Metabolic Blueprint & Nutrition Analysis

Weight Loss

Sample RMR

Test Type:
Resting

Test Date: 02/01/2023

Nikos Gazetas

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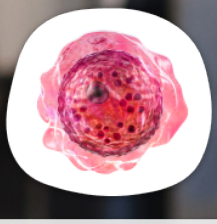
Pillars of Weight Loss

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.

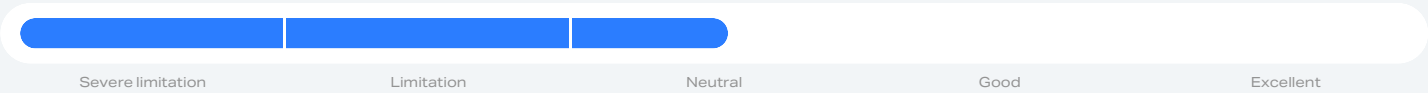
Posture

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.

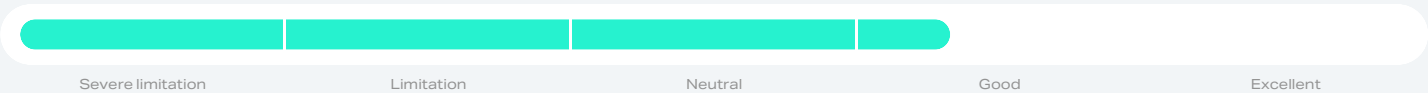
Overview

0	1	2	4	0	1
Severe limitation	Limitation	Neutral	Good	Excellent	Core Limitations

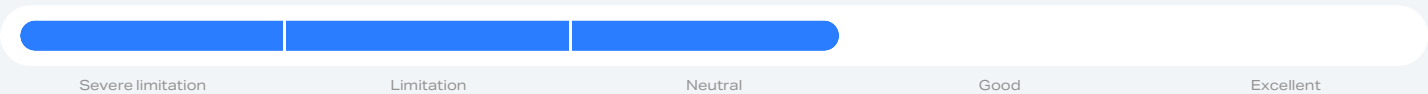
Resting metabolic rate - 51% | Neutral



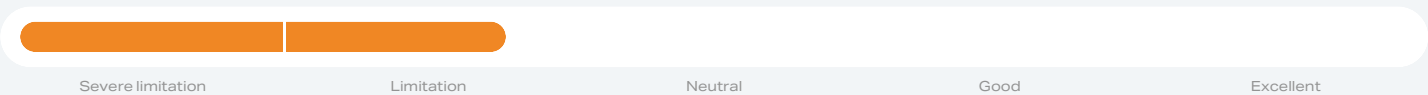
Fat Burning Efficiency - 67% | Good



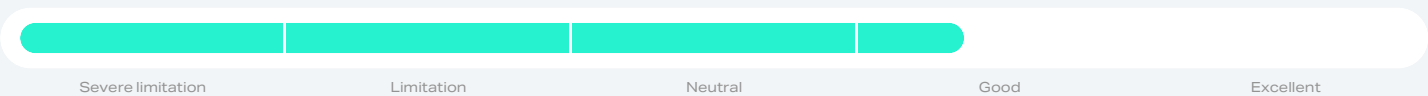
Metabolic fitness - 59% | Neutral



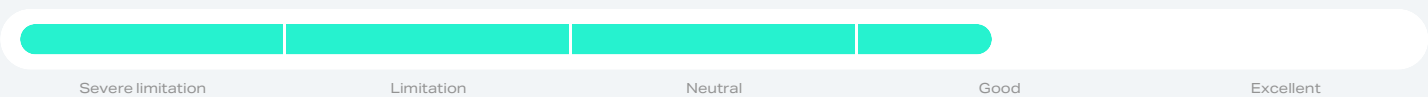
Heart fitness - 35% | Limitation



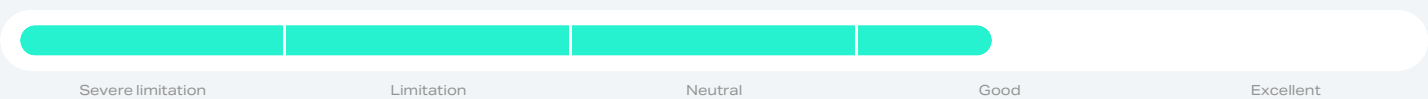
Lung Fitness - 68% | Good



Breathing & Cognition - 70% | Good



Breathing & Posture - 70% | Good



Metabolic Dysfunction Risk

Low Risk

High Risk

Core Metrics

The following metrics are the most important for weight loss. Achieving a high score maximizes the likelihood of sustainable weight loss.

