Condition
Raynaud’s phenomenon

Raynaud’s phenomenon
This booklet provides information and answers to your questions about this condition.

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What is Raynaud’s phenomenon?

Raynaud’s phenomenon is a painful condition of the circulation which causes your hands and feet to change colour when exposed to cold or emotionally stressful conditions. In this booklet we’ll explain more about the condition, some of the possible causes, what treatments there are and how you can help yourself.

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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What is Raynaud’s phenomenon?
Raynaud’s phenomenon is a condition of the circulation which can cause discomfort as the blood supply to your fingers or toes becomes reduced in cold or emotionally stressful conditions, with a change in the colour of the affected areas. Raynaud’s phenomenon can be primary, where it occurs on its own, or it can be secondary when it’s linked to another disease or condition.

What are the symptoms?
The symptoms of primary Raynaud’s are:
• fingers, and sometimes toes, changing colour (white to blue, then red) when exposed to cold conditions
• pain, tingling and numbness in the fingers or toes.
In secondary Raynaud’s phenomenon there may be rare cases of:
• ulcers on the fingers
• loss of circulation to the fingertips.

Who gets it?
Raynaud’s usually affects teenage girls and young women, but men, children and older people can also get it.

How is it diagnosed?
A diagnosis is usually made based on symptoms. Tests may be carried out to detect whether it’s the primary or secondary form of the condition. Tests may include:
• blood tests to check the blood count and your body’s immune system
• x-rays to look for an extra rib (called a cervical rib) that can affect the blood flow to the arms
• nailfold microscopy (capillaroscopy), which involves having the tissue at the base of your fingernail looked at under a microscope
• a cold stress test (thermography) to assess your response to a cold challenge.

What treatments are there?
There are some drugs which may be prescribed for primary Raynaud’s, such as nifedipine and amlodipine, which work by widening your blood vessels.
How can I help myself?

There are several ways that you can help yourself when you have Raynaud’s phenomenon:

- **Keep warm in cold weather**
  Dress in warm clothes and wear warm gloves, socks and a hat. You may find heated gloves useful. Wear layers of clothes that trap the heat.

- **Exercise**
  Regular exercise improves your blood flow, and keeping active on a cold day will help you to stay warm.

- **Stop smoking**
  Smoking damages your circulation, so you should stop if you have Raynaud’s phenomenon.
Raynaud’s phenomenon can be described as either primary or secondary. Primary Raynaud’s is very common and usually affects young women and teenage girls.

Secondary Raynaud’s is less common and is linked with other conditions.
What is Raynaud’s phenomenon?

If you have Raynaud’s phenomenon, your hands, and sometimes your feet, will change colour when exposed to cold or stressful conditions. Usually your hands will go white, then blue, and then red (see Figure 1).

You may find that you don’t experience all three stages. For example, your hands may simply go blue then red. These colour changes often happen alongside pain or a tingling feeling. You may experience cold feet as well, and the tip of your nose may also feel uncomfortable and change colour in the cold. Sometimes other parts of your body may also be affected by these colour changes. Going out on a cold day or even reaching into the freezer to take out some frozen food can bring on an attack of Raynaud’s, as can emotionally stressful conditions.

Raynaud’s phenomenon often occurs on its own. This is called primary Raynaud’s phenomenon. Primary Raynaud’s is a very common condition, occurring in as much as 15–20% of the general female population and 3–12.5% of men. Most people with primary Raynaud’s won’t go on to develop any further problems.
However, in a small proportion of people Raynaud’s can be linked with other conditions, such as connective tissue disease, and when this happens it’s called secondary Raynaud’s phenomenon. Examples of this include people with scleroderma and, less commonly, in people with lupus.

See Arthritis Research UK booklets Lupus (SLE); Scleroderma.

Raynaud’s phenomenon can occur as a result of using vibrating machinery. This is called hand-arm vibration syndrome (or vibration white finger). Raynaud’s may also develop as a side-effect of certain drugs such as beta blockers, which are used in the treatment of raised blood pressure and angina.

What are the symptoms of Raynaud’s phenomenon?

If you have Raynaud’s phenomenon, your hands will change colour in cold weather and there may be pain, tingling and numbness. These attacks often only last a few minutes, and you may find that moving into a warmer environment often stops the attack. Some people find that their feet are also affected so that they become very cold and change colour.

With primary Raynaud’s phenomenon your fingers go back to normal after each attack. Attacks of primary Raynaud’s phenomenon can be a nuisance and can cause you a lot of discomfort, but they don’t damage your fingers.
Secondary Raynaud’s phenomenon can be very severe and can cause ulcers on the fingertips and loss of tissue at the fingertip. However, this is very rare and doesn’t occur in primary Raynaud’s phenomenon.

**Who gets Raynaud’s phenomenon?**
Primary Raynaud’s phenomenon usually affects young women and teenage girls. But men, children and older people can also be affected, particularly in secondary Raynaud’s phenomenon.

