

Vaccinations and arthritis

This booklet provides information
and answers to your questions
about vaccinations and arthritis.



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What should I know about vaccinations if I have arthritis?



Some types of arthritis and their treatments can affect your immune system, leading to an increased risk of infection. Vaccinations can be used to decrease these risks.

In this booklet we'll explain what a vaccination is and which ones you should and shouldn't have, and we'll also explain some of the other measures used to help prevent infections.

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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At a glance

Vaccinations and arthritis

Why do I need vaccinations?

Vaccination, also known as immunisation, is a process that helps your immune system fight infections. It's done by injecting you with a small part of an organism (usually bacteria or a virus) that causes a specific infection. This means that next time you come into contact with that organism, your body will already know how to deal with it.

Some rheumatic conditions and their treatments can weaken your immune system, meaning you're more at risk of infections and will need vaccinations to give you protection. People whose immune system has been affected in this way are said to be immunosuppressed.

What vaccinations should I have?

As well as the vaccinations given to everybody as they grow up, if you're immunosuppressed or have a long-term condition such as arthritis you should have the following vaccinations:

- flu (influenza), for flu and swine flu, which is given every year because the flu virus is constantly changing

Vaccinations are important as some conditions and treatments can weaken your immune system.

- pneumococcus (a bacteria that can cause pneumonia, meningitis and septicaemia), which is given just once.

Some people over the age of 70 may also have a shingles vaccine.

Do these vaccinations have any side-effects?

Your doctor or rheumatology nurse specialist will be able to go through the possible side-effects with you. Common side-effects include:

- a mild fever
- pain at the injection site.

You may be worried that vaccinations will cause a flare-up of your symptoms, but trials have found that this isn't the case.

What vaccinations shouldn't I have?

If you're immunosuppressed you shouldn't have:

- **live vaccines**, which are vaccines that use a live version of an organism rather than an inactive one, and this might be enough to cause symptoms of the disease – this may not apply to you for the shingles vaccine if you're over 70 and taking certain immunosuppressive drugs, but you should check with your healthcare professional
- **oral vaccines**, which are a type of live vaccine taken using an inhaler, and they can also cause symptoms.

What else can reduce my risk of infection?

Aside from vaccination, simple measures to reduce your risk of infection include:

- washing your hands often
- watching what you eat and drink, especially if you go abroad
- avoiding unpasteurised food
- contacting your GP or hospital early if you get a fever (temperature).



Introduction

This booklet is aimed at people with arthritis who want to know whether their condition or treatment can affect vaccinations. If you're on disease-modifying anti-rheumatic drugs (DMARDs) or biological therapies it's important that you check each section of this booklet carefully, as there may be specific information that's directly relevant to you.

What is a vaccination?

When you come into contact with infection, your body's immune system springs into action by producing special proteins called antibodies. Antibodies help your body recognise and kill the foreign organisms (usually viruses or bacteria) causing the infection. When your immune system comes across a certain virus or bacteria for the first time, it takes a few days to produce an antibody to deal with that infection. These antibodies and the cells that create them remain in your body. This means that if you come into contact with the same organism again your body

is rapidly able to make large quantities of the antibody that deals with it so that the infection is removed quickly, often before you develop any symptoms. Vaccination is a way of introducing your body to an organism so it can be ready if you come across it again.

What types of vaccination are there?

Most vaccines contain either part of an organism or whole organisms that are killed or inactivated. When introduced into your body, these organisms activate your immune system so it produces antibodies against them but doesn't actually cause the disease.

For a few diseases the vaccine is in the form of a live (attenuated) virus which is altered so that it activates the immune system, but it normally isn't strong enough to cause the disease unless your immune system is affected by disease or drug treatments. Examples of live vaccines are yellow fever; measles, mumps and rubella (MMR); BCG, which is used to vaccinate against tuberculosis (TB); and the chickenpox and shingles vaccinations.

Why do I need vaccinations?

