









# < Report

# Your partner for weight management report

Sample date: 05.09.2024

Test again in 6 months

# Hello Katarina,

Since you have stated that your goal is weight management, I would like to recommend that you not only pay attention to your diet, but also consider the importance of exercise. Regular exercise, consisting of strength and endurance training, brings numerous benefits



Dr. Albert

Test details

V

# Your report at a glance

	Creatine kinase (CK)	Optimal	Lipid profile	Increased
	Creatine kinase (CK)	$\circ \circ \circ$	cholesterol	000
			HDL	$\circ \circ \bullet \circ \circ$
			LDL	$\circ \circ \circ$
$\bigcirc$	Cortisol	Optimal	Triglyceride	$\odot$
	Cortisol	$\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc$	Non-HDL cholesterol	• • •
			Cholesterol: HDL	$\circ$
	CRP	Optimal		
	CRP	000	testosterone	Optimal
			testosterone	$\circ \circ \bullet \circ \circ$
	HbA1c	Optimal		
	НЬА1С	000	Thyroid profile	Optimal
			TSH	$\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc$
	hsCRP	Optimal	FT4	$\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc$
	hsCRP	• • •	FT3	00000
			Vitamin D	Optimal
	Liver function	Optimal	Vitamin D	00000
	ALP	$\circ \circ \bullet \circ \circ$	Treatmin D	
	OLD	$\circ$		



# Creatine kinase (CK)

OPTIMAL

## What is creatine kinase and why does your body need it?

Creatine kinase (CK) is an enzyme in the brain, heart and muscles that helps regulate energy use and storage. When one of these tissues is damaged, CK leaks into the bloodstream. This indicates muscle injury. Elevated CK levels can also be an indication of heart or muscle damage, but less commonly, a problem with the brain is the cause of elevated CK.

## Creatine kinase (CK)



OPTIMAL

# Creatine Kinase (CK) Recommendations

# Great! Your CK value is optimal

No further action is required other than continuing to measure this value as part of your routine health checks.



# Cortisol

OPTIMAL

## What is cortisol and why does your body need it?

Cortisol is a steroid hormone secreted by your adrenal cortex. Its main function is to regulate your body's stress response: it acts like your body's alarm system. Cortisol increases in response to stress. This also leads to an increase in the amount of glucose, proteins and fats in the blood so that your brain and muscles have more energy available. Cortisol communicates with the region of the brain that controls mood and anxiety. It also regulates your sleep-wake cycle. Therefore, an imbalance can really affect your well-being.

## Types of stress that stimulate cortisol.

- Trauma of any kind, including physical, psychological and emotional trauma
- Infection and disease
- Intense heat or cold
- Situations that trigger your body's fight or flight reflex

## Cortisol



# **Cortisol Recommendations**

# What does a good result mean and how can I maintain it?

Great, your cortisol levels are in the optimal range. Cortisol rises in response to stress, so if you manage your stress, you can stay healthy and keep your cortisol levels in the optimal range.

# Types of stress that stimulate cortisol:

- Trauma of any kind, including physical, psychological and emotional trauma
- Infection and disease
- Intense heat or cold
- Situations that trigger your body's fight or flight reflex

## Tips for managing stress



### Identify triggers

Make notes about what causes you stress and when it happens. Is there a particular situation, person or event that stands out? Knowing your stress triggers can help you deal with stressful situations better.



## Sleep

Your body needs sleep to allow your brain to function optimally. With enough sleep, your cortisol levels can rise and fall as desired. Try to create a regular sleep schedule, getting at least six hours of sleep per night.



#### meditation

It is well known that meditation can induce a deep state of relaxation. We know that meditating is not always easy - especially if you have never done it before. The best way to start is small: take a few minutes in a place that feels quiet and relaxing. Take a few deep breaths to calm your body. Try to incorporate this time out into your daily routine. For example, you can take ten minutes every day after you wake up.



## Reduce alcohol consumption

High alcohol consumption is associated with increased cortisol levels. Limit the amount of alcohol you drink to reduce cortisol release.



### Seek professional help

If you're having trouble managing your stress, seek professional help from psychologists, doctors, or counseling services. Global mental health statistics show that people are slowly but surely becoming more stressed, so rest assured that you're not alone - get the help you deserve to live your life to the fullest.