Heart Fitness 35% | Limitation

Why it matters

A leading indicator of your heart fitness analyzed through the variability of your heart beat.

How to improve it

All forms of interval and cardio training have a significant impact on your heart fitness, with zone 4 and 5 training being the most impactful forms of exercise.

Fat Burning Efficiency 67% | Good

Why it matters

A leading indicator of cellular fitness likelihood of weight gain or regain

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 and reduces the likelihood of weight gain or regain.

Metabolic Rate 51% | Neutral

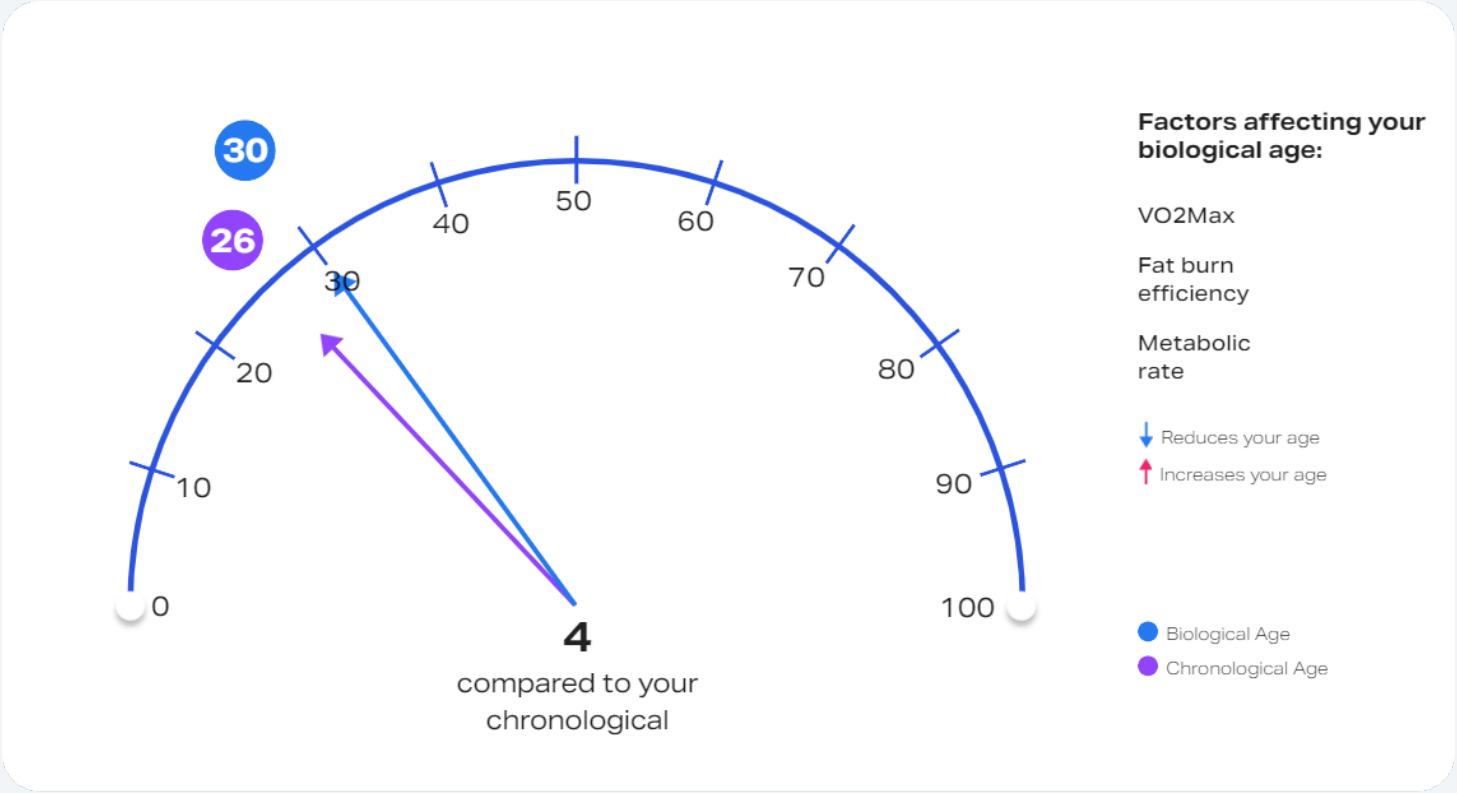
Why it matters

One of the most potent protection against weight gain.

