

## North Central London Arterial Vascular Services Commissioning Intentions – May 2011

### EXECUTIVE SUMMARY

Cardiovascular disease has a huge impact on the UK and the NHS London. It is therefore incumbent upon all stakeholders to ensure that services are equitably and efficiently provided and of high quality. This document provides guidance on future commissioning arrangements for a new networked arterial vascular service in North Central London (NCL) migrating to a single hub and supported by spoke services. It summarises:

- the case for change,
- model of care and
- the framework developed to encourage the correct system behaviours in order to achieve the intended benefits.

The enclosed analysis indicates that consolidating some existing services onto one site within the NCL area proposes a more clinically effective route for the provision of these services. Public responses to the *Case for Change* Cardiovascular project engagement consultation indicates broadly based public support for such an initiative. The measurable improvements achieved by the proposed reorganisation are summarised as follows:

- All emergency and elective vascular surgery will be undertaken by a consultant vascular specialist or by staff under their supervision. All vascular surgeons will undertake sufficient operations per annum to maintain competence.
- A vascular specialist and support staff with competences in interventional radiology will be available for all elective and emergency vascular radiology procedures.
- There will be a reduced aortic aneurysm repair length of stay, due to increased uptake of endovascular aneurysm repairs.
- There will be a reduced mortality rates for Vascular Surgery
- There will be an increased commitment to research
- There will be an improved patient experience

The NCL Vascular Working Group proposes that in NCL, non-emergency lower limb surgery should continue to be performed at the spoke organisations. The rationale for continuing lower limb bypasses surgery at the Spoke Organisations being:

- the *Case for Change* clinical reasoning behind the movement of the service to a centralised “hub”, in terms of altering morbidity/mortality rates, was not as strong for this avenue of surgery,
- The group believe that, in order for the NCL Vascular Service to offer the whole sector a gold standard service, it would be beneficial for the spoke organisations to remain viable and quality feeder organisations. The treatment of elective lower limb bypass work at the spokes would not only ensure the continuation of a viable vascular service, but would also maintain a high skill base, which in itself will maintain quality outcomes.
- The dissemination of lower limb work to the spokes will prevent a “flooding” of work to the hub
- The model proposed would alleviate the need for patients to travel further distances for day surgery procedures
- The proposed joint MDT meetings would also ensure the maintenance of a high quality elective lower limb service at the spokes, reducing the need for

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## 1. Introduction

### 1.1. Rationale for developing a new strategic approach to vascular health

Cardiovascular disease has a huge impact on the UK, with more than four million patients affected, costing the country around £30 billion annually.<sup>1</sup> The premature death rate may be falling, but cardiac and vascular conditions remain the leading cause of death in the UK. Heart disease, stroke, kidney disease and diabetes currently affect the lives of over four million people in England, cause 170,000 deaths a year, and are responsible for one fifth of all hospital admissions.<sup>2</sup> In 2007, over 65,000 people in the UK had surgery for a problem relating to vascular disease. The prevalence of cardiac and vascular disease will increase as the population ages, as risk factors increase, and as more people survive premature cardiac and vascular events. The major risk factors for cardiac and vascular diseases, such as smoking, abnormal blood lipid values and hypertension, are increasingly better prevented or treated but there is room for improvement. Some risk factors, particularly obesity and lack of physical activity, are increasing.<sup>3</sup>

The document *Cardiovascular Project: The case for change; an analysis of London's provision of Cardiac Surgery, NSTEACs and Vascular services*, was published in August 2010<sup>4</sup> based on the London review. This detailed the conclusions arrived at by a working party led by Prof Matt Thompson, Vascular Surgeon at St Georges Healthcare Trust. According to the working party, UK patients have significantly worse mortality outcomes after an abdominal aortic aneurysm repair compared with other European countries, are less likely to be treated using new technologies and have among the longest lengths of stay in hospital in western Europe. In London, the standard of care for patients with acute cardiovascular disease varies across the capital. Some patients are being treated in hospitals that do not regularly perform complex surgical procedures, despite clinical evidence showing this does not give the best outcomes. Both The Vascular Society<sup>5</sup> and NCEPOD<sup>6</sup> had also recently published recommendations around emergency vascular provision. The Vascular Society stated that the best outcomes are achieved in specialist vascular units with dedicated vascular teams available 24 hours a day, seven days a week. The documents also emphasised that it is in the best interests of patients that hospitals should come together to provide high volume units and that the NHS in London needs to guarantee patients equal access to the treatment in order that they get the highest possible standard of care for their condition.

Consequently, North Central London has been tasked to improve treatment, care and outcomes for the local population who suffer cardiovascular disease. According to data collected by NCL in 2010, (see Appendix 3) the sector is

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<sup>1</sup> <http://www.londonhp.nhs.uk/publications/cardiovascular/>

<sup>2</sup> Ibid

<sup>3</sup> Lyratzopoulos, 2006

<sup>4</sup> <http://www.londonhp.nhs.uk/publications/cardiovascular/>

<sup>5</sup> <http://www.library.nhs.uk/Vascular/ViewResource.aspx?resID=304457>

<sup>6</sup> <http://www.ncepod.org.uk/2005report2/Downloads/AAAorgdata.pdf>

already achieving good standards of care e.g. Crude in-hospital mortality rate of 2.7% (Target = 4%). However, in order to further improve all measures, a strategic approach is needed to further prioritise and implement measures to continue to improve the service.

## **1.2. Types of vascular surgery under discussion**

The type of vascular surgery a patient receives depends on the individual needs of the patient. Surgery is available to treat varicose veins, transluminally re-open or surgically bypass regions of blocked or diseased blood vessels, repair aneurysms and remove built-up fatty deposits. (See Appendix 4) Vascular surgery is a specialty in which close co-operation and teamwork between surgeon, radiologist, anaesthetist and multidisciplinary teams, is essential, to ensure optimal management and patient outcome.<sup>7</sup>

## **2. Vascular project governance**

The cardiovascular project for London was supported by Caroline Taylor, Chief Executive, NHS Croydon (now CEO of NCL Cluster), as the Senior Responsible Officer. It was then divided into three clinical areas and had a clinical lead nominated to develop that area of work. The Vascular Surgery work stream was led by Prof Nick Cheshire, Vascular Surgeon at Imperial College, London. Following the publication of the *Case for Change* document, NHS London nominated the sectors (now clusters - in this case NHS NC London) to implement the changes recommended therein, For the purposes of this Project, therefore, the NCL Vascular Working Group reports to the NCL Board. The CEO and medical director of NCL wrote to providers in NCL last September asking them to find a co-operative solution to the London-wide proposals and 3 early meetings were held with providers, NCL chaired by Professor David Fish, MD of UCLP.

Consequently, the commissioning intentions for NCL were developed from discussions with the NCL Vascular Group (see 2.1). The project is clinically- led and has a nominated clinical lead, Dr. Nick Losseff, NCL Medical Director for Secondary Care and SRO for Vascular in NCL. Furthermore, the Project has been supported by UCLP<sup>8</sup> and North Central London Cardiac & Stroke Network, and it is proposed that they will continue to support implementation. Figure 1 documents the NCL Vascular Project reporting structure. (see over)

### **2.1. Project strategy adopted by the NCL Vascular Group**

This document has been prepared by the NCL Vascular Group. In order to facilitate the delivery of this document, early communication channels were set up with Clinicians, Managers and patient groups. Any challenges could therefore be identified early in the process, which should ensure the implementation process will run more smoothly. To this effect, four groups have been set up:

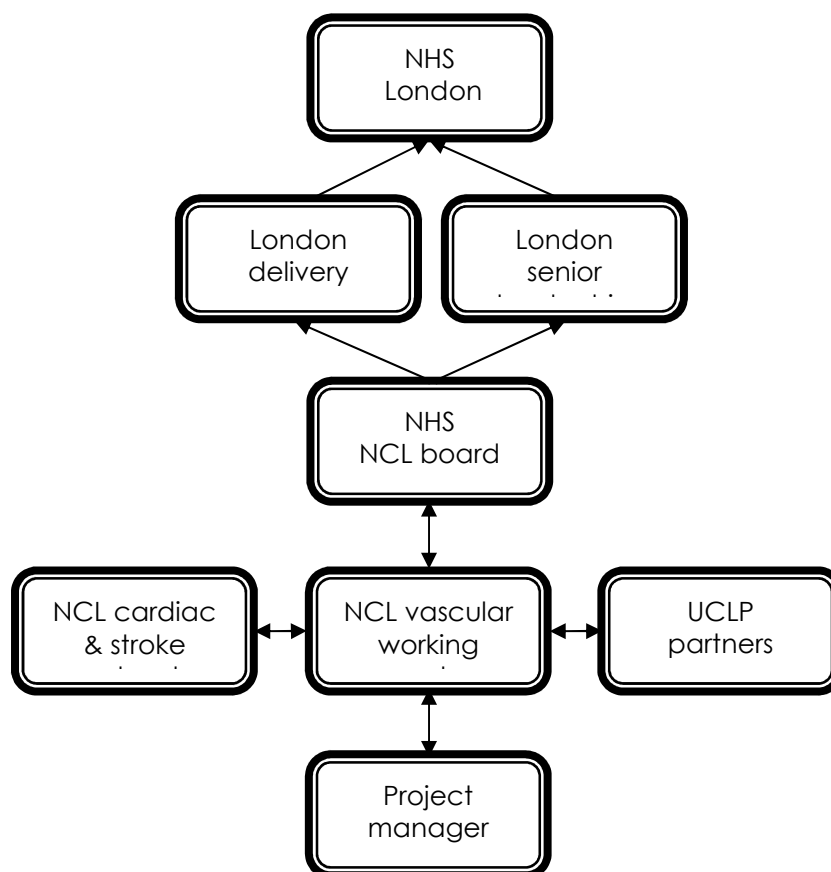
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<sup>7</sup> The Vascular Society of Great Britain & Ireland. (2007). ([http://www.bsir.org/files/File/C\\_Provision\\_of\\_Emergency\\_Vascular\\_Services\\_Final\\_Doc.pdf](http://www.bsir.org/files/File/C_Provision_of_Emergency_Vascular_Services_Final_Doc.pdf))