OPTIMAL

#### What is CRP and what does it do in your body?

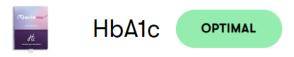
C-reactive protein (CRP) is a non-specific inflammation marker and is produced in increased amounts by the liver during acute inflammation. CRP is an important protein that supports the other immune defense cells. It shows that your immune system is fighting inflammation, infection or tissue damage in the body, but it cannot make precise statements about whether it is a bacterial or viral infection or where it is located. CRP must therefore be analyzed in combination with other biomarkers. In addition, if checked regularly, it is suitable as a progression parameter for an infection.

### **CRP**



# **CRP Recommendations**

Great! Your CRP value is below the relevant concentration threshold. This has no medical significance and only indicates that there is no acute infection or inflammation. To keep it that way, you don't have to do anything except stay healthy and happy!



#### What is HbA1c?

The HbA1c value measures how high your average blood sugar was in the last three months - that's why it is also called "blood sugar memory". An increased HbA1c value leads to tiredness, weakness, reduced vision and increased thirst. It can also be the cause of dry and itchy skin. The value is important for detecting early prediabetes or diabetes mellitus. This is a chronic metabolic disease that is associated with an increased risk of coronary heart disease, stroke, diseases of the retina, kidney disease and diabetic foot syndrome.

#### HbA1C



# HbA1c recommendations

## What does a good result mean and how can I maintain it?

Everything is fine with you! Your result is optimal, which means that you currently have a low risk of prediabetes or diabetes mellitus. A healthy lifestyle is important to keep your result as good as it is. This includes exercise and healthy food that tastes good!

# What increases your risk of developing diabetes?

Diabetes is a complex disease – there is a genetic (non-influenceable) component and the previously mentioned possibilities to significantly influence the development of this metabolic disease itself.

# Risk factors that may be hidden

genetics	Your risk of developing diabetes increases as you get older. This has to do with genetics - so if you have parents, grandparents or siblings with diabetes, then your risk of developing it is also increased.
health	Pre-existing medical conditions such as high blood pressure and obesity can also increase your risk of diabetes. If you have a pre-existing medical condition, talk to your doctor about what you can do to reduce your risk of diabetes.

#### Physical activity

Get moving - this will help you maintain optimal HbA1c levels! Muscles use a lot of energy to function properly, and sugar acts as the cell's fuel. Remember to exercise for at least 30 minutes a day to stay healthy!

#### Healthy eating

Drink plenty of water! Sodas and even fruit juices contain quite a lot of sugar, so try to replace them with water. Water has endless benefits: it hydrates you, protects your organs and tissues, improves your skin, and helps your body eliminate excess glucose, keeping your blood sugar levels under control. You can also add a few drops of lemon juice to your water for a refreshing taste!

Plan your meals. Try to plan your meals in advance and make sure you are getting all the right nutrients. If you want to eat something sweet, it is best to do so immediately after your meal. This way it will be metabolized faster and also prevent later cravings.

Two pieces of fruit a day are ideal! But you shouldn't eat more than that, as the fructose in fruit can also raise your blood sugar level.

Avoid snacking between meals! If you want to eat something sweet, it's best to treat yourself to a little something right after your meal. This way you can avoid later cravings.

Instead of sweets, reach for healthy snacks! Try a small handful of nuts, a piece of fruit, or natural yaghurt with fresh berries.

Spice up your diet with plenty of vegetables and legumes! One green meal a day is a healthy alternative to meat and fish dishes. Salads, vegetables, nuts, seeds and legumes such as beans and lentils are great for keeping your blood sugar levels low.

#### Maintain a normal body fat level

BMI, the body mass index, puts body weight and height in relation to each other; an increased body weight with a good level of fitness is a major difference to an increased weight with a predominant body fat percentage and a lack of exercise. A high body fat percentage is associated with an increased risk of diabetes. Even if your results are optimal, you should continue to keep an eye on your BMI!

**Tip:** Measure your waist circumference. All you need is a tape measure. For men, the circumference should be less than 102 cm and for women, less than 88 cm.





**OPTIMAL** 

### What is the hs-CRP value and why should you pay attention to it?

Hs-CRP measures small amounts of a protein called C-reactive protein (CRP). If your blood vessels are damaged, the hsCRP level is elevated. This can determine your risk of cardiovascular disease. Such cardiovascular diseases include heart attacks, coronary heart disease, strokes and peripheral artery disease. In fact, cardiovascular disease is the leading cause of death worldwide - and it can often be prevented if detected early!

