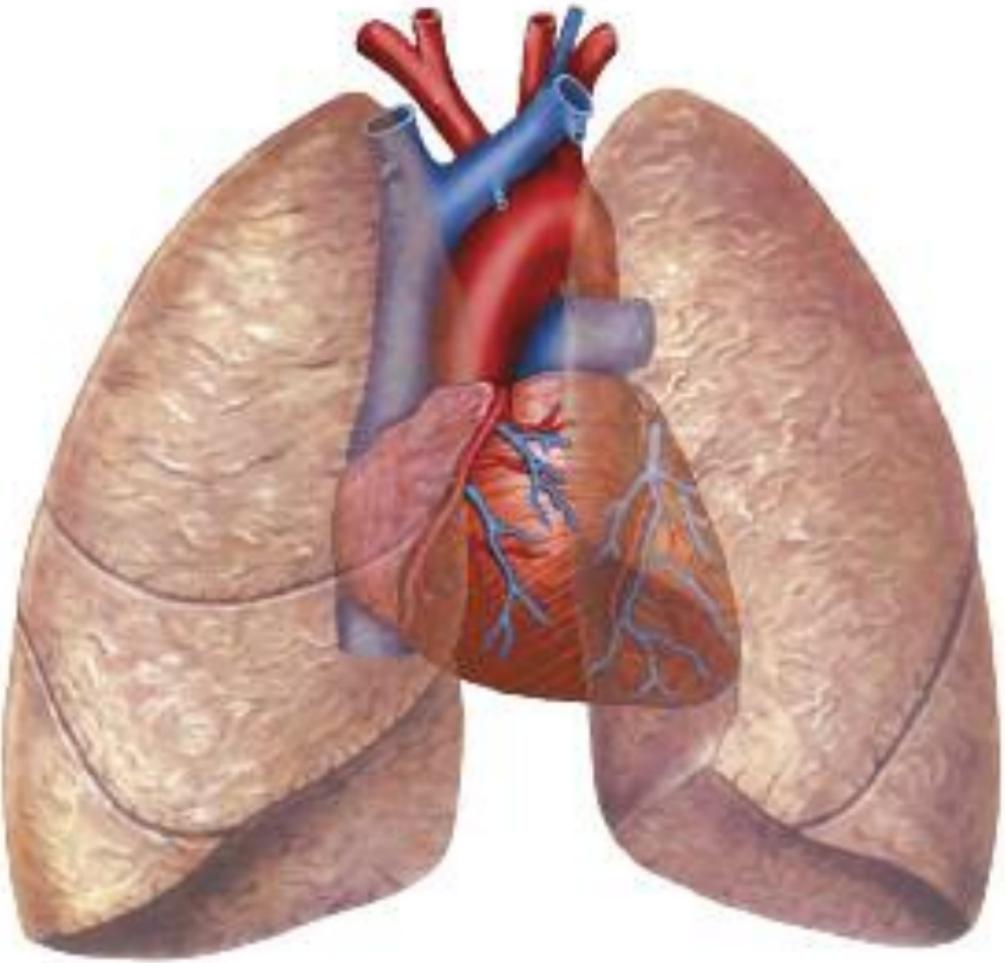


# LUPUS

## The Heart and Lungs



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## The Heart and Lungs

This factsheet describes how lupus may affect the heart and lungs in some patients with SLE, and how it might be recognised. It also describes how patients with lupus are at increased risk of suffering heart attacks, and discusses how this risk can be addressed.



### How can lupus affect the heart?

#### Pericarditis and myocarditis

The pericardium, a layer of tissue around the heart, can become inflamed in patients with lupus (termed 'pericarditis'), and often causes symptoms of breathlessness and pain in the front of the chest. More severe cases can lead to the build up of fluid around the heart, and this is termed a pericardial effusion. Pericardial effusions are surprisingly common but usually don't cause any symptoms, and can be seen in up to 30% of lupus patients when a heart scan (echocardiogram) is performed. The heart muscle itself (the 'myocardium') can also become inflamed and lead to a condition known as myocarditis.

This is a rare condition, affecting less than 10% of lupus patients, causing a spectrum of problems from mild abnormalities on a chest x-ray or ECG, through to significant breathlessness. Severe cases are often treated with courses of steroids and/or immunosuppressive medications.

Inflammation of the lining of the heart (endocarditis) can sometimes occur, particularly in people with "sticky blood" (antiphospholipid syndrome). This has to be distinguished from infection and patients sometimes need to have blood cultures and/or an ultrasound (echocardiogram) of the heart; this usually involves a probe with jelly on the surface of the chest. If it's difficult to get a clear picture of your heart your doctor may recommend a 'transesophageal echocardiogram'. In this procedure, a flexible probe is guided down into your oesophagus (or gullet) to obtain more-detailed images of your heart, in a procedure similar to a gastroscopy.



#### Valvular heart disease

The heart valves can become leaky and dysfunctional in patients with lupus, particularly those with antiphospholipid syndrome. This is usually detected by echocardiogram,

and may not have caused any symptoms. The management of heart valve problems will be in conjunction with a cardiologist and may require alterations to lupus medications or, less commonly, valve surgery.

## What investigations might be done to assess heart involvement?

The most common assessment is for a doctor to ask questions and examine you for heart problems, in an effort to distinguish a lupus-related problem (such as pericarditis) from any other cause (such as angina). This will usually involve listening to the heart, and asking for symptoms that might help assess for inflammation. Some patients will need further tests to evaluate their heart in more detail, most commonly blood samples, an ECG and a chest x-ray. Many patients will undergo assessment of the heart with an echocardiogram, an ultrasound-based test that is done in the cardiology department.

