

# National Vascular Registry

## State of the Nation Report 2024

Results for people who had vascular procedures during 2023 in NHS hospitals in England, Wales, Scotland and Northern Ireland



November 2024

Commissioned by:



## Table of Contents

Recommendations .....	1
1. Introduction .....	2
2. Lower limb revascularisation procedures.....	2
3. Major lower limb amputation.....	4
4. Aortic Procedures.....	6
5. Carotid endarterectomy .....	9
6. Commentary .....	11

Supplementary materials for this report are available at: [www.vsqip.org.uk](http://www.vsqip.org.uk). These include a description of the [audit methods](#), [data tables](#) and an [interactive dashboard](#) containing individual NHS trust/health board results on the key NVR metrics, as well as the results for each UK country. The website also provides access to:

- infographics for each of the main procedure types
- links to resources that support local services' quality improvement initiatives
- links to other sources of information about vascular conditions.

## Recommendations

NVR Key Recommendations	Audience	Results in 2023	National guidance/standard
1) Ensure that people with chronic limb threatening Ischaemia (CLTI) receive care urgently as recommended in the <a href="#">VSGBI Quality Improvement Framework (QIF) for peripheral arterial disease</a> .	Integrated Care Boards (ICBs) (working with Trusts), Local Health Boards, Vascular Networks.	Time from admission to procedure: median =6 days. 50% of patients are revascularised within 5 days.	NHS England CQUIN benchmark standard: 65% of people with CLTI have revascularisation within 5 days of (non-elective) admission.
2) Identify reasons for the rise in the number of major lower limb amputations among people with PAD. This might require funding for national research as well as local investigations.	Vascular Society Audit and Research committees, ICBs (working with Trusts), Local Health Boards. National Institute for Health & Care Research.	There has been a 16% increase in the number of major lower limb amputations performed in the UK since 2020.	<a href="#">NICE guideline NG19 (diabetic foot problems) recommendation 1.2: Care-across-all-settings</a>
3) Examine pathways to treatment for people requiring elective aortic aneurysm repair (both screen detected and incidental findings) and carotid endarterectomy (CEA) with the aim of removing causes of avoidable delays and increasing the proportion of people whose wait is within recommended standards.	ICBs (working with Trusts), Local Health Boards, Vascular networks, national AAA screening programmes.	Median time for AAA repair: 86 days; 31% of patients were treated within 8 weeks Median time for CEA: 15 days; 49% of patients treated within 14 days.	<a href="#">AAA screening programme standard no. 14: elective AAA repair is within 8 weeks</a> European Society for Vascular Surgery (ESVS) advise CEA is within 14 days of symptoms.
4) Improve access to endovascular repair of ruptured aortic aneurysms in suitable patients. This may require improving network pathways and working arrangements across vascular surgery, interventional radiology and anaesthesia.	NHS England Specialist commissioning, Local Health Boards, ICBs (working with Trusts), Vascular networks.	Proportion of repairs of ruptured AAA performed as endovascular repairs was 46% in 2023 (up from 30% in 2018).	<a href="#">NICE guideline NG156 recommendation 1.6: Repairing ruptured aneurysms.</a>
5) Develop better guidance on the coding of: i) TEVAR procedures for Type B Aortic Dissection to distinguish from TEVAR performed for aneurysms ii) FEVARs for juxta or supra renal aneurysms.	VSGBI & BSIR NHS England Specialist commissioning and Digital Health and Care Wales (DHCW).	15% of procedures with an aortic status of dissection on the NVR used an OPCS code for dissection (L27.4 or L28.4).	<a href="#">Acute Aortic Dissection Pathway Toolkit</a> – evidence is “less strong due to historical clinical coding issues.”

# 1. Introduction

This State of the Nation report for the National Vascular Registry provides information on the quality and outcomes of care for adults who had major vascular procedures in NHS hospitals. It aims to support vascular services to provide high quality of care for these people, and shares examples of good practice as well as highlighting areas which merit further investigation in order to improve care.

The report contains key findings for emergency (non-elective) and elective vascular procedures carried out in 2023, along with some outcome indicators for the procedures performed between January 2021 and December 2023. The information covers the following patient groups:

1. people with peripheral arterial disease (PAD) who undergo either (a) lower limb angioplasty / stent, (b) lower limb bypass surgery, or (c) major lower limb amputation
2. people who have a repair procedure for abdominal aortic aneurysm (AAA) or aortic dissection
3. people who undergo carotid endarterectomy or carotid stenting.

National guidelines underpin the management of people with vascular conditions, and the NVR evaluates patterns of care against these recommendations. An overall framework for vascular services is described by the "[Provision of Services for People with Vascular Disease](#)" published by the Vascular Society of Great Britain & Ireland. [Additional standards](#) originate from documents published by the National Institute for Health and Care Excellence (NICE), European Society of Vascular Surgery guidelines, national screening guidance, and government documents. From these, and in consultation with its professional and patient advisory groups, the NVR developed five quality improvement (QI) goals and associated indicators, which are published in the [NVR Quality Improvement \(QI\) Plan](#).

## How to read this report

Results are typically presented as totals and/or percentages, medians and interquartile ranges (IQR). In a few instances, the percentages do not add up exactly to 100%, which is due to the rounding up or down of the individual values. Unless otherwise stated, results are presented for all four UK nations.

For clarity of presentation, the terms NHS trusts and (vascular) units have been used to describe both NHS trusts and Local Health Boards. A list of NHS vascular units for which results are published is available on the [VSQIP website](#), together with more details of the [audit methods](#). An [online glossary](#) is available to explain some of the more technical or medical terms used in this report.