Studies have shown that people with most rheumatic diseases are at a higher risk of infection. In fact, people with rheumatoid arthritis have infections one and a half times more often than people without the condition and are twice as likely to need treatment in hospital if

If you're in a high-risk group it means you're more at risk from infections.

an infection develops. This can be due to the condition itself or its treatment, such as (DMARDs) or steroids. Other, non-disease factors may also increase the risk of infection further, such as:

- having diabetes
- drinking too much alcohol
- old age.

Rheumatoid arthritis is an autoimmune disease, which means your immune system attacks your body's own tissues rather than foreign bacteria or viruses. Other autoimmune diseases include lupus and

vasculitis. Because of their effect on the immune system, these conditions can make you more at risk of infection.

The medical term used to describe an increased risk of infection due to drugs or disease is immunosuppression. In other words, these factors have caused your body's immune system (*immuno-*) to be dampened down (*suppression*), so it's less able to fight infections. People affected in this way are said to be immunosuppressed or immunocompromised, and they're classed as being in a high-risk group.

i See Arthritis Research UK booklets and drug leaflets *Rheumatoid arthritis; Lupus (SLE); Vasculitis; Drugs and arthritis; Methotrexate; Steroid tablets.*





Each year the seasonal flu vaccine is changed to provide protection against the flu viruses most likely to cause infection that year.

Your GP will advise whether the seasonal flu vaccine will provide enough cover against swine flu or any other new flu virus that may develop in the future.

What vaccinations should I have?

There are a number of vaccinations routinely offered to everyone in the UK, most of which are given when you're a child. These include vaccinations against whooping cough, meningitis, certain types of pneumonia and polio. For a full list of the vaccinations that are offered to everyone on the NHS and the ages they should be given, see the NHS Vaccination Schedule website listed in the back of this booklet.

If you're over the age of 65, pregnant or have a long-term health condition, you'll fall into a high-risk group. This includes people with rheumatic diseases (autoimmune or otherwise) and those on the following drug treatments:

- prednisolone (steroid tablets)
- azathioprine
- mercaptopurine
- methotrexate
- leflunomide
- cyclophosphamide
- etanercept
- adalimumab
- infliximab
- mycophenolate mofetil
- rituximab
- abatacept
- certolizumab pegol
- tocilizumab
- golimumab.

It's important to check with your rheumatologist or rheumatology nurse specialist to see whether your treatment is immunosuppressive.

People in high-risk groups should be vaccinated against flu and pneumococcus (bacteria that can cause a certain type of pneumonia and meningitis). Some immunosuppressed patients over the age of 70 may be suitable for the shingles vaccine, but you should check with your rheumatology team that it's suitable for you before agreeing to the injection.

Flu and swine flu

The symptoms of flu (sometimes called influenza) can be worse for anyone with a suppressed immune system. If you have a long-term rheumatic disease or are taking steroids or DMARDs, you should have a flu vaccination. Carers of people falling into these groups can also be vaccinated to reduce the risk of passing on infection.

Like flu, swine flu can also be worse in people with a suppressed immune system. The H1N1 swine flu vaccine isn't live so it can't give you the infection, but you may experience some flu-like symptoms for a day or two after the injection. It's given as part of the influenza vaccination.

What else should I know?

If you're taking rituximab, a biological therapy used for treating rheumatoid arthritis and certain types of connective tissue disease, you should try to have the flu vaccination either before or six months after an infusion. This is because rituximab

affects the cells which produce antibodies for about six months after each infusion. If the flu jab is given within six months of taking rituximab, you may respond less well to the vaccination and so you may not be fully protected against flu.

Pneumococcus

Vaccination against pneumococcus is important if you fall into a high-risk group. The vaccine is designed to protect you against conditions such as pneumonia, septicaemia and meningitis, though the main effect is against pneumonia.

What else should I know?

If you're vaccinated against pneumococcus while on methotrexate, you might not respond as well to the vaccine as someone not on that medication. However, this doesn't mean you should stop methotrexate because there will still be some level of protection from the vaccination. If you do get a pneumococcal infection, you can be treated with antibiotics.

