

RHEUMATOID ARTHRITIS

A guide for patients to metoject®/metex®



: medac

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Dear patient,

Rheumatoid arthritis is the most frequent occurring chronic, inflammatory joint disease and can affect any joint, even larger ones like shoulders, elbows, or knees. The inflammation causes swelling resulting in slowed and limited mobility and pain.

A range of treatments are available for rheumatoid arthritis. The doctor will choose the right treatment depending on your needs. Among other factors, efficacy, the severity of the illness and safety of treatment play an impor-

tant role. Your doctor has decided with you on a treatment containing the active substance methotrexate. Methotrexate at a low dose (up to 25 mg/week) is the most commonly used medication worldwide for rheumatoid arthritis treatment.

On the following pages, we will provide you with information about rheumatoid arthritis, accompanied by practical tips for everyday life.

We wish you all the best for a successful therapy!

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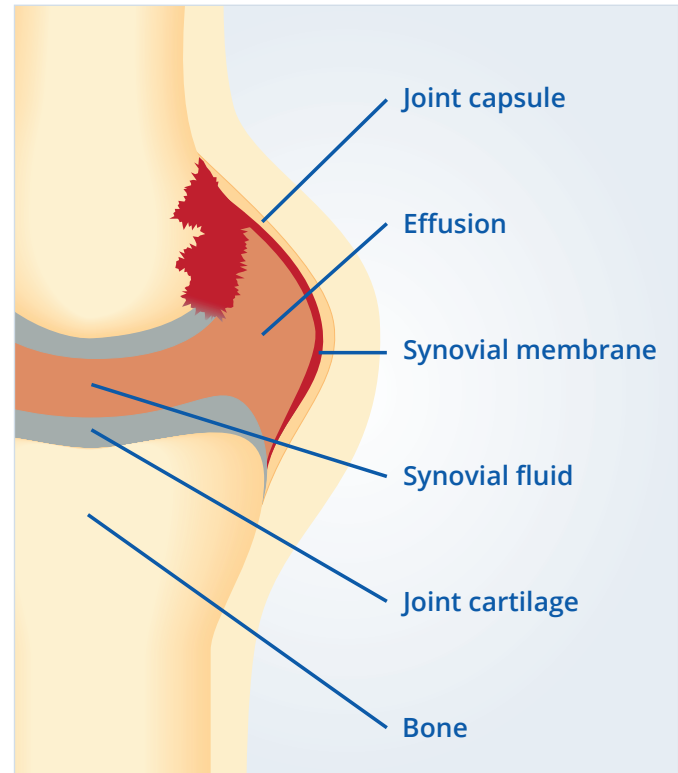
Explanation

What is rheumatoid arthritis?

Rheumatoid arthritis is the most common inflammatory joint disease.

Well over one percent of the population is affected by it. Women are affected three times more often than men. Although the first symptoms in adults usually occur between the ages of 30 and 50, rheumatoid arthritis may occur at any age.

Rheumatoid arthritis belongs to the group of autoimmune diseases. Autoimmune diseases are characterised by a malfunction of the body's immune system: the immune system can normally distinguish precisely between its own cells and foreign cells. Viruses and bacteria for example, are recognised and attacked by the immune system without the body's own cells taking any damage. In patients with an autoimmune disease the immune system incorrectly recognises the body's own cells as foreign and attacks them.



In the case of rheumatoid arthritis, the tissue incorrectly recognised as a foreign substance is the membrane lining the joints (synovial membrane). This tissue lines every joint and protects the joint cartilage from wear and tear by producing the so-called synovial fluid. The incorrect immune response results in a destruction of the surround-

ing cartilage, which can no longer perform its intended task of acting as a buffer to protect the bones from damage.

As the disease progresses, the bone may also be affected. This may cause a loss of joint function and pain.

Typical symptoms

The following may be the first symptoms of rheumatoid arthritis:

- General feeling of illness (loss of appetite, fatigue, weakness, weight loss)
- Episodes of night sweats
- Joints being hot
- Joint stiffness in the morning
- Swollen joints
- Joint pain

The course is often episodic with symptom-free phases (remissions) alternating with symptoms such as the above (flare-ups). The disease is generally chronic.

