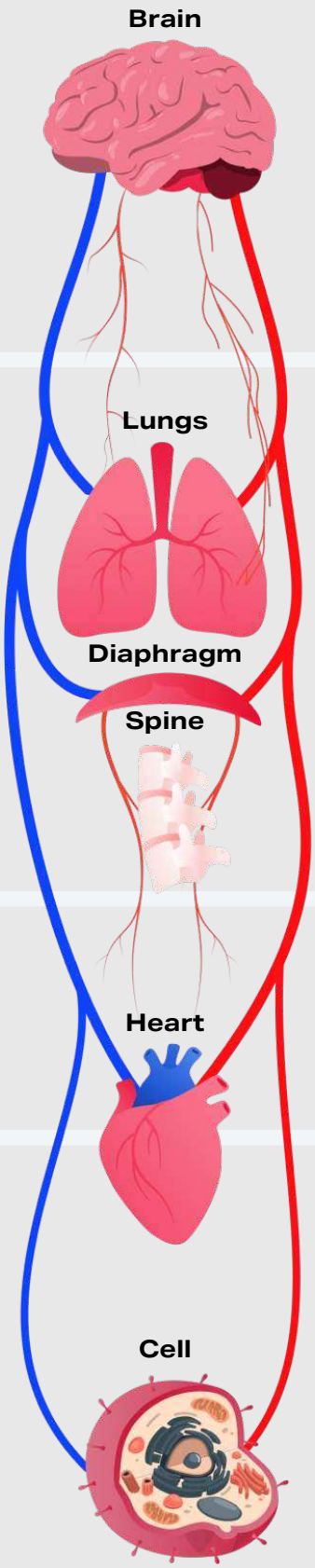


Posture

Lower back pain and musculoskeletal problems are the number one driver of lower quality of life since they are a source of chronic pain and physical inactivity. Good posture is inextricably related to our breath since the way we inhale is one of the most potent regulators of our core's stability.

Overview

0	0	0	0	0	1
Severe limitation	Limitation	Neutral	Good	Excellent	Core Limitations



Breathing coordination - 53% | Neutral

Severe limitation | Limitation | Neutral | Good | Excellent

Lung utilization - 100% | Excellent

Severe limitation | Limitation | Neutral | Good | Excellent

Heart Rate Variability (HRV) - 35% | Limitation

Severe limitation | Limitation | Neutral | Good | Excellent

Metabolic rate - 34% | Limitation

Severe limitation | Limitation | Neutral | Good | Excellent

Fat-burning Efficiency & Mitochondrial Function - 70% | Good

Severe limitation | Limitation | Neutral | Good | Excellent

Metabolic flexibility

High | Low

Core Metrics

The following metrics are the most important for performance. Achieving a high score maximizes the likelihood of high athletic performance.

Metabolic Rate 34% | Limitation

Why it matters

It is a leading predictor of overtraining and readiness for exercise

How to improve it

Adequate rest, sufficient calorie intake and resistance training is the key driver of a high metabolic rate for those interested in optimizing athletic performance .

Fat-burning Efficiency & Mitochondrial Function 70% | Good

Why it matters

An indicator of the ability to recover from exercise and endure high training volumes.

How to improve it

Zone 2 endurance training and intermittent fasting are the main tools for improving oxygen absorption by cells which equates to high fat-burning ability, recovery, and endurance capacity.

Lung utilization 100% | Excellent

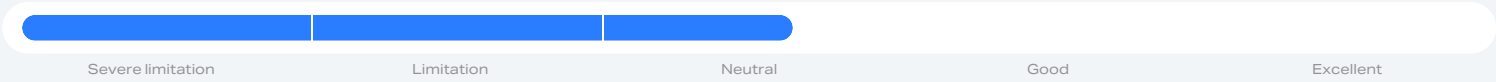
Why it matters

One of the most common blocker or enabler of athletic performance

How to improve it

Breathwork is one of the most potent method for improving all elements related to breathing and performance in all types of athletic modalities .