How to improve it

Resistance training and optimal macronutrient intake are the foundations of a high metabolic rate.

Biological Age



We estimate your biological age based on your VO2 max, fat-burning efficiency, and metabolic rate. According to the American Heart Association, your cardio-respiratory fitness (VO2 max), is the best predictor of how long and well you will live. High fat-burning efficiency is equivalent to high cellular fitness, essential for preventing metabolic dysfunction and weight gain. Lastly, a high metabolic rate is crucial for long-term wellness as it is the most effective shield against weight gain, the number one driver behind the most dangerous health related issues.

Hyperbaric Therapy Chamber

Duration	Sessions per week
60	2

Metrics benefits

- Recovery capacity

Additional benefits

- Improved neurological conditions outcomes
- Reduced inflammation
- Infections treatment
- Reduced chronic pain
- Wound healing
- Longevity

Cryotherapy

Duration	Sessions per week
4	3

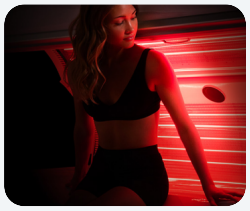
Metrics benefits

- Recovery capacity
- Resting metabolic rate
- Fatburn efficiency

Additional benefits

- Reduced inflammation
- Pain relief
- Combat infections
- Skin health
- Explosive strength

Red light therapy



Duration	Sessions per week
10	3

Metrics benefits

- Cardiovascular fitness
- Fatburn efficiency
- Recovery capacity

Additional benefits

- Muscular endurance
- Pain Relief
- Reduced Inflammation
- Reduction of psychological stress
- Improved wound healing
- Skin Health

NAD

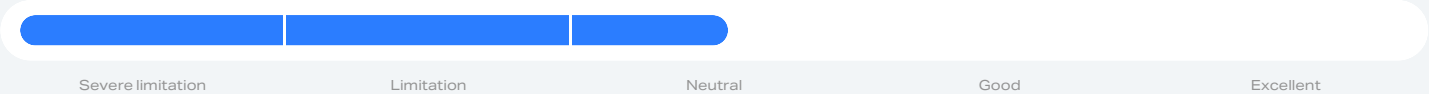
Active ingredient	Dose	Sessions per week
NAD	1	1

Metrics benefits

Additional benefits

- Participates in DNA maintenance and repair
- Regulates energy metabolism
- Reduces oxidative stress and inflammation
- Influences immune cell function
- Maintains a healthy nervous system

Resting metabolic rate - 51% | Neutral



What it is

The resting metabolic rate score is a gauge of how fast or slow your metabolism is. In other words, whether your body is burning more or fewer calories than what's predicted based on your weight, gender, age, and height.

How it is measured

It's calculated by comparing the resting metabolic rate measured by the device with the estimated value generated by the Harris-Benedict equation. The Harris-Benedict RMR value is calculated based on your age, gender, weight, and height and is referred to as the "predicted" metabolic rate.

Recommendations to improve it

EXERCISE

Resistance

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

Interval

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

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

Lean protein

High-quality protein sources, such as fatty fish, eggs, lean red meat, and/or skinless chicken/turkey, can help you maintain and/or increase your muscle mass and thus your metabolic rate.

Brazil nuts

Brazil nuts are the richest source of selenium, a mineral especially important for the thyroid gland that 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, and thus elevate your metabolic rate.

Avoid extreme dieting

Extreme dieting can lower your metabolism by reducing your muscle mass and causing your remaining muscles to burn fewer calories. Avoiding extreme diets is critical for maintaining a healthy metabolism.

Standing office work

Adopting a standing office significantly increases calorie burn throughout the day compared to a regular sitting work station and thus elevates your metabolism.