It is also typical for several joints to be affected at the same time. In general, all joints may be affected but the symptoms often start in the joints of the hands and feet. The symptoms typically occur symmetrically across the axis of the body, for instance the same joints will be affected in the right and left hands.

Symptoms don't have to be restricted exclusively to the joints. Tendons, blood vessels, eyes and internal organs may also be involved.

What are the causes and risk factors of developing rheumatoid arthritis?

The exact mechanism of the inflammatory processes in the joint capsule has not yet been explained in detail. There are risk factors that may promote the development of inflammatory rheumatic disorders. These include family susceptibility, age,

smoking and infectious diseases. In any case it is important to take seriously any early signs of disease and consult a GP, internal medicine specialist or rheumatologist promptly.

How is rheumatoid arthritis diagnosed?

In order to make a diagnosis, the rheumatologist will first assess the symptoms and check the mobility of the joints. Pain and swelling of the joints are indicators of the disease. The duration of morning stiffness in the joints is just as important in this context as other symptoms.

The following additional diagnostic procedures are available:

- Laboratory blood tests
- X-rays of the affected joints
- Ultrasound examination

The rheumatologist will not make a diagnosis until he or she has collected all the relevant information. Other imaging procedures, such as magnetic resonance imaging, are used only in specific cases. The earliest possible diagnosis is essential to allow the rheumatologist to start effective treatment of the RA patient.

Treatment

How is rheumatoid arthritis treated?

The earlier an effective treatment is started, the greater the chance of having a positive influence on the inflammatory process and stopping the destruction of the joints.

It is not possible to cure rheumatoid arthritis with the treatments currently available.

However, the progressive destruction of the joints can be prevented by appropriate treatment, and joint function can thus be preserved in most cases.

Improving the quality of life for the patient is one of the most important aims of treatment. Effective alleviation of the joint pain is crucial in this context.

The following treatment procedures are available:

- Medicinal therapy
- Physical therapy
(cold or heat applications, baths)
- Physiotherapy
- Psychosocial support
- Sometimes surgical interventions

The rheumatologist selects the appropriate therapeutic options from those available, in order to offer optimal treatment.

Medicinal treatment is usually inevitable.

Nonsteroidal antirheumatic drugs (NSARs, e.g. the active substance diclofenac or ibuprofen) and corticosteroids act very rapidly to alleviate pain and have short-term anti-inflammatory effects. However, they have no influence on the actual course of the disease.

Disease-modifying antirheumatic drugs (DMARDs) are the only medicines used to influence the disease itself. These medicines intervene directly

in the disease process and are able to slow or stop disease progression. Therefore DMARDs should be used as early as possible.

Because rheumatoid arthritis is a chronic disease, basic therapeutics usually need to be taken for relatively long periods. If they are effective and well tolerated, the treatment is often continued for life. The basic therapeutics include methotrexate or leflunomide, for example.

Overview of medicinal treatment

Cortisone-free anti-inflammatory drugs: these non-steroidal anti-inflammatory drugs (NSAIDs) or antiphlogistics are described as classic rheumatism drugs. They have an anti-inflammatory and pain-relieving effect, but some of these substances can cause severe gastrointestinal symptoms.

Glucocorticoids (cortisone): these are active substances that are similar to cortisone, with strong anti-inflammatory properties, and are also referred to in medical terminology as corticoids or steroids. Long-term use may lead to side effects such

as osteoporosis, weight gain and development of oedema. The aim is therefore generally to limit the period of treatment.

Conventional systemic treatments: internal treatment in the form of tablets (e.g. leflunomide, methotrexate), injections or pre-filled pens (e.g. methotrexate).

- **Methotrexate** inhibits inflammation and regulates the function of the immune system. It may be given parenterally as an injection or orally as a tablet. Parenteral

administration may offer advantages in most cases because of the more rapid onset of action, better bioavailability and lower rate of gastrointestinal side effects. (Taken once weekly as a pen, injection or tablet.)

- ▶ **Leflunomide** inhibits the production of cells that are involved in immune defence and that cause inflammation. (Taken once daily as a tablet).