<sup>8</sup> <http://www.uclpartners.com/>

1. A Vascular Working Party, consisting of two Surgical representatives and one Radiological representative from each site, together with the Project Manager, met weekly;
2. A wider NCL Vascular Group, consisting of senior and regular clinicians, radiologists, NHS Provider Managers and UCLP met monthly, to discuss and ratify decisions from the working party;
3. A Data Group, made up of one representative from each site (nominated by the wider group), met to ensure data collection standards were robust and timely;
4. Initially, patient representatives were consulted via the NCL Cardiac & Stroke Network Cardiovascular patient Advisory Panel, which meets every 6 weeks. (Currently, no Vascular Panel exists.) A representative was then invited to the initial meeting with Commissioners, GPs etc and henceforth will attend the Vascular working party meetings.

**Figure 1: Governance Structure NCL Vascular Project**



### **3. The Case for Change**

According to *Case for Change*, in 2010, over 4,000 people in London underwent an abdominal aortic aneurysm repair, carotid endarterectomy, lower extremity

arterial bypass or limb angioplasty procedure. In North Central London, in 2010, 99 carotid endarterectomy procedures were carried out (82 symptomatic), 222 abdominal aortic aneurysm repairs (184 Elective and 38 Emergency), 523 limb angioplasties and 137 lower extremity arterial bypasses. (See Appendix 3) These figures have been increasing, due largely to changes in population demographics and is set to grow more rapidly following the recommendation of the NHS National Screening Committee that all men aged 65 should be screened for abdominal aneurysms.

Around 6,000 deaths are caused by a ruptured abdominal aortic aneurysm each year in England and Wales, accounting for two per cent of deaths in males over 65.<sup>9</sup> Currently, UK patients have significantly worse mortality outcomes after an abdominal aortic aneurysm repair compared with other European countries, are less likely to be treated using new technologies and have among the longest lengths of stay in hospital in Europe.<sup>10</sup> Consequently, *Case for change* identified several issues that need to be addressed in order to improve outcomes for patients undergoing vascular surgery, including inappropriate distribution of surgery, poor uptake of endovascular repair and wasted hospital resources. The NCL Vascular Group aims to address these issues and deliver recommendations, developed by consensual agreement, by March 2012.

### 3.1. Public Response to questions on the vascular surgery project

In *Cardiovascular project engagement*, the pan-London consultation on the proposed framework, respondents were asked three questions in relation to vascular surgery. 89% of respondents agreed with the first question “are you in favour of creating specialist vascular units?” Specific responses are displayed in Figure 2 below.

Secondly, respondents were asked about the number of arterial vascular sites that there should be across London. 81% agreed that arterial vascular surgery should be centralised onto five sites across London. All responses are displayed in Figure 3 below.

Finally, respondents were given a free text box to write about which services should be provided locally. The vast majority of these responses mimicked what was proposed in the model of care.

It is anticipated that at the next stage of the project, when individual bidding Trusts prepare their business cases to become a “hub” organisation, patient's feedback contained in the document *Cardiovascular Services: The Patient Perspective*<sup>11</sup> will incorporate recommendations contained therein as appropriate.

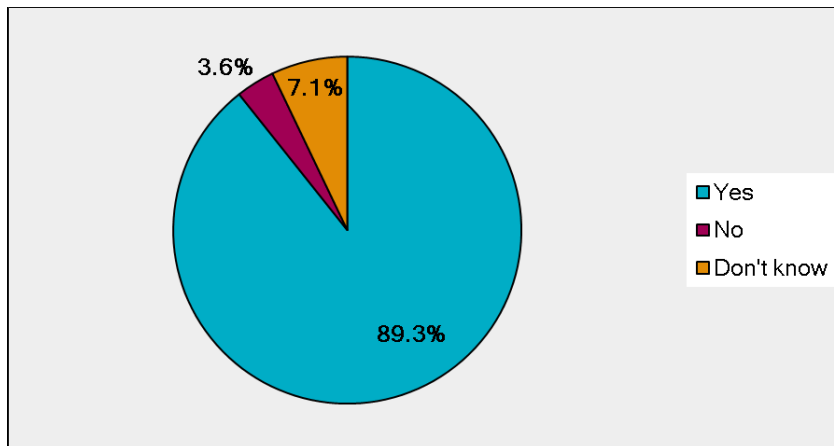
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<sup>9</sup> Holt, P. J. E., Poloniecki, J. D., Michaels, J. & Thompson, M. (2007). *An epidemiological study of the relationship between annual surgical volumes and outcomes from abdominal aortic aneurysm surgery in the UK from 2000 to 2005*. *British Journal of Surgery*, 94: 411-418)

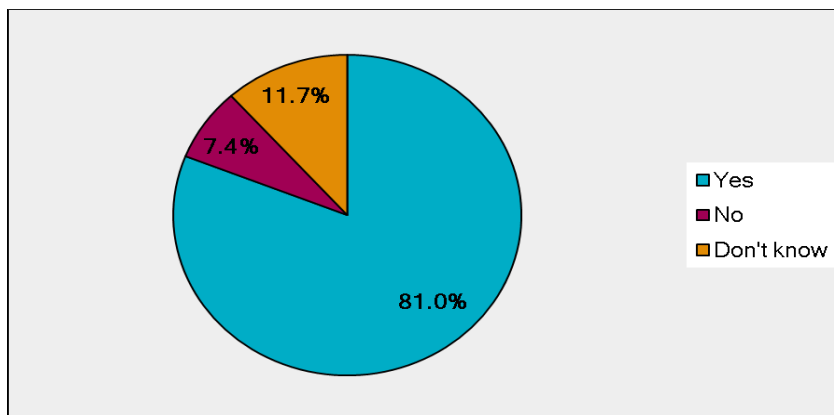
<sup>10</sup> <http://www.ncepod.org.uk/2005report2/Downloads/AAAorgdata.pdf>

<sup>11</sup> <http://www.londonhp.nhs.uk/wp-content/uploads/2011/03/Cardiovascular-services-the-patient-perspective.pdf>

**Figure 2: Do you agree that the clinical evidence provides a compelling case for change for vascular surgery?**



**Figure 3. Do you agree that arterial vascular surgery should be centralised onto five sites across London?**



#### **4. Model of Care and Service Standards**

##### **4.1. Overall Aims of re-organised Vascular Service**

At the heart of the cardiovascular project is a desire to improve the quality of London's vascular service to patients. The project aims to achieve better outcomes for patients by making vascular surgery in the capital the best in the world. As well as improving outcomes, quality also means making the best possible use of the resources available to the NHS. Time spent in hospital following surgery should be as short as is clinically appropriate, allowing patients to return home sooner. NCL providers and commissioners considered the best



way forward for ensuring a quality service for the local population and consequently agreed the following aims and objectives:

- As the best outcomes are achieved in specialist vascular units with dedicated vascular teams available 24 hours a day, seven days a week, it is therefore in the best interests of patients that hospitals should come together to provide high volume units. Currently in London, three-quarters of abdominal aortic aneurysm work is performed in six hospitals and the rest is spread across 13 hospitals. A “hub” and “spoke” model is proposed for NCL, with complex and difficult procedures being carried out at a central unit. Service specifications should be developed to ensure a gold-standard service at both hub and spoke organisations.
- In addition, the Vascular Service in NC London should ensure that it uses modern technology more frequently and use resources more effectively by working in multidisciplinary teams, including interventional radiology. Evidence suggests that the uptake of new technologies can be enhanced, clinical outcomes improved, quality developed and efficiency optimised, if arterial services in London are undertaken in considerably fewer high volume units and venous services continue locally.<sup>12</sup> NB: There is evidence that patients with a ruptured aortic aneurysm can be transferred safely for journeys of more than an hour by road or over 25 miles.<sup>13</sup>
- Vascular surgery should not be considered or take place unless all essential elements of perioperative care are available.
- There should be better integration of the patient pathway across health and social care.
- The need for service change should be accompanied by the opportunity for developing a patient centred approach. People with vascular disease, together with their carers and family, should be centrally involved and empowered. It is also an opportunity to redefine local services and ensure that a high quality, effective service is attained at all vascular sites.
- Alongside clinical care, the Vascular Service in NCL should show commitment to research to improve the management of patients with vascular conditions and work towards the prevention and cure of vascular diseases. Both the centralised and local vascular units should contribute to high quality translational research and patients at all units must have access to clinical trials.
- There should be an enhancement of the patient experience, based on the recommendations outlined in *The Patient Perspective* – a paper written by the cardiovascular patient panel in March 2010.<sup>14</sup>

## 4.2 Project Objectives

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<sup>12</sup> <http://www.ncepod.org.uk/2005report2/Downloads/AAAorgdata.pdf>

<sup>13</sup> Ibid.