If you've had the pneumococcal vaccination and your condition needs treatment with biological therapies, your rheumatologist may check how well your body has responded to the vaccination first. This is done by checking a blood test to measure the level of anti-pneumococcal antibodies. If your antibody levels are found to be low, you may be advised to have a booster vaccination before starting biological therapies. This is because people on biological therapies seem to be more prone to infections with pneumococcus.

Shingles

Shingles is a painful skin disease caused by the chickenpox virus. From 2013, people aged between 70 and 79 will be offered the shingles vaccination. Although it's a live vaccine and so wouldn't normally be suitable for immunosuppressed patients, it'll be recommended for some people depending on a number of different factors.

You should NOT receive the vaccination if you're on:

- biological therapies
- cyclophosphamide
- more than 10 mg per day of prednisolone
- more than 0.4 mg/kg/week of methotrexate
- more than 3 mg/kg/day azathioprine
- more than 1.5 mg/kg/day mercaptopurine.

As biological therapies, cyclophosphamide and methotrexate aren't usually prescribed by your GP, the medication may not appear on the records they hold for you and they may not know that you take them, so it's always worth speaking with them about your drug treatment before you have the vaccination.

You also shouldn't have the vaccination if you:

- have other conditions causing severe immunosuppression (for example leukaemia, lymphoma, HIV/AIDS)
- have active TB
- are pregnant.

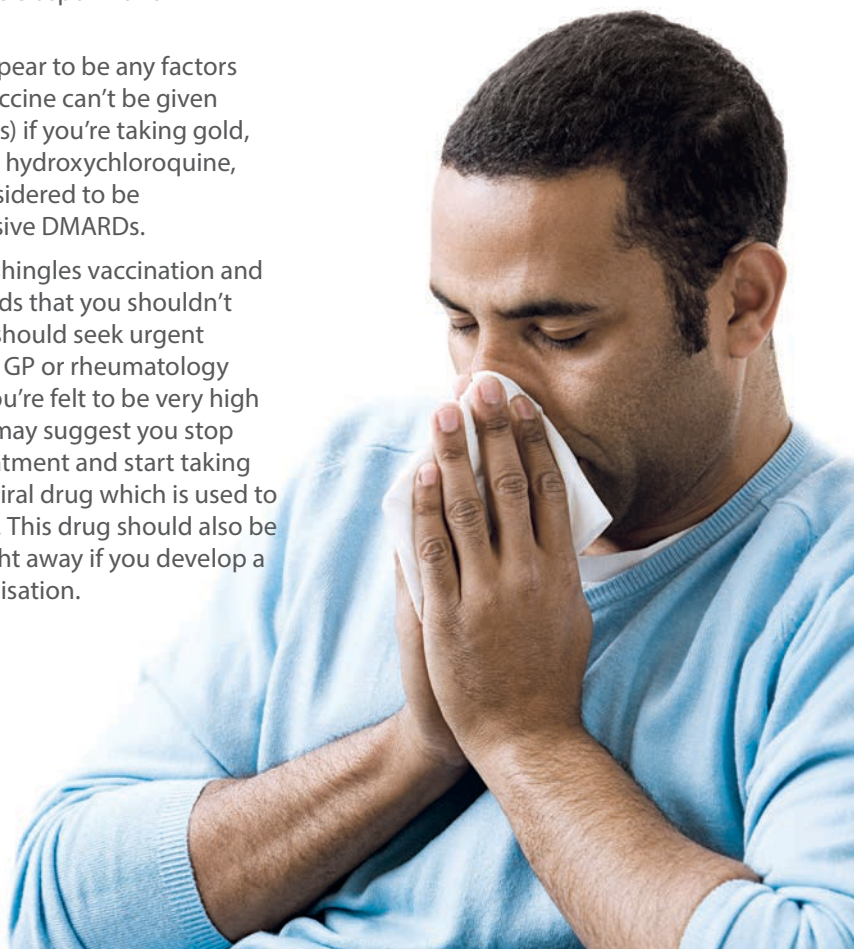
At the time of writing there's no consistent advice on whether the vaccination is safe for people taking mycophenolate, ciclosporin and leflunomide.