- ▶ **Treatment with biologics and JAK inhibitors (systemic):** Internal treatments that work by influencing the immune system. Biologics are produced biotechnologically in genetically modified organisms and block pro-inflammatory substances. They are usually administered with pre-filled pens, syringes or infusions. JAK inhibitors, taken as tablets, modulate the immune system. Biologic agents are used only when conventional systemic treatments do not have an adequate effect.

The active substance methotrexate

Methotrexate (MTX) is the medicine most commonly used worldwide as initial treatment for rheumatoid arthritis and has been in use for over 40 years. Its pharmaceutical forms have been improved in recent years, which has also led to improvements in its properties, including the desired effects and side effects.

Rheumatologists and patients have gained a great deal of experience in the use of methotrexate, having used it for many years.

Dosage and pharmaceutical forms

Patients with rheumatoid arthritis are given a very small dose of methotrexate once a week. The normal dose is between 7.5 and 25 mg per week.

MTX usually starts to take effect gradually after 4–8 weeks. If it has not proven sufficiently effective after 8 weeks, an increase in the dose is recommended.

Methotrexate can be taken in the form of tablets (orally) or can be injected into the muscles (intramuscularly), into a vein (intravenously) or under the skin (subcutaneously).

metoject®/metex® pre-filled syringes and pre-filled autoinjector PENs are available for subcutaneous administration of methotrexate. The patient can administer these him/herself at home without any problems, after a detailed explanation has been provided by the doctor.

Methotrexate tablets show fluctuations in individual bioavailability, unlike pre-filled syringes and pre-filled pens of methotrexate. That means that the quantity of the active substance that is absorbed may be different each time a tablet is taken. In contrast, almost the entire quantity of active substance given has an effect following subcutaneous administration.

metoject®/metex® syringes and PEN (see Fig. 1 and 2) are available in a wide range of doses. The doctor chooses the right dose for you.

metoject®/metex® PEN has a two-step injection process. First, you remove the cap. Then, you position the pen and hold it straight on the injection side for injecting your medicine.



Fig. 1



Fig. 2

Methotrexate for treatment of rheumatoid arthritis is administered only once a week on the same weekday.

Follow-up examinations

Nowadays, we talk about the informed patient, who works with the doctor on an equal footing. Complicated diseases and effective medicines require the doctor and the patient to have specialist knowledge. This primarily concerns control of the desired effects and of unwanted side effects. Both can be reliably assessed with a few questions and examinations. A special monitoring programme has been developed for methotrexate treatment. This includes regular laboratory tests, which only require very small quantities of blood. Particular attention is paid to liver damage and infections. By detecting this in time, it is possible to prevent potential damage.

The doctor providing treatment decides how often laboratory tests will be carried out. This depends on changes in laboratory values during treatment. A blood sample is usually taken once a week initially. If the values remain normal/stable, checks will be carried out at longer intervals. If there are changes in the laboratory values, the doctor can lower the dose or discontinue methotrexate.

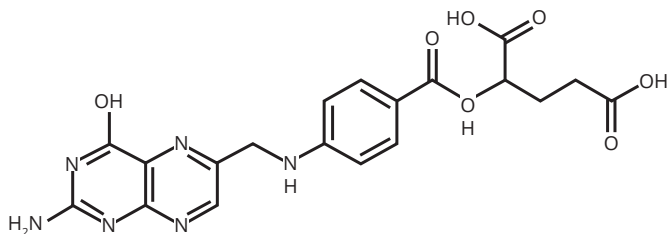
Side effects

Side effects are still possible even at this low dose, as with any medication. The well-known principle that a medicine that has an effect can also have side effects applies. For example, patients may experience side effects such as nausea, fatigue or changes in the liver.

Should side effects occur, the patient must contact his/her doctor. There are certain tricks and strategies for alleviating these side effects.

Administration of folic acid

Folic acid (vitamin B9) is a vitamin that plays an important part in cell division and that the human body cannot produce itself. Tolerance of MTX can be improved by administering small quantities of folic acid. Your doctor will give you the relevant information about dosage and administration of folic acid.