<sup>14</sup> <http://www.londonhp.nhs.uk/publications/cardiovascular/>



NCL providers and commissioners agreed the following objectives should be delivered by the reorganised service:

- All service providers in North Central London should meet the commissioning requirements as outlined by NHS London. The current commissioning standards are for units to complete:
  - 50 or more abdominal aortic aneurysms (AAAs)
  - 30 or more carotid endarterectomies
  - 50 or more percutaneous angioplasties
  - 50 or more open revascularisation surgeries (with an aim for greater proportion of angioplasty to bypass)
- All emergency and elective vascular surgery should be undertaken by a consultant vascular specialist or by staff under their supervision. All vascular surgeons should undertake sufficient operations per annum to maintain competence.
- A vascular specialist and support staff with competences in interventional radiology should be available for all elective and emergency vascular radiology procedures.
- A reduced aortic aneurysm repair length of stay due to increased uptake of endovascular aneurysm repairs
- Reduced mortality rates for Vascular Surgery
- An increased commitment to research
- An improved patient experience as evidenced by regular patient surveys and feedback
- The development of a Vascular Patient panel
- The aim of the NCL Vascular Project working party is to start to implement changes determined by March 2012, in a way that is essentially cost neutral.

#### **4.3. Proposed Model for a Centralised Arterial Vascular Surgery Hub**

A service model has been developed in consultation with the NCL Vascular Group:

##### **4.3.1. Procedures**

A centralised arterial vascular surgical hub unit should be commissioned to exclusively undertake the following procedures on both an emergency and elective basis:

- Aortic surgery (both open and endovascular surgery should be commissioned)
- Carotid endarterectomy surgery and stenting
- Thoracic outlet surgery

- Complex visceral & renal Interventions
- Vascular malformations should be discussed centrally and treated locally or centrally as appropriate
- Emergency Lower Limb Surgery/Angioplasty
- Lymphatic Surgery

#### 4.3.2. **Contracts**

All vascular surgeons will have access and formal contracted sessions at the hub and spokes as appropriate to their job plan. The hub hospital should provide appropriate clinical, managerial and administrative support to all surgeons to assist them in treating their patients and fulfilling their contractual obligations.

#### 4.3.3. **Emergency service**

The hub unit should offer an emergency arterial vascular service on a seven day a week, 24 hour basis. Patients that present at a local unit who require emergency, arterial surgery should be transferred to the centralised hub unit. Local protocols will need to be put in place between each local vascular unit and the London Ambulance service to ensure the safe and timely transfer of patients.

#### 4.3.4. **Role in the network**

Hub units would have overall responsibility for coordinating all arterial surgery to take place at the unit, including referrals and transfers from local units. This would also involve coordinating surgeon rotas across the network so they can attend the unit for elective and emergency surgical lists.

It would be the responsibility of the hub unit to monitor standards of all vascular services and units across the network. These standards would include:

- Audit data collections and analysis.
- Standardisation of administrative and clinical practices across the network (for example, discharge protocols and intervention strategies).

Results, analysis and submission of correctly coded data for the entire network to the Department of Health, NHS London (London's Strategic Health Authority) and National Vascular Database. (See Appendix 1 for further details)

### 4.4. **Proposed Model for Local Arterial Vascular Surgery Spoke Units**

A service model has been developed in consultation with the NCL Vascular Group:

#### 4.4.1. **Procedures**

NCL Vascular Working Group proposes that in NCL, non-emergency lower limb surgery should continue to be performed at the spoke organisations. The rationale for continuing lower limb bypasses surgery at the Spoke Organisations being:

- 1) The *Case for Change* clinical reasoning behind the movement of the service to a centralised "hub", in terms of altering morbidity/mortality rates, was not as

strong for this avenue of surgery as for e.g. carotid or aortic procedures. The same went for Vascular Society recommendations.

- 2) The group believe that, in order for the NCL Vascular Service to offer the whole sector a gold standard service, it would be beneficial for the spoke organisations to remain viable and quality feeder organisations. The treatment of elective lower limb bypass work at the spokes would not only ensure the continuation of a viable vascular service, but would also maintain a high skill base, which in itself will maintain quality outcomes.
- 3) The dissemination of lower limb work to the spokes will prevent a “flooding” of work to the hub
- 4) The model proposed would alleviate the need for patients to travel further distances for day surgery procedures
- 5) The proposed joint MDT meetings would also ensure the maintenance of a high quality elective lower limb service at the spokes, reducing the need for centralisation.

This arrangement will be under constant review, with a full benefit analysis one year post hub/spoke arrangement being put in place.

Consequently, the spoke units should provide the following services:

- Varicose vein surgery
- Any other day-case venous vascular surgery
- Lower Limb revascularisation and bypass surgery
- Lower Limb angioplasty and stenting
- Amputation
- Vascular malformations should be discussed centrally and treated centrally or locally as appropriate

In addition, spoke units should continue to deliver a full range of vascular diagnostics and outpatient services. Vascular surgeons based at the local units should continue to provide an outpatient service and the full range of vascular diagnostics. They should have their own regular operating list at the central unit, onto which they can carry out the surgery for patients from the local unit. For the majority of patients this means that any surgical work-up will be undertaken locally and they will travel to the central unit for their complex surgery.

GPs should continue to refer their patients to the hospital of choice in the usual way. Once referred, patients would be seen on an outpatient basis in the usual way for any venous surgery. Local units would be responsible for triaging and transferring elective arterial patients to a central unit, where appropriate.

#### **4.3.2. Emergency services**

In conjunction with the hub unit and London ambulance service, spoke units should develop protocols so that any patients presenting who require emergency arterial surgery can be safely transferred to the hub.

#### **4.4 Quality service Standards**

In order to define a gold – standard vascular service, Quality Standards have been developed in consultation with the Vascular Working group (See Appendix 1) and are based on the Vascular Society’s guidance ‘The Provision of Services

for Patients with Vascular Disease 2009' and other relevant national guidance. Input has also been received from patient groups, via the NCL Cardiac & Stroke Network Patient Cardiac Advisory Panel. The next stage of the process will include the development of full service specifications.

The quality standards have been developed in such a way that they will be suitable for use in service specifications and in quality reviews. The Quality Standards aim to follow the patients' pathway and to ensure that the highest possible quality of care is available at each stage of the patients' journey and help to answer the question "If I walk into a vascular service today, how I will know that best-practice guidance has been implemented?" For ease of measurement, the Standards have been colour coded to reflect those that apply to both Hub and Spoke organisations and those that refer specifically to the Hub.

It would be the responsibility of the hub unit to monitor standards of all vascular services and units across the network and report regularly to commissioners. This would provide assurance that the standards and improvements are being delivered.

#### **4.5 Co-dependencies for the Vascular Service in NCL**

The Vascular Society's 2009 report *The Provision of Services for Patients with Vascular Disease*<sup>15</sup> outlined the essential components of a vascular service and supports the view that additional specialty services improve the quality of emergency and elective vascular services for patients. Other studies have also suggested that collocating support services contributes to improved patient outcomes at high volume hospitals.<sup>16</sup> However, at present, according to *Case for Change*, although vascular surgery has demonstrable dependencies on other services, these services are not always located in the same hospital or, in some cases, in the same trust.

The London cardiovascular project states that the absolute co-dependencies (same site) for arterial vascular surgery are cardiology (inc PCI), general intensive care, specialist anaesthesia, interventional radiology, filtration and diabetes services. Same trust co-dependencies include cardiac surgery, plastics, neurology or neurosurgery and general surgery. Absolute co-dependencies for allied specialities (on vascular surgery) are all types of cardiac surgery including TAVI. No one site in NCL fulfils these requirements and there is also the local issue of relationship of the HASU to a vascular service.

Due to the current state of flux in the NHS and taking into account possible changes in service location recommended by other work streams in the Cardiovascular Project, the NCL Vascular group suggest that the co-dependencies required ultimately by the service should be determined locally and at the next stage of the process, where the site proposing to host a vascular hub develops clinically acceptable and assured procedures for addressing the co-dependent issues. An analysis will need to be made, regarding not only

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<sup>15</sup> [The Provision of Services for Patients with Vascular Disease 2009, The Vascular Society](#)

<sup>16</sup> (1) [Association of Surgeons of Great Britain and Ireland. \*Emergency General Surgery: the Future. A consensus statement.\* London 2007.](#) ; (2) [Association of Surgeons of Great Britain and Ireland. \*The impact of the European Working Time Directive on Delivery of Surgical Services: a consensus statement.\* London 2008.](#); (3) [National Aortic Aneurysm Screening Programme: \*Standard Operating Procedure 2008\*](#)

which services individual units believe they will require access to (and how closely), but which services have a dependency upon the Vascular service itself. Individual business cases will have to identify what is currently available in their Trust and state what their local trust strategic plans are to develop those that are not currently available and within what timescales.

In essence, according to the Vascular Society Report (2009)<sup>17</sup>, the location and dependency of services to be considered for a vascular hub should be: Interventional radiology; Cardiology; Cardiac Surgery; Diabetic services; Dermatology, Clinical Laboratory Services; Neurology; Renal Services and Plastic Surgery.