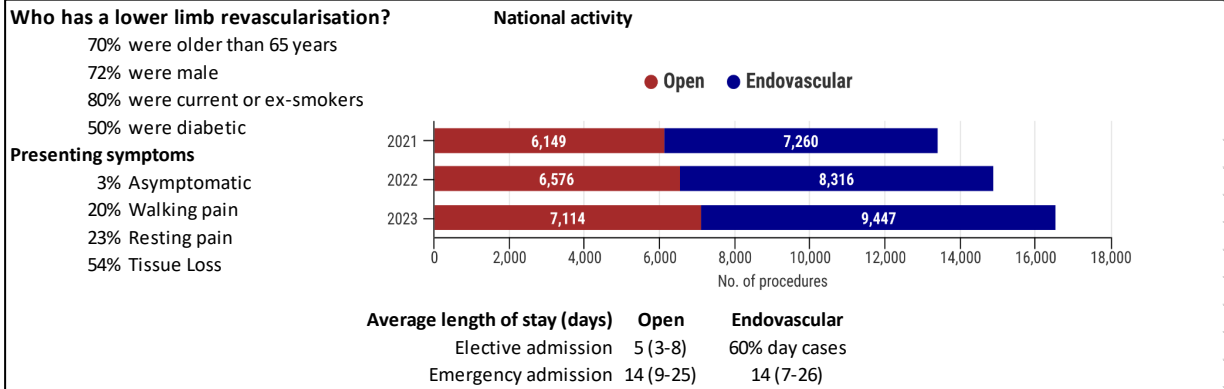
## 2. Lower limb revascularisation procedures

Peripheral arterial disease (PAD) of the lower limbs causes a range of symptoms from lifestyle restrictions due to pain whilst walking (intermittent claudication), to ulceration, rest pain and limb loss. In 2023, NHS organisations submitted data to the NVR on over 16,500 revascularisation procedures of the lower limbs (Figure 1). During 2023, there were:

- 7,114 bypass or open procedures (4,066 elective and 3,048 non-elective).
- 9,447 endovascular procedures (5,956 elective and 3,491 non-elective).

Estimated case ascertainment rates in 2023 were 93% for bypass (for England = 98%; for Wales = 100%; for Scotland = 42%; for NI = 100%) and 60% for angioplasty (for England = 64%; for Wales = 89%; for Scotland = 1%; for NI = 40%). Case ascertainment is defined as the number of procedures entered onto the NVR, compared to the national databases in each UK nation.

**Figure 1: Summary statistics about people who had a lower limb revascularisation procedure**



**Time from non-elective admission to revascularisation for people with chronic limb threatening ischaemia (CLTI)**

**KEY MESSAGES:** The median time (IQR) from admission to revascularisation was 6 (3-9) days among 5,200 non-elective admissions of people with CLTI in 2023. The proportion of people revascularised within 5 days was 50% which is lower than the 54% in 2021. Among the NHS vascular units that performed 10 or more procedures for people with CLTI admitted non-electively:

- 27 units had at least 50% of their patients wait more than 5 days
- 16 units had at least 25% of their patients wait more than 10 days

Chronic limb-threatening ischaemia (CLTI) is the severest form of PAD, which leads to limb loss if not treated urgently. Patients are often admitted in an emergency with either rest pain or tissue loss. During 2023, there were 5,200 non-elective admissions among 6,539 admissions of people with CLTI. The NVR is the only source of accurate figures on people with CLTI because the ICD-10 diagnosis codes do not capture severity of PAD or fully distinguish CLTI from intermittent claudication (pain whilst walking) or acute limb ischaemia.

**Outcomes after lower limb revascularisation for PAD**

**KEY MESSAGES:** In 2023, the in-hospital postoperative mortality rates for lower limb bypass / open procedures were 1.2% for elective admissions and 5.1% for non-elective admissions. For lower limb angioplasty / stents, in-hospital postoperative mortality rates were 0.4% for elective admissions and 3.0% for non-elective admissions.

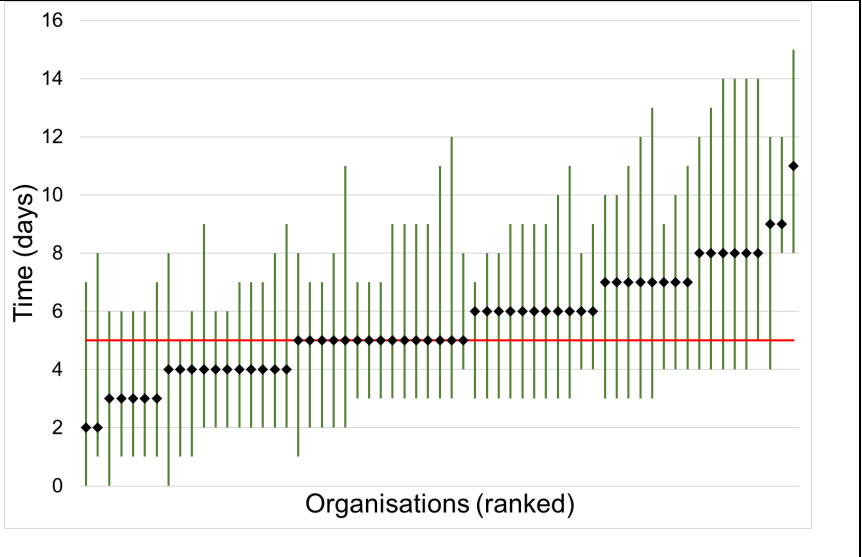
- In the NHS vascular units that performed bypass / open procedures, the adjusted postoperative in-hospital mortality rates fell within the expected range given the volume of cases performed (national average = 2.9% for 3 years from 2021 to 2023).
- In the units that performed lower limb angioplasty / stents, the adjusted rate of postoperative in-hospital death were within the expected range of the national average (national average = 1.6% for 3 years from 2021 to 2023).

For bypass / open procedures, over 75% of patients had no reported complications, and rates of readmission within 30-days were 10.0% for elective and 14.6% for non-elective admissions. For lower limb angioplasty / stents, rates of readmission within 30 days were 10.0% for elective and 18.1% for non-elective admissions.

