

## **Albumin dialysis to support patients with acute liver failure**

*NICE 'HealthTech guidance' advises the NHS on when and how new procedures can be used in clinical practice.*

This leaflet is about when and how albumin dialysis can be used in the NHS to support people with acute liver failure. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

This HealthTech guidance makes recommendations on the safety of a procedure and how well it works. An interventional procedure is a test, treatment or surgery that involves a cut or puncture of the skin, or an endoscope to look inside the body, or energy sources such as X-rays, heat or ultrasound. The guidance does not cover whether or not the NHS should fund a procedure. Decisions about funding are taken by local NHS bodies (primary care trusts and hospital trusts) after considering how well the procedure works and whether it represents value for money for the NHS.

This leaflet is written to help people who have been offered this procedure to decide whether to agree (consent) to it or not. It does not describe acute liver failure or the procedure in detail – a member of your healthcare team should also give you full information and advice about these. The leaflet includes some questions you may want to ask your doctor. Some sources of further information and support are on page 7.



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### What has NICE said?

Although there are no major safety concerns about this procedure, there is not much good evidence about how well it works. If a doctor wants to use it to support a patient with acute liver failure, he or she should make sure that extra steps are taken to explain the uncertainty about how well it works, as well as the uncertainty surrounding potential risks of the procedure. Ideally this should happen before the patient agrees (or doesn't agree) to the procedure. The patient should be given this leaflet and other written information as part of the discussion. In an emergency, healthcare professionals may give treatment immediately, without obtaining the patient's informed consent, when it is in the patient's best interests.

There should also be special arrangements for monitoring what happens to the patient after the procedure.

## Albumin dialysis to support patients with acute liver failure

*This procedure may not be the only possible treatment for acute liver failure. Your healthcare team should talk to you about whether it is suitable for you and about any other treatment options available.*

The medical name for this procedure is 'extracorporeal albumin dialysis for acute liver failure'. The procedure is not described in detail here – please talk to your specialist for a full description.

There are not many treatment options for acute liver failure. They include standard medical treatment with drugs and conventional dialysis, and liver transplant.

Dialysis may be used to support a patient with liver failure until the liver repairs itself or a transplant can be done. The patient's blood is passed out of the body into a dialysis machine, which removes toxins before returning the blood to the body. The aim of albumin dialysis is to remove both water-soluble toxins (toxins that can be dissolved in water) and toxins that are attached to albumin and accumulate in liver failure.

### What does this mean for me?

If your doctor has offered you this procedure, he or she should tell you that NICE has decided that the benefits and risks are uncertain. This does not mean that the procedure should not be done, but that your doctor should fully explain what is involved in having the procedure and discuss the possible benefits and risks with you. Normally you should only be asked if you want to agree to this procedure after this discussion has taken place. You should be given written information, including this leaflet, and have the opportunity to discuss it with your doctor before making your decision.

NICE has also decided that more information is needed about this procedure. Your doctor may ask you if details of your procedure can be used to help collect more information about this procedure. Your doctor will give you more information about this.

### You may want to ask the questions below

- What does the procedure involve?
- What are the benefits I might get?
- How good are my chances of getting those benefits? Could having the procedure make me feel worse?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What care will I need after the procedure?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

## **Summary of possible benefits and risks**

Some of the benefits and risks seen in the studies considered by NICE are briefly described below. NICE looked at 8 studies on this procedure.

### **How well does the procedure work?**

One study looked at 6 smaller studies involving a total of 128 patients with acute liver failure. The number of patients alive after 30 days was different in the groups who had standard medical treatment and the groups who had albumin dialysis, but this difference might have occurred by chance.

A study of 22 patients with cirrhosis of the liver reported that 11 out of 16 patients who had albumin dialysis were alive 6 months later, compared with 3 out of 6 patients who had conventional dialysis. However, this difference might have occurred by chance.

In a study of 79 patients with acute alcoholic liver disease, 17 out of 33 patients who had albumin dialysis were alive 3 years later, compared with 8 out of 46 patients who had standard medical treatment. A study of 159 patients reported that 85 out of 113 patients who had albumin dialysis were alive 6 months later, compared with 28 out of 46 patients who had standard medical treatment, but in this study the difference might have occurred by chance.

As well as looking at these studies, NICE asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that the aims of the procedure are to support the patient until the liver repairs itself or a transplant can be done.

### **Risks and possible problems**

In a study of 30 patients, 9 patients developed blood infections between 2 and 17 days after albumin dialysis. All 9 patients died.

In another study of 2 patients who had the procedure, both developed fluid on the lungs, which was successfully treated within 24 hours. One of the patients died 9 days later and the other died 201 days later.

In a study of 191 patients who had a total of 2027 albumin dialysis sessions, temporary low blood pressure was reported during 292 of the 2027 sessions (14%). Low blood sugar that needed treatment happened in 335 out of the 2027 sessions (17%), all in patients with severe liver disease.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that possible problems include bleeding, infection, shock and problems with the blood.

**More information about acute liver failure**

NHS Choices ([www.nhs.uk](http://www.nhs.uk)) may be a good place to find out more. Your local patient advice and liaison service (usually known as PALS) may also be able to give you further information and support. For details of all NICE guidance on liver failure and its treatments, visit our website at [www.nice.org.uk](http://www.nice.org.uk)

## About NICE

NICE produces guidance (advice) for the NHS about preventing, diagnosing and treating different medical conditions. The guidance is written by independent experts including healthcare professionals and people representing patients and carers. They consider how well an interventional procedure works and how safe it is, and ask the opinions of expert advisers. This guidance applies to the whole of the NHS in England, Wales, Scotland and Northern Ireland. Staff working in the NHS are expected to follow this guidance.

*To find out more about NICE, its work and how it reaches decisions, see [www.nice.org.uk/aboutguidance](http://www.nice.org.uk/aboutguidance)*

*This leaflet is about 'extracorporeal albumin dialysis for acute liver failure'. This leaflet and the full guidance aimed at healthcare professionals are available at [www.nice.org.uk/HTG202](http://www.nice.org.uk/HTG202)*

*You can order printed copies of this leaflet from NICE publications (phone 0845 003 7783 or email [publications@nice.org.uk](mailto:publications@nice.org.uk) and quote reference N1996). The NICE website has a screen reader service called Browsealoud, which allows you to listen to our guidance. Click on the Browsealoud logo on the NICE website to use this service.*

*We encourage voluntary organisations, NHS organisations and clinicians to use text from this booklet in their own information about this procedure.*

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