



## **Polymyalgia rheumatica (PMR)**

This booklet provides information  
and answers to your questions  
about this condition.

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and print our booklets entirely  
from charitable donations.

# What is polymyalgia rheumatica?



Polymyalgia rheumatica (PMR) is a condition that causes severe stiffness and pain, mainly in the muscles of the shoulders and thighs. In this booklet we'll explain the main symptoms of PMR and how it can be treated. We'll also suggest some sources of further information and support.

At the back of this booklet you'll find a brief glossary of medical words - we've underlined these when they're first used.

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**Polymyalgia rheumatica (PMR) can start as early as 50, but most commonly starts after the age of 60. It affects women more often than men.**

# At a glance

## Polymyalgia rheumatica (PMR)

### How is PMR diagnosed?

PMR is usually diagnosed by your GP, based on your symptoms, the history of your condition and blood tests which will show inflammation. Your doctor may refer you to a specialist if the diagnosis isn't clear because several other conditions (including rheumatoid arthritis) may have similar symptoms in the early stages.

Your doctor will want to check up on you regularly after treatment is started and do further tests to monitor your condition and treatment.

### What treatments are there?

PMR is usually treated with steroid tablets (usually prednisolone). These often start to work very quickly but will need to be continued for some time to keep the inflammation under control and prevent the symptoms coming back. Your doctor will keep the dose of steroids as low as possible.

### How can I help myself?

While you're taking steroids, it's important to make sure you get enough calcium and vitamin D to help maintain bone strength, or your GP may prescribe treatment that will help with this. Weight-bearing exercise such as walking will also help to keep your bones strong and healthy.

**PMR is an inflammatory condition that causes very painful muscles.**

### What related problems might occur?

PMR is sometimes associated with inflammation of the arteries in the head, a condition called giant cell arteritis or temporal arteritis. This needs prompt medical treatment to protect your vision. **You should see a doctor urgently if you have any of the following symptoms:**

- severe headaches
- tenderness or swelling at the temples
- blurred or double vision
- jaw, tongue or facial pain – especially when chewing.

## What is polymyalgia rheumatica (PMR)?

Polymyalgia rheumatica (PMR) is an inflammatory condition that causes pain in many muscles (*poly* = many, *myalgia* = painful muscles). Although any muscles may be affected, it tends to mainly affect the muscles of the shoulders and thighs.

PMR can start at any age from 50 but mainly affects people over the age of 60. Women are affected 2–3 times as often as men and it affects about 1 in 2,000 people.

## What are the symptoms of PMR?

If you have PMR you'll usually have severe and painful stiffness which is often worse in the morning, especially in your shoulders and thighs and usually affecting both sides. PMR often strikes suddenly, appearing over a week or two and sometimes just after a flu-like illness. The stiffness may be so severe that dressing, reaching, climbing stairs or even getting out of bed may be difficult.

The symptoms are quite different from the ache you may feel after exercise that your body isn't used to. The pain and stiffness is often widespread and is made worse by movement, but it may also wake you at night.

It's also common to feel unwell or to have a slight fever, and you may lose weight. At times, tiredness can be overwhelming. The condition can also make you feel low and anxious, and may cause you to become depressed.

### Related condition

#### Giant cell arteritis

PMR is sometimes associated with painful inflammation of the arteries of the skull. This is called giant cell arteritis (GCA) or temporal arteritis and needs prompt treatment as there's a risk of damage to the arteries of the eye. About 20% of PMR patients also develop GCA, while 40–60% of patients with GCA have symptoms of PMR.

The symptoms of GCA are:

- severe headaches and pain in the muscles of the head
- tenderness at the temples
- pain in the jaw, tongue or side of the face when chewing
- pain or swelling in the scalp
- blurred or double vision.

If your doctor suspects giant cell arteritis, you may be referred to a specialist and be asked to have a biopsy of the temporal artery. A small piece of the artery will be taken from the scalp and examined under a microscope (see Figure 1). However, your doctor may start you on a high dose of steroids even before you see the specialist as a precaution against possible loss of vision.