Why it's important for your goal

A high Resting Metabolic Rate will protect you from weight gain as your body will burn more calories allowing you to eat more without gaining weight. It also facilitates weight loss, as burning more calories means that even a modest restriction in food intake will result in a significant calorie deficit and weight loss.

Scan to learn more

Scientific sources

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- Cavedon E. et al., Selenium supplementation in patients with obesity, 4802739
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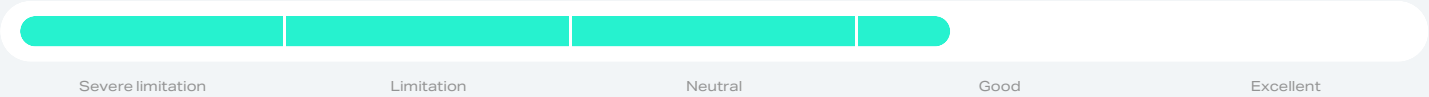
- Johannsen D.L. et al., Metabolic slowing with massive weight loss, 2489-2496 Júdice P.B. et al., What is the metabolic and energy cost of sitting?, 263-273 Westerterp-Platenga M.S. et al., Dietary protein's role in satiety and weight loss, S105-112

Fat Burning Efficiency - 67% | Good



What it is

It represents the ability to "burn" fat as a fuel source at rest.

How it is measured

Resting RER values closer to 0.7 reflect a high-fat burning efficiency score, whereas resting RER values closer to 1.0 reflect a low-fat burning efficiency score.

Recommendations to improve it

EXERCISE

Resistance

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

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

Endurance

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, which can maintain high fat-burning efficiency levels.

Cacao

Cacao contains antioxidants able to promote gene expression that stimulates fat burn.

Coffee

Caffeine enhances fat-burn making moderate coffee drinking (i.e. 2-3 cups per day) a helpful booster for your metabolism.

LIFESTYLE

Meal timing

Scheduling most of your caloric and carbohydrate intake earlier in the day while fasting for at least 3 hours prior to sleep significantly improves fat-burning throughout the day.

Cold exposure

Cold exposure improves mitochondrial condition and thus increases fat-burning efficiency.

Reduce stress

Implementing stress-relieving strategies, such as mindful breathing, can help regulate stress-hormone levels and thus boost your metabolism and fat-burning efficiency.

Why it's important for your goal

The higher your Fat-burning Efficiency, the more your cells will rely on fat as a fuel source during rest. Fat-burning Efficiency is also one of the most vital indicators of good cellular condition.

Scan to learn more

Scientific sources

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- Halton T.L. et al., The effects of high protein diets on weight loss, 373-385
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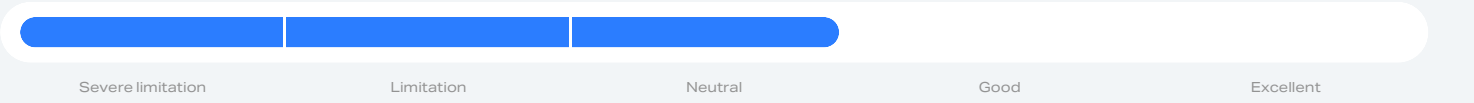
Metabolic fitness - 59% | Neutral



What it is

It's a gauge of how well your body converts nutrients (e.g., fats and carbohydrates) into the energy it needs to move and sustain its vital functions (e.g., brain, heart, and lung function).

How it is measured

The metabolic fitness score is calculated by combining the resting metabolic rate and the fat-burning efficiency scores.

Recommendations to improve it

EXERCISE

Resistance

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

Interval

High-intensity intervals (Zone 5) significantly improve mitochondrial density and fat-burning efficiency, the second factor affecting metabolic fitness. Interval types in lower intensities have a more moderate impact.

Endurance

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

Flaxseeds

Flaxseeds are rich in key micronutrients and fiber which get fermented in the gut and improve gut condition metabolic fitness and protect against metabolic dysfunctions.

Lentils

Lentils are rich in dietary fiber, plant protein, and slow-digesting carbs, all essential nutrients that promote gut and metabolic fitness and thus protect against metabolic dysfunctions.

Dark chocolate

Dark chocolate is rich in magnesium, a mineral that supports mitochondrial function, a critical mechanism for overall metabolic wellness. It's also rich in polyphenols, namely antioxidants that may increase metabolic flexibility.