Breathing coordination - 53% | Neutral



What it shows

Breathing coordination shows your ability to maintain regular and efficient breathing during ambulatory settings and is a measure of how efficiently you can coordinate your respiratory muscles and diaphragm

Why it's important to track

Breathing coordination is important to track as it can regulate your nervous system activation and oxygenation levels across the entire body. How fast and deep you breathe can profoundly regulate the activation of your sympathetic and parasympathetic nervous system as well as regulate the levels of carbon dioxide in your blood. Fast, shallow, and erratic breathing triggers the activation of the sympathetic nervous system and lowers carbon dioxide levels in the blood, which in turn lowers whole-body oxygenation. Slower, steady, and regular breathing has the opposite effect. Factors that can positively affect breathing coordination are regular exercise and breathwork, whereas negative factors include poor ventilation efficiency, mental health disorders, or stress

Recommendations to improve it

EXERCISE

Resistance (1x)

Strength training induces benefits to cognitive performance, which derive from preventing degeneration in specific regions of the brain, such as the hippocampus, a complex that plays a significant role in learning and memory

Interval (1x)

It has been demonstrated to produce benefits in cognitive capacity stemming from enhanced neuroplasticity (the ability of neurons to evolve) and the activation of specific brain regions by lactate produced from the working muscles

Endurance (2x)

According to the CDC, moderate exercise (i.e., Zone 2) promotes memory and cognition by secreting growth factors, chemicals that support the growth of new blood vessels and cells in the brain

NUTRITION

Swiss chard

Swiss chard is a leafy green vegetable packed with stress-fighting nutrients, such as magnesium. Relieving stress can also help better control your breathing rate, thus improving breathing coordination.

Matcha

Matcha is a type of green tea with powerful stress-relieving properties due to its high content of the amino acid L-theanine. Relieving stress can also help better control your breathing rate, thus improving breathing coordination.

Avocado

Avocados are rich in magnesium, a mineral that contributes to reducing levels of the stress hormone cortisol. Relieving stress can also help better control your breathing rate, thus improving breathing coordination.

LIFESTYLE

Breathwork

Breathwork through yogic breathing (pranayama) or box breathing, for example, can help you better control your breathing rate, thus improving breathing coordination.

Reduce stress at work

Since work occupies a big part of your everyday life, working in a hostile environment, long hours, and job insecurity can make you chronically stressed and thus hyperventilating. Regulating these factors can help you better manage your stress and, therefore, your breathing rate and breathing coordination.

Cold exposure

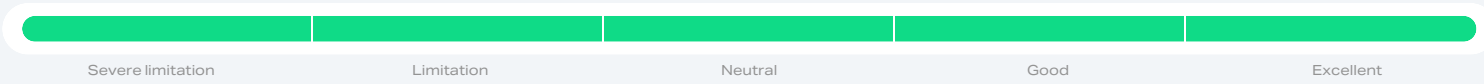
Cold exposure can help you wind down and lower your breathing rate by taking deep, long breaths, thus improving breathing coordination.

Scan to learn more

Scientific sources

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Lung utilization - 100% | Excellent



What it shows

Lung utilization indicates how much of your lungs you use in an ambulatory setting. It is measured by evaluating your tidal volume, which is the amount of air you exhale during every breathing cycle.

Why it's important to track

Lung utilization is important to track as it's a measure of your body's ability to absorb oxygen and a major contributor to a high VO2max. The greater the part of your lungs you use, the more oxygen you can absorb and deliver across your body. Lower than normal lung utilization leads to less oxygen absorption, which can be the starting point of several respiratory, cardiovascular, and metabolic disorders. Factors that can positively affect lung utilization are regular interval training, breathwork, and maintaining healthy body weight, whereas negative factors include respiratory disease, bad posture, and exposure to air pollution.

Recommendations to improve it

EXERCISE

Resistance

Specific types of resistance exercise can improve lung fitness by strengthening the respiratory muscles, including the diaphragm and muscles between the ribs that work together to power inhalation and exhalation.

Interval

Improves lungs fitness thanks to its ability to increase your total vital capacity (FVC). Zone 4 intervals are the most effective ones for improving this metric.

Endurance

Steady-state training can have varying levels of impact on lung fitness. Zone 2 training will induce a modest improvement, whereas Zone 3 and 4 will positively influence this metric. Exercise intensity is positively correlated with the positive influence on this metric.

NUTRITION

Pumpkin

Pumpkins are rich in carotenoids, such as zeaxanthin, lutein, and beta-carotene, which can slow down the deterioration of lung function and improve lung fitness.

Red cabbage

Red cabbage is rich in anthocyanin, an antioxidant that can slow down the deterioration of lung function and improve lung fitness.