## hsCRP



OPTIMAL

# hsCRP recommendations

## How can I maintain my cardiovascular health

Your hs-CRP level indicates that you currently have a low risk of developing cardiovascular disease. However, as you age, your risk of cardiovascular disease increases. Here are some tips to help you maintain a low risk and minimize the effects of age and genetics:

## Tips for reducing risk

### Blood pressure



High blood pressure causes extensive damage to your blood vessels. This increases your risk of developing cardiovascular disease - and your hs-CRP increases as well. Simply visit your GP to measure your blood pressure and make sure it is within the normal range.

You can maintain normal blood pressure by exercising regularly and keeping stress under control. Regular exercise strengthens your heart and blood vessels, which helps you maintain normal blood pressure. Stress, on the other hand, increases your heart rate and the force with which your heart beats, leading to increased blood pressure.

#### Movement behavior



An active lifestyle keeps your heart strong. The American Heart Association recommends 30 minutes of exercise five times a week. You can work your way up to this goal slowly and sustainably. Find activities you enjoy, like dancing or a sport. You don't have to do it all at once, either! A 15-minute active break here and there throughout the day can make it easier. Trust us, it feels doable this way. You'll also build up your endurance, which will allow you to slowly but surely increase your weekly exercise routine.

Exercising with friends is also a great way to be active and have fun at the same time. From playing badminton in the park to swimming, going for a walk or going to the gym together, it's all good as long as you get some movement into your day.

#### Body weight



Being overweight or obese increases your risk of cardiovascular disease. This is because the lipids in the blood are elevated. The lipids settle in damaged blood vessels, making them narrower and stiffer. It is really important to pay attention to this, as it can lead to serious consequences such as heart attacks and strokes.

The body mass index (BMI) is a measurement that compares height and weight. If you keep your BMI below 25 while having high body fat, this reduces your risk of developing cardiovascular disease.



# Liver function

**OPTIMAL** 

#### What is the liver and what does it do?

The liver is your largest internal organ. It is located in the upper abdomen and has four main functions:

- **Synthesis:** Your liver produces most of the proteins in your blood. This includes clotting factors these help you stop bleeding after an injury!
- **Detoxification:** The nutrients from your food must first pass through the liver before they reach the rest of your body. This means that your liver also controls the amount of sugar and cholesterol in your blood. It also breaks down and filters out toxins and drugs.
- **Secretion:** The liver produces bile, which helps in digestion and the absorption of fat, iron, calcium and vitamins.
- **Energy storage:** Your liver stores glycogen. In other words, it is the glucose storage facility, especially for the brain. If your body does not have enough, either due to a lack of food or too intense exercise, then this can lead to reduced performance and noticeable fatigue.

Our liver function test looks at the enzymes in the blood and tells us how healthy your liver is. These enzymes include ALT, ALP and GGT. When liver cells are damaged, their enzymes are released into the blood. The liver can be damaged when it breaks down toxins in your blood or when bile builds up in your liver. The latter can be the result of a blockage of the bile.

### **ALP**

ALP is an enzyme found in various parts of the body, such as the liver, bones, intestines, and kidneys. It helps break down proteins. When ALP levels are examined in the blood, it can show if there are problems with the liver, gallbladder, bones, or bile ducts.





Alanine aminotransferase (ALT) is an indicator of liver cell damage. ALT is normally found outside the cell, which is why ALT is elevated even when liver damage is still minor.



## Bilirubin

Bilirubin is produced when red blood cells are broken down. The liver uses the bilirubin to make bile. Elevated bilirubin levels indicate either that the number of dying red blood cells has increased significantly or that the liver is having difficulty breaking down bilirubin. When bilirubin is elevated, it causes the skin and eyes to turn yellow. This is called jaundice. Jaundice is the first sign of liver damage.



#### **GGT**

GGT is an enzyme found in cells, primarily in the liver. It helps metabolize substances in the body. Checking GGT levels in blood tests can reveal if there are any problems with the liver, such as liver disease or problems with the bile ducts. High GGT levels can sometimes indicate problems related to alcohol consumption, certain medications, or other liver diseases.



#### albumin

Albumin is the most abundant protein in your blood. It regulates water balance, which means it controls the movement of water in and out of blood vessels and cells. It also helps transport fats and medications in your body. Albumin is made by the liver. If the liver can no longer make plasma proteins, then there will be less albumin. When albumin is reduced, it can cause swelling in your feet and abdomen.