Contraception during MTX treatment

As methotrexate can harm unborn children, you should observe the following precautions:

- Make sure that you are not pregnant before commencing treatment.
- Both women and men must use a reliable method of contraception during treatment with methotrexate.
- Please tell your doctor immediately if you become pregnant during treatment with methotrexate.

Patients must not become pregnant or father a child during treatment with methotrexate. There is a risk that the child could be born with defects. Consistent use of contraception is therefore necessary in men and women. If you are planning a pregnancy, women must discontinue MTX at least 6 months beforehand, men 3 months beforehand.

Coping with rheumatoid arthritis every day

The psychological effects of rheumatoid arthritis

Making contact with other sufferers

Every patient finds it hard initially to get used to the disease and accept it as a new part of their life. It is often helpful to discuss your experiences with other patients in self-help groups or internet forums. Not only will this make you more confident, it will also help you to deal more easily with people who are not affected. By providing them with the facts, you can quickly allay any preconceptions about the disease.

Find new confidence!

Many patients have a tendency to withdraw and to neglect or restrict social contact during phases of increased disease activity. The disease flare is often painful and prevents the patient from pursuing their hobbies and even simple daily activities

such as walking or writing might become hard to accomplish.

This can lead to social isolation and even depression. It is therefore particularly important for the patient to talk to the doctor about any fears or concerns. Only then the doctor may provide the patient with the help he/she needs.

Concomitant psychotherapy, either on an individual basis or in a group, can often be an effective way to give affected patients back some courage and strength. It is important to understand your illness

in order to be able to cope with it in daily life.

Relaxation techniques

Stress and psychological burdens can increase the likelihood of episodes of the disease occurring or can exacerbate existing symptoms.

Learning appropriate relaxation techniques can help to provide relief and enable patients to calm down again. Autogenic training and yoga are among the most commonly used methods.

Three relaxation exercises

- 1 Place your hands loosely on your abdomen (at about the level of your navel). Now try to breathe in slowly and notice how your abdominal wall slowly rises and falls. You should inhale and exhale gently and evenly, counting to three while you do so.
- 2 Pull your shoulders up as far as you can and then relax them again.
- 3 Lean your head back as far as you can while in an upright position, then bring it forward again. This will relax your neck muscles.



**Be in harmony
with yourself!**



Recipes

Delicious recipes that can help with your wellbeing

The following recipes are intended to give you an insight into the variety of cuisine that you can enjoy. It is particularly important if you have rheumatoid arthritis to look at different foods and their ingredients. In this way, you can research for yourself what is good for your body and what it will react to. A balanced, conscious diet will do you and your joints a lot of good.

Delicious vegetables

Skewers of colourful vegetables with tomato sauce

Serves 2

Ingredients

Vegetable skewers

400 g vegetables (e.g. courgettes, peppers, aubergines, spring onions, mushrooms, sweetcorn), soy sauce & iodised salt

Tomato sauce

300 g tomatoes, 1 onion, 10 g margarine (free from milk protein), 1/2 tablespoon tomato purée, 1 garlic clove (crushed), Iodised salt

Preparation

First wash the vegetables and chop them into pieces of equal size.

Slide the vegetable pieces onto wooden skewers. Brush with soy sauce and sprinkle with iodised salt. The skewers can be fried in a pan or barbecued.

To make the sauce, skin the tomatoes (cut into them crosswise and scald them with hot water)

and then dice them.

Dice the onions and lightly braise everything in a pan with margarine. Add the tomato purée and bring to the boil.

Season with garlic and salt.



Potatoes with vegetables

Serves 8

Ingredients

8 large potatoes, 400 g mushrooms, 2 leeks, 2 apples, margarine (free from milk protein), iodised salt

Preparation

Wash the potatoes very carefully and boil them in water. Do not allow the potatoes to become too soft, as they will need to be scooped out.

Wash and slice the mushrooms and leeks. Core the apples and grate them coarsely. Lightly braise everything in a pan with the margarine.

Scoop out the potatoes using a melon baller or spoon and add the potato mixture to the vegetables. Season with iodised salt.