**What causes Raynaud’s phenomenon?**
We don’t fully understand why some people develop Raynaud’s phenomenon and others don’t. However, we do know that the colour changes and pain of Raynaud’s are due to a short-term reduction in blood supply. The blood supply to the fingers and toes is controlled partly by nerves connected to the blood vessels. The nerves can reduce the blood supply in response to certain situations, one of which is exposure to severe cold. This prevents a loss of heat from the body. People with Raynaud’s phenomenon probably respond too much to cold temperatures and shut off the blood supply more quickly than normal. The blood vessels go into spasm, reducing their size and the amount of blood which can flow through. Emotional changes, such as feeling worried, can also cause an attack of Raynaud’s by triggering the nerves to shut down the blood supply.

**What is the outlook?**
If you’ve recently developed any symptoms of Raynaud’s, it’s best to go to your family doctor (GP) to be checked out. It may well be primary Raynaud’s phenomenon, especially if you’re a young woman. If your doctor is in any doubt then they’ll arrange some tests. These may need to be done at the hospital. Most people with Raynaud’s phenomenon will always have the condition. But if there’s an underlying cause of the condition, then it’s sometimes possible to remove or treat this.

Although primary Raynaud’s phenomenon can be very uncomfortable, it’s not usually very severe. Look for ways to keep warm and avoid sudden changes in temperature.
For example, Raynaud’s caused by taking beta blockers can be ‘cured’ by stopping this medication. However, you must ask your doctor before stopping any regular medication.

**How is Raynaud’s phenomenon diagnosed?**

Your doctor will be able to make a diagnosis based on your symptoms and the results of any tests. These tests are carried out to tell apart the primary and secondary forms of the condition.

**What tests are there?**

The type of tests will depend on what exactly your doctor is looking for. This will depend on your symptoms and what the doctor found by examining you.

- Blood tests can be used to check your blood count (the number of white and red cells in the blood) and your immune system. A test for anti-nuclear antibodies (ANA) can be used to tell if the condition is primary or secondary Raynaud’s.
- An x-ray can look for an extra rib at the base of the neck (called a cervical rib). This can cause Raynaud’s phenomenon by putting pressure on the blood vessels that supply blood to your arms.
- Nailfold microscopy (capillaroscopy) will help your doctor check the small blood vessels in your fingers. It involves having the tissue at the base of your fingernail looked at under a microscope. This test is only available in some hospitals, but most clinics will be able to use a magnifying lens to get a reasonable view of the blood vessels.
- A cold stress test (thermography) is used in some hospitals to find how you react to cold. It’s usually available in specialist units. It involves using cold water and recording your re-warming time.

**What treatments are there for Raynaud’s phenomenon?**

There are several ways to help ease the symptoms of Raynaud’s phenomenon. Many of these are things you can do in your day-to-day life, but there are also a number of medications which may help.

**Drugs**

There are a number of different drugs that are prescribed for Raynaud’s phenomenon. Most of these work by making the blood vessels wider. Examples include nifedipine and amlodipine. Unfortunately, there’s no drug that will act only on the blood vessels in the fingers and toes, so these medications may also cause side-effects such as flushing of the face, headaches or dizziness. However, many people experience no side-effects from the drugs and find them very useful.
If you have scleroderma or lupus, it’s likely that you’ll get Raynaud’s symptoms at some stage. However, having Raynaud’s doesn’t mean that you’ll go on to develop scleroderma or lupus.

Try to get a diagnosis early to find out if you have primary or secondary Raynaud’s.
In the case of nifedipine, drinking grapefruit juice can increase the risk of side-effects. It’s strongly recommended that you avoid grapefruit juice and grapefruit while taking nifedipine.

Other drugs usually used to control high blood pressure, such as losartan and ACE inhibitors, may help to control symptoms. Fluoxetine is another drug that might help improve circulation. It can also be prescribed for depression, although that’s not the case when it’s used for Raynaud’s.

In severe cases – almost always in cases of secondary Raynaud’s – some treatments may be given as an intravenous injection (a drip directly into a vein). These intravenous drugs act directly on the blood vessels and cause them to open up. The most commonly used intravenous drug for this condition is iloprost. Another family of drugs to treat severe Raynaud’s are the phosphodiesterase inhibitors, which include tablets like sildenafil (trade name Viagra).

See Arthritis Research UK drug leaflet iloprost.

Self-help and daily living
When you have Raynaud’s, one of the most important things you can do to help yourself is make sure that you reduce the risks and control the number of attacks you suffer from. Aside from medication, the following may help you to keep on top of Raynaud’s phenomenon:

Keeping warm
Keeping warm is very important. Remember to keep your body warm by dressing suitably for the cold weather. Layers of clothing work better at trapping the heat than thicker clothes. Make sure that you also wear warm socks and a hat. You should wear warm gloves when outdoors in cold weather and warm your hands before you put the gloves on. You may find that electrically heated gloves are helpful. Your local occupational therapy department will be able to provide further information. You can also look out for the many small portable heating aids and hand warmers available online and from outdoor shops.