There doesn't appear to be any factors that mean the vaccine can't be given (contraindications) if you're taking gold, sulfasalazine and hydroxychloroquine, which aren't considered to be immunosuppressive DMARDs.

If you do have a shingles vaccination and find out afterwards that you shouldn't have had it, you should seek urgent advice from your GP or rheumatology department. If you're felt to be very high risk your doctor may suggest you stop your arthritis treatment and start taking aciclovir, an antiviral drug which is used to treat chickenpox. This drug should also be prescribed straight away if you develop a rash after immunisation.

What else should I know?

Most rheumatology departments recommend stopping DMARDs and biological therapies if you develop shingles or chickenpox. This is because when you're unwell your kidneys and liver may not work as well and stop the drugs being washed out from the body. This can cause immunosuppressive drugs to build up in your system, which makes it harder for your immune system to fight off infection.



If the policy at your local rheumatology department is to stop the drugs, you can normally restart treatment as soon as you feel better. You should contact your rheumatologist for further advice on the policy in your area.

Talk to your local rheumatology team or GP if you're unsure about whether you should have a certain vaccination. The advice on who's suitable for vaccination is constantly changing so if you're invited for vaccination you should always double check with your GP or rheumatology team whether it's a good idea for you to have the vaccination or not. More information on flu, pneumococcal and shingles vaccines can be found on the NHS website (see section 'Where can I find out more?').

i See Arthritis Research UK booklet and drug leaflets *Meet the rheumatology team; Abatacept; Adalimumab; Azathioprine; Certolizumab; Cyclophosphamide; Etanercept; Infliximab; Leflunomide; Mycophenolate; Rituximab; Tocilizumab.*

What are the side-effects of vaccinations?

Before you have a vaccination, your doctor or nurse will check that it's safe to give it to you. They'll also go through the possible side-effects with you. Common side-effects for all viral vaccinations may include:

- a mild fever
- pain at the injection site (this can be treated with paracetamol).

Many people with a rheumatic disease worry that vaccinations will cause a flare-up of their symptoms. However, trials have found that this isn't the case. For example, one study showed no link between any specific vaccine (flu, tetanus, diphtheria, tick-borne encephalitis, hepatitis, polio, pneumococcus) and the risk of a flare-up of rheumatoid arthritis. There's also no evidence that people with rheumatic conditions or who are on DMARDs are at higher risk of side-effects, and for most people the advantages of vaccination outweigh the risks.

How often should I have them?

The flu jab is given every year. This is because the flu virus is constantly changing and your body needs to produce new antibodies to keep you fully protected. The advice that you're given may change every year depending on strains of flu that are most common during that year.

The H1N1 swine flu vaccine will form part of your yearly flu injection. If you do develop symptoms of swine flu despite vaccination, you should discuss with your GP whether you should have an antiviral drug such as Tamiflu (oseltamivir). If you fall into a high-risk group, contact your GP practice each autumn to remind them that you should have the jab.

The pneumococcal vaccination and shingles vaccination (if you're suitable for it) are only given once.

Are there any reasons why I won't be vaccinated?

There are a few people who can't be vaccinated. Contraindications to vaccine include:

- a confirmed severe allergic reaction (anaphylaxis) to a previous dose of a vaccine containing some inactivated viruses or bacteria
- a confirmed allergic reaction to another part of the vaccine
- an egg allergy (which means you shouldn't have flu or yellow fever vaccines)
- a severe latex allergy (where latex-free vaccines are unavailable), as some vaccines contain latex
- infection (some vaccines may be delayed until you're over an infection).

How well will a vaccination protect me?

No vaccine offers 100% protection. They can fail in two ways:

- Primary failure happens when the body doesn't produce antibodies as well as expected in response to the vaccine.
- Secondary failure happens when the body produces the antibodies as

expected but the protective antibody level in the blood falls over time.