## **5. Financial Implications**

The *Cardiovascular project: Financial analysis*, published in August 2010<sup>18</sup> details a summary of the direct costs to commissioners and providers of implementing the recommendations in the model of care. The financial modelling was based on relocating arterial surgery to the current highest volume unit in each of the five sectors. Based on the modelling, there would be an overall projected cost to commissioners, due to changes in market force factors of the providers. (In most cases high volume units occupy central London locations, which incur a higher market force factor cost relative to those units in outer London). The *Cardiovascular project: Financial analysis* calculated whether there would be a cost saving or cost incurred for the proposed relocation of services to one central hub. The calculations were based on 2007/8 HES data and showed that there would be a £10k cost incurred for the relocation for NC London, for example, if arterial surgery were relocated to the highest volume unit in the sector.

No specific modelling has yet been carried out for the proposed NCL changes, especially considering it is proposed that the Lower Limb Surgery should continue to be provided at the Spoke Units. This will be initiated at the next stage of the process.

There are also likely to be financial implications resulting from the differences in prices for critical care, which do not form part of the national tariff but are negotiated locally. Whilst market force factors only impact on national tariff prices, there can be a similar theme in pricing for non-tariff activity. There is insufficient robust data available for critical care to inform this paper and this will be considered at a local level at the next stage of the process. Although some providers will lose some income as a result of activity being relocated, there will be a reduced bed requirement and therefore an opportunity for provider savings on workforce and equipment costs.

### **5.1 Increase uptake of endovascular aneurysm repair**

The model predicts an increased uptake of endovascular aneurysm repair procedures rather than open repair techniques for abdominal aortic aneurysm surgery, as a result of centralisation of arterial services. In essence, Endovascular

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<sup>17</sup> [The Provision of Services for Patients with Vascular Disease 2009, The Vascular Society](#)

<sup>18</sup> <http://www.csl.nhs.uk/Publications/Documents/Cardiovascular%20Finance%20Paper.pdf>

aneurysm repair requires less critical care compared with open surgery, but incurs costs for non-tariff devices (stents). For the next stage of the modelling, the 2010 NCL data should be used to determine true cost implications.

### **5.2 Reduced aortic aneurysm repair length of stay due to increased uptake of endovascular aneurysm repairs**

Endovascular aneurysm repair is associated with a lower length of stay compared with open repair techniques. Patients receiving abdominal aortic aneurysm repair surgery using endovascular surgery have a lower length of stay compared to those receiving open surgery. Increasing usage of endovascular aneurysm repair will give providers a saving in bed days and costs related to those bed days. Additionally, there will be a reduced usage of costly intensive treatment unit beds as a result of increased uptake of endovascular aneurysm repair.

### **5.3 Assessment of beds and theatres required for the NCL Vascular Service and Imaging Access**

An assessment of bed and theatre needs for NCL is required for the next stage of the process, as is an evaluation of the required imaging access. Consequently, the group will be tasked to obtain relevant information, in order that a cogent analysis can be made.

## **6. Next Steps and Conclusion**

Cardiovascular disease has a huge and multifaceted impact on the UK and by extension the demands placed on the NHS in London. It is therefore incumbent upon the all stakeholders to ensure that services are equitably and efficiently provided.

The Vascular Working Party, backed up by the wider NCL Vascular Group, intend to capture the impetus gained so far on the Project and continue to meet. These meetings will facilitate the development of cross sector documentation e.g. clinical algorithms, patient pathways, clinical guidelines etc. The Vascular Group has also set up quarterly Audit meetings where data is already presented on current performance.

The preceding analysis indicates that consolidating existing services onto one site within the NCL area proves a more effective route to the provision of these services. Furthermore, public responses to CSL's Cardiovascular project engagement consultation indicates broadly based public support for such an initiative.

**NICK THIS SPACE IS TO PUT THE CONTENTS OF YOUR LETTER TO CHIEF EXECs.....**

The Vascular  
Project Working Party,  
March, 2011.





## Appendix 1: VASCULAR QUALITY STANDARDS

### 1. Organisation of Vascular Services

National guidance on the organisation of vascular services identifies that clinical outcomes will be improved if patients are cared for by an appropriately staffed and equipped specialist vascular service. This service should comprise a single hospital with in-patient facilities supported by day case and out-patient care in appropriate locations closer to patients' homes. For some patients, especially those needing care in an emergency, this will involve transfer to a hospital with appropriate facilities. There are, however, significant benefits of maintaining local out-patient and day case vascular services and supporting links with local acute and rehabilitation services. These benefits extend to vascular bypass surgery and limb angioplasty. A minimum population of 800,000 is considered necessary for a vascular service. This is based on the population required for an aortic aneurysm screening service, the number of patients needed to maintain competence among vascular specialists and nursing staff and the most efficient use of specialist equipment, staff and facilities. The population of NCL is 1.2 million.

The expected improvements to the quality of vascular services following implementation of the Quality Standards can be summarised as:

Access	Access to out-patient, day case and rehabilitation services will be unchanged (and quality improved).
Patient experience	<ul style="list-style-type: none"><li>• Reduced length of hospital stay for vascular surgery patients</li><li>• AAA repair is carried out by a specialist vascular team</li><li>• NCL will offer patients a high quality, gold-standard Vascular Service.</li></ul>
<b>Clinical outcomes</b>	<ul style="list-style-type: none"><li>• Reduction in mortality rates for Aortic Aneurysm (AAA) repair</li><li>• Vascular surgery is carried out by a "high volume" team at a "high volume" centralised hospital in a hybrid theatre</li><li>• The vascular surgeon is supported by a vascular specialist team including radiologists</li></ul>

	<ul style="list-style-type: none"> <li>• Specialist radiologists are available 24 hours per day for AAA repair</li> <li>• Increased endovascular aneurysm repair rate</li> </ul>
<p><b>Service Outcomes</b></p>	<ul style="list-style-type: none"> <li>• Vascular Surgery patients should be treated in a centre with appropriate (close relationships with) co-dependencies. For example <ul style="list-style-type: none"> <li>- (1) interventional radiology,</li> <li>- (2) specialist anaesthetists,</li> <li>- (3) dedicated vascular specialist nursing care,</li> <li>- (4) dedicated vascular specialist PAM staff e.g. Physiotherapists, Occupational therapists and Social Workers</li> <li>- (5) specialist neurology staff and facilities</li> <li>- (6) interventional cardiology,</li> <li>- (7) specialist intensive care unit, / HDU</li> <li>- (8) diabetic specialists,</li> <li>- (9) cardiac surgery</li> <li>- (10) step down intensive care facility,</li> <li>- (11) renal support services</li> <li>- (12) plastic surgery *</li> <li>- (13) ECT specialist imaging (what is this?)</li> <li>- (14) paediatrics *</li> </ul> </li> </ul> <p>* desirable to have good access to these but not essential for co location</p>

## 2. Introduction to Quality Standards

These Quality Standards are based on the Vascular Society's guidance '*The Provision of Services for Patients with Vascular Disease 2009*' and other relevant national guidance. The Quality Standards reflect the guidance in a form that is suitable for use in service specifications and in quality reviews. The Quality Standards aim to follow the patients' pathway and to ensure that the highest possible

quality of care is available at each stage of the patients' journey. The Quality Standards help to answer the question "If I walk into a vascular service today, how I will know that best-practice guidance has been implemented?" They should be achievable by all services in two to five years. They concentrate on the structure and process aspects of quality and should be seen alongside indicators of outcomes. For ease of measurement, the Standards have been colour coded to reflect:

**HS** : those that apply to both Hub and Spoke organisations and **H** those that refer specifically to the Hub.

### 3. Definitions and Abbreviations

**Vascular service:** A vascular service provides specialist care for people with vascular disease. Services for patients will be provided in several different locations by staff with specialist expertise in the care of patients with vascular disease who work together and link closely with support staff and other local services. The service may work across more than one Trust, although one Trust should host the service and take overall responsibility for its governance.

**Vascular specialist:** A consultant vascular specialist is a consultant vascular surgeon or a consultant vascular interventional radiologist. A consultant vascular interventional radiologist is a consultant who has been formally trained to provide expertise in both diagnostic imaging and image guided minimally invasive vascular procedures.

#### **Policies, Protocols, Guidelines and Procedures**

The Quality Standards use the words policy, protocol, guideline and procedure based on the following definitions:

**Policy:** A course or general plan adopted by a Trust, which sets out the overall aims and objectives in a particular area.

**Protocol:** A document laying down in precise detail the tests/steps that must be performed.

**Guidelines:** Principles which are set down to help determine a course of action. They assist the practitioner to decide on a course of action but do not need to be automatically applied. Clinical guidelines do not replace professional judgement and discretion. For simplicity, some standards use the term 'guidelines and protocols' which should be taken as referring to policies, protocols, guidelines and procedures. All clinical guidelines should be based on national guidance, including NICE guidance where available. Local

guidelines and protocols should specify the way in which national guidance will be implemented locally and should show consideration of local circumstances.