# Liver function recommendations

## What does a good result mean and how can I maintain it?

Great! Your liver function test shows that your liver is functioning optimally. Here are some tips on how to keep your liver healthy and prevent disease.

## What you need to pay attention to:

#### Viruses

Hepatitis B is one of the most common causes of hepatitis (an inflammation of the liver) worldwide. Hepatitis B is a virus that is transmitted through bodily fluids such as blood and through sexual contact. If you have not yet been vaccinated, you should do so, as the vaccination protects you against this form of hepatitis.

#### Alcohol consumption

One of your liver's jobs is to break down alcohol. Heavy alcohol consumption can cause liver damage. To keep your liver healthy, don't drink more than one or two units of alcohol per day. One unit of alcohol is equal to 10 ml of pure alcohol. Here are some examples of how much this is for different types of alcohol:

A short drink or a shot (schnapps or similarly strong alcohol)

250 ml beer

Half a 175 ml glass of wine

Remember that alcohol-free days or completely abstaining from alcohol during the week can help the liver to regenerate and thus remain fully functional over a longer period of time.



# Lipid profile

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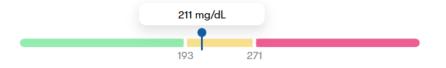
### What is a lipid profile and why is it relevant to you?

Our lipid profile measures the amount of cholesterol and fat in your blood. Our bodies use fat for energy, protection, thermal insulation and for cell renewal, making it vital for our overall health. However, having too much fat in your blood can have a negative impact on your cardiovascular system, as when lipids build up in your blood vessels, they cause blockages.

## During the lipid profile examination, we test the following:

#### cholesterol

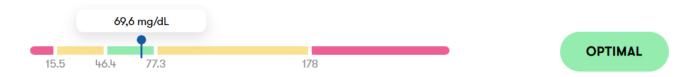
Cholesterol is a type of lipid that your liver naturally produces. It plays an important role in the formation of cell membranes and the production of certain hormones and vitamin D. However, too much of it leads to fatty deposits in the blood vessels. This makes it difficult for blood to flow easily through the arteries.



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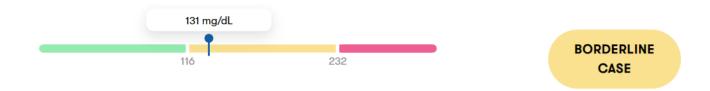
### HDL

HDL is the healthy fat. It absorbs excess cholesterol in your blood and helps your liver maintain healthy blood cholesterol levels. Low HDL contributes to high cholesterol.



### LDL

LDL is unhealthy fat. It is produced by your liver and transports cholesterol to your tissues, where it is used to make hormones and keep cells healthy. If there is too much cholesterol in your blood, it can build up in your blood vessels, causing them to become less elastic and narrower.



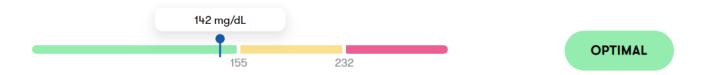
## Triglyceride

Your body uses triglycerides to store energy and to insulate and protect organs. Elevated triglycerides are the result of large amounts of fat and carbohydrate-rich foods in the diet or are caused by being overweight. Elevated levels also increase your risk of developing cardiovascular disease.



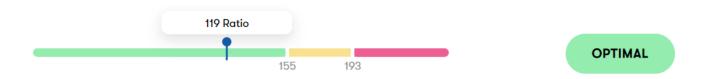
#### Non-HDL cholesterol

This value shows the proportion of total cholesterol that is not HDL and can therefore provide an even more precise statement about your cardiovascular risk. 3.37 mmol/L is considered optimal, and the value is elevated from 4 mmol/L. This value can be falsely in a good range if HDL itself is significantly elevated.



#### Cholesterol: HDL

This value represents the ratio of HDL to total cholesterol. The value should be below 4, with a ratio of 3.5:1 being considered optimal. Generally, a higher value is associated with a higher proportion of unhealthy fat and therefore an increased risk of cardiovascular disease.