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**i See Arthritis Research UK booklet *Giant cell arteritis*.**

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**Effective treatments  
for PMR are available,  
and in most cases  
they'll bring a  
complete recovery  
over time.**



**There's no specific test to diagnose PMR, so your doctor may try a number of different tests.**



## How is PMR diagnosed?

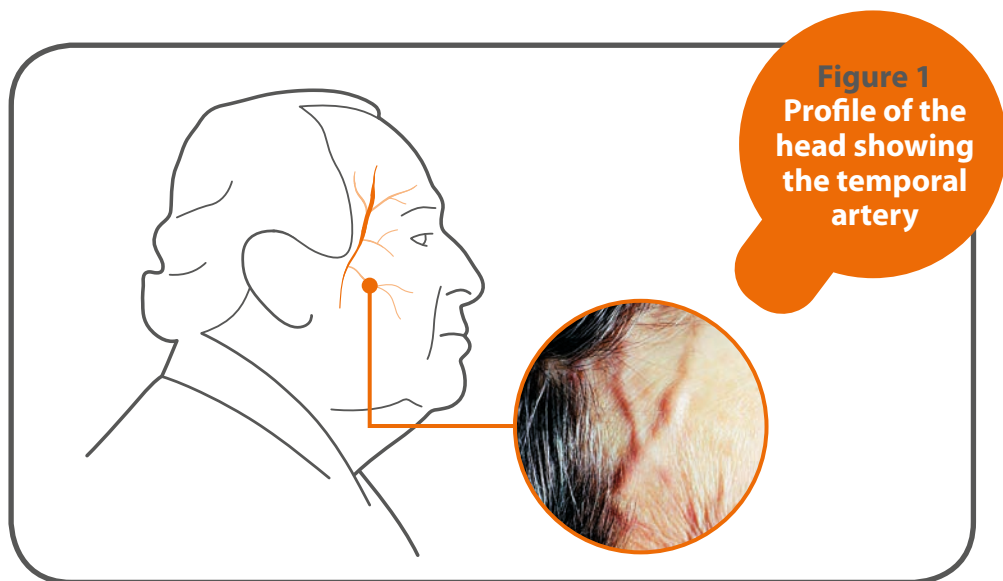
If you're over 60 and have the following symptoms and signs your GP will probably diagnose PMR and start treatment straight away:

- shoulder pain on both sides
- morning stiffness that lasts at least 45 minutes
- high levels of inflammation measured by blood tests
- new hip pain on both sides
- no swelling in the small joints of the hands and feet
- no evidence of rheumatoid arthritis, such as swollen joints or positive blood tests.

You may be referred to a rheumatologist if there's any doubt about the diagnosis or if there are complicating factors – for example, if the symptoms don't improve with steroid treatment or if you have side-effects from the treatment.

There's no specific test to diagnose PMR. Your doctor will make the diagnosis based on the history of your illness, a physical examination and blood tests for inflammation. There are three tests that may be used:

- erythrocyte sedimentation rate (ESR)
- plasma viscosity (PV)
- C-reactive protein (CRP).



**Figure 1**  
**Profile of the head showing the temporal artery**



The presence of inflammation alone won't confirm the diagnosis of PMR. Inflammation is a feature of many other conditions, including infections and rheumatoid arthritis, so your doctor may do some tests, for example, for rheumatoid factor or anti-CCP antibodies, to help rule these out and confirm the diagnosis of PMR. You may need to have tests such as x-rays or ultrasound scans of the shoulders and hips.

Anaemia (a lack of red blood cells) is quite common in PMR so your doctor may test for this, although anaemia can also occur in other conditions.

Different types of imaging may be used to help in the diagnosis of PMR and to help rule out other conditions. Ultrasound of the shoulders and hips may be used and can often show inflammation in the tissues. Other forms of imaging, such as magnetic resonance imaging (MRI) and positron emission tomography (PET) scans, may occasionally be requested by a rheumatologist.

If your doctor suspects giant cell arteritis, they may suggest a temporal artery biopsy, when a small piece of the artery is taken from the scalp and examined under a microscope (See Figure 1).

## **What treatments are there for PMR?**

### **Steroid tablets**

Standard painkillers or anti-inflammatory drugs alone aren't enough to ease the symptoms of PMR. However, steroid

(corticosteroid) treatment is usually very effective.

Corticosteroids aren't the same as the steroids sometimes used by athletes and bodybuilders (which are known as anabolic steroids). The body makes several of its own steroids (including one called cortisol) in the adrenal glands, which sit on top of the kidneys, and they play an important part in keeping you healthy – for example, by maintaining blood pressure and balancing salt and water levels in the body.

Steroids have a powerful effect in reducing inflammation. They won't cure PMR but the symptoms often improve significantly within two weeks once steroid treatment is started. The symptoms may have disappeared almost completely after four weeks. However, treatment usually needs to continue for up to two years or occasionally longer to stop symptoms returning.

The steroid tablet most often prescribed is prednisolone. In most cases an initial dose of 15 mg of prednisolone a day makes the symptoms disappear completely. However, if you have giant cell arteritis you'll need higher doses than this to begin with in order to protect your vision.