**Abbreviations:**

AAA Abdominal Aortic Aneurysm

CT Computer Tomography

HES Hospital Episode Statistics

MDT Multi-Disciplinary Team

NSF National Service Framework

PCT Primary Care Trust

TIA Transient Ischaemic Attack

HASU Hyper Acute Stroke Unit PAP Patient Advisory Panel

<b>Hospital Name:</b>		<b>Date action plan last amended:</b>		
Lead Surgeon accountable for delivery of service standards:				
Lead Nurse accountable for delivery of service standards:				
Lead Manager accountable for delivery of service standards:				
<b>Quality Standard</b>	<b>Demonstration of Compliance</b>	<b>Base RAG</b>	<b>Action Plan</b>	<b>Date Completion</b>
<b>1. SERVICE CONFIGURATION</b>				
1 <i>HS</i>	<p>All service providers in North Central London should meet the commissioning requirements as outlined by NHS London. The current commissioning standards are for units to complete</p> <ul style="list-style-type: none"> <li>• 50 or more abdominal aortic aneurysms (AAAs)</li> <li>• 30 or more carotid endarterectomies</li> <li>• 50 or more percutaneous angioplasties</li> <li>• 50 or more open revascularisation surgeries (should be aiming for greater proportion of angioplasty to bypass)</li> </ul>	<p>Catchment area for the service agreed by the Acute Commissioning Unit.</p> <p>Activity Data</p>		

2 <i>HS</i>	<p>The service should have defined the locations on which in-patient, day case and outpatient vascular services are provided and the locations for the treatment of varicose veins. Each vascular service should normally have one main in-patient service. Outpatient vascular services should take place on, at least, all hospital sites accepting general medical and surgical emergency admissions. In NCL, aortic and carotid interventions and all emergency vascular surgery will be centred at the hub. Limb open and endovascular interventions (angioplasty, stenting, bypass surgery, amputations), veins and common OPD DSU services and interventions will continue at all sites i.e. hub and spoke hospitals.</p>	<p>Locations of services agreed by Acute Commissioning Unit.</p>			

**2. SUPPORT FOR PATIENTS AND CARERS**

	Quality Standard	Demonstration of Compliance	Base RAG	Action Plan	Date Completion
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<p>3 H</p>	<p>A member of the vascular team will act as an advocate for the patient and their family/ representative. This role should involve:</p> <ul style="list-style-type: none"> <li>• ensuring continuity of care</li> <li>• identifying and resolving patient areas of concern</li> <li>• ensuring patients and their representatives are aware of days/times for ward rounds</li> <li>• ensuring that information is given in an understandable manner</li> <li>• encouraging “buddy” system with other patients as appropriate</li> </ul>	<p>List of nominated advocates Job description Patient Feedback results</p>			
<p>4 HS</p>	<p>Information should be offered to all patients and appropriate others (e.g. carers) covering at least:</p> <ul style="list-style-type: none"> <li>• Vascular disease, including its causation and physical impact,</li> <li>• Treatment options available</li> <li>• Promoting good health, including smoking cessation.</li> <li>• Symptoms and action to take if become unwell and who to contact with queries or for advice.</li> <li>• Where to go for further information, including useful websites.</li> <li>• Support groups available; named Vascular</li> </ul>	<p>Examples of information available</p> <p><i>Note: Information should be available in formats and languages appropriate to the needs of the patients. This may include large print and or CD / DVD information.</i></p>		<p>1. Enlist patient Advisory Panel representative to ensure appropriate communication link with service users</p>	



	advocate (see standard 3) • Vascular service staff and facilities available, including facilities for relatives				
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**3. STAFFING AND SUPPORT SERVICES at SPECIALIST SITE**

5 <del>5</del>	All vascular surgeons will have access and formal contracted sessions at the hub and spokes as appropriate to their job plan. Vascular interventional radiologists based at the spokes may also have sessions at the hub as appropriate to their job plan. The service should have a nominated lead consultant vascular specialist to support audit and governance. The service should also have a nominated lead with responsibility for ensuring implementation of the Quality and governance Standards.	Name of lead consultant and lead nurse. <i>Note: The lead consultant and nurse may be supported by senior clinicians who take a lead role on particular aspects of the service, for example, screening or training.</i>			
6 <del>6</del>	A vascular specialist and support staff with competences in interventional radiology should be available for all elective and emergency vascular radiology procedures.	List of competencies – standards defined by RCR; BSIR and the Vascular Society			

7 H	All emergency and elective vascular surgery should be undertaken by a consultant vascular specialist or by staff under their supervision. All vascular surgeons should undertake sufficient operations per annum to maintain competence.	<p>Details of staffing available. Including consultant job plans junior Drs job plans and on call rotas. Evidence of registration with GMC.</p> <p>Audit results.</p> <p>Details of up to date MDT training and education programmes <i>Note: For the purpose of considering operations to maintain competence, activity undertaken in hospitals outside the vascular service under review may be included as part of surgeons' activity.</i></p>			
8 H	Endovascular aneurysm repair and carotid stenting should be undertaken only by vascular specialists with competences in these procedures.	Audit results.			
9 H	A consultant vascular surgeon should be available at all times.	Staffing details. A consultant vascular specialist is defined as a consultant vascular surgeon who has undertaken a minimum of two years final stage training in a recognised vascular unit or who			

		<p>has equivalent experience and who regularly manages patients with aortic aneurysm disease and its associated conditions.</p> <p><i>Note: A minimum of a 1:5 on call rota is required to achieve QS.</i></p>			
10 <del>11</del>	A Vascular interventional radiology consultant should be available at all times.	Staffing List. (A consultant interventional radiologist is a consultant who has been formally trained to provide expertise in both diagnostic imaging and image guided minimally invasive vascular procedures.)			
11 <del>12</del>	24/7 cover should be available from dedicated middle grade vascular trainees	Deanery competencies			
12 <del>13</del>	A consultant anaesthetist with up to date vascular experience in dealing with major complex surgical cases such as acute trauma vascular and other emergencies should be available at all times.	Detail of services available including rotas and job plans			

<p>13 <i>HS</i></p>	<p>PAMs with specialist expertise in the following areas should be available on all sites that provide a vascular service:</p> <ul style="list-style-type: none"> <li>• Wound and diabetic foot management.</li> <li>• Explanation and lifestyle advice</li> <li>• Amputation and liaison with rehabilitation</li> <li>• Podiatry</li> </ul> <p>These teams should have responsibility for leadership and service development for their area of specialist expertise and be accountable to the Vascular team. There should be arrangements for cover during absences.</p>	<p>Staffing details, including cover arrangements</p> <p><i>1 Specialist expertise should be available to all patients across the network. The roles may, however, be undertaken by different people in different localities.</i></p> <p><i>2 A system should be in place to support and train new members of staff working on the unit.</i></p>			
<p>14 <i>HS</i></p>	<p>Sufficient, designated, administrative and clerical support should be available at hub and spokes for patient administration, staff coordination, data collection and coding, timely discharge summaries and follow-up arrangements.</p>	<p>Discussion with staff Staff Job descriptions Rotas etc</p> <p><i>Note: 'Sufficient' is not strictly defined. Clinical staff should not be spending unreasonable amounts of time on administrative duties, including data collection, which detracts from their ability to provide patient care.</i></p>			

<p>15 H</p>	<p>A member of staff with competences in vascular ultrasound should be available during normal working hours. At weekends there should be a system for identifying patients needing vascular ultrasound and providing scanning, if required, on a daily basis.</p>	<p>Staffing details including 7/7 working schedules</p>			
<p>16 H</p>	<p>Physiotherapy services should be available with time allocated for their work with in-patients with vascular disease 7/7</p>	<p>Details of services available</p>			
<p>17 HS</p>	<p>In hospitals providing in-patient vascular services, the following facilities and services should be available:</p> <ul style="list-style-type: none"> <li>• Dedicated vascular specialist PAM staff e.g.</li> <li>• Vascular Physiotherapists,</li> <li>• Occupational therapists and</li> <li>• Social Workers</li> <li>• Specialist Neurology staff and facilities</li> <li>• Podiatrists</li> <li>• Ulcer nurses</li> <li>• Specialist Amputee services</li> </ul>	<p>Details of facilities and staffing available</p>			

#### 4. GUIDELINES AND PROTOCOLS

18 <i>HS</i>	Clinical guidelines should be agreed with LAS covering the clinical indications for triaging and transferring patients from Accident and Emergency Departments of spoke hospitals to the hub hospital and standards of time for transfer	Written guidelines agreed with the ambulance service. Evidence of standards of time for transfer			
19 <i>HS</i>	Protocols and Guidelines should be developed for inter- site transfer of patients, ensuring expeditious travel times and efficiency. A bed must always available at the hub for immediate transfer of vascular patients	Written protocols			
20 <i>HS</i>	<p>Clinical guidelines covering referral to the vascular service should be in use in all Emergency Departments and General Surgery services. These guidelines should cover:</p> <ul style="list-style-type: none"> <li>• Investigation and management of emergency vascular patients</li> <li>• Management of haemodynamically unstable vascular patients</li> <li>• Indications for seeking advice from the vascular service</li> <li>• Indications and arrangements for</li> </ul>	<p>Written guidelines</p> <p><i>Notes:</i></p> <p><i>The network will provide a structure and process to support clinical engagement.</i></p> <p><i>1 This QS applies to all Emergency Departments and general surgery services within the catchment area of the vascular service.</i></p>			

