

# Diagnostic and therapeutic pleural aspiration

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**This leaflet is for patients who are to undergo a diagnostic or therapeutic pleural aspiration.**

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## What is a pleural aspiration?

A pleural aspiration is the removal of fluid from around the lung. A diagnostic pleural aspiration takes a small volume (usually 20-100ml) of fluid to allow tests to be performed on the fluid. A therapeutic aspiration removes a larger volume (up to 1.5 litres) to improve breathlessness in addition to allowing tests to be performed on the sample taken.

## Why do you need a pleural aspiration?

The pleural space consists of two thin membranes – one lining the lung and the other lining the chest wall. Between these layers, there is a very small space which is usually almost dry. In your case fluid has collected in this space. If there is a significant volume of fluid then the lung cannot function properly making you short of breath. A **diagnostic pleural aspiration** allows a sample to be taken to determine why this fluid is there and plan treatment. A **therapeutic aspiration** also removes a larger volume of fluid to improve your breathing.

## What are the benefits of the pleural aspiration?

Removal of fluid aims to improve your breathlessness and allows analysis of the fluid to determine why it is there. There are many reasons fluid may build up, including:

- Infection including pneumonia or occasionally TB.
- Cancerous deposits in the lining of the lung.
- Inflammatory processes (such as related to rheumatoid arthritis).
- As a result of processes in other organs such as heart failure or kidney disease.
- Spontaneous build-up of fluid after heart surgery.

## What are the alternatives to a pleural aspiration?

A pleural aspiration is the simplest way of obtaining a sample of fluid. Alternatives to the procedure will depend upon the suspected cause of the fluid, but vary from doing nothing, which would not allow us to understand why the fluid is there or improve your breathlessness, to keyhole surgery. Your doctor may have other information such as a CT scan result which may allow other options.

## What are the risks of the aspiration?

This is a very safe procedure with few risks. The more common side effects of the procedure are:

- **Pain** – sometimes the injection of the local anaesthetic can be sore and there can be a slight “catch” as the needle enters through the lining of the lung

- **Bleeding** – there is a low risk of bleeding caused by the needle used for the sample. The place that is chosen for the sampling is intended to minimise risks of bleeding.
- **Infection** – the procedure is performed in a sterile manner to minimise any risk of infection in the fluid.
- **Organ puncture** – this is when the needle used accidentally catches the lung itself or another organ, such as the liver or spleen. This risk is reduced by using ultrasound at the time to locate the best site for sampling. The risk of this is therefore very low.
- **Procedure failure** – sometimes when the needle is inserted and we try to withdraw a sample of fluid, no fluid is obtained. This is known as a dry tap.

## Preparing for the procedure

You will need to have some blood tests before your aspiration to ensure you are not at a high risk of bleeding. A pleural aspiration is a day case procedure, currently performed at Kennet & Loddon Unit, Level 2, Centre Block. You can drive yourself, although it is often best to have someone bring you for support. You can eat and drink as normal for this procedure and should also take your regular medications unless specifically instructed by team.

## Anticoagulation

If you are on blood thinning medications, the doctor who arranged your procedure or the Pleural Team should have given you specific instructions about this:

- i) If you are taking Clopidogrel, Prasugrel or Ticagrelor you should stop this 7 days before the procedure.
- ii) If you are using Tinzaparin injections, this should NOT be taken the day before the procedure.
- iii) If you are taking Warfarin, you will either be advised to stop a week prior with an INR blood test the day before the procedure OR if you are converted from Warfarin to Tinzaparin injections temporarily, you will have both an INR test AND you must not take the Tinzaparin injections the day before the procedure.
- iv) If you are taking Apixaban, Rivaroxaban, Edoxaban or Dabigatran, you must not take the tablets for 48 hours before.

## What happens on day of the procedure?

The clinician performing the procedure on the day will explain the procedure to you and ask you to sign a consent form.

1. The clinician will perform an ultrasound scan (jelly scan using high frequency sound) to identify a safe site for the procedure.
2. Your skin will be cleaned with sterilising solution which can feel cold.
3. Local anaesthetic is injected into the muscle in between the ribs to numb the area.
4. A needle is then passed into the fluid to draw off a sample.
5. To remove larger volumes of fluid, a plastic tube will be passed over the initial injection needle and will remain in the chest until a certain volume of fluid has been drawn off. When larger volumes of fluid are drawn off, this can cause you to cough. This is normal and it is safe to cough.

## How long will it take?

You will usually need to be in the department for approximately 1 hour- on occasions it may be a little longer than this.

## What happens after the procedure?

A small dressing will be left on which can be removed after 24 hours. You will be able to go home immediately after the procedure. Sample results usually take 7-10 days and you may then be seen in the respiratory clinic, or the results forwarded onto your referring specialist.

## Aftercare advice

This is a very safe procedure with few risks and it is rare to encounter problems afterwards.

If you get any of the following:

- Pain that is worsening and not controlled by simple pain killers
- Increasing breathlessness that does not settle in the hours after the procedure

Then you should either contact your GP, explaining that you have had a pleural aspiration or call our Pleural Service answer phone for advice.

## Contact information

If you are experiencing any problems then please contact:

- Pleural Service answer phone – 07799 072517 (Mon-Fri 9am-5pm, excluding bank holidays) or email [rbft.pleuralservice-refs@nhs.net](mailto:rbft.pleuralservice-refs@nhs.net)
- Kennet & Loddon Unit – 0118 322 7491 (Mon-Fri 9am-5pm)
- The Department of Respiratory Medicine – 0118 322 8296 (Mon-Fri 8am to 5pm)
- For **urgent** issues out of hours, contact NHS 111 for advice

To find out more about our Trust visit [www.royalberkshire.nhs.uk](http://www.royalberkshire.nhs.uk)

**Please ask if you need this information in another language or format.**

Dr Lynne Curry, Consultant Physician, Department of Respiratory Medicine

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