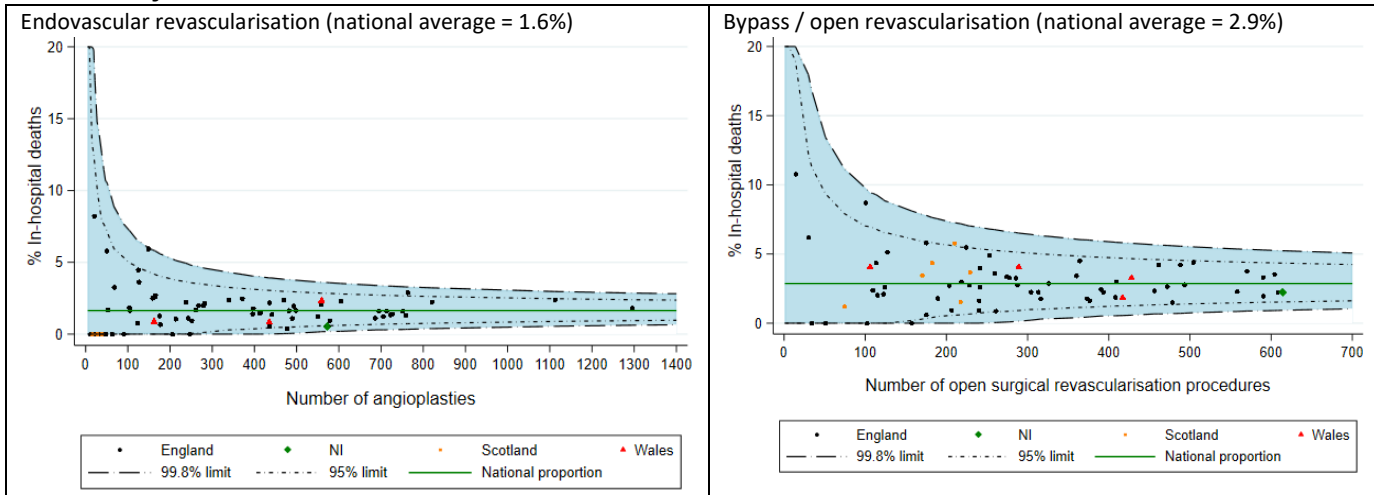
**Figure 2: Variation in the time from admission and revascularisation for people admitted non-electively with CLTI in 2023 among NHS organisations.**

The black dots are the median number of days, while the green line shows the interquartile ranges. The red line is the PAD QIF target of 5 days.

Graph limited to NHS organisations with a volume of ≥10 non-elective CLTI cases



**Figure 3: Risk-adjusted in-hospital deaths after lower limb revascularisation for NHS organisations from January 2021 to December 2023.**



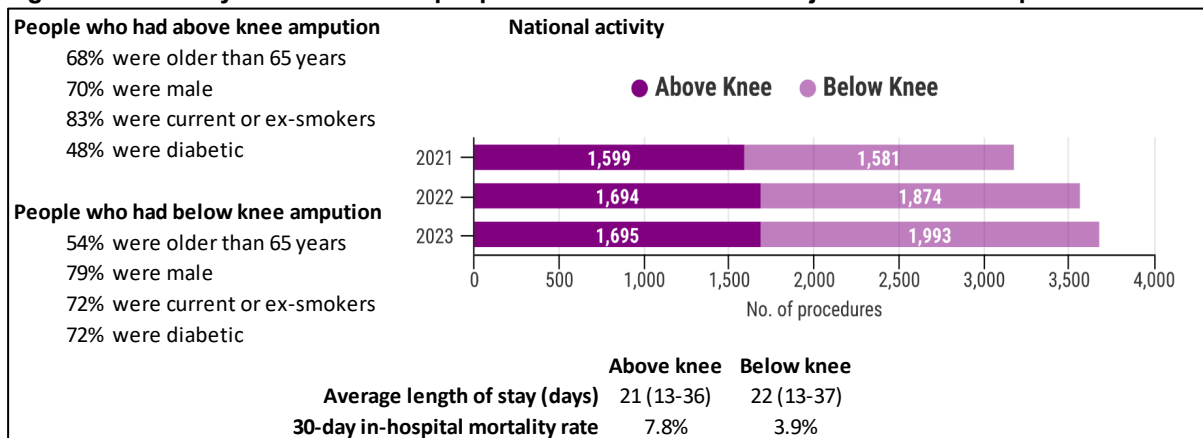
### 3. Major lower limb amputation

PAD can become sufficiently severe to mean that an operation to improve the blood flow is no longer possible and people will require an amputation of a leg, either above or below the knee. People with diabetes even without PAD may require an amputation due to tissue damage with or without infection. This section focuses on major (above the level of the ankle) unilateral (one leg only) lower limb amputations that were primary procedures (first procedure in a hospital admission). We exclude bilateral amputations (amputations on both legs), amputation for trauma and amputations performed within 30 days of a lower limb revascularisation. Through knee amputations (TKAs) accounted for 3.7% of these procedures, and have been analysed as part of the BKA group.

During 2023, the NVR received details of 3,688 major lower limb amputations, giving a case ascertainment rate of 88% (for England = 90%; for Wales = 100%; for Scotland = 45%; for NI = 100%). Figure 4 provides an overview of the people with PAD who had a unilateral major amputation.

**KEY MESSAGES:** There has been an increase in the number of major lower limb amputations over the last three years among people with PAD, with the number of unilateral procedures increasing from 3,180 to 3,688 per year. This change has implications not only for vascular services but also primary and community care and other allied services (e.g. physiotherapy, rehabilitation, prosthetics). The reasons for the rise are unclear, and merit further research.

**Figure 4: Summary statistics about people who had a unilateral major lower limb amputation**



**Process measures for people undergoing a major lower limb amputation**

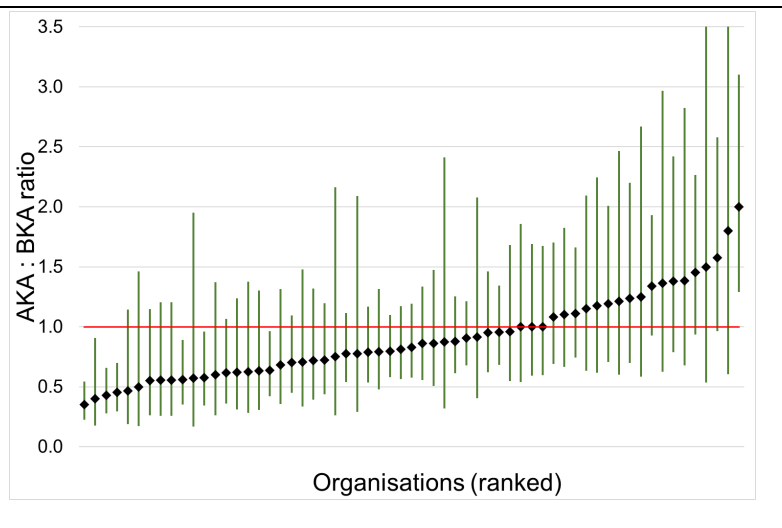
**KEY MESSAGES:** Vascular units should aim to have an above knee amputation (AKA) to below knee amputation (BKA) ratio below one. In 2023, there were 1,695 above knee and 1,993 below knee amputations, giving an overall AKA:BKA ratio of 0.85. Most NHS organisations had a ratio of less than one, but 18 organisations had a ratio above one. Future research should investigate factors associated with high ratios and lead to design of interventions aimed to reduce this ratio. Improvement in outcomes for patients undergoing major lower limb amputation has been identified as a top research priority by vascular patients and clinicians.