Turmeric

Turmeric is a superfood with anti-inflammatory properties that can increase lung capacity and improve lung fitness.

LIFESTYLE

Smoking cessation

Smoking can cause a dramatic decline in respiratory muscle blood supply and reduce lung capacity by causing damage and irritation to every part of your airways and lungs.

Weight loss

Obesity causes mechanical compression of the diaphragm and lungs, leading to reduced lung capacity.

Breathwork

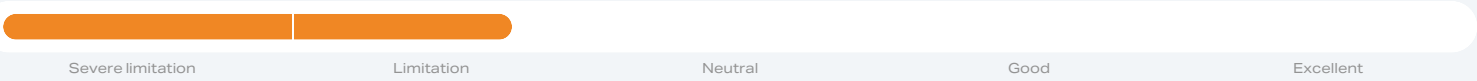
Various breathing training technics, either unassisted (i.e. Tummo breathing) or supported by a breathing resistance device can improve lung capacity.

Scan to learn more

Scientific sources

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- Molgat-Seon Y, Peters CM, Sheel AW. Sex-differences in the human respiratory system and their impact on resting pulmonary function and the integrative response to exercise. Curr Opin Physiol. 2018-6:21-27. DOI: 10.1016/j.cophys.2018.03.007

Heart Rate Variability (HRV) - 35% | Limitation



What it shows

HRV shows your cardiovascular system function in resting conditions. It's scored based on the LF/HF ratio, which, based on its values, can be indicative of heart-related conditions, such as heart failure and arrhythmias.

Why it's important to track

HRV is important to track because it reflects the function of your heart in terms of its rhythm and can demonstrate heart rhythm-related conditions such as atrial fibrillation. A high HRV equals a lower risk for such issues, while a low HRV can indicate increased risk. Factors that can positively affect HRV are regular exercise, adequate sleep, sufficient omega-3 fatty acid dietary intake, breathwork, and maintaining a healthy body weight. Conversely, factors that negatively affect HRV are alcohol overconsumption, smoking, and uncontrolled stress.

Recommendations to improve it

EXERCISE

Resistance (1x)

It can have a modest effect on improving HRV when it includes a high number of repetitions and results in a moderately elevated heart rate. Overall, it's not your go-to for improving this biomarker.

Interval (3x)

It's the most impactful modality for improving HRV, given its ability to enhance heart stroke volume and strength. High-intensity intervals (i.e., Zone 4) are also the most effective modality for improving VO2 max, an important driver of HRV.

Endurance (2x)

Although not as effective as interval training, endurance training can also increase stroke volume and thus improve HRV. Its efficacy is linearly related to the exercise intensity (i.e., Zone 2 - 4).

NUTRITION

Fruits

Consuming various fruits, more specifically bananas, melons, and berries rich in fiber and potassium, can improve heart function and HRV.

Vegetables

Consuming a variety of dark leafy vegetables, especially kale, mustard greens, and Swiss chard, which are rich in fiber and vitamin K, can enhance heart function and HRV.

Fatty fish

Fatty fish, such as salmon, is rich in omega-3 fatty acids, the most cardioprotective nutrient that can prevent and even treat heart-related diseases such as hyperlipidemia and increased blood pressure, associated with a low HRV.

LIFESTYLE

Smoking cessation

Tobacco smoking can damage the heart and blood vessels. It also reduces the oxygen in your blood, increasing your blood pressure and heart rate and thus decreasing your HRV.

Diet

A healthy, balanced diet packed with nutritious foods, rich in dietary fiber and antioxidants, can significantly improve your heart function and HRV.

Sauna

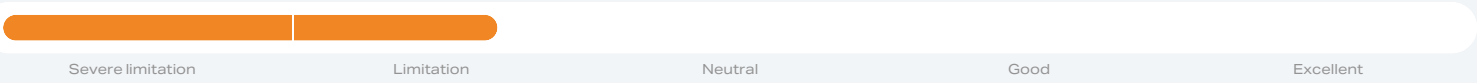
Sauna bathing can decrease blood pressure. There is also evidence that exposure to high ambient temperature can increase HRV and thus improve overall cardiovascular function.

Scan to learn more

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Metabolic rate - 34% | Limitation



What it shows

Metabolic Rate shows how fast or slow your metabolism is. In other words, it shows whether your body is burning more or fewer calories than predicted based on your weight, gender, age, and height during regular movements. The greater the number of calories burnt, the higher the metabolic rate score.