	<p>emergency transfer</p> <ul style="list-style-type: none"> <li>• Indications and arrangements for non-urgent referral.</li> </ul>	<p>2 Guidelines should be explicit about the arrangements for transfer of cross-matched blood.</p>			
21 <i>HS</i>	<p>A surveillance protocol should be in place for patients with vascular disease including small aneurysms, post aneurysm repair and post lower limb arterial revascularisation.</p>	<p>Written protocol  <i>Note: The protocol may be that no surveillance is undertaken unless further evidence of effectiveness becomes available.</i></p>			
22 <i>HS</i>	<p>Guidelines should exist for efficient and effective patient preoperative planning and should take place as close to home as possible</p>	<p>Written guidelines</p>			
23 <i>HS</i>	<p>Discharge planning guidelines should be in use covering, at least:</p> <ul style="list-style-type: none"> <li>• Discharge to rehabilitation facilities</li> <li>• Discharge home with support from local rehabilitation facilities</li> <li>• Referral to limb-fitting service</li> <li>• Communication with the patient's General Practitioner.</li> <li>• Primary care nurses for the support of long term conditions</li> </ul>	<p>Written guidelines</p> <p>Will include clear referral process and protocols for transferring care back to local units and clinicians</p> <p>Local steering groups will be in place as part of A2 standards to monitor and manage the referral process and identify risks</p>			



24 <i>HS</i>	The vascular service should be aware of local guidelines for end of life care.	Availability of guidelines relating to end of life care that are used by specialist palliative care services in the local area.			
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**5. SERVICE ORGANISATION AND LIAISON WITH OTHER SERVICES**

25 <i>HS</i>	<p>A multi-disciplinary team meeting to review the care of patients with vascular disease should be held as appropriate, involving at least:</p> <ul style="list-style-type: none"> <li>• Vascular specialists</li> <li>• Radiologists regularly involved with the care of patients with vascular disease</li> </ul> <p>An MDT coordinator should be in place to ensure smooth running and organisation of meetings.</p>	<p>Notes of meetings held. <i>Notes:</i> <i>Meetings will have records of attendance.</i> <i>Recommendation/plan will be formally recorded in the medical notes</i> <i>10 notes to be audited for quality assurance</i></p> <p><i>1 All interventional radiologists and surgeons providing vascular services should attend the MDT meeting regularly.</i> <i>2 Other staff, for example, ward manager, may also attend the MDT meetings.</i></p>			
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26 H	The vascular service hub should have close liaison with local TIA services.	A representative from the service should have representation on the local HASU group			
27 HS	The Vascular Service should have access to and accountability for: <ul style="list-style-type: none"> <li>• Claudication classes</li> <li>• Diabetic Management Classes</li> <li>• Best medical therapy/cardiovascular risk management clinics</li> </ul>				

## 6. GOVERNANCE

	Quality Standard	Demonstration of Compliance	Base RAG	Action Plan	Date Completion
28 H	A ward-based multi-disciplinary team meeting to discuss the care of patients with complex rehabilitation and discharge needs should be held at least weekly involving at least: <ul style="list-style-type: none"> <li>• Ward manager</li> <li>• Nurse with specialist expertise in care</li> </ul>	Notes of meetings held <i>Note: This QS applies only to hospitals with in-patient vascular services.</i>			

	<p>of patients with amputations (QS7)</p> <ul style="list-style-type: none"> <li>• Physiotherapy (QS34)</li> <li>• Occupational therapy (QS35)</li> <li>• Social work (QS35)</li> </ul>				
29 <i>HS</i>	<p>The service should be collecting and submitting data on all index procedures to the National Vascular Database, as well as local Trust data.</p>	<p>National Vascular Database reports showing risk-adjusted comparative outcomes for the service. <i>Note: Data should cover all parts of the vascular service including activity in hospitals without on-site in-patient services.</i></p>			
30 <i>HS</i>	<p>The service should have a quarterly programme of audits covering at least:</p> <ul style="list-style-type: none"> <li>• Number of vascular operations undertaken by surgeon across the service's catchment area.</li> </ul>	<p>Details of audit programme. <i>Note: Audits should cover all parts of the vascular service including activity in spoke hospitals and should include comparison of HES data and National Vascular Database numbers. Audits of operations by surgeon should include all vascular operations.</i></p>			
31 <i>HS</i>	<p>All policies, procedures and guidelines should comply with Trust document control procedures.</p>	<p>Policies, procedures and guidelines meeting reasonable document control quality requirements of monitoring, review and version control.</p>			

32 <i>HS</i>	Contingency Planning: The in patient service must have detailed business continuity plan to ensure that in the event of technical break down, theatre unavailability or other emergency situation, a formal protocol and back up service arrangements are available for the management of emergency and urgent patients. This may include formal transfer protocols within or outside NC London Vascular service	Business continuity plans for Imaging Theatre Services Emergency Transfers, with clear links to LAS Others			
<b>7. TRUST AND COMMUNITY STAFFING AND SUPPORT SERVICES</b>					
33 <i>HS</i>	In-patient and community-based rehabilitation services with expertise in the care of patients with vascular disease, including amputees, should be available, including at least: <ul style="list-style-type: none"> <li>• Physiotherapy</li> <li>• Occupational therapy</li> <li>• Social Work</li> <li>• Podiatry</li> <li>• Leg Ulcer Nursing</li> <li>• Tissue Viability Nursing</li> </ul>	Description of services available and the local arrangements for patients being discharged back to a referring hospital without a complex vascular service. <i>Notes: These services should be available for the whole of the vascular service's usual catchment population but may be organised in different ways in different locations.</i>			

## 8. SUPPORT FOR PATIENTS AND CARERS

	Quality Standard	Demonstration of Compliance	Base RAG	Action Plan	Date Completion
34 <i>HS</i>	<p>The following support services should be available:</p> <ul style="list-style-type: none"> <li>• Interfaith and spiritual support</li> <li>• Interpreters</li> <li>• Bereavement support</li> <li>• Information about these services should also be available.</li> </ul>	<p>Support services and relevant information available.</p> <p><i>Note: 'Availability' of support services is not defined but should be appropriate to the case mix and needs of the patients.</i></p>			
35 <i>H</i>	<p>The vascular service should have a Vascular Patient Focus Group, which should have an input in developing feedback forms and monitoring performance of the service</p>	<p>Description of current arrangements. Examples of changes made as a result of feedback from patients and carers.</p>			
36 <i>HS</i>	<p>Guidelines on lifestyle advice for all patients should be in use covering, at least:</p> <ul style="list-style-type: none"> <li>• Support for smoking cessation</li> <li>• Dietary advice</li> </ul> <p>Programmes of physical activity and weight management</p>	<p>Written guidelines</p> <p>Evidence of secondary health promotion protocols for patients; follow up advice including contact details of key worker.</p> <p>Audit of numbers of patients referred to primary care smoking cessation teams</p>			

		Review 10 sets of notes.			
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37 HS	When leaving hospital, the patient advocate should ensure that patients are encouraged to keep a "patient passport" or similar wallet with them at all times, containing up-to-date medical information including discharge letters, latest medication, details of GP and consultants, test results, appointments, and any other papers the patient would like to be readily available in an emergency. (It would be the responsibility of the individual patient to keep the document updated)	Annual Patient Satisfaction survey			
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**9. FACILITIES: HOSPITAL SITES ACCEPTING VASCULAR ADMISSIONS**

38 H	A dedicated Vascular in-patient ward should be available, staffed by nurses and HCAs with appropriate competences in care of patients with	Staffing details, competence framework showing expected competences and summary of competence assessments.			
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	<p>vascular disease. The competence framework should cover at least:</p> <ul style="list-style-type: none"> <li>• Acute Life-threatening Events Recognition and Treatment (ALERT) or equivalent</li> <li>• Tissue viability and wound care</li> <li>• Pain management</li> <li>• Care of patients with diabetes</li> <li>• High Dependency Care</li> <li>• Podiatry</li> </ul>				
39 H	<p>All vascular surgery should take place in a theatre with:</p> <ul style="list-style-type: none"> <li>• Theatre staff trained in vascular instruments, prosthetics and techniques, in the use of cell salvage devices for blood conservation and endovascular skills</li> <li>• Stocks of grafts, instruments and sutures required for patients with vascular disease</li> <li>• Hand-held Doppler ultrasound machine and portable duplex devices</li> <li>• Access to blood and blood products</li> </ul>	<p>Viewing facilities</p> <p><i>Note: QS applies to all vascular surgery, including day case surgery on hospital sites other than that where in-patient vascular services are based.</i></p>			



40 <i>HS</i>	In hospitals providing in-patient vascular services, magnetic resonance angiography should be available during normal working hours and CT at all times.	Viewing facilities  <i>Note: This QS is applicable only to hospitals with in-patient vascular services.</i>			
41 <i>H</i>	<p>The Vascular Outpatient Service should have access to</p> <ul style="list-style-type: none"> <li>• Vascular ultrasound during normal working hours</li> <li>• Facilities to perform ankle brachial pressure tests</li> <li>• Portable duplex scanner</li> <li>• Access to electronic transfer of imaging across all sites</li> </ul> <p>All staff will be expected to evidence a competence framework for assessing, scanning and reporting carotid duplexes.</p>	<p>Observation of facilities and equipment</p> <p>Staffing details</p> <p>Summary of competence assessments.</p> <p><i>Note:</i> <i>1 The service may be available within the outpatient clinic or imaging department. The service may be provided by a vascular technologist, radiographer, nurse or radiologist.</i></p>			
42 <i>H</i>	<p>Access to co-dependencies (as detailed in the hub) should be available at all times e.g.:</p> <ul style="list-style-type: none"> <li>• Emergency theatre</li> <li>• Vascular angiography suite</li> </ul>	Details of facilities and staffing available			