All people undergoing elective major lower limb amputation should be admitted and treated in a timely fashion. The overall median time from vascular assessment to major lower limb amputation was 9 days (IQR: 3 to 28 days). The time differed for people who had amputations as elective procedures (median=39 days; IQR: 12 to 98) compared with people who had the procedure following a non-elective admission (median=7 days; IQR: 3 to 19). Among people admitted non-electively, there were 13 NHS organisations where a quarter of people had a waited longer than 30 days.

**Figure 5: Variation across NHS organisations in the ratio of above knee to below knee amputations for procedures performed in 2023.**

The black dots are the AKA:BKA ratios, and the vertical lines indicates the 95% confidence intervals.

Vertical axis truncated at 3.5.



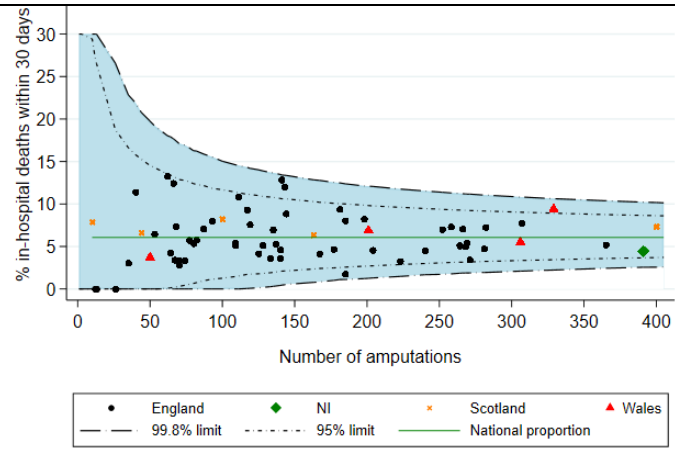
**Outcomes after major unilateral lower limb amputation**

**KEY MESSAGES:** The overall rate of 30-day in-hospital death for major lower limb amputations in 2023 was 5.6%. As expected, it was higher for AKA (7.8%) than BKA (3.9%). Rates of readmission within 30 days were 9.6% for AKAs and 9.1% for BKAs.

All NHS organisations had an adjusted 30-day in-hospital mortality rate that fell within the expected range of the overall 30-day in hospital mortality rate (national average = 6.1% for 3 years from 2021 to 2023).

**Figure 6: Risk-adjusted 30-day in-hospital death rate following major amputation for procedures between January 2021 and December 2023.**

Overall 30-day in-hospital mortality rate was 6.1%

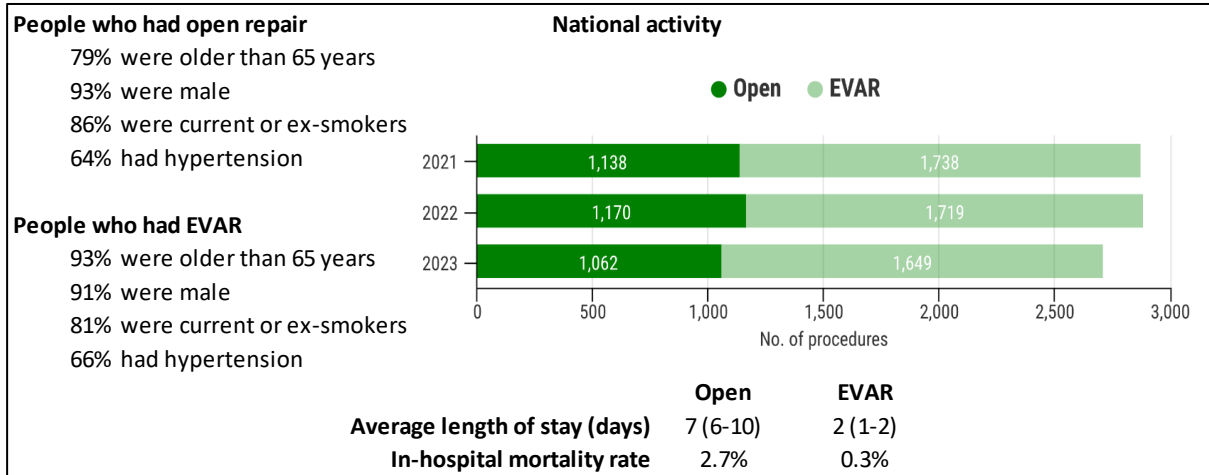


## 4. Aortic Procedures

### Intact infra-renal abdominal aortic aneurysms (AAA)

When aneurysms develop in the aorta, they most frequently occur below the arteries to the kidneys, and are known as infra-renal AAAs. The NVR received information on 2,711 people who had an elective repair of an intact infra-renal AAA in 2023<sup>1</sup>, which corresponds to an estimated case-ascertainment rate for the UK of 88% (for England = 89%; for Wales = 100%; for Scotland = 55%; for NI = 100%). Of these, 61% of procedures were endovascular repair (EVAR) and 39% were open repair (Figure 7). This split between EVAR and open repair varied across NHS organisations – among the 62 NHS vascular units that performed elective AAA repair in 2023, 13 units performed EVAR in over 80% of procedures, while five units performed EVAR in less than 40% of cases.

**Figure 7: Summary statistics about people who had elective repair for intact AAA**



### Time from vascular assessment to elective repair for people with intact AAA

**KEY MESSAGES:** The National AAA Screening Programme (NAAASP) has defined a standard of 8 weeks from the date of referral from the NAAASP to the date of repair. The NAAASP recommends that NHS organisations should meet this standard for at least 80% of patients. Overall, 31% of people underwent repair within 8 weeks (compared with 32% in 2022 and with 42% in 2019 prior to the pandemic). At four vascular units, a quarter of people waited more than 220 days for their procedure in 2023 (Figure 8). Among the 61 NHS vascular units performing elective repairs the median time from assessment to procedure has significantly increased from 69 days in 2019 to 86 days in 2023.