LIFESTYLE

Sleep

Getting enough (7-8 hours) and good quality sleep will keep your hormones and hence your metabolic fitness regulated. It will also help your muscles recover faster and function optimally, supporting your whole metabolic fitness.

Avoid overfeeding

Overfeeding may lead to hyperinsulinemia, increase in fat mass, and hence a state of metabolic inflexibility that causes lower fat-burning efficiency, weight gain, and metabolic dysfunction.

Reduce stress

Implementing stress-relieving strategies, such as mindful breathing, can help regulate stress-hormone levels and thus boost your metabolism and fat-burning efficiency.

Why it's important for your goal

Metabolic Fitness is a key indicator of metabolic dysfunction risk as well as a vital factor for maintaining a healthy weight. It is also a reliable indicator of overall physical recovery and your body's ability to sustain high training volumes.

Scan to learn more

Scientific sources

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- Ganesan K. et al., Polyphenol-rich lentils and their health promoting effects, 2390
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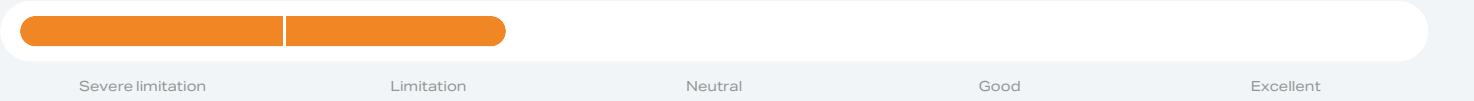
Heart fitness - 35% | Limitation



What it is

It's a gauge of your cardiovascular system's fitness and a risk factor for heart-related conditions.

How it is measured

It's assessed by analyzing heart rate variability biomarkers such as Low and High-Frequency bands.

Recommendations to improve it

EXERCISE

Resistance

It can have a modest effect on improving cardiovascular fitness 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 metric.

Interval

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

Endurance

Although not as effective as interval training, endurance training can also increase stroke volume and thus improve cardiovascular fitness. 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 fitness.

Vegetables

Consuming a variety of dark leafy vegetables, especially kale, mustard greens, and swiss chard, rich in fiber and vitamin K, can enhance heart fitness.

Fatty fish

Omega-3 fatty acids, typically found in fatty fish such as salmon, is one of the most beneficial nutrients for heart fitness and can even prevent or treat heart-related conditions.

LIFESTYLE

Smoking cessation

Smoking damages the heart and blood vessels. It also reduces the oxygen in your blood, and increases blood pressure and heart rate causing your heart to have to work harder in order to maintain the normal function of the mind and body.

Diet

A healthy balanced diet containing nutritious foods, rich in dietary fiber and antioxidants, can significantly improve your heart fitness.

Sauna

Sauna bathing can decrease blood pressure and improve overall cardiovascular function.

Why it's important for your goal

A high heart fitness score indicates improved parasympathetic nervous system activity and the ability to recover from intense physical activity. Studies have shown that the sympathovagal balance (i.e. balance between sympathetic and parasympathetic activity) is a key indicator of heart fitness.

Scan to learn more

Scientific sources

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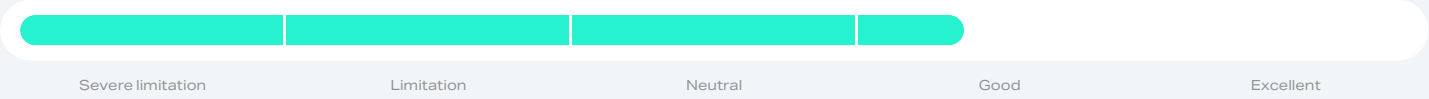
Lung Fitness - 68% | Good



What it is

It's a gauge of your lungs' condition and a risk factor for respiratory-related conditions.

How it is measured

It's calculated based on the tidal volume (i.e. the amount of air exhaled in each breath) measured during the test. A reduced tidal volume is a risk factor for developing lung conditions.

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.

Why it's important for your goal

Oxygen is one of the most critical elements for a long and healthy life as it constitutes the fundamental ingredient cells use to operate and thrive. The bigger your lungs, the more oxygen you can absorb and deliver to your cells.