Seasonal flu vaccination will prevent flu in 70–80% of those vaccinated and pneumococcal vaccination is effective in up to 70%. The shingles vaccination reduces the risk of shingles by around 50%. If symptoms of flu, pneumococcal infection or shingles develop, there are effective treatments that can be used.

Following the advice in this booklet will help you to lower your risk of picking up infections and reduce complications if an infection develops (see section 'What else can I do to reduce my risk of infection?').

Your GP or rheumatology team will discuss the risks and will listen to any concerns you may have.

The flu vaccine is given annually and protects you against flu and swine flu. The pneumococcal vaccine is only given once.

Are there any types of vaccination I shouldn't have?

Live vaccines, DMARDs and biological therapies

The small dose of a live organism in live vaccines may be enough to cause symptoms of the disease in people who are immunosuppressed. For this reason, live vaccines aren't recommended if you're on certain DMARDs or biological therapies. Your doctor or rheumatologist will tell you if it's safe for you to receive a live vaccine. Normally a live vaccine would only be given if immunosuppressive drugs are stopped at least three months before the vaccination.

If you've had treatment with leflunomide, you may need to take a drug called cholestyramine to help wash the leflunomide from your system before being given a live vaccine, as it can take many months to completely flush the drug from your body.

Sometimes live vaccines will be given before immunosuppressive drugs are started. Immunosuppressive drugs shouldn't be started for at least two weeks, preferably four weeks, after you've been given a live vaccine.

Live vaccines and steroid treatment

Live vaccination must not be given if you've been taking moderate or high-dose steroids for more than two weeks. The guidelines from the British Society for Rheumatology (BSR) suggest that you can have live vaccines while on steroids if:

- you've been on steroid treatment for less than two weeks
- the steroid is only applied to the skin in the form of a cream or given via an inhaler
- the steroid has been given into or around the joint by injection
- you're on replacement therapy (for example hydrocortisone), which is given when your adrenal glands, the small glands above your kidneys, aren't making enough steroids – this can happen with conditions such as Addison's disease or if you've been on long-term steroids
- you're on low-dose steroids, which the BSR defines as 10 mg per day or less.

Moderate or high-dose steroids must be stopped three months before a live vaccine can be given.

Oral vaccine

An oral vaccine is given using an inhaler. Previously polio was a live oral vaccine but it's now usually given by an injection of inactive vaccine. Oral vaccine is usually only used during an outbreak and shouldn't be used in immunosuppressed patients or anyone who lives with them.

What should I do if I'm going travelling?

The vaccinations you'll need if you're travelling vary depending on where you're going. You can get up-to-date advice from the NHS website (see section 'Where can I find out more?') or you can discuss it with your GP. You should take advice in the early stages of making your travel plans, but you shouldn't let your medication put you off travelling altogether.

The risks of getting infections when you're abroad depend on the type of travel. You'll be at much less risk on a business trip or holiday in a top-class tourist hotel than a long trip to the countryside in some less industrialised countries.



Travel to countries where there's a high risk of catching yellow fever, such as central Africa, should be avoided if you're on an immunosuppressive drug because you shouldn't have yellow fever or any other live vaccines. It's important to remember that to enter some countries you need a certificate of vaccination against yellow fever, even if there's no risk of contracting yellow fever in that country. If this is the case you'll need an exemption certificate from your GP, but you should check before you travel if this is acceptable.

What else can I do to reduce my risk of infection?

There are some general, day-to-day things you can do to reduce your risk of picking up an infection, including:

- washing your hands frequently
- watching what food you eat and water you drink, especially when you go abroad
- avoiding unpasteurised foods (for example Brie, feta and blue cheeses) if you're on immunosuppressive drugs
- contacting your GP or the hospital early if you get a fever (temperature).

As well as simple measures like these, there are some specific ways in which certain infections can be avoided. Some of these are given below, as well as some warning signs to look out for.