Why it's important to track

Metabolic rate is important to track as it indicates your predisposition for weight loss or weight gain. A high metabolic rate during regular movement is essential for weight loss and maintaining a healthy weight, as it ensures you burn enough calories to cover a normal calorie intake. On the contrary, when your metabolic rate drops, your body burns fewer calories, making it more likely to gain weight if you continue to eat as you did before. Factors that can positively affect metabolic rate are resistance exercise, adequate sleep, and sufficient dietary protein intake. Conversely, negative factors include yo-yo dieting, hormonal dysregulation, extreme dieting, and excessive cardio training.

Recommendations to improve it

EXERCISE

Resistance (3x)

Strength and hypertrophy training are some of the most important modalities for increasing metabolic rate. They promote muscle mass development and reduce movement economy, making your body burn more calories while moving.

Interval (2x)

High-intensity interval training (Zone 4 and 5) positively impacts your metabolism by promoting muscle development (in untrained subjects) and enhancing muscle development through the increase of growth hormone and testosterone levels.

Endurance (0x)

Endurance training has little to no effect on enhancing metabolic rate. Moreover, significant amounts of endurance training can even reduce metabolic rate due to its effect of increasing movement economy.

NUTRITION

Eggs

Eggs are protein-rich foods that support muscle tissue development, thereby boosting your metabolic rate.

Brazil nuts

Brazil nuts are the richest source of selenium, a mineral especially important for the thyroid gland, which regulates metabolic function.

Seaweed

Seaweed is rich in iodine, a mineral required for the production of thyroid hormones and the proper functioning of your thyroid gland that regulates metabolic function.

LIFESTYLE

Increased protein intake

A protein-rich diet can increase your muscle mass, one of the most metabolically active tissues, increasing your metabolic rate.

Avoid extreme dieting

Inadequately trying to lose weight quickly, creating huge calorie deficits, can have the exact opposite effect and slow your resting metabolic rate, hence your ability to lose weight.

Standing office work

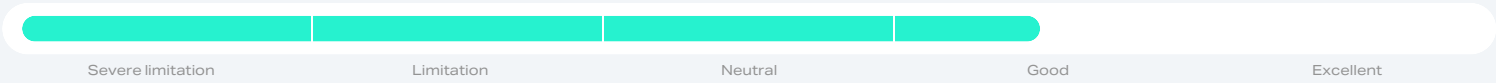
Long periods of sitting due to desk jobs burn fewer calories compared to standing office work or standing up at regular 20-minute intervals, which can increase your metabolic rate.

Scan to learn more

Scientific sources

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- Jagim AR, Camic CL, Kisiolek J, Luedke J, Erickson J, Jones MT, Oliver JM. Accuracy of resting metabolic rate prediction equation in athletes. J Strength Cond Res. 2018-32(7):1875-1881. DOI: 10.1519/JSC.0000000000002111
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Fat-burning Efficiency & Mitochondrial Function - 70% | Good



What it shows

Fat-burning Efficiency shows your cells' ability to use fat as a fuel source and is a hallmark of mitochondrial and cellular function. Our cells use a mix of fats and carbohydrates as fuel to release the energy they need to support vital functions, which is measured by analyzing the balance of carbon dioxide and oxygen in your breath. High reliance on fat as a fuel source is an indication of good mitochondrial and metabolic function.

Why it's important to track

Fat-burning efficiency is important to track as it's one of the most powerful indicators of mitochondrial and cellular functions, and it strongly correlates with longevity and healthy weight. The higher your fat-burning efficiency, the more oxygen your cells can absorb and the healthier your mitochondria and metabolism are. Factors that can positively affect fat-burning efficiency are sufficient cardio training, adequate sleep, a healthy diet, and sunlight viewing. Conversely, negative factors include processed foods, alcohol, and eating big meals close to bedtime.

Recommendations to improve it

EXERCISE

Resistance (1x)

While resistance training is critical for developing muscle mass and increasing metabolic rate, it has minimal effect on advancing mitochondrial density and fat-burning efficiency.

Interval (2x)

High-intensity intervals (Zone 5) significantly improve mitochondrial density and fat-burning efficiency. Interval types in lower intensities have a more moderate impact.

Endurance (3x)

Low-intensity steady-state training (i.e., Zone 2) is by far the most powerful mechanism for improving mitochondrial function and enhancing fat-burning efficiency.

