

Vascular Radiology Service

Adrenal Vein Sampling (AVS)

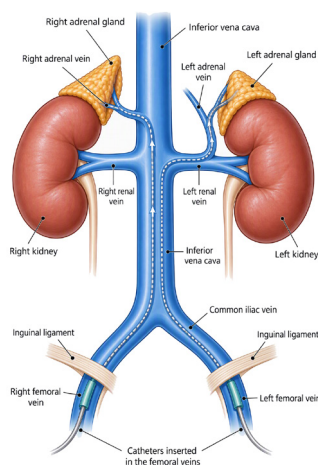
Information for patients



Leeds
Radiology

Your doctor has recommended you undergo Adrenal Vein Sampling. This leaflet will explain what this procedure involves, the intended outcomes and the possible risks.

What is an Adrenal Vein Sampling?



AI generated image

You have been diagnosed with having a high level of aldosterone which is a hormone produced from your adrenal glands and causes high blood pressure and/or low potassium levels. In order to determine whether the abnormal hormone levels are being produced by one or both of your adrenal glands, blood samples will be taken from the right and left adrenal veins to check the difference in aldosterone levels.

How do I prepare?

Some medications can interfere with test results and should be discontinued. It is important to have a discussion with the endocrinologist about these beforehand.

Bloods will have to be taken to determine that levels are within appropriate range for the test to be carried out, this should ideally be done two to three days before the procedure with your local GP. Bloods may also be checked day of the procedure to check everything is in order.

You should **NOT** avoid sodium (salt) intake. An adequate salt intake is essential. Avoid liquorice.

A drug known as Synacthen will be administered via IV infusion by the nursing staff prior to the procedure, the Synacthen helps to stimulate the adrenals glands to aid in testing and reduce stress induced fluctuations in aldosterone. Samples taken will be sent by staff to the appropriate labs immediately.

How is an Adrenal Venous Sampling performed?

Consent

Adrenal vein sampling usually takes about one to two hours, though every patient is different and some procedures may take longer needs to be moved as first line of the operation section. The veins are very small so finding them can be difficult, obtaining blood from them may also be difficult. The operating interventional radiologist will explain the procedure to you in more detail on the day of your procedure, where you will be asked to provide your permission to go through it by signing a consent form.

Local Anaesthesia

This procedure is performed under local anaesthesia– a local anaesthetic, (Lidocaine), is injected into the skin and deeper tissues above the vein in the groin where a small plastic tube is inserted to carry out the venous sampling. The local anaesthetic may sting when it is injected but then the area should feel numb. You are awake throughout and can go home soon afterwards. If you would like to listen to some music during the procedure please tell the team.

Operation

The procedure is performed under sterile condition, the skin near the point of insertion will be cleaned with antiseptic and you will be covered with sterile drapes. Access is gained into a femoral vein (in the groin) using a needle. A small tube is inserted that allows the required sample to be collected. The Radiologist will use a form a radiation (x-rays) to see the vessels and take a series of blood samples. A Radiographer will be present to assist the Radiologist in controlling and moving the x-ray machine to the right positioning and to monitor dosage of x-rays emitted. One scrub nurse will assist the radiologist and another will be looking after you.

Staff involved

Interventional Radiology (IR) procedures are performed by a multidisciplinary team. The team includes the following key members:

- **Interventional Radiologist (Consultant/Fellow):** A doctor specially trained in minimally invasive, image-guided techniques who performs the procedure.
- **Radiology Nurses:** Highly trained nurses who care for the patient before, during, and after the procedure. They assist with sedation, monitor vital signs (heart rate, breathing, oxygen levels), and may "scrub in" to assist the radiologist directly.
- **Radiographers:** Experts in imaging equipment who operate the machines to provide real-time guidance for the doctor.
- **Senior Clinical Support Workers (SCSWs):** Assist with the setup of the room, patient positioning, and maintenance of sterile conditions

What are the risks?

Adrenal vein sampling (AVS) is generally a safe procedure with a low risk of complications, but they can include bleeding, infection, or blood clots (deep venous thrombosis) of the vein in the groin where:

- Risk of damage to surrounding small veins potential causing a bleed which may cause temporary back pain
- Allergic reaction to contrast dye (mild symptoms like nausea, itchiness and rashes occur in 3%; moderate to severe symptoms such as severe vomiting, bronchospasm occur in less than 1%; risk of death is rare, estimated at 1:170,000)
- Very small risk of allergy to Synacthen (medication given pre-procedure) - less than 1%.
- Bruising in the groin is common – small risk damage to the adjacent artery which could require further treatment (< 1 in 300).
- Risk of failure to get samples or sampling from the incorrect vessel or the specimens not giving an answer

X-rays will be used to make images of your body and guide your doctor during the procedure. X-rays are a type of radiation. We are all exposed to low levels of natural radiation as part of our everyday lives and medical x-rays give an extra dose of radiation. Radiation can increase your chances of developing cancer many years or decades after the exposure. The chances of this happening to you as a result of this procedure are considered to be minimal. It is important to remember that your doctor thinks that the benefits of this procedure outweigh any risks from the radiation.

We will make sure that the amount of radiation used in your procedure is as low as possible.

What to expect from this operation/procedure?

Admission

Once you arrive into the Radiology Theatres department you will be introduced to the staff and they will carry out some routine observations and questions. The Interventional Radiologist carrying out the procedure will then go through the consent with you discussing plan of action and risks vs benefits. Then you will be put into a gown and a cannula (small tube in a vein) will be inserted into the arm or hand.

Recovery

The tube in the groin will be removed – pressure will be applied for several minutes to prevent bleeding. You will then be in the recovery area for 30 minutes and on bed rest for 15 minutes. You will be offered refreshments, the staff will get you to mobilise as you would usually once the 15 minutes are up, ensure the puncture site remains ok and if so, the cannula can be removed.

Aftercare

You should arrange for someone to collect you. Provided you feel well you can go back to normal activities, including driving, the day after your adrenal vein sampling. The samples are sent away to be analysed and results can take several weeks to come back. The Endocrinology team will get in contact with you to arrange the follow up appointment to discuss results.

Care at home

- Work – You can typically resume normal activities and go back to work the morning after your procedure.

- Exercise/ Driving/travel – Provided you feel well you can go back to normal activities, including driving, the day after your adrenal vein sampling.
- Medicines – you can typically resume your normal medications as prescribed. Your endocrine team will review the results, and you will receive follow-up information via letter, phone, or at a clinic appointment.
- Follow-up – Follow-up will be with your endocrinology team
- Please always seek immediate medical attention if you experience symptoms such as sudden intense pain, difficulty breathing, loss of consciousness, severe confusion, or signs of shock (pale, cold, clammy skin, low blood pressure).

Contact information

We hope some of your questions have been answered by this leaflet. If there are any questions you would like to ask before you come for your operation, please get in touch.

Via telephone:

Interventional Radiology SJUH:

- Telephone: **0113 3266841**
(Monday - Friday from 9am until 5pm, except Bank Holidays)

Your GP or NHS direct on 111

Or via email:

leedsth-tr.radiologyenquiries@nhs.net

How to get to our department

We are located in the Lincoln Wing of SJUH, Ground Floor. Scan the QR code or follow the link below for more information on how to find us.

www.accessable.co.uk/leeds-teaching-hospitals-nhs-trust/st-james-s-university-hospital/access-guides/bexley-wing



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Produced by: Medical Illustration Services • MID code: 20260213_010/RC

LN006176
Publication date
09/2026
Review date
09/2029