Raynaud’s phenomenon is a common disorder in which the small blood vessels in the extremities of the body are oversensitive to changes in temperature. It affects 3-20% of the adult population worldwide and there may be as many as 10 million sufferers in the UK (Bakst et al, 2008). It is most commonly found in females, and approximately 10% of women in the UK suffer from Raynaud’s phenomenon to some degree (Herrick and Cutolo, 2010). The condition can affect people of all ages. Many sufferers have never seen a doctor as they are unaware that their condition has a name or that there is anything that can be done to help.

Symptoms
Raynaud’s phenomenon can be extremely painful. The blood supply is temporarily prevented from reaching the body’s extremities. This causes the fingers to become white and numb, appearing dead, and then blue. Finally they may turn bright red when blood flow is restored. During an attack, there may be considerable pain, numbness or tingling. These symptoms can occur with the cold or any other slight change in temperature, such as taking a bottle of milk out of the fridge without using protective gloves, or simply a cool breeze on a summer’s day.

Raynaud’s phenomenon can have a devastating effect on the quality of life of those that experience it. Many people have described the pain during a Raynaud’s phenomenon attack as being similar to having frostbite or having trapped your fingers in a car door. Air conditioning, especially in the food aisles of supermarkets, can cause significant discomfort (Figure 1). Within a short space of time, sufferers lose feeling in the extremities of their body, making handling goods and paying at the checkout very difficult. Simple everyday tasks, such as opening jars and bottles, peeling vegetables, writing or putting nappies on babies, become a challenge. This can make life particularly difficult for mothers with young children and for those living alone, such as the elderly.

Primary or secondary?
Raynaud’s phenomenon can be subdivided into primary or secondary (Herrick and Cutolo, 2010). Anyone of any age can develop primary Raynaud’s phenomenon, which occurs spontaneously without any underlying
condition being present. Hereditary Raynaud’s phenomenon is usually fairly mild, but if someone develops Raynaud’s phenomenon in their 30s or 40s, especially if the person is male, it may be secondary to a rare condition called scleroderma. This is a debilitating, autoimmune, connective tissue disease affecting not

### Box 1. Drugs licensed for other conditions that have been helpful for Raynaud’s Phenomenon

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calcium channel blockers</strong></td>
<td>Nifedipine retard (Adalat) 10 mg twice a day increasing to 20 mg twice a day Long acting 30 mg daily Nifedipine Long acting 30 mg daily Amlodipine 5–10 mg daily Diltiazem 60 mg three times a day</td>
</tr>
<tr>
<td><strong>Angiotensin pathway blocking drugs</strong></td>
<td>There are two types of agent and these are usually started at low doses to prevent any blood pressure problems. Angiotensin II receptor antagonists and angiotensin converting enzyme inhibitors.</td>
</tr>
<tr>
<td><strong>Angiotensin II receptor antagonists</strong></td>
<td>Losartan 25 mg daily, increasing to 50 mg daily Valsartan 40 mg daily, increasing to 80 mg daily</td>
</tr>
<tr>
<td><strong>Angiotensin converting enzyme inhibitors</strong></td>
<td>Captopril 6.25 mg (test dose very small), then starting at a dose of 12.5 mg twice a day (max 25 mg twice a day) Enalapril 5 mg starting dose, increasing to 10 mg-20 mg daily Lisinopril 2.5 mg starting dose, increasing to 10 mg-20 mg daily</td>
</tr>
<tr>
<td><strong>Serotonin re-uptake antagonists</strong></td>
<td>Fluoxetine 20-40 mg daily. Note this drug is also used to treat depression in other patients. Its use in Raynaud’s is to dilate the peripheral blood vessels. Other members of the group that can be tried are: Sertraline 50 mg daily increasing to a maximum of 200 mg (doses of 150 mg or greater should not be used for more than 8 weeks) Paroxetine 20 mg daily increasing by 10 mg per week to a max of 40 mg daily</td>
</tr>
<tr>
<td><strong>Other drugs and alternative treatments</strong></td>
<td>Glyceryl trinitrate patches for the acute situation. A dose of 0.2 mg/h (5 mg patch) to start with, increasing to 0.4 mg/h (10 mg patch) if required. There must be a 12-hour no longer working) Aspirin or related agents Sometimes drugs that reduce the stickiness of blood platelets are used as for other forms of vascular disease although benefit seems to vary and they are not routinely used. Phosphodiesterase inhibitors such as sildenafil and related agents have been reported to be helpful and may be considered in some cases</td>
</tr>
<tr>
<td><strong>Anti-oxidants</strong></td>
<td>These drugs are used to prevent damage to blood vessels. It is best to take both for maximum antioxidant effect Vitamin E 100 IU–400 IU daily (IU = international units, which are used as a measurement in a similar way to mg) Vitamin C 500–1000 mg daily</td>
</tr>
<tr>
<td><strong>Intravenous treatments</strong></td>
<td>Prostacyclin is a natural substance produced by blood vessels that is deficient in cases of Raynaud’s. It can be given by intravenous infusion in severe cases of Raynaud’s or when there are complications. Treatment is given in hospital. Iloprost A nebulized version is also available Epoprostenol Similar to iloprost</td>
</tr>
</tbody>
</table>