If you do get cold you should avoid warming back up too quickly because this can make an attack last longer, especially if your fingers or toes have changed colour and are painful.
Looking after your hands
Dry hands and water can lead to the development of cracks or fissures on your hands that may break down further. To help look after your hands, put cream on whenever you’ve had them in water. You can either use a short-acting water-based cream, such as E45 or aqueous cream, or an oil-based cream that is thicker and longer lasting, such as emulsifying ointment.

Keep an attack diary
Use an attack diary to help guide you and protect yourself from attacks. You may find there’s a pattern to your Raynaud’s attacks, and that will help you in controlling symptoms and reducing the risk. This may be linked with periods of high stress which may be difficult to avoid, but it may also be linked with, for example, your weekly trip to the supermarket where parts of the shop are very cold. In this case, taking someone along to do your ‘cold’ shopping, or wearing warm gloves will help.

Exercise
Regular exercise will improve your circulation, and if you’re outside on a cold day keeping active will improve the blood flow to your hands and feet and help you to stay warm.

⚠️ Smoking can damage your circulation, so if you have Raynaud’s phenomenon you shouldn’t smoke.
Diet
There’s no particular food or diet which has been proven to help Raynaud’s phenomenon, but it’s still very important to eat a healthy and balanced diet.

Complementary medicine
Taking vitamins might help to control the symptoms in some people with Raynaud’s. The use of high-dose vitamins E and C, evening primrose oil, fish oils and ginger or Ginkgo biloba might also help. If using vitamins doesn’t help within three months, you might want to think about using drug treatments to help improve your symptoms. These complementary medicines can also be taken alongside drug treatments for Raynaud’s. Discuss this with your doctor.

What else should I know about Raynaud’s phenomenon?
In some rare cases, your Raynaud’s may suddenly become more severe. This may need urgent attention. Particular things to watch out for are ulcers on the fingers or toes, or a colour change which doesn’t go away as quickly as usual. These problems are usually very painful. If you develop one of these symptoms, see your doctor or contact your nurse specialist (if you have one) as soon as possible. But these problems are uncommon, and they aren’t usually experienced by people with primary Raynaud’s phenomenon.

Keeping an attack diary might help you plan ahead for situations that might trigger your symptoms.
Glossary

Anti-nuclear antibodies (ANA) – antibodies that are sometimes found in the blood of people with certain types of arthritis and related conditions, usually those which involve parts of the body other than just the joints (for example, organs such as the kidneys). It’s particularly useful as a screening test for lupus. There are several types of anti-nuclear antibodies which can help to make an accurate diagnosis.

Immune system – the tissues that enable the body to fight and resist infection and disease. 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).

Occupational therapy – a therapy given by a trained specialist who uses a range of strategies and specialist equipment to help people to reach their goals and maintain their independence by giving practical advice on equipment, adaptations or by changing the way you do things (such as learning to dress using one-handed methods following hand surgery).

Scleroderma – a hardening of the skin is the main symptom of this autoimmune condition, which is caused by the skin creating too much collagen (a protein that holds the skin together). Having too much collagen can make the tissues of the body stiff and stop them working properly.

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)
- Scleroderma

Self-help and daily living
- Complementary and alternative medicine for arthritis

Drug leaflet
- Iloprost
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**
18 Stephenson Way
London NW1 2HD
Phone: 020 7380 6500
Helpline: 0808 800 4050
www.arthritis-care.org.uk

**Raynaud’s & Scleroderma Association (RSA)**
112 Crewe Road
Alsager
Cheshire ST7 2JA
Phone: 01270 872776 or 0800 917 2494
Email: info@raynauds.org.uk
www.raynauds.org.uk

**The Scleroderma Society**
Bride House
18–20 Bride Lane
London EC4Y
Phone: 020 7000 1925
Helpline: 0800 311 2756
Email: info@sclerodermasociety.co.uk
www.sclerodermasociety.co.uk

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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: 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 Ariane Herrick, who has expertise in the subject. It was assessed at draft stage by Arthritis Research UK education research fellow and specialist registrar in rheumatology Dr James Bateman, lead nurse (inflammatory and connective tissue disease) Louise Parker and GP with special interest in musculoskeletal medicine Sue Summers. An Arthritis Research UK editor revised the text to make it easy to understand, and a non-medical panel, including interested societies, checked it for understanding. An Arthritis Research UK medical advisor, Prof. Anisur Rahman, is responsible for the content overall.
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To get more actively involved, please call us on 0300 790 0400, email us at enquiries@arthritisresearchuk.org or go to www.arthritisresearchuk.org