

# Aorto-Iliac/AAA Ultrasound Scan



## ARTERY AND VEIN DIAGNOSTICS



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# Patient Information

## 1. Understanding Aorto-Iliac Arterial Disease and AAA

The abdominal aorta is the main artery that carries blood from the heart to the lower body. As it travels downward, it supplies blood to the abdominal organs and then divides into the **iliac arteries**, which supply the pelvis and legs.

Two major conditions can affect this region:

- **Aorto-iliac arterial disease** — narrowing or blockage of the aorta or iliac arteries
- **Abdominal Aortic Aneurysm (AAA)** — enlargement or bulging of the aorta due to weakening of the artery wall

A **combined aorto-iliac and AAA ultrasound** assesses both conditions in a single examination.

### 1.1 What Is Aorto-Iliac Arterial Disease?

Aorto-iliac disease occurs when the aorta or iliac arteries become narrowed or blocked, usually due to **atherosclerosis** (plaque build-up). This can reduce blood flow to the legs and pelvis.

Common risk factors include:

- Smoking (current or past)
- Diabetes
- High blood pressure
- High cholesterol
- Kidney disease
- Family history of vascular disease
- Previous heart attack or stroke

Symptoms may include:

- Leg pain when walking (claudication)
- Buttock or thigh pain
- Cold or pale feet
- Reduced pulses
- Erectile dysfunction (in men)

### 1.2 What Is an Abdominal Aortic Aneurysm (AAA)?

An **AAA** is a **permanent enlargement of the abdominal aorta to 3.0 cm or greater**. Aneurysms may:

- Grow slowly over time
- Remain stable for years
- Expand more rapidly in some individuals

- Require treatment if they reach a certain size or grow quickly

Most AAAs cause **no symptoms**, which is why surveillance is essential.

### 1.3 Why AAA Matters

As an aneurysm enlarges, the risk of rupture increases. A ruptured AAA is life-threatening.

Symptoms of a large or symptomatic AAA may include:

- Deep abdominal, back, or flank pain
- A pulsating sensation in the abdomen
- Sudden severe pain (requires urgent medical attention)

## 2. Why You Have Been Referred for This Scan

Your doctor may recommend this scan if you have:

- A known or suspected AAA
- A family history of AAA
- Risk factors for atherosclerosis
- Leg pain when walking
- Weak or absent pulses
- Cold or discoloured feet
- A bruit heard over the abdomen or groin
- Follow-up after AAA repair (open or EVAR)
- Suspected iliac artery narrowing or aneurysm

The scan helps identify the presence, size, and severity of aneurysms or arterial narrowing and guides treatment decisions.

## 3. What the Scan Examines

A comprehensive aorto-iliac and AAA ultrasound assesses the abdominal aorta, iliac arteries, and surrounding structures using B-mode imaging, colour Doppler, and spectral Doppler.

Your scan will evaluate:

### 3.1 Abdominal Aorta

- Diameter measurements
- Presence of aneurysm
- Aneurysm shape (fusiform or saccular)
- Presence of thrombus within the aneurysm
- Rate of growth compared with previous scans

### 3.2 Iliac Arteries

- Common iliac arteries
- External iliac arteries

- Internal iliac artery origins
- Narrowing (stenosis) or blockage
- Iliac aneurysms

### 3.3 Aorto-Iliac Blood Flow

Doppler assessment evaluates:

- Peak systolic velocities
- Waveform patterns
- Areas of turbulence or reduced flow
- Evidence of stenosis or occlusion

### 3.4 Post-Surgical or Post-EVAR Assessment (If Applicable)

If you have had previous aneurysm repair, the scan assesses:

- Graft position and integrity
- Limb patency
- Aneurysm sac size
- Presence of endoleaks (EVAR)
- Anastomosis sites (open repair)

## 4. How to Prepare for Your Scan

To ensure the best possible imaging quality:

- **Fast for 4–6 hours before the scan**, as bowel gas can interfere with visualising the aorta and iliac arteries.
- **Do not smoke or chew gum** during the fasting period, as this increases bowel gas.
- You may take your usual medications with a small sip of water, unless your doctor advises otherwise.
- Wear loose, comfortable clothing, or pants/trousers that can be easily removed for the scan.
- Avoid applying moisturisers or oils to your abdomen on the day of the scan.
- If you have difficulty lying flat, please inform the sonographer so we can adjust your positioning.