How can the risk of infection be reduced if I'm taking DMARDs?

Even if you do have vaccinations, if you're on treatment with DMARDs your blood count should be checked to make sure that your body is producing enough



white blood cells. This is because a low white blood cell count will decrease your body's ability to fight infection. If your white blood cells are low, this can normally be reversed by stopping the drug and in some cases taking other drugs to improve the production of white blood cells. Examples include folic acid if you're on methotrexate or use of a cholestyramine washout if you're on leflunomide. This will increase your body's ability to fight infection.

What can be done if I'm exposed to an infection?

Immunoglobulins

You can be given immunoglobulins to stop certain types of infection developing. Immunoglobulins act like your body's antibodies. They can be used straight away if you think you've been exposed to:

- tetanus (your GP or an A&E department can advise if an injury is high risk for tetanus)
- hepatitis B (for example, treatment would be considered after stabbing yourself with a needle from someone who may be carrying hepatitis B)
- rabies (for example, if you get bitten by an animal in a country which still has rabies)
- chickenpox or shingles.

Chickenpox and shingles

Chickenpox vaccination is normally given in childhood. Because it's a live vaccination, it's not currently recommended for people who are immunosuppressed, but most adults will have been exposed to the virus and will be immune to it.

Immunoglobulin treatment for chickenpox would be considered if you've never had chickenpox or if you're on immunosuppressive drugs and have had close contact with someone with chickenpox. Close contact is defined as being in the same room as the infected person for over 15 minutes or having face-to-face contact. Your GP will check your immunity (the level of antibodies in your blood that fight chickenpox), and if it's low they'll provide immunoglobulin treatment. If you're on very high-dose immunosuppressives, your doctor may recommend taking aciclovir to stop the infection developing.

Shingles can develop in someone who's previously had chickenpox. The shingles vaccine is currently recommended only for certain people on immunosuppressive drugs (see section 'What vaccinations should I have?'). If others within the same household as someone with shingles haven't previously had chickenpox or haven't been vaccinated against it, it may be worth suggesting that they also have the vaccination.

You should tell your rheumatologist whether you've previously had chickenpox or not as this information is useful if you're exposed to the virus.

What should I look out for if I have a vaccination?

Flu

In general, the flu vaccine should provide enough protection, but if you do develop flu-like symptoms, especially if you had the vaccine while on rituximab, please speak to your GP about antiviral treatment, which should be started within the first 48 hours of symptoms.

Pneumococcus

Pneumococcal vaccination will only provide protection against pneumococcal pneumonia. If you develop a high fever, breathlessness, and cough with green spit, seek medical help immediately as it's

likely that you'll need antibiotics to stop the infection developing.

Research and new developments

Vaccination advice is constantly updated and new vaccinations are always being developed. Your rheumatology team and GP will keep you updated on any new vaccinations you may need.

**Remember that
your carers can
also have the flu
vaccination.**

Glossary

Biological therapies – drugs that reduce joint inflammation in people with rheumatoid arthritis and some other inflammatory diseases. They work by targeting specific molecules involved in the inflammatory process and include anti-TNF drugs (adalimumab, etanercept and infliximab) and rituximab.

Disease-modifying anti-rheumatic drugs (DMARDs) – drugs used in rheumatoid arthritis and some other rheumatic diseases to suppress the disease and reduce inflammation. Unlike painkillers and non-steroidal anti-inflammatory drugs (NSAIDs), DMARDs treat the disease itself rather than just reducing the pain and stiffness caused by the disease. Examples of DMARDs are methotrexate, sulfasalazine, gold, infliximab, etanercept and adalimumab.

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

Lupus (systemic lupus erythematosus or SLE) – an autoimmune disease in which the immune system attacks the body's own tissues. It can affect the skin, the hair and joints and may also affect internal organs. It's often linked to a condition called antiphospholipid syndrome (APS).