If you're at increased risk of side-effects from steroid tablets (e.g. if you have diabetes, high blood pressure, a recent fracture, peptic ulcer, cataract or glaucoma) some doctors may suggest steroid injections (Depo-Medrone) into a muscle instead.

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**i See Arthritis Research UK drug leaflet *Steroid tablets*.**

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After a time your doctor will try to gradually reduce the dose of steroids to avoid potential side-effects such as weight gain or osteoporosis. The reduction will be made in stages depending mainly on your symptoms but helped by repeating ESR or CRP and monitoring the test results. If symptoms return when the dose is reduced, your doctor may have to increase the dose for a short time and then, after several weeks, try to reduce it again. Raised ESR or CRP test results alone don't necessarily mean your steroid dose needs to be increased. You will also need bone protection treatment to reduce the risk of osteoporosis.



**Symptoms  
often improve  
significantly  
within two weeks  
of starting steroid  
treatment.**

- ! You shouldn't stop taking your steroid tablets suddenly or alter the dose unless advised by your doctor, even if your symptoms have completely cleared up. This is because your body stops producing its own steroids (cortisol) while you're taking steroid tablets and needs a period of time to resume normal production of natural steroids when the drug is reduced or stopped.

Even when you feel well, your doctor may wish to see you regularly so that you can be assessed for signs of a relapse or side-effects from the drugs. Your doctor may want to check your general health and check your blood pressure and blood sugar. You may also be asked to have a bone density (DEXA) scan to assess the strength of your bones.

- ! We recommend you carry a steroid card that shows what dose of prednisolone you're on and how long you've been taking them. This will help if you need to see another doctor, for example while you're away from home, or another healthcare professional (e.g. a dentist). Please show them the card – depending on what additional treatment you need, the steroid dose may need to be adjusted. Steroid cards are available from most pharmacies.

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**i See Arthritis Research UK booklet**  
*Meet the rheumatology team.*

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## Other treatments

### Prevention of osteoporosis

Steroid treatments can increase the risk of developing osteoporosis, making your bones more likely to fracture or break in a fall. Your doctor will therefore advise on drugs to help guard against osteoporosis, such as bisphosphonates, including risedronate or alendronate.

### Pain control

You may be advised to take painkillers, also known as analgesics (e.g. paracetamol), or non-steroidal anti-inflammatory drugs (NSAIDs) to help ease the pain and stiffness, along with small doses of steroid tablets.

### Disease-modifying anti-rheumatic drugs (DMARDs)

If your symptoms don't improve with steroids, or if it's difficult to reduce the dose of steroids over a period of time or if you get frequent flare-ups of your condition, your doctor may want to get a specialist opinion to confirm the diagnosis and treatment. The specialist may decide to prescribe other drugs alongside the steroid tablets, which may help to reduce the inflammation and lower the steroid dose. Examples include methotrexate or leflunomide which work by reducing the activity of the immune system and thereby reducing inflammation. If you do need DMARDs it's important to have regular check-ups, blood pressure checks and blood tests to monitor the side-effects of the drug.

## Arthritis Research UK

### Polymyalgia rheumatica

There are an increasing number of clinical trials for PMR treatments and you may be offered the opportunity to take part in these.

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**i See Arthritis Research UK drug leaflets** *Drugs for osteoporosis; Methotrexate; Non-steroidal anti-inflammatory drugs.*

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## Self-help and daily living

Steroid treatment can increase the risk of osteoporosis. Therefore it's important to think about the other risk factors associated with this condition. Smoking or drinking a lot of alcohol will both increase your risk of developing osteoporosis, while a diet that contains plenty of calcium and vitamin D, combined with some weight-bearing exercise, will help to reduce your overall risk.

Sitting for any length of time may cause stiffness, making activities such as driving more difficult. Stop from time to time on a long journey to stretch your legs, arms and shoulders. Simple measures like a hot bath or shower can help to ease

pain and stiffness, either first thing in the morning or after exercise.

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**i See Arthritis Research UK booklets** *Diet and arthritis; Osteoporosis.*

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## Exercise

You'll need to find the right balance between rest and activity. Too much exercise is likely to make your symptoms worse, but activity usually helps to ease morning stiffness. Physiotherapy, including range of movement exercises for the shoulders, can be helpful in reducing pain and maintaining mobility.

Weight-bearing exercise (any exercise that involves walking or running) is best for maintaining bone strength and guarding against osteoporosis, but walking is usually more suitable for people with PMR.