	<ul style="list-style-type: none"> <li>• Critical care (at least level 3)</li> <li>• Haematology (for urgent cross-match and blood products)</li> <li>• Facilities for electronic transfer of imaging from, or ability remotely to view imaging at, other acute hospitals within the Network.</li> <li>• Renal support that includes dialysis facilities</li> <li>• Cardiac surgery</li> </ul>				
43 <i>HS</i>	<p>In-patient vascular wards at hub and spokes should have:</p> <ul style="list-style-type: none"> <li>• Hand-held Doppler ultrasound machine</li> <li>• Portable ultrasound Scanners</li> </ul>	Viewing facilities			
44 <i>HS</i>	Spoke Hospitals providing Vascular Services should provide vascular ultrasound 5 days a week, during working hours	Staff rotas			

## 10. GUIDELINES AND PROTOCOLS

45 <i>HS</i>	Clinical guidelines should be in use covering indications for involvement of cardiology services in the care of	Written guidelines agreed with cardiology service and pre-assessment.			
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	patients with vascular disease.				
46 <i>HS</i>	Clinical guidelines should be in use covering indications and arrangements for referral for psychological support.	Written guidelines			
47 <i>H</i>	A meeting with local rehabilitation services (QS13) should be held at least annually to review the links with the vascular service and address any problems identified.	Notes of meetings held.			

## 11. GOVERNANCE

48 <i>HS</i>	The service should produce an annual report summarising activity, compliance with quality standards and clinical outcomes. The report should also contain the results from a patient satisfaction survey. The report should identify actions required to meet expected quality standards and progress since the previous year's annual report and should be circulated to all relevant trust	Annual report/s. <i>Note: The National Vascular Database reports will provide much of the data for the annual report.</i>			
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## 6. Outcome Indicators

	No.	Standard description	TARGET		
			Elective	Emergency	Comments Unplanned removed
Pre-operative	1	Proportion of patients who are operated on who came in from screening and surveillance programme?	Target: Monitor	n/a	
	2	Proportion of patients with a known un-ruptured AAA of at least 5.5cms that are declined surgery / 5cms for Women	Monitor	Monitor	Request field added to NVD
	3	Pre-operative length of stay for elective patients to be kept below 1 day average.	Target: 1 day	n/a	NVD
	4	On the day cancellation rate for elective AAA procedures	Target: Monitor	n/a	Not on NVD Trust data
	5	Number of patients who suffer a ruptured AAA whilst on the elective AAA waiting list	Target: Monitor	n/a	Not on NVD Local data collection
Operative & in-hospital	6	Proportion of AAA procedures performed using EVAR	Target: 60%	Monitor	NVD
	7	30 day in-hospital mortality rate following elective open AAA repair	Target: 4%	Target: 40%	NVD
	8	EVAR – 30 day Mortality Rate	Target: <3%		NVD Need to clarify from date of admission or date of op?
Post-operative					

	9	Proportion of patients discharged to level 3 critical care/ITU bed immediately following surgery	Monitor	Monitor	Clarify individual units practice eg PACU at UCLH =ITU
	10	30 day re-admission rate for patients who have undergone AAA surgery	Monitor	Monitor	Readmission rate for ANY cause –local data
	11	Total length of hospital stay	Monitor	Monitor	NVD

#### Carotid endarterectomy quality markers

Area	No.	Standard description	Target		Comments
			Symptomatic	Asymptomatic	
Pre-operative	1	Proportion of clinically appropriate patients treated within two weeks of referral	Target: 100%	Monitor	Need to clarify – from symptoms to surgery
	2	Pre-operative length of stay to be kept below 1 day for elective patients	Target: 100%	Target: 100%	NVD
Operative & in-hospital	3	Stroke Rate (self reported, 30 day) Disabling Non Disabling	Target: 2%	Target 2%	NVD
	4	30 day in-hospital mortality rate Carotid Endarterectomy	Target: 3%	Target: 1%	NVD
	5	Proportion of procedures undertaken using a carotid artery stent	Monitor	Monitor	NVD
o p e r	6	30 day re-admission rate for patients who have	Target: 5%	Target: 5%	NVD

		undergone CEA surgery			
	<b>7</b>	30 day persistent evidence of cranial nerve injury	<5%	<5%	NVD-should pt be seen by neurologist?
	<b>8</b>	Proportion of patients who return to theatre within 30 days following surgery	<5%	<5%	NVD
	<b>9</b>	Total length of hospital stay	Monitor	Monitor	NVD

**Limb revascularisation quality markers (all targets monitor unless specified)**

Area	No.	Standard description	Target		Comments
			Claudication	Critical limb ischemia	
<b>Pre-operative</b>	<b>1</b>	Proportion of arterial bypass operations compared to angioplasty procedures	Monitor	Monitor	Angioplasties not on NVD. ?ask to inc or local collection
	<b>2</b>	Pre-operative length of stay to be kept below 1 day for elective patients	Target: 100%	100%	NVD
<b>Operative &amp; in-hospital</b>	<b>3</b>	Primary amputation rate (i.e. amputations without prior attempt at revascularisation)	Monitor	Monitor	NVD
	<b>4</b>	Secondary amputation rate below the knee (i.e. amputations following previous revascularisation)	Monitor	Monitor	NVD
	<b>5</b>	Secondary amputation rate above the knee (i.e. amputations following previous revascularisation)	Monitor	Monitor	NVD
	<b>6</b>	Amputation for Critical Limb Ischaemia 30 day mortality – casemix adjusted	Monitor VS risk adjusted funnel plots	Monitor VS risk adjusted funnel plots	NVD

	7	30 day mortality following infrainguinal bypass	Monitor VS risk adjusted funnel plots	Monitor VS risk adjusted funnel plots	NVD (Nat Av = 4.2% 4 <sup>th</sup> National VD Report)
	8	In hospital graft occlusion rate Diabetic Non diabetic	Monitor	Monitor	NVD
Post-operative	9	30 day re-admission rate for patients who have undergone surgery	Monitor	Monitor	NVD
	10	Total length of hospital stay	Monitor	Monitor	NVD

**Process for failure to meet standards.**

Should the unit fail to reach the above standards; an internal review would take place in the first instance, with an external review undertaken by a nominee from the Vascular Society in the second.

**Process Indicators**

Domain of practice:	Data Source	Rationale	Target/norms/tolerance level
<b>Carotid endarterectomy:</b>			
1. Time from first event (stroke or TIA) to carotid endarterectomy (percentage of appropriate symptomatic cases operated on within 2 weeks) Change to London stroke standard	NVD	Maximum benefit of operation derived from early intervention 1,2	100% (tolerance 90% to allow for patient choice)
2. Pre-operative length of stay	HES/NVD	Shorter stay indicates good use of resources	< 24 hours – target 100% (tolerance level 95% to account for emergency)

<b>Domain of practice:</b>	<b>Data Source</b>	<b>Rationale</b>	<b>Target/norms/tolerance level</b>
			surgery)
3. Post-operative length of stay	HES/ NVD	Shorter stay indicates good use of resources	< 3 days (median from UK Carotid interventions audit 5)
4. Carotid endarterectomy rate per 100,000 population	HES	Appropriate rate indicates good referral mechanisms and access to recommended treatment	100% patient having suffered a TIA (with 50% stenosis) should have been considered for surgery
5. Number of carotid endarterectomies performed per unit per year	HES	Higher volumes associated with improved outcomes	Carotid endarterectomies should be performed where there is evidence of neurological back up.
<b>Aortic surgery:</b>			
6. Length of pre-operative stay (elective repair)	HES	Shorter stay indicates good use of resources	< 24 Hours – At least night before
7. Length of stay (elective and emergency)	HES	Shorter stay indicates good use of resources	Elective - <9 days –median from HES Emergency -< 10 days- median from HES
<b>Amputation for critical limb ischaemia:</b>			
8. Below knee to above knee revision rate	NVD/H ES	Low rate indicates good decision making	Revision of amputation to higher level < 13.5% when compared to below knee amputation rate (HES)
9. Post-operative length of stay – casemix adjusted	HES/N VD	Shorter stay indicates good use of resources and appropriate discharge to rehabilitation facilities	Median 25 days (HES)
10. Amputation rate per 100,000 population – casemix adjusted	HES	Appropriate figures demonstrate good limb salvage rates and adequacy of care for patients with diabetes or CLI	Rates for Type 2 Diabetes = 7 to 36 per 10000 diabetic population