## Lupus and coronary heart disease

Patients with lupus are at a greater risk of suffering heart attacks, often occurring at a younger age than people without the disease. These younger age groups typically have a very low risk of heart attack, so the risk in young lupus patients is still relatively low, although much higher than the 'control' population. The risk of coronary heart disease rises with the length of time the lupus has been present and with the activity of disease. Common risk factors such as smoking and high blood pressure are very important contributors to this enhanced risk, but lupus itself seems to also inherently increase the risk of future heart disease. This in part relates to the inflammation observed in lupus flares (which may involve the blood vessels) and to the way lupus is treated (e.g. with steroids). A key focus of patients, GPs and rheumatologists when managing this risk should be to address any 'classic' risk factors that are present, such as stopping smoking, lowering blood pressure, lowering cholesterol, losing weight and keeping active.



Additionally, more effective management of the inflammation seen in lupus and reducing steroid doses are also likely to lower the risk of heart attacks in the longer term.

## How can lupus affect the lungs?

### Pleurisy

The most common lung problem encountered in patients with lupus is pleurisy, and it is estimated that 30-60% of patients will report this problem at some point. Pleurisy describes inflammation of the pleura - a layer of tissue enveloping the lungs. Usually this is symptomatic, causing pain at the end of deep breathing, for example. More severe forms often result in fluid collecting around a lung (termed a 'pleural effusion') causing chest pain and breathlessness, which can be detected by examination and often confirmed on a chest x-ray. Pleurisy and pleural effusions often require changes to therapy, such as short courses of steroids. In people without lupus, pleurisy usually occurs in the context of a chest infection, so your doctor will assess for this at the same time.

### Lung disease

A number of problems can affect the lung structure and blood supply in lupus, and many of these can also be seen in other conditions. For example, a form of inflammation and scarring within the lungs known as fibrosis or 'interstitial lung disease' can occur in some patients, and this often causes a dry cough, progressive breathlessness and reduced capacity for exercise and activity. Doctors can often hear a 'crackling' sound when listening to the chest, and the presence of this condition is usually confirmed with breathing tests, a chest x-ray and other scans including CT and MRI. Respiratory doctors are usually involved in the assessment of these conditions, and management may include steroids and immunosuppression.



### Blood clots

Many patients with lupus also have circulating antiphospholipid antibodies ('sticky blood' syndrome - see our factsheet [Lupus and Associated Conditions](#)), and are therefore susceptible to blood clots in the legs and lungs.

This can cause a sudden onset of pain, breathlessness and cough, often with blood, which requires urgent medical assessment. The presence of a blood clot on the lung (termed 'pulmonary embolus') is confirmed with scans such as CT, and is treated by thinning the blood with medications (anti-coagulation).

## Other lung conditions

Less commonly, patients with lupus may also develop a condition called 'shrinking lung syndrome', which is poorly understood but leads to reduced size and capacity of the lungs and worsening breathlessness over time. It probably relates to problems with the muscles required for breathing, particularly the diaphragm (a muscle found below the lungs). Chest infections are also more common in patients with lupus, particularly those treated with steroid and immunosuppressive drugs. Over half of these infections are due to viruses, and around 40% are due to a bacterial infection.



## What investigations might be done to assess lung involvement?

The most common assessment is for a doctor to ask questions and examine you for lung problems, in an effort to distinguish a lupus-related problem (such as pleurisy) from any other cause (such as infection). This will usually involve asking for symptoms that might help assess for inflammation or infection and listening to the chest, for example. Some patients will need further tests to evaluate their lungs in more detail, such as a sputum sample, blood samples and a chest x-ray. Similarly, breathing tests (pulmonary function tests) are a simple, non-invasive test to assess how well the airways and lungs are working. Some patients will need more advanced tests such as a CT or MRI scan of the lungs, and perhaps a camera into the airways (bronchoscopy) for more detailed examination and assessment. This will usually be done with the help of a respiratory consultant.



# The LUPUS UK Range of Factsheets

A range of factsheets is available as follows:

1. LUPUS Incidence within the Community
2. LUPUS A Guide for Patients
3. LUPUS The Symptoms and Diagnosis
4. LUPUS The Joints and Muscles
5. LUPUS The Skin and Hair
6. LUPUS Fatigue and your Lifestyle
7. LUPUS and Pregnancy
8. LUPUS and Blood Disorders
9. LUPUS and Medication
10. LUPUS and the Kidneys
11. LUPUS and Associated Conditions
12. LUPUS and the Brain
13. LUPUS The Heart and Lungs
14. LUPUS The Mouth, Nose and Eyes
15. LUPUS and Light Sensitivity
16. LUPUS and the Feet
17. LUPUS and Men
18. LUPUS and Mixed Connective Tissue Disease
19. LUPUS Bone Health and Osteoporosis

LUPUS UK is the registered national charity caring for people with lupus and has over 5,000 members who are supported by the Regional Groups.

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Please contact our National Office should you require further information about the sources used in the production of this factsheet or for further information about lupus. LUPUS UK will be pleased to provide a booklist and details of membership.

LUPUS UK is certified under the requirements of the Information Standard.



**St James House, Eastern Road, Romford, Essex RM1 3NH**  
**Tel: 01708 731251 [www.lupusuk.org.uk](http://www.lupusuk.org.uk)**

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