NUTRITION

Fatty fish

Fatty fish, such as salmon, is rich in protein and omega-3 fatty acids, both of which can keep fat-burning efficiency at high levels.

Cacao

Cacao is full of antioxidants and may promote gene expression that stimulates fat burning.

Coffee

Caffeine has fat-burning efficiency properties, meaning drinking 2-3 cups of coffee daily can help you increase your fat-burning efficiency.

LIFESTYLE

Increased protein intake

A protein-rich diet can regulate your appetite and increase muscle mass, improving your fat-burning efficiency.

Cold exposure

Cold exposure, specifically the shivering reaction during this process, can increase fat-burning efficiency by 15%-37%.

Reduce stress

Implementing stress-relieving strategies, such as breathwork, can help regulate stress hormone levels, boosting metabolism and fat-burning efficiency.

Scan to learn more

Scientific sources

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Metabolic flexibility



What it shows

Metabolic flexibility indicates your ability to rapidly switch between fat and carbohydrate metabolism based on metabolic demand. Our body may need to switch from burning predominantly fats to carbohydrates or vice versa for several reasons, including transitioning between exercise intensities or going from a fasted to a fed state. The faster and more efficient this transition between fuel sources, the more metabolically flexible you are.

Why it's important to track

Metabolic flexibility is an indicator of mitochondrial function and a regulator of how the food you consume is used. The more metabolically flexible you are, the more able you can transition between fats and carbohydrates as fuel sources, and the better you can convert the food into energy instead of storing it as fat. Therefore, metabolic flexibility is a key protector against fat accumulation and metabolic syndrome. Factors that can positively affect metabolic flexibility are regular exercise, a healthy body weight, adequate sleep, and sunlight viewing. Conversely, factors that negatively affect metabolic flexibility are processed food consumption, eating big meals close to bedtime, and lack of low-intensity exercise.

Recommendations to improve it

EXERCISE

Resistance (3x)

Strength and hypertrophy training are some of the most important modalities for increasing metabolic flexibility. This is because they increase your metabolic rate and improve insulin sensitivity and glucose transport.

Interval (2x)

High-intensity intervals (Zone 5) significantly improve mitochondrial density and fat-burning efficiency, thus metabolic flexibility, given they are core elements affecting the risk of developing diabetes. Interval types in lower intensities have a more moderate impact.

Endurance (3x)

Low-intensity steady-state training (i.e., Zone 2) is by far the most powerful mechanism for improving metabolic flexibility and enhancing fat-burning efficiency, which are key factors affecting the risk of diabetes and metabolic syndrome.

NUTRITION

Oatmeal

Oats contain a good amount of dietary fiber, known as beta-glucans, which can help better regulate your blood glucose levels throughout the day, avoiding fluctuations that may arise from consuming foods rich in processed carbohydrates.

Chia seeds

Chia seeds are packed with fiber, are low in carbohydrates, and can help you improve your blood sugar control, hence increasing your metabolic flexibility.

Cinnamon

Cinnamon has been shown to help regulate blood sugar levels, improve insulin sensitivity, and reduce HbA1c levels, all parameters associated with a metabolically flexible state

LIFESTYLE

Weight loss

Losing even a mere 7% of your total body weight can significantly decrease your risk of developing prediabetes, a metabolic dysregulation that coincides with a metabolically inflexible state.

Screen time turndown

For each additional hour spent watching television, an increase in prediabetes risk is observed, a metabolic dysregulation that coincides with a metabolically inflexible state.