**Figure 2** Approximate calcium content of some common foods

Food	Calcium content
115 g (4 oz) whitebait (fried in flour)	980 mg
60 g (2 oz) sardines (including bones)	260 mg
0.2 litre (⅓ pint) semi-skimmed milk	230 mg
0.2 litre (⅓ pint) whole milk	220 mg
3 large slices brown or white bread	215 mg
125 g (4 ½ oz) low-fat yogurt	205 mg
30 g (1 oz) hard cheese	190 mg
0.2 litre (⅓ pint) calcium-enriched soya milk	180 mg
125 g (4 ½ oz) calcium-enriched soya yogurt	150 mg
115 g (4 oz) cottage cheese	145 mg
3 large slices wholemeal bread	125 mg
115 g (4 oz) baked beans	60 mg
115 g (4 oz) boiled cabbage	40 mg
<i>Note: measures shown in ounces or pints are approximate conversions only.</i>	

**Diet and nutrition**

Steroid treatments reduce the amount of calcium absorbed from the gut and increase calcium loss through the kidneys. To counteract this we recommend a daily intake of calcium of 1,000 milligrams (mg) or 1,500 mg if you're over 60. A pint of milk a day, together with a reasonable amount of other foods that contain calcium, should be enough (see Figure 2).

Vitamin D is needed to help the body absorb calcium, and is sometimes called the sunshine vitamin because it's produced by the body when the skin is exposed to sunlight. It's also obtained from some foods, especially oily fish, and is added to some soya milks and vegetable margarines. It's sometimes necessary to take a daily supplement containing 10–20 micrograms (µg) (this is the same as 400 to 800 international units (IU)) of vitamin D, especially for people over 60.



## **Glossary**

**Anaemia** – a shortage of haemoglobin (oxygen-carrying pigment) in the blood which makes it more difficult for the blood to carry oxygen around the body. Anaemia can be caused by some rheumatic diseases such as rheumatoid arthritis or lupus, or by a shortage of iron in the diet. It can also be a side-effect of some drugs used to treat arthritis.

**Analgesics** – painkillers. As well as dulling pain they lower raised body temperature, and most of them reduce inflammation.

**Biopsy** – the removal of a small amount of living tissue from the body. The sample can help diagnose illness when examined under a microscope.

**Bisphosphonates** – drugs used to prevent the loss of bone mass and treat bone disorders such as osteoporosis.

**C-reactive protein (CRP)** – a protein found in the blood. The level of C-reactive protein in the blood rises in response to inflammation and a blood test for the protein can therefore be used as a measure of inflammation or disease activity.

**Disease-modifying anti-rheumatic drugs (DMARDs)** – drugs used in rheumatoid arthritis and other rheumatic diseases to suppress the disease and reduce inflammation. They treat the disease itself rather than just the symptoms of pain and stiffness caused by the disease. Examples include methotrexate and leflunomide.

**Erythrocyte sedimentation rate (ESR)** – a test that shows the level of inflammation in the body and can help in the diagnosis of a number of inflammatory conditions. Blood is separated in a machine with a rapidly rotating container (a centrifuge), then left to stand in a test tube. The ESR test measures the speed at which the red blood cells (erythrocytes) settle.

**Immune system** – the tissues that enable the body to resist infection. They include the thymus (the gland that lies behind the breastbone), the bone marrow and the lymph nodes.

**Inflammation** – a normal reaction to injury or infection of living tissues. The flow of blood increases, resulting in heat and redness in the affected tissues, and fluid and cells leak into the tissue, causing swelling.

**Magnetic resonance imaging (MRI)** – a type of scan that uses high-frequency radio waves in a strong magnetic field to build up pictures of the inside of the body. It works by detecting water molecules in the body's tissues that give out a characteristic signal in the magnetic field. An MRI scan can show up soft-tissue structures as well as bones.

**Non-steroidal anti-inflammatory drugs (NSAIDs)** – a large family of drugs prescribed for different kinds of arthritis that reduce inflammation and control pain, swelling and stiffness. Common examples include ibuprofen, naproxen and diclofenac.

**Osteoporosis** – a condition where bones become less dense and more fragile, which means they break, fracture or crumble more easily. Steroid treatment can increase the risk of developing osteoporosis.

**Plasma viscosity (PV)** – a screening test that measures the thickness or stickiness of the fluid in which blood cells are suspended. It's used as an indicator of disease activity in a number of conditions including rheumatoid arthritis, psoriatic arthritis and lupus.