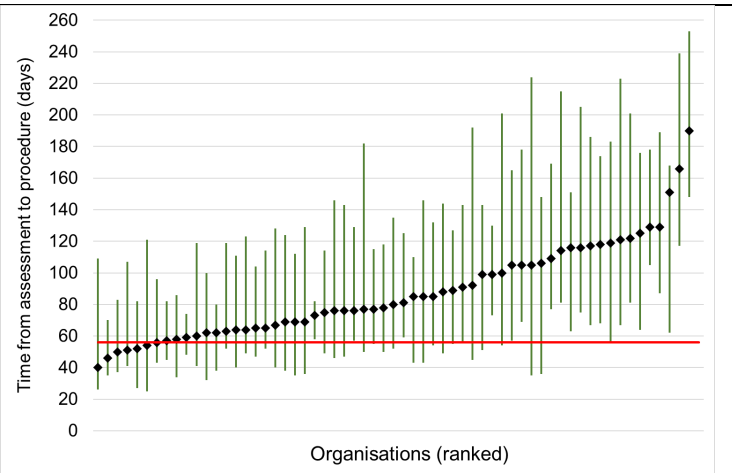
<sup>1</sup> There were approximately 450 emergency intact (non-ruptured) infra-renal repairs in 2023.



In 2023, most people treated for intact AAA in NHS vascular units received care consistent with the standards in the Vascular Society AAA Quality Improvement Framework. Overall, 94% had preoperative CT/MR angiography, 84% had documented formal fitness assessment tests, 98% had a formal anaesthetic review (with 91% done by a consultant vascular anaesthetist) and 87% were discussed at MDT meetings.

**Figure 8: Variation across NHS organisations in the time from assessment to treatment (days) for people who had elective infra-renal AAA repair between January and December 2023.**

The black dot gives median delay, while the green line shows the interquartile range. The red line shows the NAAASP target of 8 weeks (56 days).

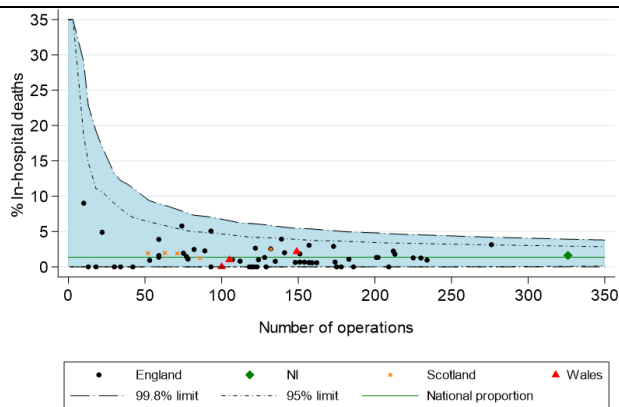


### Outcomes after elective infra-renal AAA repair

**KEY MESSAGES:** NHS vascular units achieved good outcomes after elective infra-renal AAA repair in 2023. The in-hospital postoperative mortality was 2.7% after open repair and 0.3% after EVAR. Rates of readmission within 30 days were 3.9% for open repair and 4.9% for EVAR. Between January 2021 and December 2023, the risk-adjusted in-hospital mortality rates for all NHS vascular units were within the expected range, as defined by the national average of 1.4%.

**Figure 9: Risk-adjusted in-hospital mortality rates after elective infra-renal AAA repair among NHS vascular units (Jan 2021 - Dec 2023).**

Overall in-hospital mortality rate was 1.4%

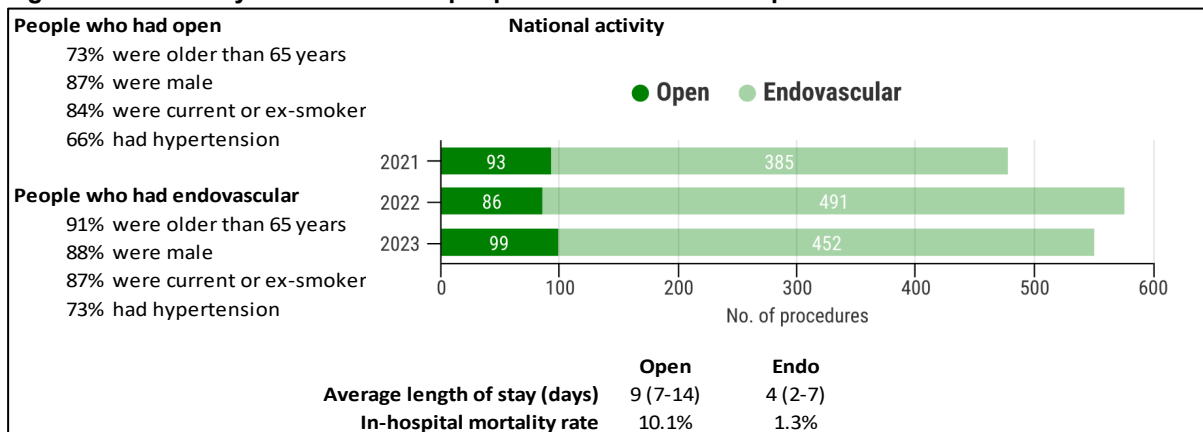


### Other elective repair of aortic conditions

A person can suffer from aortic aneurysms that occur above or around the arteries to the kidneys. It is common to repair the aorta in these situations using endovascular procedures, although open repairs are still indicated in some situations. The two most common procedures are Fenestrated EVAR (FEVAR) and Branched EVAR (BEVAR), which are performed when the aortic aneurysm is close to or involves other arteries branching from the aorta. Some patients who are not suitable for these endovascular approaches must undergo open repair. In 2021-23, there were 1,328 endovascular procedures (which included 1,075 FEVAR and 216 BEVAR procedures) and 278 complex open repair procedures (Figure 10).

Postoperative mortality rates were lower after complex endovascular repairs (1.3%) than after complex open repairs (10.1%). Rates of readmission within 30 days were 7.3% for open procedures and 7.2% for endovascular procedures. The variability in management and outcome of complex aortic conditions merits further research.