Scan to learn more

Scientific sources

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- Seo K., Inspiratory diaphragm breathing exercise on respiratory muscle activation, 465-469

Breathing & Cognition - 70% | Good

Severe limitation | Limitation | Neutral | Good | Excellent

What it is

It reflects how breathing affects a person's ability to think and perform cognitive tasks.

How it is measured

It's calculated based on breathing frequency at rest. Breathing faster than a specific threshold is an indication of hyperventilation, a state that reduces oxygenation to the brain and the ability to perform cognitive tasks.

Recommendations to improve it

EXERCISE

Resistance

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 major role in learning and memory https

Interval

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

Endurance

According to CDC, moderate exercise (i.e., Zone 2) promotes memory and cognition thanks to the secretion of 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.

Matcha

Matcha is a type of green tea with powerful stress-relieving properties due to its high content of the amino acid L-theanine.

Avocados

Avocados are rich in magnesium, a mineral that reduces stress levels by regulating the stress hormone cortisol.

LIFESTYLE

Breathing training

Breathing training that lowers breathing rate and increases carbon dioxide levels in the body can drastically improve cognitive function and reduce stress levels.

Diet

A healthy diet that contains as low as possible levels of processed foods, caffeine, and alcohol, can significantly reduce stress, slower your breathing rate throughout the day, and thus improve cognitive function.

Cold exposure

Cold exposure improves sympathovagal balance, promotes the engagement of the parasympathetic nervous system, and can thus improve your cognitive function and mental focus.

Why it's important for your goal

Hyperventilation is considered one of the most common but underdiagnosed conditions that severely impact the quality of life in our society. It's estimated that 15% of the population chronically hyperventilates, with only a handful knowing about it. Chronic hyperventilation at resting conditions reduces cognitive capacity at work, increases feelings of fatigue, and is associated with higher rates of anxiety and panic attacks.

Scan to learn more

Scientific sources

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- Taylor L. et al., The impact of environmental conditions on cognitive function, 372

Breathing & Posture - 70% | Good

Severe limitation | Limitation | Neutral | Good | Excellent

What it is

It's a gauge of how your breathing affects posture, the likelihood of musculoskeletal injury, and lower back pain.

How it is measured

The breathing and posture score is calculated based on your resting breathing frequency.

Recommendations to improve it

NUTRITION

Broccoli

Broccoli is rich in magnesium which helps the mind and body relax, lowering your breathing rate.

Dark chocolate

Dark chocolate is packed with essential nutrients, such as magnesium, a mineral that contributes to reducing levels of the stress hormone cortisol.

Fermented foods

Fermented foods, such as kefir and kimchi, are rich in probiotics which improve gut condition and thus reduce stress and breathing frequency.

LIFESTYLE

Meditation

Long-term meditation through breathing practices such as nasal breathing or box breathing can help you better control your breathing, slow your breathing rate, and thus improve core stability.

Sleep pose

Sleeping in positions that support the curvature of your back is important to maintaining a healthy posture. Lying on your back while placing a pillow under your knees or on your side in an embryonic pose greatly increases the chances of promoting good posture.

Sitting

According to the American Chiropractic Association, the sitting position puts significant stress on your lower back. To relieve this pressure remember to always take breaks when sitting for long periods (e.g. walk for 5-10 minutes for every hour of sitting).

Why it's important for your goal

Abnormal breathing patterns are one of the most significant risk factors for musculoskeletal problems like lower back pain which is one of the most important factors reducing the quality of life. Proper breathing can improve posture, feelings of musculoskeletal pain, and quality of life.

Scan to learn more

Scientific sources

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Metabolic Dysfunction Risk

Low Risk

High Risk

What it is

It's a risk factor for developing metabolic-related issues.

How it is measured

It's calculated based on your ability to utilize fat at rest. The lower the RER, the higher your fat-burning efficiency and the lower your metabolic dysfunction risk score.

Recommendations to improve it

EXERCISE

Resistance

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

Interval

High-intensity intervals (Zone 5) significantly improve mitochondrial density and fat-burning efficiency, a core element affecting the risk of developing metabolic dysfunctions. Interval types in lower intensities have a more moderate impact.

Endurance

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, a key factor affecting the risk of metabolic dysfunctions.

NUTRITION

Oatmeal

Oats contain dietary fibers known as beta-glucans which can help better regulate your blood glucose levels throughout the day and prevent fluctuations arising from consuming foods rich in processed carbohydrates.