**Positron emission tomography** – an imaging technique in which a radioactive substance is introduced into the body, for example into a vein. The substance can be tracked as it moves round the body using special scanners which pick up positively charged particles (positrons) from the substance. The images can be matched with images taken by other methods to give a clearer picture of how the body's organs are working.

**Rheumatoid arthritis** – an inflammatory disease affecting the joints, particularly the lining of the joint. It most commonly starts in the smaller joints in a symmetrical pattern – that is, for example, in both hands or both wrists at once.

**Ultrasound scan** – a type of scan that uses high-frequency sound waves to examine and build up pictures of the inside of the body.

## Where can I find out more?

If you've found this information useful you might be interested in these other titles from our range:

### Conditions

- *Giant cell arteritis*
- *Osteoporosis*

### Therapies

- *Meet the rheumatology team*

### Self-help and daily living

- *Diet and arthritis*

### Drug leaflets

- *Drugs for osteoporosis*
- *Methotrexate*
- *Non-steroidal anti-inflammatory drugs*
- *Steroid tablets*

You can download all of our booklets and leaflets from our website or order them by contacting:

### Arthritis Research UK

PO Box 177  
Chesterfield,  
Derbyshire S41 7TQ  
Phone: 0300 790 0400  
[www.arthritisresearchuk.org](http://www.arthritisresearchuk.org)

## Related organisations

The following organisations may be able to provide additional advice and information:

### Arthritis Care

Floor 4, Linen Court  
10 East Road  
London N1 6AD  
Phone: 020 7380 6500  
Helpline: 0808 800 4050  
[www.arthritiscare.org.uk](http://www.arthritiscare.org.uk)

### PMRGCAuk

BM PMRGCAuk  
London WC1N 3XX  
General enquiries: 0300 999 5090  
Helpline: 0300 111 5090  
[www.pmr.gcauk.com](http://www.pmr.gcauk.com)  
Email: [info@pmrgcauk.com](mailto:info@pmrgcauk.com)

### PMR-GCA Scotland

Helpline: 0300 777 5090  
Email: [info.scotland@pmrandgca.org.uk](mailto:info.scotland@pmrandgca.org.uk)

Links to third-party sites and resources are provided for your general information only. We have no control over the contents of those sites or resources and we give no warranty about their accuracy or suitability. You should always consult with your GP or other medical professional.



## We're here to help

Arthritis Research UK is the charity leading the fight against arthritis.

We're the UK's fourth largest medical research charity and fund scientific and medical research into all types of arthritis and musculoskeletal conditions.

We're working to take the pain away for sufferers with all forms of arthritis and helping people to remain active. We'll do this by funding high-quality research, providing information and campaigning.

Everything we do is underpinned by research.

We publish over 60 information booklets which help people affected by arthritis to understand more about the condition, its treatment, therapies and how to help themselves.

We also produce a range of separate leaflets on many of the drugs used for arthritis and related conditions. We recommend that you read the relevant leaflet for more detailed information about your medication.

Please also let us know if you'd like to receive our quarterly magazine, *Arthritis Today*, which keeps you up to date with current research and

education news, highlighting key projects that we're funding and giving insight into the latest treatment and self-help available.

We often feature case studies and have regular columns for questions and answers, as well as readers' hints and tips for managing arthritis.

### Tell us what you think

Please send your views to:  
**[feedback@arthritisresearchuk.org](mailto:feedback@arthritisresearchuk.org)**

or write to us at:

Arthritis Research UK, Copeman House, St Mary's Court, St Mary's Gate, Chesterfield, Derbyshire S41 7TD

A team of people contributed to this booklet. The original text was written by Dr Brian Hazleman and updated by Prof. Bhaskar Dasgupta, who have expertise in the subject. It was assessed at draft stage by consultant rheumatologist Dr Dipak Roy, rheumatology specialist nurses Nan Kara and Julie Taylor, and Jennifer Nott of the PMRGCA UK charity. An **Arthritis Research UK** editor revised the text to make it easy to read, and a non-medical panel, including interested societies, checked it for understanding. An **Arthritis Research UK** medical advisor, Prof. Gabrielle Kingsley, is responsible for the overall content.

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- volunteering
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- taking part in a fundraising event
- making a donation
- asking your company to support us
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To get more **actively involved**, please  
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**[enquiries@arthritisresearchuk.org](mailto:enquiries@arthritisresearchuk.org)**  
or go to  
**[www.arthritisresearchuk.org](http://www.arthritisresearchuk.org)**



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**[www.arthritisresearchuk.org](http://www.arthritisresearchuk.org)**

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