Domain of practice:	Data Source	Rationale	Target/norms/tolerance level
<b>Lower limb ischaemia: infrainguinal bypass</b>			
11. Rate of operative revascularisation per 100,000 population (casemix adjusted)	HES	Appropriate figures demonstrate a proactive approach to revascularisation	Range 22-83 per 100,000 depending on casemix 11
12. Rate of endovascular revascularisation per 100,000 population (casemix adjusted)	HES	Appropriate figures demonstrate a proactive approach to revascularisation	Range 10-91 per 100,000 depending on casemix 11
13. Pre-operative length of stay (infrainguinal bypass/ angioplasty)- -Case mix adjusted	HES	Shorter stay indicates good use of resources, timely imaging and decision making	Target: Elective - <1 day Emergency -< 3 days
14. Post-operative length of stay (infrainguinal bypass/ angioplasty) -Casemix adjusted	HES	Shorter stay indicates less complications, good use of resources and appropriate rehabilitation	Norms: Elective – median 8 days Emergency – median 14 days (HES)
15. Ratio of prosthetic to vein grafts used in preference – as clinically appropriate	HES/ NVD	Vein graft associated with better outcomes	
<b>Global measures:</b>			
16. Completeness of data submission to NVD (percentage) & BSR registries	NVD / HES	Indicates engagement with clinical governance and quality improvement	Target 100% completion

## 7. Relevant Guidance

Year	Title	Published by
July 2010	UK Audit of Vascular Surgical Services & Carotid Endarterectomy	The Vascular Society of Great Britain and Ireland

November 2009	Interventional Radiology: Improving Quality and Outcomes for Patients.	Department of Health. Gateway Ref: 12788
September 2009	At a Glance Guide to the current Medical Standards of Fitness to Drive	Drivers Medical Group, DVLA, Swansea
August 2009 (Version 2.1)	Essential Elements in Developing an Abdominal Aortic Aneurysm (AAA) Screening and Surveillance Programme	UK National Screening Committee/ NHS Screening Programmes Abdominal Aortic Aneurism
August 3rd 2009, (Version 1.1)	NHS Abdominal Aortic Aneurysm Screening Programme - Quality Standards and Service Objectives	UK National Screening Committee/ NHS Screening Programmes Abdominal Aortic Aneurism
July 2009 (Version 2.0)	NHS Abdominal Aortic Aneurysm Screening Programme – Guidance for Public Health and Commissioners	UK National Screening Committee/ NHS Screening Programmes Abdominal Aortic Aneurism
May 2009 (Final Version)	Framework for improving the results of elective AAA repair	Council of the Vascular Society of Great Britain and Ireland
November 2008	The Provision of Services for Patients with Vascular Disease 2009 – “Patients with a vascular emergency should have rapid access to a specialist vascular team in all parts of the UK”	The Vascular Society of Great Britain and Ireland
2007	The Provision of Emergency Vascular Services 2007	The Vascular Society of Great Britain and Ireland
August 2006	The Organisation and Delivery of the Vascular Access Service for Maintenance Haemodialysis Patients – Report of a Joint Working Party	The Renal Association The Vascular Society British Society of Interventional Radiology

## Appendix 2: NCL Vascular Service Activity and Outcome Data 2010 (Annual Year)

1) AAA Repairs N= 222, Elective = 184, Emergency = 38

Area	No.	Standard description	Target		
			Elective	Unplanned	Emergency
Pre-operative	1	Proportion of patients who are operated on who came in from screening programme?	Monitor NCL: 1%	n/a	n/a
	2	Proportion of patients with a known un-ruptured AAA of at least 5.5cms that are declined surgery	Monitor NCL: 6.5%	n/a	n/a
	3	Pre-operative length of stay for elective patients to be kept below 1 day average.	NCL: 1.1	n/a	n/a
	4	On the day cancellation rate for elective AAA procedures	Monitor NCL: 0%	n/a	n/a
	5	Number of patients who suffer a ruptured AAA whilst on the elective AAA waiting list	Monitor NCL: 2	n/a	n/a
Operative & in-hospital	6	Proportion of AAA procedures performed using EVAR	Target: 60% NCL: 89.7%	n/a	Monitor NCL: 63.2%
	7	Crude in-hospital mortality rate	Target: 4% NCL: 2.7%	n/a	40% NCL:13.2%
Post-operative	8	Crude 30 day mortality rate	Target: 4% NCL: 1.7%	n/a	40% NCL: 9.1%
	9	Proportion of patients discharged to level 3 critical care/ITU bed immediately following surgery	Monitor NCL: 38%	Monitor	Monitor NCL: 73.7%
	10	30 day re-admission rate for patients who have undergone AAA surgery	Monitor NCL: 5.4%	Monitor	Monitor NCL: 13.2%
	11	Total length of hospital stay	Monitor NCL: <del>7.6</del> days	Monitor	Monitor NCL: 14.1 days

## 2) Carotid Endarterectomies

N = 99, Symptomatic = 82

Area	No.	Standard description	CAROTID ENDARTERECTOMY	
			Symptomatic	Asymptomatic
Pre-operative	1	Proportion of patients treated within two weeks	Target: 70% NCL: 91%	Monitor NCL: 0%
	2	Pre-operative length of stay to be kept below 1 day for elective patients	Target: 1 day NCL: 1.6 days	Target: 1 day NCL: 1 day
Operative & in-hospital	3	Crude in-hospital stroke rate	Target: 6% NCL: 2.4%	Target: 3% NCL: 0%
	4	Crude in-hospital mortality rate	Target: 6% NCL: 0%	Target: 3% NCL: 0%
	5	Proportion of procedures undertaken using a carotid artery stent	NCL: 3.7%	NCL: 0%
Post-operative	6	30 day re-admission rate for patients who have undergone CEA surgery	Target: <5% NCL: 3.7%	Target: 5% NCL: 0%
	7	30 day persistent evidence of cranial nerve injury	Target: <5% NCL: 4.9%	Target: <5% NCL: 0%
	8	Proportion of patients who return to theatre within 30 days following surgery	Target: <5% NCL: 4.9%	Target: <5% NCL: 5.9%
	9	Total length of hospital stay	2.5 days (median)	7 days (median)

3) **Limb Revascularisation.** N = 628, Bypass Procedures = 137, Angioplasties = 523

	No.	Standard description	LIMB REVASCULARISATION	
			Claudication	Critical limb ischemia
Pre-operative	1	Proportion of arterial bypass operations compared to angioplasty procedures	Monitor NCL: 19%	Monitor NCL: 21%
	2	Pre-operative length of stay to be kept below 1 day for elective patients	100%	100%
Operative & in-hospital	3	<i>Primary amputation rate (i.e. amputations without prior attempt at revascularisation)</i>	Monitor	Monitor
	4	<i>Secondary amputation rate below the knee (i.e. amputations following previous revascularisation)</i>	Monitor	Monitor
	5	<i>Secondary amputation rate above the knee (i.e. amputations following previous revascularisation)</i>	Monitor	Monitor
Post-operative	6	30 day re-admission rate for patients who have undergone surgery	Monitor NCL: 2.1%	Monitor NCL: 2.8%
	7	Total length of hospital stay	Monitor NCL: 3.42	Monitor NCL: 19



### **Appendix 3: Description of Vascular Procedures.**

**(1) Abdominal aortic aneurysm repair.** The aorta runs down the back of the abdomen, and is the most common location for an aneurysm to develop. Around half of the people with ruptured abdominal aortic aneurysm die before getting to hospital for treatment. Of the patients that make it to hospital, half do not survive the operation or the immediate post-operative period. An abdominal aneurysm can be surgically repaired in two ways – an open repair or an endovascular aneurysm repair. The open repair technique replaces the aortic aneurysm with an artificial artery (prosthesis). An endovascular aneurysm repair uses a minimally invasive technique to access the artery, which is less invasive than open repair. During the procedure, an incision is made in the groin and a stent graft (an artificial, metal reinforced, fabric tube) is fed to the site of the aneurysm and deployed. The stent graft takes the pressure off the site of the aneurysm preventing any subsequent rupture. This type of endovascular procedure may be performed in association with interventional radiology. The need for emergency stenting demands that specialist radiologists should be available 24 hours a day.

**(2) Carotid endarterectomy surgery.** Carotid arteries are the main vessels through which oxygenated blood is transported to the brain. Any narrowing of these arteries is particularly serious as it can lead to a stroke or death. Carotid endarterectomy is an operation that removes fatty deposits or plaques that narrow these arteries and thus improves the blood flow to the brain. During the procedure, the inner lining of the affected region of the artery is removed. The artery is then widened with a patch to prevent it narrowing again in the future. This procedure reduces a patient's risk of stroke or death.

**(3) Lower extremity arterial bypass** Peripheral arterial disease in the legs, sometimes known as peripheral vascular disease, is caused by fatty deposits (atheroma) in the walls of the arteries leading to insufficient blood flow to the muscles and other tissues. The most common symptom, intermittent claudication, is characterised by leg pain and weakness brought on by walking. Patients diagnosed with peripheral vascular disease, including those who do not have any symptoms, have an increased risk of mortality, myocardial infarction and stroke. If surgery is required, one of the options is a lower extremity arterial bypass. This procedure aims to reroute blood flow around the blocked artery by grafting a transplanted piece of blood vessel from another part of the body.

**(4) Limb angioplasty.** Limb angioplasty is another, less invasive, technique that can be used to treat peripheral vascular disease. A small inflatable balloon, sometimes with a stent (cylinder of stainless steel mesh) mounted on it, is inflated in a narrowed artery, compressing the fatty tissue and allowing the blood to flow more easily. As the balloon is inflated, the stent expands so that it holds open the narrowed blood vessel. The balloon is then deflated and removed, leaving the stent in place.

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