Chia seeds

Chia seeds contain lots of fiber and many carbohydrates and can thus help improve blood sugar control and decrease metabolic dysfunction risk.

Cinnamon

Cinnamon has been shown to help regulate blood sugar levels, improve insulin sensitivity, and reduce HbA1c levels.

LIFESTYLE

Weight loss

Losing even a mere 7% of your total body weight can significantly decrease your risk of developing metabolic dysfunction.

Screen time turndown

For each additional hour spent watching television risk of metabolic dysfunction is increased.

Sleep

Getting enough (7-8 hours) and good quality sleep has been shown to significantly decrease metabolic dysfunction risk by improving insulin sensitivity and glucose metabolism.

Why it's important for your goal

Metabolic dysfunction is a state where insufficient mitochondrial density along with other factors render cells unable to absorb sufficient amounts of oxygen and therefore burn fat as a fuel source (since fat requires oxygen to be broken down). Lack of cellular oxygenation can lead to a host of metabolic conditions.

Scan to learn more

Scientific sources

- Apostolopoulou M. et al., Metabolic flexibility associates with insulin sensitivity, 2203-2207
- Shang C. et al., Beneficial effects of cinnamon in cardiovascular disease, 12194-12220
- Ullah R. et al., Nutritional and therapeutic perspectives of chia, 1750-1758
- Wehrli F. et al., Oat intake and risk of type 2 diabetes, 2560
- Anothaisintawee T. et al., Sleep disturbances and diabetes development, 11-24
- Feldman A.L. et al., Impact of weight loss on diabetes risk and burden, 170
- Goldfield G.S. et al., Screen viewing and diabetes risk factors, S364-370

Caloric Balance

You Burn

During days you don't work out

2427 kcal/day

During days you work out

2730 kcal/day

You should eat

During days you don't work out

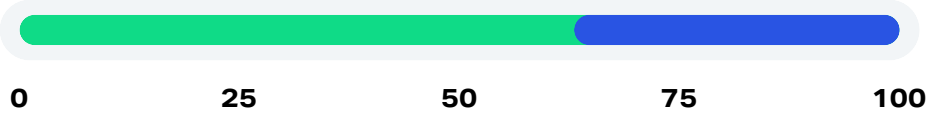
1927 kcal/day

During days you work out

2230 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.