Sleep

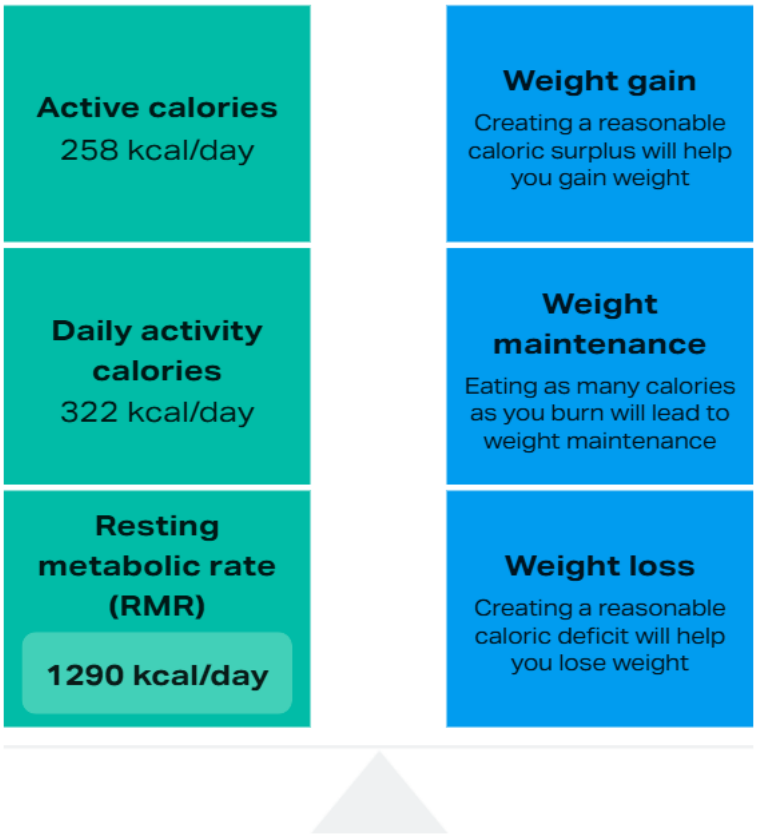
Getting enough (7-8 hours) and good quality sleep has been shown to significantly decrease type II diabetes risk by improving insulin sensitivity and glucose metabolism, parameters associated with a metabolically flexible state

Scan to learn more

Scientific sources

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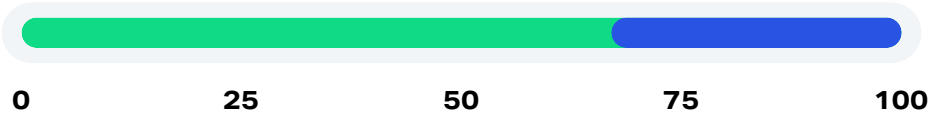
Caloric Balance



You Burn	You should eat
During days you don't work out	During days you don't work out
1612 kcal/day	**1912 kcal/day**
During days you work out	During days you work out
1870 kcal/day	**2170 kcal/day**

Fuel Sources

Your body uses a mixture of carbs and fats to produce the energy needed to sustain life and power daily activities. High reliance on fat as a fuel source is one of the most reliable indicator of good cellular condition and is strongly associated with low likelihood of weight gain or weight regain.

