

# FIBROMYALGIA – A CHRONIC PAIN SYNDROME



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***biovis'***  
DIAGNOSTICS



## THE PSYCHOLOGICAL STRAIN IS HUGE.

### FIBROMYALGIA

Fibromyalgia is characterised by persistent muscle and tendon pain, constituting a chronic pain syndrome unrelated to tissue damage. Instead, it involves disrupted pain processing in the brain. This type of muscular pain often coexists with sleep disturbances, fatigue, or depression, significantly impacting everyday life for people suffering from this condition. Typically appearing between ages 30 and 50, the condition tends to intensify with age. In Germany, approximately 2 million people are affected, with women comprising 75 % of cases. Globally, about 2-3 % of individuals experience fibromyalgia. Many affected individuals also suffer from irritable bowel syndrome-like symptoms, such as abdominal pain, bloating, diarrhoea, or constipation.

#### MAIN SYMPTOMS

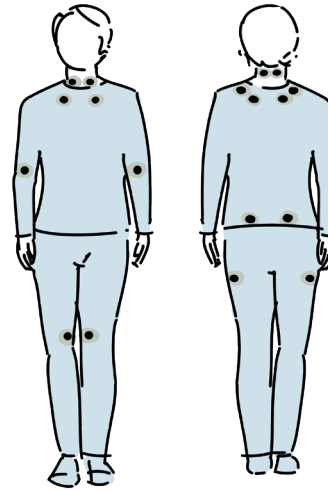
- pain around the muscles and tendon insertions
- sleep disorders
- tendency towards exhaustion with daytime fatigue

#### OTHER SYMPTOMS

- joint pain
- muscle cramps
- tingling sensation in hands and feet
- dry mouth
- strong palpitations, heart palpitations
- lack of concentration
- forgetfulness
- depression
- migraine headaches

### WHAT ARE TENDER POINTS?

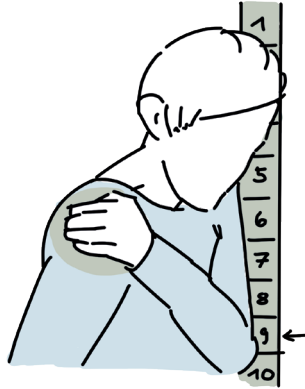
Tender points, also known as trigger points, are areas that are particularly sensitive to pain. They are primarily located where nerve endings meet muscles.



### TARGETED DETECTION AND TREATMENT OF TRIGGER POINTS.

## HOW FIBROMYALGIA IS DIAGNOSED

Since fibromyalgia has no visible causes, it cannot be diagnosed using X-rays or laboratory tests. The first step is a thorough physical examination to rule out other potential causes. If the symptoms cannot be attributed to another condition, a pain scale is used to diagnose fibromyalgia. A key criterion for diagnosis is the presence of chronic pain in various parts of the body for at least three months.



## HOW INTENSE IS THE PAIN?

## CAUSES

### DISTURBED PAIN PROCESSING

Fibromyalgia has several underlying causes that vary among individuals, leading to a lower pain threshold. Stimuli are perceived as painful at lower levels and the pain is felt more intensely. Certain living conditions, previous illnesses, stress, traumatic experiences, and mental health issues can all play significant roles.

### GENETIC FACTORS

In addition to impaired pain transmission, genetic factors also contribute to the condition, which explains its increased prevalence in some families. Certain gene variants are more common in fibromyalgia patients than in healthy individuals. These affected genes are involved in pain transmission in the brain. However, the exact mechanisms underlying the disease are not yet fully understood.







**SYMPTOMS  
CAN BE  
TREATED WELL.**

## A HOLISTIC APPROACH TO FIBROMYALGIA

Given the highly individualised nature of fibromyalgia and its frequent co-occurrence with other conditions, comparing patients and evaluating the effectiveness of therapies can be challenging. However, some therapeutic approaches have proven effective in reducing symptoms over the long term. Typical treatment regimens usually include a combination of physical therapies such as heat applications, gentle massages, physiotherapy, exercise, and deacidification. Painkillers may also be administered, if necessary, but their use is generally not helpful for long-term symptom improvement. While fibromyalgia cannot be cured, its symptoms can be managed.



HEAT TREATMENTS



MASSAGES



PHYSIOTHERAPY



EXERCISE



DEACIDIFICATION



PAINKILLERS

## IDENTIFYING AND TREATING MICRONUTRIENT DEFICIENCIES

Micronutrient therapy can also improve symptoms, as fibromyalgia patients often exhibit deficiencies in essential nutrients. By using appropriate analysis profiles, these deficiencies can be identified and subsequently compensated for.