Then place the potato skins in a baking dish and fill them with the potato and vegetable mixture. Place a small knob of margarine on each potato and bake in the oven for approximately 15 minutes at 200°C.



Hearty fare

Tuna carpaccio

Serves 8

Ingredients

200 g radishes, 2 limes, 2 pieces of fresh ginger (approx. 1 cm), 400 g fresh tuna, 4 tablespoons soybean oil, iodised salt, 1 pinch coriander

Preparation

Peel the radishes and chop into fine slices, then into strips.

Remove the rind from the limes and chop the flesh into small cubes. Make sure you remove the pips.

Peel and finely grate the ginger.

Cut the tuna into thin slices with a very sharp knife and lay the slices on a plate.

Mix the radishes, lime cubes and ginger with the oil and season with iodised salt and coriander. Spread over the tuna and serve immediately.



Home-made burgers

Serves 6

Ingredients

Burgers

1/2 onion, 300 g minced beef, 3 tablespoons mineral water, 2-3 tablespoons rolled oats; iodised salt, 1-2 tablespoons soy meal, rapeseed oil; 1/3 of a red, green and yellow pepper, 1/3 cucumber, 2 tomatoes; lettuce leaves, burger baps

Preparation

Finely dice the onions. Halve the peppers, wash and finely dice.

Mix the minced beef with the onion and pepper cubes, mineral water and oats and a little iodised salt. Add enough soy meal to ensure a firmer consistency.

Make 6 flat burgers from this mixture and fry in oil on both sides in a pan.

Peel the cucumber. Wash and slice the tomatoes. Rinse the lettuce leaves.

Cut open the bread rolls and cover them with lettuce. Then place the burgers inside, along with the cucumber and tomato slices, and close the bread rolls again.



Sweet dessert

Sweet banana fritters

Serves 8

Ingredients

200 g oatmeal (fine), 200 g spelt flour (fine), apple juice, 80 g melted margarine (free from milk protein), 1 pinch iodised salt, 4 mashed bananas, 100 g ground almonds, a little water if needed, rapeseed oil for baking, puréed apple

Preparation

Thoroughly mix together the oatmeal and spelt flour with the apple juice, iodised salt and mashed bananas.

Cover this dough and leave it to rise for about 20 minutes.

Add the almonds and a little water to the dough and mix well.

Then heat the oil in a pan and spoon in the dough in portions.

Cook the fritters on both sides on a medium heat. Serve on a plate with puréed apple.



Raspberry dream

Serves 5

Ingredients

75 g raspberries, 75 ml honey, 375 ml sour cherry juice,

0.5 l carbonated mineral water

Preparation

Carefully wash the raspberries and put them in a container (punchbowl or carafe).

Pour the honey over them, cover and leave for at least 1 hour to allow it to infuse.

Then pour the sour cherry juice over the top and refrigerate. Top up with mineral water before serving and garnish with a slice of orange.



What kind of exercise is good for me?

Even patients with rheumatoid arthritis should exercise regularly. Exercise can help to reduce stress and improve your general well-being.

There are plenty possible types of exercise available. In general patients with rheumatoid arthritis should avoid exercises with high joint stress or risk of injuries like soccer or basketball. Swimming on the other hand is ideal as all joints are mobilized while the joint stress is reduced because of the water's buoyancy.

The following table provides a rough overview of suitable exercises. In each individual case the patient should talk to the rheumatologist if this applies to him/her.

Keep in mind that it is always important how intense the exercise is performed. Age and individual condition should be kept in mind. However, even a little exercise is better than not being active at all.

POSSIBLE TYPES OF EXERCISE			
Suitable	Limited	Not suitable	
<ul style="list-style-type: none">• Cycling• Swimming• Aqua aerobic	<ul style="list-style-type: none">• Nordic walking• Running• Weight training• Fitness training	<ul style="list-style-type: none">• Soccer• Handball• Football• Squash	<ul style="list-style-type: none">• Badminton• Skiing/Snowboarding• Martial arts



Further Questions?

Do not hesitate to contact medac GmbH or your healthcare professional

You can also get more information on our website www.metoject.com