#### Dr. Albert

There is an increase in your lipid profile (total and LDL cholesterol), which is not yet in the critical range, but should still be taken seriously as a warning about your eating habits. Permanently elevated cholesterol levels represent a significant cardiovascular risk factor, which is why I would recommend that you adjust your eating habits as a preventative measure. At your age, this is very likely to normalize your lipid profile. Take part in our MavieMe cholesterol challenge. We will guide and support you step by step over 8 weeks to reach your target cholesterol level. <

# Lipid profile recommendations

## How can an elevated lipid profile affect you?

Your results show higher values than we would like. This means that you have too much cholesterol and fat in your blood, which means you are at higher risk of arteriosclerosis (hardening of the arteries) and cardiovascular disease. Stroke, heart attack and poor circulation in the legs can result from blocked blood vessels.

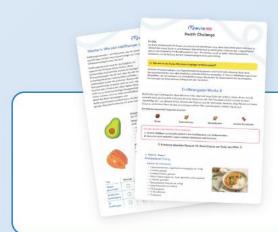
Your levels are not significantly elevated, so they can probably still be corrected with lifestyle changes. Follow the recommendations below and test again in 3 to 6 months to see if you have made progress.

However, if you have had elevated levels in the past or there is a family history of high cholesterol, you should talk to your doctor about these results.

## Good to know

The cholesterol level in the blood is influenced by several factors: age, individual genetics, the intake of certain medications and lifestyle are major influencing factors.

Cholesterol levels increase with age. This affects men more than women. High cholesterol levels can go unnoticed - that is, they cause no symptoms. The only way to determine whether the level is high is to have a blood test. Have your cholesterol levels measured regularly to ensure that your levels remain in the optimal range!



## The MavieMe cholesterol challenge

Take control of your cholesterol levels with the MavieMe Cholesterol Challenge

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# This is how you can improve your lipid profile:

### Smoking less or quitting altogether

You probably already know that smoking is bad for your health. But it must be emphasized again: Smoking is one of the biggest risk factors for cardiovascular disease. It causes damage to the blood vessel walls, which then causes cholesterol to build up. If you are a smoker, you should try to smoke less or, better yet, quit altogether. This would significantly reduce your risk of suffering from a variety of serious diseases. After all, smoking damages almost every single organ in your body.

We know this isn't an easy step, but here are some tips to help you get started:

- Make a list of the benefits of quitting smoking to motivate yourself. Focus on those benefits that are strong enough to overcome the urge to smoke
- Always focus on the present moment, but also think about the long-term benefits
- Avoid temptations, especially in the first two weeks. These are things that
  encourage you to smoke, such as coffee and alcohol it is best to replace
  them with other drinks



- Consult a doctor, a pharmacist can advise you on nicotine replacement products, and support from a friend, family member or non-smoking group can be very helpful
- Don't be discouraged! Most people need several attempts before they finally quit smoking. So keep trying!



#### sport

Physical activity helps you burn excess calories. It also increases HDL levels and makes it easier to lose weight. Being sedentary can lead to higher LDL levels and lower HDL levels.



## Weight/BMI

An optimal BMI (body mass index) can significantly reduce your risk of cardiovascular disease. But even people with a low BMI can have high cholesterol levels. In addition to BMI, body fat percentage is a crucial parameter. So keep an eye on your results!



#### Nutrition

Fortunately, one of the main causes of high cholesterol is within your control! Your diet has a significant impact on your cholesterol levels, so here are the things you should watch out for and avoid.

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Eating too much	Your body produces triglycerides to store the excess energy from your food, so if you consume more calories than you need, that excess energy is stored as fat.
Consuming too much sugar	The less sugar the better. A high consumption of quickly digestible carbohydrates in particular leads to an increased formation of triglycerides. In addition to sugar, white bread, white flour products and juices are also simple carbohydrates. It is therefore advisable to gradually replace these products with whole grain products, pulses and vegetables.
Eating too many foods that contain a lot of cholesterol or trans fats	You probably already know that fast food like French fries and burgers are not good for your health. Snacks also contribute to high cholesterol. So you should try to limit your consumption of snacks like chips and sweet pastries like croissants, cookies or donuts!
Consuming too much alcohol	The alcohol you drink is broken down and reassembled in the liver – and you get triglycerides and cholesterol.

## What you should eat to keep your cholesterol low

Fiber should also be an important part of your diet. Soluble fiber helps you remove cholesterol from your body before it enters the bloodstream.

Did you know that you can lower your LDL levels by eating foods rich in omega-3 fatty acids?