**Figure 10: Summary statistics about people who had elective repair of other aortic conditions**



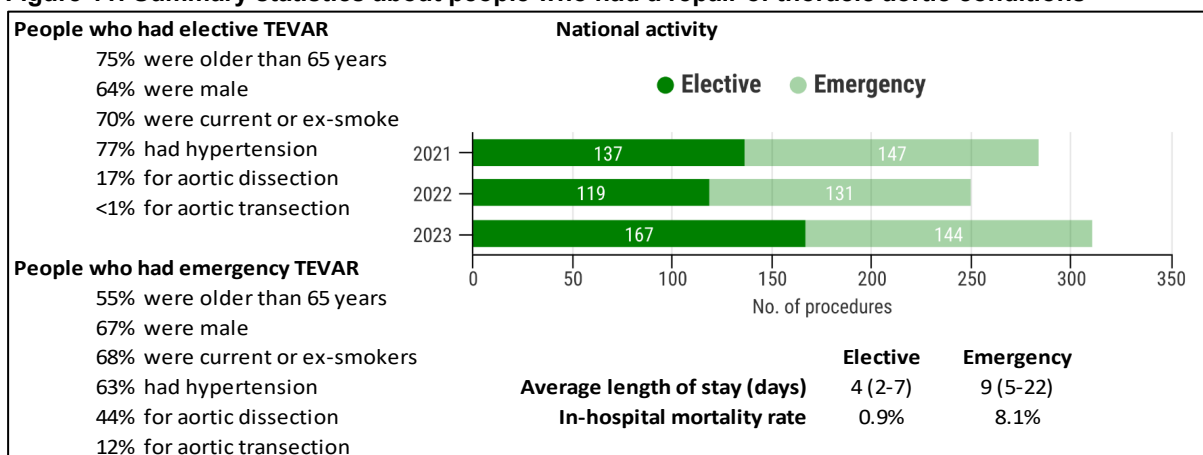
### Repair of thoracic aortic conditions

People who suffer from a thoracic aortic aneurysm or aortic dissection are increasingly treated using a thoracic endovascular aortic repair (TEVAR). This procedure is performed in either a cardiothoracic unit or specialist vascular unit. People may present as an emergency admission and have a TEVAR with minimal delay; in some people, the condition may be less severe and can be safely treated electively. In 2021-23, there were 422 emergency and 423 elective TEVAR procedures performed by 37 UK vascular units (Figure 11).

In 2021-23, in-hospital postoperative mortality rates after TEVAR were 8.1% for emergency and 0.9% for elective procedures performed by UK vascular units. Rates of readmission within 30 days were 8.5% for elective procedures and 8.1% for emergency procedures.

The case-ascertainment rate for TEVAR is not clear as the coding of these procedures in national hospital datasets is insufficiently precise and does not distinguish between procedures performed for aneurysms or dissections. Investigation of optimal coding for endovascular procedures (e.g. TEVAR & FEVAR) to improve accuracy & consistency is required.

**Figure 11: Summary statistics about people who had a repair of thoracic aortic conditions**



### Repair of ruptured abdominal aortic aneurysms (rAAA)

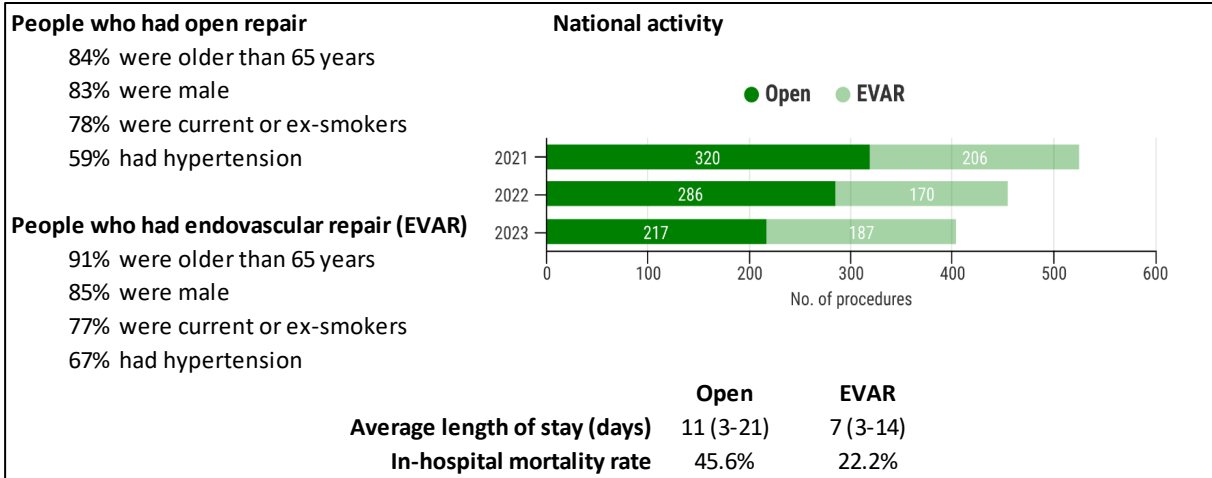
The NVR recorded 1,386 emergency repairs of a ruptured abdominal aneurysm between January 2021 and December 2023, with a fall from year to year (Figure 12). The numbers have decreased significantly since 2014, suggesting that the national AAA screening programmes have had an impact on reducing the number of rAAA procedures (Figure 13). Estimated case ascertainment in 2021-2023 was 88% (for England = 85%; for Wales = 100%; for Scotland = 76%; for NI = 100%). In 2018, around 30% of people with

ruptured AAA had an EVAR procedure. In 2023, this had increased to 46% of procedures. Between 2021 and 2023, a quarter of units performed more EVARs than open repairs for ruptured AAA.

