Diagnostic and therapeutic pleural aspiration

Who is this leaflet for?
This leaflet is for patients who are to undergo a diagnostic or therapeutic pleural aspiration. It explains why this is needed, what it involves and the possible risks and benefits.

What is a pleural aspiration?
A pleural aspiration is the removal of fluid from around your 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 I need it?
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 your 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?
Removal of fluid aims to improve your breathlessness. Sampling the fluid also allows it to be analysed in several ways to determine why the fluid is building up.

What are the possible causes?
There are several possible reasons for this fluid to build up including:

- infection – including pneumonia or occasionally tuberculosis (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.

Are there any alternatives?
A pleural aspiration is the simplest way of obtaining a sample of fluid. Alternatives to this will be discussed in clinic at the time of requesting the procedure. These 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 possible risks or complications?

This is a very safe procedure with few risks. The doctor doing the procedure will discuss the risks at the time when asking you to sign the consent form. Possible risks include:

- **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 (this area can be difficult to numb).
- **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 the ultrasound at the time to locate the best site for sampling. The risk of this is therefore very low.

How do I prepare for it?

- A pleural aspiration is a day case procedure and is usually performed in a procedure room.
- You will need to have some blood tests before your aspiration to ensure you are not at a high risk of bleeding.
- You can drive yourself, although it is often best to have someone bring you and be with you.
- You can eat and drink as normal for this procedure.
- Take your regular medications unless specifically instructed by team. If you are on blood thinning medications (eg Warfarin, Fragmin injections, Rivaroxaban or Apixiban) then you will be given specific instructions which may involve stopping the medication(s) prior to your procedure.

What happens on day of the procedure?

The doctor performing the procedure will explain it to you and ask you to sign a consent form to ensure you are happy to have it done. A copy of the consent form is attached with this information leaflet – please bring it along with you.

1. The doctor will perform an ultrasound scan (jelly scan using high frequency sound) to identify a suitable place to take fluid.
2. Once a site has been identified the doctor will clean your skin with alcohol gel – this may feel cold.
3. To numb the area the doctor will then inject local anaesthetic into the muscle in between the ribs. This can sting as it is injected, but goes numb within a minute.
4. Once the area is numb the doctor will pass a needle into the fluid and draw off a sample.
5. To perform a therapeutic aspiration (ie remove a larger volume of fluid) a plastic tube (similar to those used for drips) will be passed over the initial injection needle, and will remain in your chest until a certain volume of fluid (or all the fluid) has been drawn off.
6. When larger volumes of fluid are drawn off areas of the lung can start to open up again, which may cause you to cough or have a strong urge to cough. This is normal and is nothing to worry about. It is safe to cough.

How long will it take?

The procedures themselves are relatively quick. A diagnostic aspiration alone takes about 15 minutes. A therapeutic aspiration takes longer because more fluid is being removed – this can take up to 30 minutes. Including the time taken to perform the ultrasound scan, explain the procedure, consent you for it and take the fluid sample, the whole procedure will take around 45 minutes to one hour.

There will often be other patients having a similar procedure at the same time, or sometimes more urgent or emergency patients. Occasionally, these can take longer than expected, so there might be an unavoidable wait for your procedure. If this happens you may be at the hospital for longer than one hour.
What happens after the procedure?
Following your procedure a small dressing will be put over the site of the fluid sample. This can be removed after 24 hours. You will be able to go home immediately after the procedure.

If you are having a diagnostic procedure, you may also need to attend for a CT scan on the same day.

When will I get the results?
Sample results usually take 7-10 days to be processed and you will be seen in clinic for the results. If you have been referred to the respiratory team by another consultant, the results might go directly to your referring consultant.

What should I look out for?
This is a very safe procedure with few risks and it is rare to encounter problems afterwards. However, if you experience any of the following:

- pain that is worsening and not controlled by simple painkillers
- increasing breathlessness that does not settle in the hours after the procedure

either contact your GP explaining that you have had a pleural aspiration or phone your consultant’s secretary (this number is usually found at the top of the clinic letters you will have received). Alternatively, contact Wellington ward (see below).

Contact us
If you are experiencing any problems, please contact:
Wellington Ward – 01872 277 673 (24 hours / day)
The Department of Respiratory Medicine – 01872 252721 (8am to 5pm Mon-Fri).

If you would like this leaflet in large print, Braille, audio version or in another language, please contact the Patient Advice and Liaison Service (PALS) on 01872 252793
Diagnostic and therapeutic pleural aspiration

A procedure to diagnose and/or treat breathlessness

STATEMENT OF HEALTH PROFESSIONAL (to be filled in by health professional with appropriate knowledge of proposed procedure, as specified in consent policy)

I have explained the procedure to the patient. In particular, I have explained the intended benefits:

- Diagnosis (if aspiration is diagnostic)
- Relief of breathlessness (if aspiration is therapeutic)

Significant, unavoidable or frequently occurring risks:

- Bleeding
- Infection
- Pneumothorax
- Discomfort at drain site
- Solid organ puncture.

I have also discussed what the procedure is likely to involve, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this patient.

Any extra procedures which may become necessary during the procedure:

- Blood transfusion
- Other procedure (please specify):

I have given and discussed the Trust’s approved patient information leaflet for this procedure: Diagnostic and therapeutic pleural aspiration (CHA3791) which forms part of this document.

I am satisfied that this patient has the capacity to consent to the procedure.

This procedure will involve: [ ] General and/or regional anaesthesia [ ] Local anaesthesia [ ] Sedation

Health Professional signature: ___________________________________________ Date: ______________________

Name (PRINT): ___________________________________________ Job title: ______________________

STATEMENT OF INTERPRETER (where appropriate)

I have interpreted the information above to the patient to the best of my ability and in a way in which I believe he/she can understand.