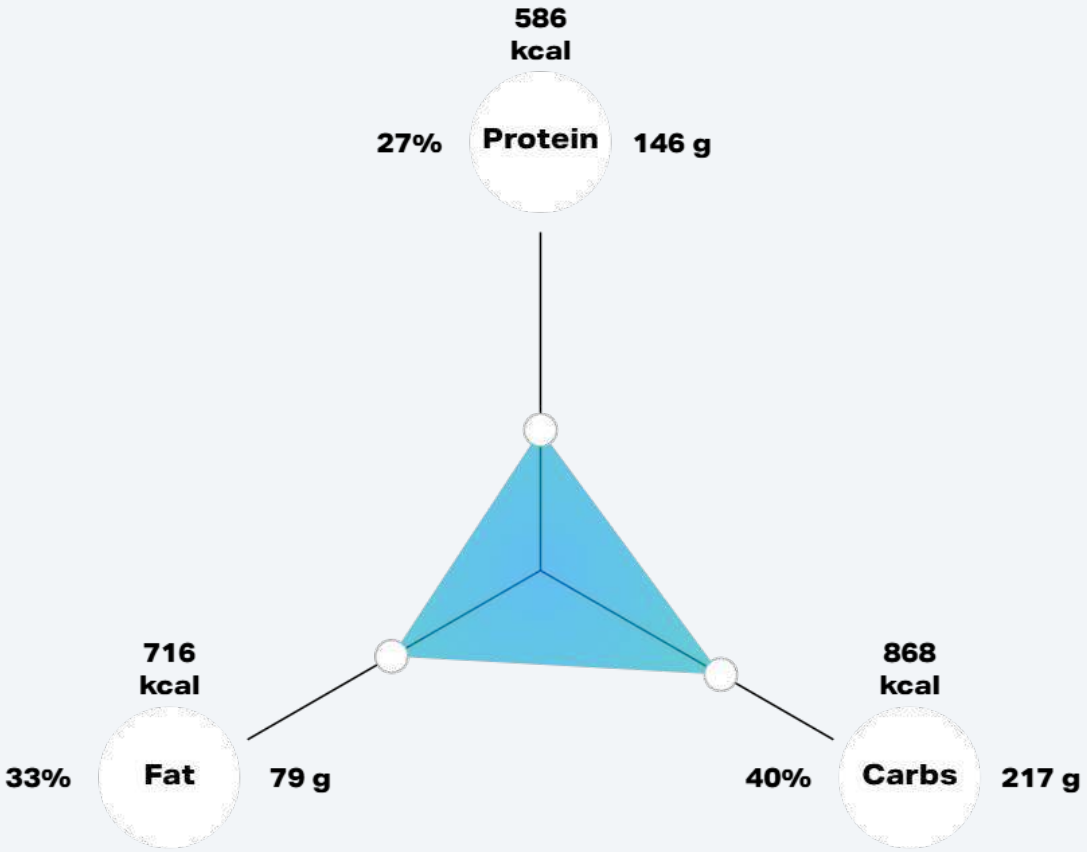


- Fats
- Carbohydrates

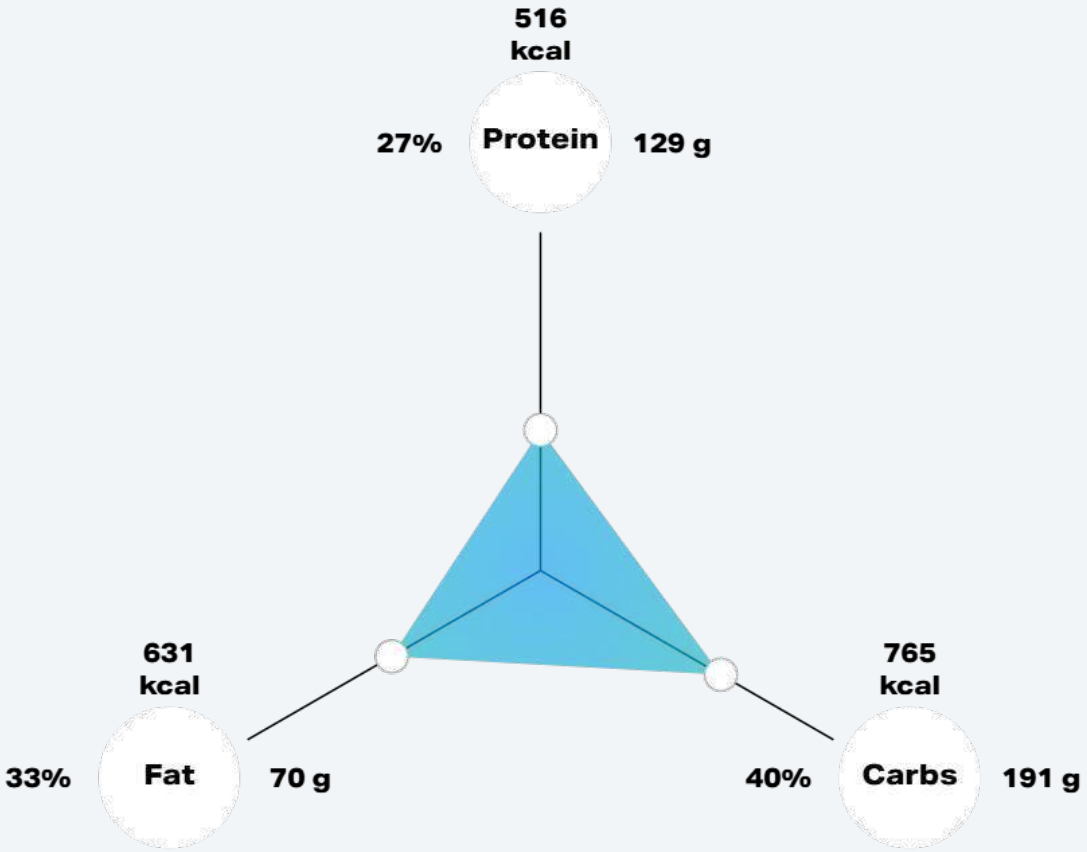
Your metabolism uses an energy mix of 67% fats and 33% carbohydrates to produce energy

Macronutrient Balance

Workout days



Non-workout days



Testing Schedule