## FIBROMYALGIA PATIENTS OFTEN SHOW REDUCED LEVELS OF:

- serotonin
- coenzyme Q10
- magnesium
- vitamin D

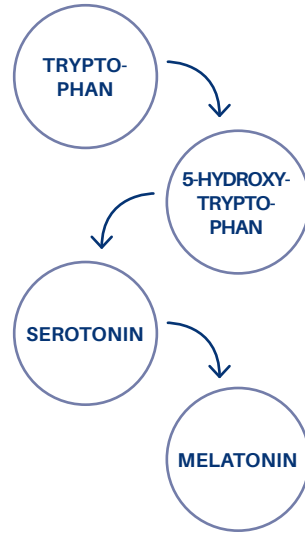


**MICRONUTRIENTS -  
THE FUEL FOR  
YOUR CELLS.**

## TRYPTOPHAN METABOLISM

Tryptophan is an essential amino acid obtained through our diet and serves as the precursor to the neurotransmitter serotonin. Often referred to as the 'happiness hormone', serotonin plays a crucial role in regulating emotions. Additionally, melatonin, a hormone that regulates sleep patterns, is also derived from tryptophan. Studies have shown a direct correlation between altered tryptophan metabolism and increased pain and anxiety. A deficiency in tryptophan can lead to a shortage of serotonin and melatonin, resulting in emotional and sleep disturbances.

Supplementing with serotonin or 5-HTP (5-hydroxytryptophan) can help reducing pain. Similarly, taking melatonin in combination with zinc can improve sleep rhythm and quality. The formation of neurotransmitters is supported by methyl group donors, which can be analysed in the laboratory for their methylation capacity. The most important of these is S-adenosylmethionine (SAM), which also helps stabilise the transmission of stimuli. Therapy with SAM has been shown to reduce pain and fatigue sensations.



biovis offers a comprehensive analysis of tryptophan metabolism, including the neurotransmitters serotonin and melatonin, as well as their precursor, the amino acid tryptophan. We also analyse other tryptophan metabolites and the activity of key enzymes.

**JETZT BEI UNS UNTERSUCHEN LASSEN:**

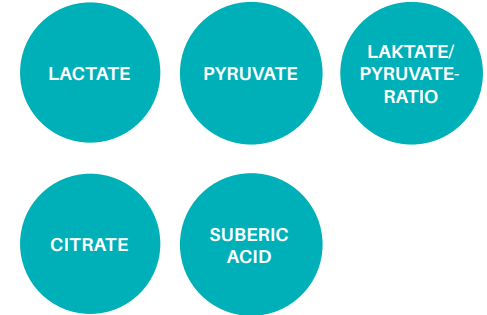


## MITOCHONDRIAL FUNCTION

Mitochondria are the powerhouses of the cell. They supply our cells and, consequently, our entire body with energy. Energy production is a complex process involving numerous enzymes and co-factors, such as coenzyme Q10. A deficiency in these co-factors can have significant consequences, leading to mitochondrial dysfunction. Such malfunctions are commonly observed in fibromyalgia patients.

Mitochondrial function can be assessed by measuring specific parameters.

**GET TESTED NOW:**



**MITOCHONDRIA -  
THE POWERHOUSES  
OF YOUR CELLS.**





IT'S TIME TO  
GET YOUR  
VITAMIN D.

## VITAMINS AND MINERALS AS CO-FACTORS

Mitochondrial energy production, along with other bodily processes, relies heavily on the supply of co-factors, including essential vitamins and minerals. For fibromyalgia patients, magnesium, selenium, zinc, several B vitamins, and vitamin D are particularly relevant. Low levels of magnesium and vitamin D are often associated with fibromyalgia, and maintaining adequate vitamin D levels can positively affect symptoms.



MAGNESIUM



SELENIUM



ZINC



B VITAMINS



VITAMIN D



## INFLAMMATION AND IRRITABLE BOWEL SYMPTOMS

Fibromyalgia is often associated with irritable bowel syndrome (IBS). Alterations in the gut microbiome can cause inflammation in the intestinal tract, affecting tryptophan availability and therefore serotonin production. If you suffer from IBS, our irritable bowel syndrome profiles are recommended. Please refer to our information flyer and consult your healthcare professional.

### GET TESTED BY US NOW:

IRRITABLE  
BOWEL BASIC  
PROFILE

IRRITABLE  
BOWEL MIDI  
PROFILE

IRRITABLE  
BOWEL  
COMPLETE  
PROFILE

## BIOVIS OFFERS YOU



To identify possible micronutrient deficiencies, biovis provides a comprehensive profile alongside analyses of various individual parameters. The **'Fibromyalgia Complete Profile'** offers all the critical information needed to pinpoint the underlying causes. In the **'Basic'** and **'Midi' profiles**, missing parameters are supplemented with empirical values. For further information, please contact the medical specialist you trust. They will advise you and request the desired profiles from biovis for you.





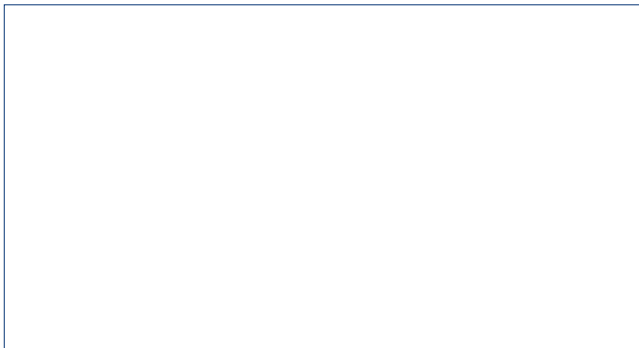
If you have any further questions, please contact the medical professionals you trust.



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Practice stamp

Further information  
can be found here:



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