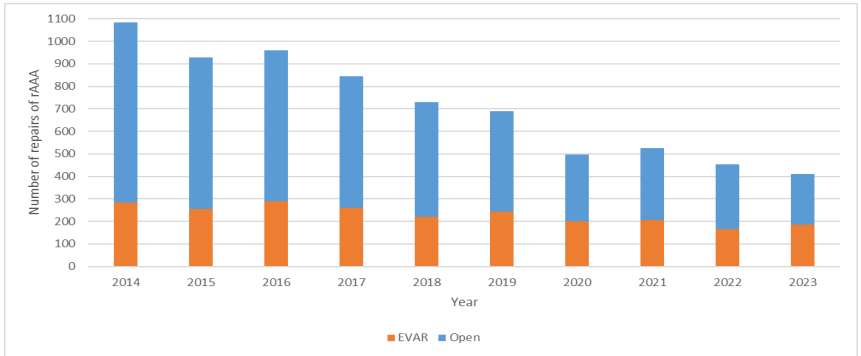
For people with rAAA treated in 2021-2023, the in-hospital postoperative mortality rates for EVAR and open repairs were 22.2% and 45.6%, respectively. We caution against comparing these mortality figures for EVAR and open repair because people who have open procedures may represent the more complex cases that are unsuitable for endovascular repair. Rates of readmission within 30 days were 7.4% for open repair and 7.3% for EVAR.

During the three-year period 2021-2023, all NHS organisations had in-hospital postoperative mortality rates within the expected range after repair for ruptured AAA. The overall national average mortality rate for this period was 36.1%.

**Figure 12: Summary statistics about people who had an emergency repair of ruptured AAA**



**Figure 13: Annual number of emergency repairs for rAAA between 2014 and 2023 recorded in the NVR, by type of repair.**

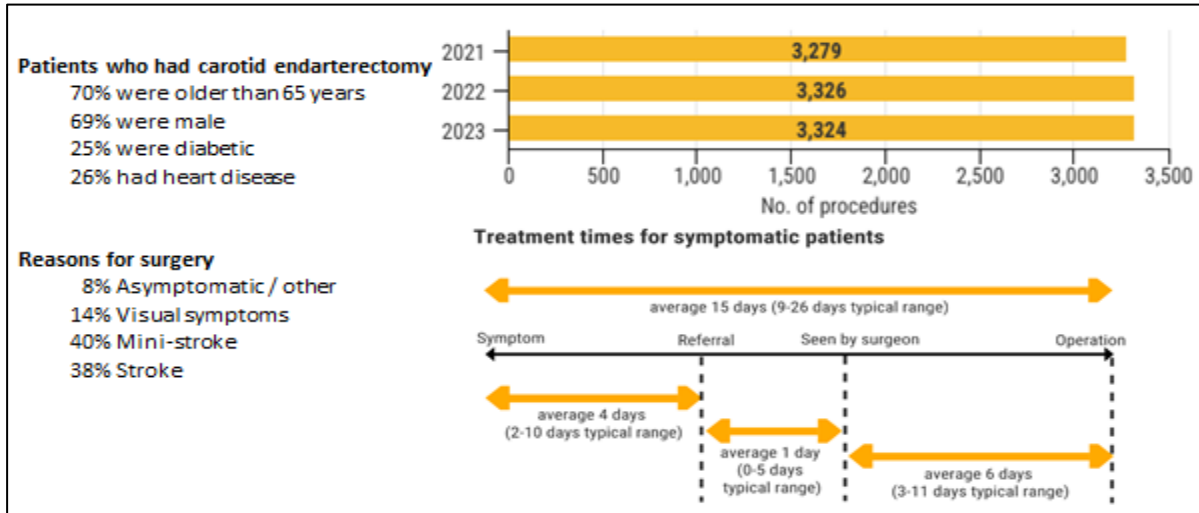


## 5. Carotid endarterectomy

A carotid endarterectomy (CEA) is performed to remove plaque that has built up within the carotid arteries (the main vessels that supply blood to the brain, head and neck), with the aim of reducing the risk of stroke. It is performed in people who have recently experienced symptoms, but it can also be performed in people with no symptoms when the carotid arteries are partially blocked. Symptomatic patients made up around 92% of the CEAs performed in the UK during 2023.

In 2011, there were nearly 6,000 CEAs performed in the NHS. Since then, the number of procedures has fallen substantially (see Figure 14). In 2023, a total of 3,324 CEAs were entered onto the NVR, which corresponds to an estimated case ascertainment for the UK of 93% (for England = 93%; for Wales = 100%; for Scotland = 60%; for NI = 100%). A few vascular units also perform carotid stenting but there are only around 250 of these procedures annually. This section therefore focuses on carotid endarterectomies.

**Figure 14: Summary statistics about people undergoing carotid endarterectomy**

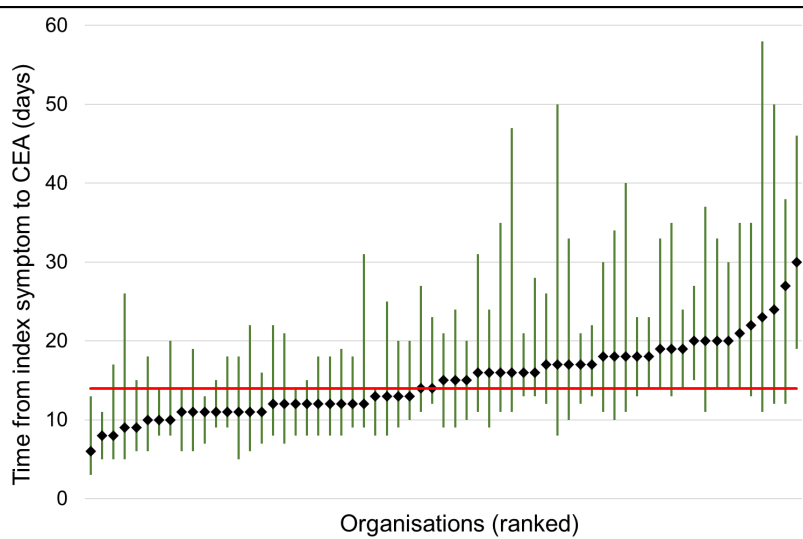


**Time from symptom to carotid surgery**

**KEY MESSAGES:** The time from symptom to carotid surgery is recommended to be within 14 days to reduce the risk of people developing a stroke. The median time from symptom to surgery for people with symptoms who had CEA in 2023 was 15 days and 49% were treated within 14 days. This is slightly worse than in 2022 when the median time was 14 days and 53% of people were treated within 14 days. The 14-day-treatment figure was 56% in 2019 (prior to the pandemic). There is still variation in the waiting times for CEA between NHS organisations (Figure 15). The median time exceeded 20 days at six NHS organisations. Factors associated with increased delays merit further investigation at a local level.