If your doctor has requested an urgent aortic scan, please attend as soon as possible.

## 5. What to Expect During the Scan

An aorto-iliac and AAA ultrasound is safe, painless, and performed by a highly trained vascular sonographer with advanced expertise in arterial and aneurysm assessment.

### 5.1 Duration

The scan typically takes **20–30 minutes**, depending on your anatomy and clinical history.

## 5.2 Positioning

You will lie comfortably on your back. A small pillow or support may be used to ensure comfort.

## 5.3 The Procedure

- Warm gel is applied to your abdomen and lower pelvis.
- The sonographer gently moves a handheld probe to visualise the aorta and iliac arteries.
- You may be asked to hold your breath briefly to improve image clarity.
- Doppler measurements are taken to assess blood flow.
- If you prefer a male or female sonographer, please let the practice know when booking.

## 5.4 Safety

Ultrasound uses sound waves — not radiation — making it safe for all patients.

## 6. How the Scan Helps Guide Treatment

Your scan results help determine the most appropriate management, which may include:

### 6.1 Surveillance for AAA

- Small aneurysms may only require periodic monitoring.
- Larger aneurysms or those growing rapidly may require referral to a vascular specialist.

### 6.2 Management of Aorto-Iliac Disease

Depending on your findings, treatment may include:

- Medication to reduce cardiovascular risk
- Lifestyle modification (smoking cessation, exercise, diet)
- Angioplasty or stenting
- Surgical repair (open or endovascular)

### 6.3 Post-Repair Follow-Up

If you have had previous aneurysm repair:

- Monitoring for graft complications
- Detecting endoleaks (EVAR)
- Assessing sac size and stability
- Ensuring long-term graft patency

## 7. After the Scan

### 7.1 Review of Images

Your scan images and measurements are reviewed by a vascular specialist or reporting sonographer trained in aortic and iliac assessment.

### 7.2 Report Delivery

A detailed report is sent to your referring doctor, usually within 24–48 hours, and includes:

- Aortic and iliac artery diameters
- Presence and size of aneurysm
- Severity of stenosis
- Blood flow velocities and waveform analysis
- Post-repair findings (if applicable)
- Summary of clinical significance

### 7.3 Next Steps

Your doctor will discuss the results with you and outline treatment or follow-up tailored to your condition.

## 8. Frequently Asked Questions

**Is the scan painful?** No. You may feel mild pressure, but the scan is not painful.

**Can I drive afterward?** Yes. Most patients can drive immediately after the scan.

**Do I need to stop medications?** No. Continue your usual medications unless your doctor advises otherwise.

**Why do I need to fast?** Fasting reduces bowel gas, which improves the ability to see the aorta clearly.

**Will this scan treat my condition?** No. This scan is diagnostic only. It provides essential information to guide treatment decisions.

**Why do I need lifelong follow-up after aneurysm repair?** Grafts and repairs require ongoing monitoring to ensure they remain sealed, stable, and functioning properly.

## 9. Why Choose Our Vascular Lab

**State-of-the-art ultrasound technology** for high-resolution imaging and precise haemodynamic assessment.

**Comprehensive, clinically focused reporting** to support accurate diagnosis and tailored treatment planning.

**Patient-centred care**, with an emphasis on comfort, clear communication, and a supportive experience throughout your visit.

**Examinations performed in accordance with international aortic and aneurysm surveillance standards**, ensuring accuracy and consistency.