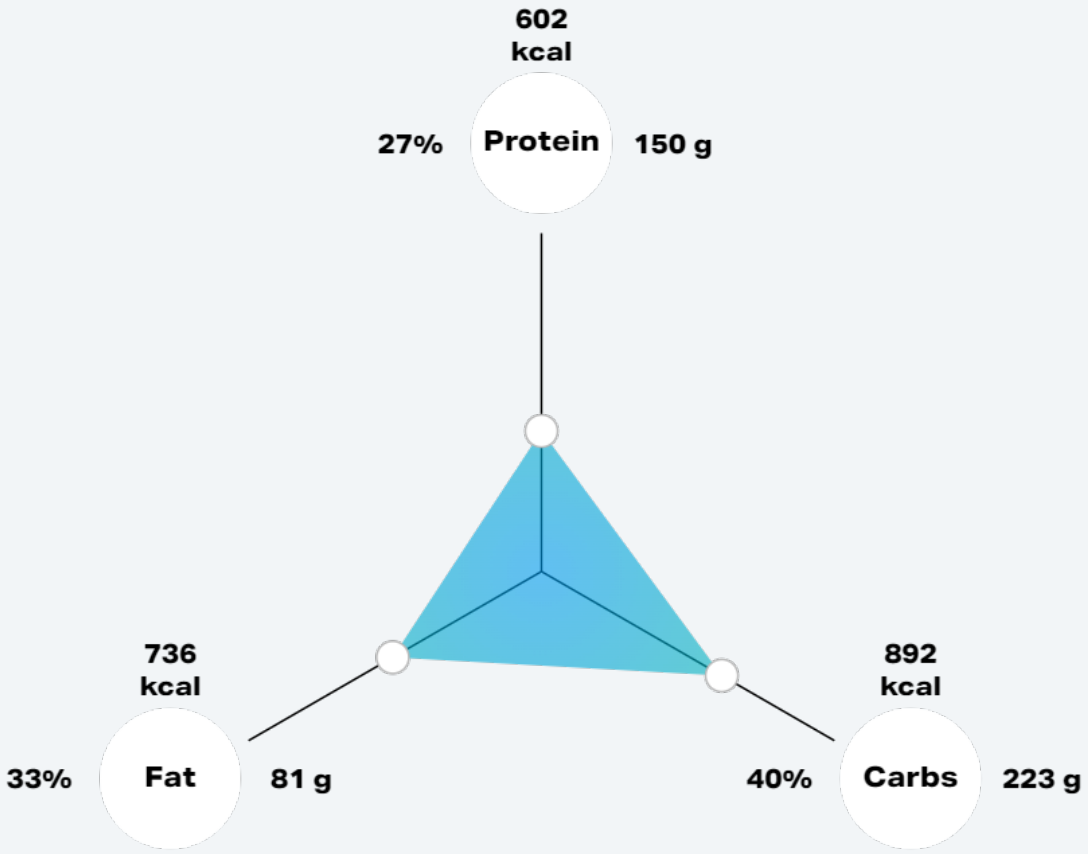


- Fats
- Carbohydrates

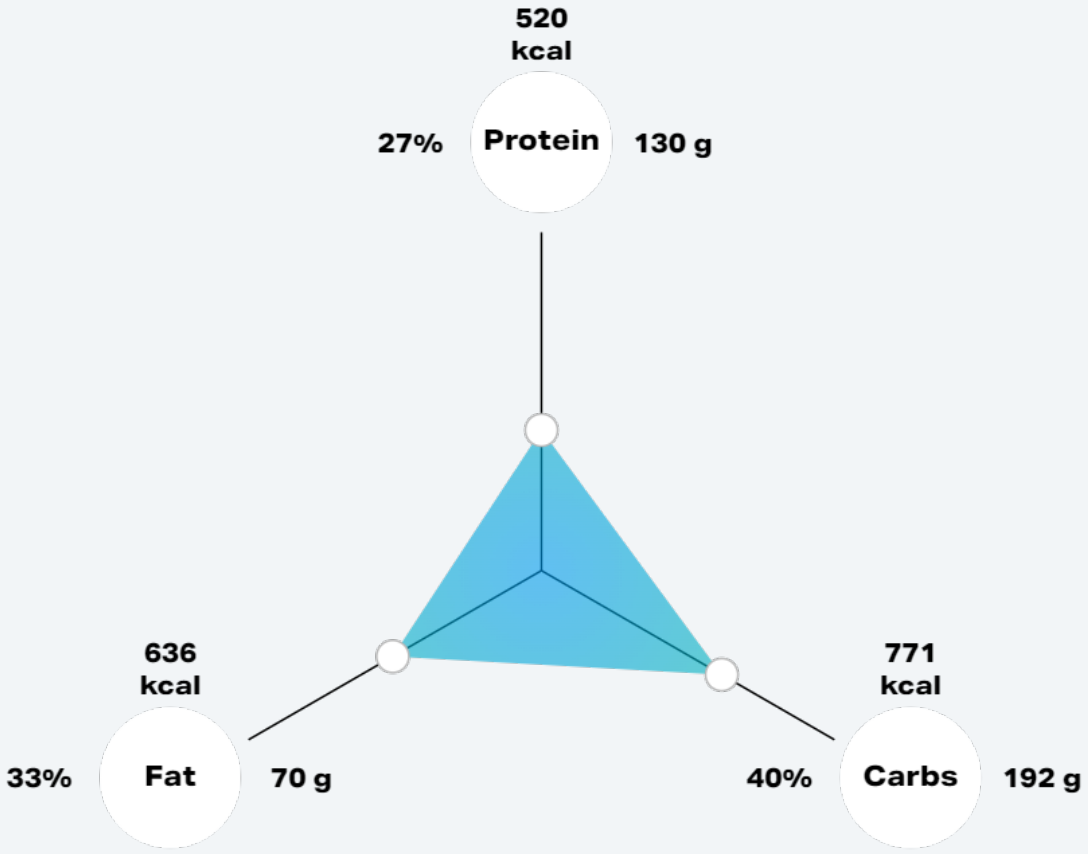
Your metabolism uses an energy mix of 63% fats and 37% carbohydrates to produce energy

Macronutrient Balance

Workout days



Non-workout days



Testing Schedule