### Omega-3 rich foods:

- Fish: mackerel, salmon, herring
- Seeds: flax seeds, chia seeds
- · Oils: rapeseed oil, olive oil, walnut oil, linseed oil
- Walnuts, almonds
- Avocados, soybeans

#### Other foods to lower cholesterol

- Oatmeal and whole grain products (check for added sugar)
- Legumes: peas, beans, lentils, chickpeas
- Vegetables: broccoli, carrots, radishes, leeks, tomatoes, cucumber, peppers, zucchini
- Fruit: apples, pears, berries, citrus fruits (lemons, oranges, grapefruit)



# testosterone

OPTIMAL

#### What is testosterone and what does it do?

Testosterone is a hormone produced primarily in the testes in men and, in smaller amounts, primarily in the ovaries in women. It is an important hormone involved in several aspects of health. In men, testosterone contributes to the development of the sex organs and sperm production, and affects sexual desire and performance. In women, it helps maintain bone density, muscle strength and libido, and plays a role in general well-being.

#### testosterone



OPTIMAL

# Here are some things to watch out for that could lower your testosterone levels.



### Genetics and age

Both age and genetic factors can cause your testosterone levels to drop over time. If you feel constantly tired, experience muscle wasting and general weakness, and have a reduced sexual desire, these could be signs of low testosterone.



#### Sleep

Studies show that lack of sleep can lead to a drop in testosterone levels, so you should make sure you get at least six hours of sleep per night.



#### **Steroids**

Taking steroids can affect the amount of testosterone your body produces. This can lead to a number of symptoms, including hair loss, decreased sexual desire, and hormonal dysfunction. Do not take steroids unless your doctor advises you to do so.



# Thyroid profile

**OPTIMAL** 

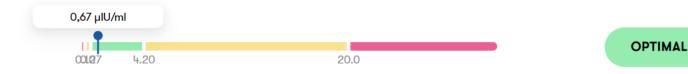
### What is the thyroid and what does it do?

Your thyroid is located in your neck and secretes hormones that regulate your metabolism and the way your body uses energy. It secretes the following hormones: thyroxine (T4), triiodothyronine (T3), and calcitonin. Calcitonin helps your body control its calcium levels, but it has no effect on your metabolism. T3 and T4 are called thyroid hormones because the thyroid takes iodine found in food and converts it into T3 and T4.

## Our thyroid function test measures:

### **TSH**

TSH stands for thyroid stimulating hormone and is a hormone secreted by the anterior pituitary gland in the brain. Although it comes from a completely different organ, TSH is responsible for stimulating the thyroid to secrete T3 and T4. By checking your TSH levels, we can see if there is a problem with your thyroid.



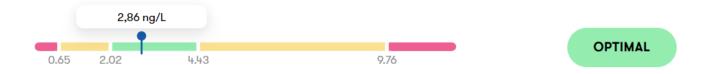
### FT4

FT4 is another thyroid hormone that is important for regulating metabolism and energy production in the body. Like FT3, it is "free" and not bound to proteins in the blood. We measure FT4 levels to assess thyroid function. Abnormal FT4 levels can indicate problems with the thyroid, which can lead to symptoms related to metabolism, temperature regulation, and overall energy levels.



## FT3

FT3 is a type of thyroid hormone that plays an important role in regulating metabolism in the body. It is called "free" because it is not bound to proteins in the bloodstream. FT3 levels in blood tests help assess thyroid function. High or low FT3 levels can indicate hyperthyroidism or hypothyroidism, which affects metabolism, energy levels, and various bodily functions.



## What does a good result mean and how can I maintain it?

The thyroid function test shows that your T3 and T4 levels are in the optimal range. This means that your thyroid is functioning well. It is recommended to consume 200 micrograms of iodine per day, but not more than 500 micrograms. Pregnant and breastfeeding women may have an increased need.

## Foods containing iodine

- Algae
- lodized table salt
- Fish
- Shellfish
- Dairy products milk, cheese, yoghurt
- Eggs

### What is vitamin D and why does your body need it?

Vitamin D is a vitamin that we produce through exposure to sunlight and get from food. You've probably heard of it - and it has a positive reputation for good reason, because it plays a very important role in your body.

- Vitamin D helps your body absorb calcium from food, maintain calcium levels in your bones and teeth, and regulate calcium excretion through your kidneys. Calcium affects the health of your bones and teeth and even affects your brain functions.
- Vitamin D plays a role in nerve and muscle function, which can affect your energy levels.
- Vitamin D also supports your immune system by accelerating wound healing and reducing susceptibility to infections.
- Vitamin D regulates mood and can provide additional help in cases of depression.