Meningitis – an infection of the protective membranes lining the brain and spinal cord. The infection can be

caused by bacteria or a virus, and it causes inflammation of these membranes, which can damage the brain or spinal cord.

Pneumonia – inflammation of the tissue in one or both lungs, which leads to a build-up of fluid. It's usually caused by an infection and causes breathing trouble.

Polio – a condition caused by a highly infectious virus. Polio is often a mild illness which causes flu-like symptoms, but it can be potentially fatal. A severe case of polio attacks the nerve cells that help the muscles to function and can cause severe muscle paralysis.

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.

Septicaemia – another name for blood poisoning, caused by a bacterial infection in the blood.

Steroids – drugs that have a very powerful effect on inflammation. The adrenal glands in the body produce a natural supply but much larger doses are used to treat autoimmune diseases. Prednisolone is the most commonly used steroid.

Tamiflu – an antiviral drug which is used to prevent and treat flu, including the H1N1 swine flu virus. It slows down the rate at which these viruses infect the cells in your body. Your GP will decide if treatment with Tamiflu is necessary.

Unpasteurised food – food such as milk and cheese which haven't gone through the normal process of being heated to a temperature of 60°C for a period of time to kill most bacteria and delay development of other bacteria.

Vasculitis – inflammation of the walls of blood vessels. This can cause the blood flow to be reduced. Vasculitis can occur on its own (this is called primary vasculitis) or in people who already have an established disease (this is called secondary vasculitis). Secondary vasculitis can happen with a number of different rheumatic diseases, including Sjögren's syndrome, rheumatoid arthritis and lupus.

Whooping cough – an infection of the lining of the airways. It mainly affects the windpipe (trachea) and the two airways that branch off from it to the lungs (the bronchi). It's known as whooping cough because the main symptom is a hacking cough, which is often followed by a sharp intake of breath that sounds like a 'whoop'.

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

- *Lupus (SLE)*
- *Rheumatoid arthritis*
- *Vasculitis*
- *What is arthritis?*

Therapies

- *Meet the rheumatology team*

Drug leaflets

- *Abatacept*
- *Adalimumab*
- *Azathioprine*
- *Certolizumab pegol*
- *Cyclophosphamide*
- *Drugs and arthritis*
- *Etanercept*
- *Golimumab*
- *Infliximab*
- *Leflunomide*
- *Methotrexate*
- *Rituximab*
- *Steroid tablets*
- *Tocilizumab*

Arthritis Research UK

Vaccinations and arthritis

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

Arthritis Research UK

Copeman House
St Mary's Court
St Mary's Gate, Chesterfield
Derbyshire S41 7TD
Phone: 0300 790 0400
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
Email: info@arthritiscare.org.uk
www.arthritiscare.org.uk

Useful websites:

Public Health England publishes a document called *The Green Book* for health professionals. This contains the most up-to-date advice on immunisation and side-effects of vaccinations. You can have a look for yourself online by following the link: www.gov.uk/government/publications/green-book-the-complete-current-edition

Vaccination schedule and ages of administration:
www.nhs.uk/Conditions/vaccinations/Pages/vaccination-schedule-age-checklist

Travel vaccinations:
www.nhs.uk/chq/pages/1072.aspx?categoryid=67&subcategoryid=152

Flu vaccination:
www.nhs.uk/Conditions/vaccinations/Pages/flu-influenza-vaccine

Pneumococcal vaccination:
www.nhs.uk/Conditions/vaccinations/Pages/pneumococcal-vaccination

Links to sites and resources provided by third parties 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.

Please note: We've made every effort to make sure that this content is correct at time of publication. If you would like further information, or if you have any concerns about your treatment, you should discuss this with your doctor, rheumatology nurse or pharmacist.



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

or write to us at:

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A team of people contributed to this booklet. The original text was written by Dr Jennifer Hamilton, who has expertise in the subject. It was assessed at draft stage by rheumatology specialist nurse Paul Gibson. 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, Dr Ian Giles, is responsible for the content overall.

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or go to
www.arthritisresearchuk.org



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