Interpreter signature: __________________________ Name (PRINT): __________________________ Date: ______________________
STATEMENT OF PATIENT

Please read this form carefully. If your treatment has been planned in advance, you should already have a copy of the patient information leaflet which describes the benefits and risks of the proposed treatment. If not, you will be given a copy now. If you have any further questions, do ask - we are here to help you. You have the right to change your mind at any time, including after you have signed this form.

I agree to the procedure or course of treatment described on this form.

I understand that you cannot give me a guarantee that a particular person will perform the procedure. The person will, however, have appropriate experience.

I understand that I will have the opportunity to discuss the details of anaesthesia with an anaesthetist before the procedure, unless the urgency of my situation prevents this. (This only applies to patients having general or regional anaesthesia).

I understand that any procedure in addition to those described on this form will only be carried out if it is necessary to save my life or to prevent serious harm to my health.

I understand that tissue samples will only be taken in relation to the procedure explained to me. No samples will be taken for quality control, clinical education or research purposes.

I have been told about additional procedures which may become necessary during my treatment. I have listed below any procedures which I do not wish to be carried out without further discussion.

I have received a copy of the Consent Form and Patient Information leaflet: Diagnostic and therapeutic pleural aspiration (CHA3791) which forms part of this document.

Patient signature: _______________________________ Name (PRINT): _______________________________ Date: _______________________________

A witness should sign below if this patient is unable to sign but has indicated his or her consent. Young people / children may also like a parent to sign here (see guidance notes).

Witness signature: _______________________________ Name (PRINT): _______________________________ Date: _______________________________

CONFIRMATION OF CONSENT (to be completed by health professional when the patient is admitted for the procedure, if the patient has signed the form in advance).

On behalf of the team treating the patient, I have confirmed with the patient that they have no further questions and wish the procedure to go ahead.

Health Professional signature: _______________________________ Date: _______________________________

Name (PRINT): _______________________________ Job title: _______________________________

Important notes (tick if applicable):

☐ See advance decision to refuse treatment    ☐ Patient has withdrawn consent (ask patient to sign/date here)

Patient signature: _______________________________ Name (PRINT): _______________________________ Date: _______________________________
Consent Form 1: Procedure Specific Patient Agreement

Diagnostic and therapeutic pleural aspiration

A procedure to diagnose and/or treat breathlessness

STATEMENT OF HEALTH PROFESSIONAL (to be filled in by health professional with appropriate knowledge of proposed procedure, as specified in consent policy)

I have explained the procedure to the patient. In particular, I have explained the intended benefits:

- Diagnosis (if aspiration is diagnostic)
- Relief of breathlessness (if aspiration is therapeutic)

Significant, unavoidable or frequently occurring risks:

- Bleeding
- Infection
- Pneumothorax
- Discomfort at drain site
- Solid organ puncture.

I have also discussed what the procedure is likely to involve, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this patient.

Any extra procedures which may become necessary during the procedure:

- Blood transfusion
- Other procedure (please specify):

I have given and discussed the Trust’s approved patient information leaflet for this procedure: Diagnostic and therapeutic pleural aspiration (CHA3791) which forms part of this document.

I am satisfied that this patient has the capacity to consent to the procedure.

This procedure will involve: □ General and/or regional anaesthesia □ Local anaesthesia □ Sedation

Health Professional signature: _____________________________ Date: _____________________________

Name (PRINT): _____________________________ Job title: _____________________________

STATEMENT OF INTERPRETER (where appropriate)

I have interpreted the information above to the patient to the best of my ability and in a way in which I believe he/she can understand.

Interpreter signature: _____________________________ Name (PRINT): _____________________________ Date: _____________________________
STATEMENT OF PATIENT
Please read this form carefully. If your treatment has been planned in advance, you should already have a copy of the patient information leaflet which describes the benefits and risks of the proposed treatment. If not, you will be given a copy now. If you have any further questions, do ask - we are here to help you. You have the right to change your mind at any time, including after you have signed this form.

I agree to the procedure or course of treatment described on this form.

I understand that you cannot give me a guarantee that a particular person will perform the procedure. The person will, however, have appropriate experience.

I understand that I will have the opportunity to discuss the details of anaesthesia with an anaesthetist before the procedure, unless the urgency of my situation prevents this. (This only applies to patients having general or regional anaesthesia).

I understand that any procedure in addition to those described on this form will only be carried out if it is necessary to save my life or to prevent serious harm to my health.

I understand that tissue samples will only be taken in relation to the procedure explained to me. No samples will be taken for quality control, clinical education or research purposes.

I have been told about additional procedures which may become necessary during my treatment. I have listed below any procedures which I do not wish to be carried out without further discussion.

I have received a copy of the Consent Form and Patient Information leaflet: Diagnostic and therapeutic pleural aspiration (CHA3791) which forms part of this document.

Patient signature: __________________________ Name (PRINT): __________________________ Date: __________________________

A witness should sign below if this patient is unable to sign but has indicated his or her consent. Young people / children may also like a parent to sign here (see guidance notes).

Witness signature: __________________________ Name (PRINT): __________________________ Date: __________________________

CONFIRMATION OF CONSENT (to be completed by health professional when the patient is admitted for the procedure, if the patient has signed the form in advance).

On behalf of the team treating the patient, I have confirmed with the patient that they have no further questions and wish the procedure to go ahead.

Health Professional signature: __________________________ Date: __________________________

Name (PRINT): __________________________ Job title: __________________________

Important notes (tick if applicable):
☐ See advance decision to refuse treatment  ☐ Patient has withdrawn consent (ask patient to sign/date here)

Patient signature: __________________________ Name (PRINT): __________________________ Date: __________________________