#### Vitamin D





#### Dr. Albert

You are currently getting enough vitamin D, even if your level is still a little below the so-called optimal range. I would primarily recommend that you spend enough time in the sun in your everyday life, as most of the vitamin D you need cannot be absorbed through food (as the vitamin D content in most foods is very low), but is produced by the body itself when exposed to UV light. As a guideline, I would recommend at least 20 minutes of sun exposure per day. I would only recommend a vitamin D supplement if you have reduced bone densitu, which is still quite unlikely as a woman of your gae.

# Vitamin D recommendations

## What does a good result mean and how can I maintain it?

Great! Your vitamin D levels are in the optimal range. Here are some tips on how you can continue to maintain your good results:

### Get vitamin D from natural sources

### sunlight



Spending 30 minutes a day in the sun will help you maintain optimal vitamin D levels, so go for a walk, eat lunch outside, or work in a sunny room with the window open. However, remember that direct sunlight is a source of UV radiation, which you should protect yourself from as it can cause skin problems. Wear a good sunscreen and cover your head, especially if you go outside at lunchtime!

#### Nutrition

The average daily vitamin D requirement for adolescents and adults is 20 mcg (= 800 IU), with an average of 2-4 mcg (= 80 to 160 IU) being consumed through food each day.



## What is SHBG and why is it important?

Sex hormone binding globulin (SHBG) is produced in the liver and acts as a transport protein that regulates the concentration of sex hormones such as testosterone and estradiol in the blood. SHBG binds more than 95% of these hormones. Small fluctuations are normal, while increases are common, particularly during pregnancy and after menopause. The simultaneous determination of SHBG and testosterone or estradiol allows an estimate of the free, biologically active proportion of these hormones in the body.

## Sex hormone binding globulin (SHBG)



# SHBG recommendations

Congratulations, your values are in the optimal range!

### What can cause the SHBG level to change?

SHBG can be changed by various influences in the body. One of the most important causes is hormonal changes. Age plays a role, as SHBG levels generally increase with age, especially in women after menopause. Taking hormonal contraceptives such as the contraceptive pill can also increase SHBG levels. SHBG levels also increase during pregnancy, which is due to the hormonal changes during this time. However, certain liver diseases, obesity or diabetes mellitus can lead to reduced SHBG production and thus a drop in SHBG levels, which can increase the risk of hormonal disorders

#### What is DHEA-S and what does it do?

Dehydroepiandrosterone sulfate (DHEA-S) is a steroid hormone that is formed in the adrenal gland from DHEA or cholesterol. It is a precursor of important hormones such as testosterone and estrogen. The value therefore provides information on possible causes of a deficiency or excess of sex hormones as well as on the function of the adrenal cortex. As we get older, there is often a deficiency of DHEA and thus also of these important hormones. The concentration of DHEA is highest around the age of 30 and then decreases continuously. The values are therefore strongly age-dependent. Changes, for example due to stress, can affect mood and well-being and are important for muscle building and fat metabolism. Low values are noticeable through reduced mental and physical performance and lack of motivation. Good values help your body to fight inflammation, lift your mood and maintain your general vitality.

#### What is the difference between DHEA and DHEA-S?

DHEA-S is the sulfated form of DHEA, which means it has an additional sulfur atom. DHEA is therefore a precursor hormone for DHEA-S, but also for the well-known sex hormones testosterone and estrogen. DHEA is biologically active, but is much weaker than testosterone. DHEA-S has a longer half-life in the blood than DHEA, as it is broken down more slowly and therefore circulates in the body for longer. In addition, DHEA and DHEA-S are in balance with each other, with the level of DHEA-S fluctuating less than the DHEA level, which depends on the circadian rhythm (sleep-wake rhythm). Therefore, the measurement of DHEA-S is used as an indirect measure of DHEA production in the blood and can be interpreted as such.

#### DHEA (sulfate)



# **DHEA - Sulfate Recommendations**

# What does a good DHEA-S level mean and how can I maintain it?

Great! Your DHEA-S level is in the optimal range! DHEA-S is formed from cholesterol, 80% of which your body produces itself. This is why lack of sleep, stress, excess weight and alcohol can lower your age-specific level.

In addition, a balanced diet can help lower your blood lipid levels and thus increase your DHEA levels. Pay particular attention to foods that are rich in omega-3 fatty acids, such as olive oil, nuts or fish.