only the extremities but also the internal organs. A routine blood test looking for anti-nuclear antibodies (ANA) or blood vessel changes around the finger nails (nailfold capillaroscopy) (Herrick and Cutolo, 2010) can help to determine whether any underlying condition is likely to be present. If positive, further tests may follow to ascertain whether the Raynaud’s phenomenon is secondary rather than primary.

Self help
Regular movement and exercise can help to maintain good blood flow. This does not mean that one has to go to a gym or health club in order to keep fit. Simply getting up and walking around the room, moving arms and legs to stimulate the circulation is beneficial. Sitting down for long periods of time is best avoided and, if possible, learning a few basic exercises which are within physical limits can help—even going up and down the stairs several times can help. Swimming is a great form of exercise, and some pools have special sessions for people with disabilities, making the water warmer at certain times. Should the cold cause loss of feeling in the fingers and toes, they should be reheated slowly. Emotions, such as anxiety, may also play a part, as can smoking.

The role of healthcare assistants
Successful management of Raynaud’s phenomenon must be multidisciplinary and involves a team of professionals. This includes medical and nursing professionals but also healthcare assistants (HCAs). There are many practical aspects to dealing with Raynaud’s phenomenon, and this requires support and education about lifestyle changes, stopping smoking and other non-medical aspects of the condition. In addition, there is the opportunity to ensure that medication is taken correctly and that the impact on daily life is minimized. In this way the HCA is a vital member of the team and provides a link between the other medical and physical aspects of management.

Treatments
Many treatments are available for Raynaud’s phenomenon. Treatment depends on the severity of the condition and, for those with a mild condition, practical measures, such as using hand warmers, thermal gloves, layers of clothing and hats, may help to alleviate symptoms. Patients should be advised that an even, ambient temperature is as important as keeping warm, because often it is not the absolute temperature, but a small change in the ambient environment, which precipitates an attack. Cold draughty places should therefore be avoided where possible.

If the condition is severe, the GP can advise on the different types of drugs available, which include vasodilators—drugs that open up small blood vessels. Many people with Raynaud’s phenomenon try natural products such as vitamins, fish oil, evening primrose oil, ginkgo biloba and ginger. Anecdotally, these simple measures seem to help some patients and are popular, as they can be purchased without prescriptions.

Current therapies for Raynaud’s phenomenon
Many treatments are available but only one drug, nifedipine, is licensed for Raynaud’s phenomenon. Patients sometimes find the side effects of this drug intolerable, so it is necessary to try other medications licensed for other medical conditions but have been found to be helpful for Raynaud’s phenomenon (Kowal-Bielcka et al, 2009) (Table 1). It is important to have a variety of drugs with which to alleviate the symptoms. The response to any individual therapy for Raynaud’s phenomenon varies with respect to how well a drug works and the side effects, and it is always worth trying one or more of the drugs within each of the groups listed below (Lambova and Müller-Ladner, 2009). Each drug should be taken for at least 2 weeks and then stopped for 3 days before changing from one drug to another. To avoid side effects, a low dose should be used at first, taken at night for a few days, then built up steadily to the full dose (García-Carrasco et al, 2008).

Conclusion
Raynaud’s phenomenon is a common, painful condition. It can be divided into primary and secondary, and regular exercise and movement can help those who suffer from it. HCAs can play an important role in helping those with Raynaud’s phenomenon. There is currently no cure and treatments vary, some suiting individuals better than others.
Clinical

Further information
The Raynaud’s and Scleroderma Association (RSA), a national charity, funds research, provides information and practical advice on how to stay warm during the winter months and has a website packed with useful material www.raynauds.org.uk
A selection of health professional booklets are available to download or hard copies on request.
01270 872776
www.raynauds.org.uk

Key Points
- Raynaud’s phenomenon is very common and can be associated with pain and loss of hand function.
- Some cases of Raynaud’s are associated with an underlying disease, such as scleroderma, and these are much more serious.
- Raynaud’s may be the first symptom of another disease and should be assessed by a specialist if there are concerns about this or it is very severe.
- Lifestyle changes can make a big difference and healthcare assistants can contribute to this through education and practical support.


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