**Figure 15: Variation across NHS organisations in median times from symptom to procedure for CEA performed between January and December 2023**

The black dot gives the median delay, while the green lines show the interquartile range. The red line shows the national target of 14 days.



**Outcomes after carotid endarterectomy**

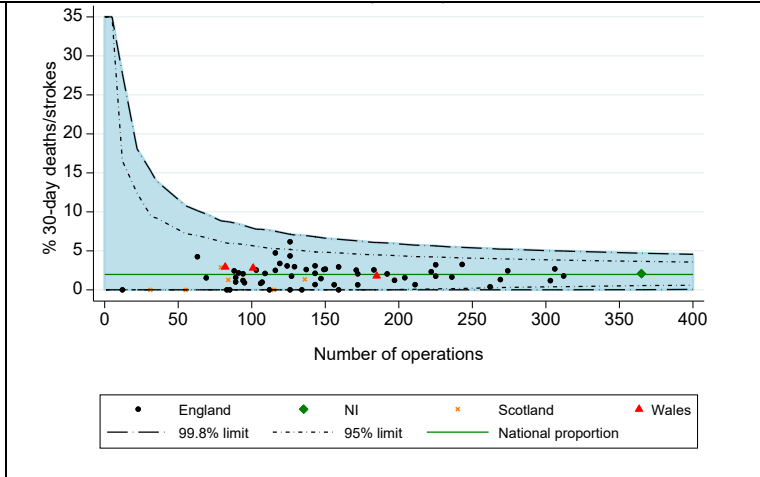
**KEY MESSAGES:** Among the 3,324 people undergoing CEA in 2023, complication rates were:

- 1.9% of people died and/or had a stroke within 30 days (95% CI 1.5-2.4)
- 1.7% of people had a cranial nerve injury during their admission (95% CI 1.3-2.2).

Rate of readmission within 30 days was 4.2%. Average length of stay was 2 days (IQR: 1 to 4 days). For CEAs performed between 2021 and 2023, all NHS organisations had an adjusted 30-day mortality / stroke rate after surgery within the expected range of the national average (2.0%) (Figure 16).

**Figure 16: Risk-adjusted rates of stroke / death within 30 days for NHS organisations that performed carotid endarterectomy (2021 to 2023).**

The national average in these years was 2.0%



## 6. Commentary

The State of the Nation report highlights a number of important aspects of vascular care across the UK. Firstly, the mix of procedures continues to change. Over the last three years, the number of procedures for elective infra-renal AAA repair and repair of ruptured AAA have decreased. The number of carotid endarterectomies has remained stable since 2021 but is almost half of the number performed in 2014. A greater number of lower limb endovascular revascularisations are being entered onto the NVR, but the case-ascertainment rate could be improved. NHS vascular units and vascular networks should aim to identify barriers and facilitators to the efficient collection of data on endovascular revascularisation, particularly for day case procedures. Any units (arterial centre or non-arterial centres) performing lower limb endovascular procedures should enter them on the NVR. A new [NVR outlier policy](#) will operate from 2025, and units that do not submit any data on eligible procedures will be considered an outlier. The new web-based NVR dashboard will contain a particular focus on case ascertainment for each procedure type. We plan to write to all NHS trusts and Local Health Boards with low case ascertainment rates.

The increasing number of major lower limb amputations observed last year continued into 2023 (case ascertainment rates have remained the same). Research to investigate and explain these findings is urgently required. Potential explanations which merit further investigation include the increasing prevalence of diabetes, challenges in the prevention and management of diabetic foot conditions and the delivery of timely revascularisation. These findings also have implications for rehabilitation and community services.

The times from vascular assessment and admission to treatment for lower limb revascularisation, AAA and CEA have all increased within the last year (which were all higher than in 2019 in the pre-pandemic period), although there is variability across the UK. Urgent action is required, particularly for those organisations with the most significant delays. QI projects to improve referral pathways, capacity and working arrangements across vascular surgery, interventional radiology and anaesthesia are essential. For people with CLTI, services should (i) ensure times to revascularisation do not depend upon whether people initially present at a spoke or hub hospital, and (ii) ensure endovascular procedures are performed as day cases where possible.

The outcomes following all vascular procedures remained similar to last year. The mortality rate for open repair of rAAA is high at 45.6%, but these may represent the more complex cases that are unsuitable for EVAR. However, vascular networks should ensure there is access to EVAR for people with rAAAs and this may require (i) reviewing working arrangements across vascular surgery, interventional radiology and anaesthesia, (ii) having hybrid operating theatres available on 24/7 basis, (iii) developing teams to deliver EVAR for rAAA out of hours, which may include EVAR trained clinicians, nursing staff and radiographers with vascular anaesthetic support.

The interpretation of figures on all open and endovascular aortic procedures would benefit from improved coding. This would be particularly helpful for TEVARs, in order to distinguish between those performed for aneurysms or dissections, and also for FEVARs for juxta or supra renal aneurysms.

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**The Royal College of Surgeons of England** is an independent professional body committed to enabling surgeons to achieve and maintain the highest standards of surgical practice and patient care. As part of this, it supports Audit and the evaluation of clinical effectiveness for surgery. Registered charity no: 212808

The RCSEng managed the publication of the 2023 State of the Nation Report.



**The Vascular Society of Great Britain and Ireland** is the specialist society that represents vascular surgeons. It is one of the key partners leading the audit. Registered charity no: 1102769



**The British Society of Interventional Radiology** is the specialist society that represents interventional radiologists. It is again, one of the key partners leading the audit. Registered charity no: 1084852

## Commissioned by



The National Vascular Registry is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). HQIP is led by a consortium of the Academy of Medical Royal Colleges, and the Royal College of Nursing. Its aim is to promote quality improvement in patient outcomes, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales. HQIP holds the contract to commission, manage, and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations and crown dependencies [www.hqip.org.uk/national-programmes](http://www.hqip.org.uk/national-programmes)

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### **Please cite this report as:**

Watson S, Johal A, Li Q, Birmbili P, Cromwell DA, Williams R, Harding J, Bicknell CD, Pherwani AD. *National Vascular Registry: 2024 State of the Nation Report*. London: The Royal College of Surgeons of England, November 2024.