Varicose veins in the legs

Quality standard
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Introduction

This quality standard covers the diagnosis and management of varicose veins in the legs in adults (aged 18 and over). For more information about the scope of this quality standard see the topic overview.

Why this quality standard is needed

Varicose veins are dilated, often visible and palpable subcutaneous veins with reversed blood flow. They are most commonly found in the legs and are estimated to affect at least a third of the population. Risk factors for developing varicose veins are unclear, although prevalence rises with age and they often develop during pregnancy.

In some people varicose veins cause no significant symptoms, but in others they cause pain, aching or itching and have an adverse impact on their quality of life. Varicose veins may become more severe over time and can lead to complications such as skin damage (eczema and pigmentation changes), bleeding and venous ulceration. It is not known which people will develop more severe disease, but it is estimated that 3–6% of people who have varicose veins in their lifetime will develop venous ulcers.

The quality standard is expected to contribute to improvements in the following outcomes:

- quality of life for people with varicose veins
- progression of venous leg disease, which includes complications from varicose veins (skin changes including pigmentation and eczema, bleeding superficial and deep vein thrombosis and venous leg ulcers)
- varicose vein recurrence.

How this quality standard supports delivery of outcome frameworks

NICE quality standards are a concise set of prioritised statements designed to drive measurable quality improvements within a particular area of health or care. They are derived from high-quality
guidance, such as that from NICE or other sources accredited by NICE. This quality standard, in conjunction with the guidance on which it is based, should contribute to the improvements outlined in the following 2 outcomes frameworks published by the Department of Health:

- **NHS Outcomes Framework 2014–15**

Tables 1 and 2 show the outcomes, overarching indicators and improvement areas from the frameworks that the quality standard could contribute to achieving.

**Table 1 NHS Outcomes Framework 2014–15**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Overarching indicators and improvement areas</th>
</tr>
</thead>
</table>
| 3 Helping people to recover from episodes of ill health or following injury | **Overarching indicator**  
3b Emergency readmissions within 30 days of discharge from hospital* (PHOF 4.11)  
**Improvement areas**  
Improving outcomes from planned treatments  
3.1 Total health gain as assessed by patients for elective procedures iv. Varicose veins |
| 4 Ensuring that people have a positive experience of care              | **Overarching indicator**  
4a Patient experience of primary care  
i GP services  
4b Patient experience of hospital care  
4c Friends and family test |

**Aligning across the health and care system**  
* Indicator shared with Public Health Outcomes Framework (PHOF)

**Table 2 Public health outcomes framework for England, 2013–2016**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Objectives and indicators</th>
</tr>
</thead>
</table>

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### Objectives

**Objective**

Reduced numbers of people living with preventable ill health and people dying prematurely, while reducing the gap between communities

**Indicators**

4.11 Emergency readmissions within 30 days of discharge from hospital* (NHSOF 3b)

### Alignment across the health and social care system

* Indicator shared with NHS Outcomes Framework (NHSOF)

### Coordinated services

The quality standard for varicose veins in the legs specifies that services should be commissioned from and coordinated across all relevant agencies encompassing the whole varicose veins care pathway. A person-centred, integrated approach to providing services is fundamental to delivering high-quality care to people with varicose veins in their legs.

The Health and Social Care Act 2012 sets out a clear expectation that the care system should consider NICE quality standards in planning and delivering services, as part of a general duty to secure continuous improvement in quality. Commissioners and providers of health and social care should refer to the library of NICE quality standards when designing high-quality services. Other quality standards that should also be considered when choosing, commissioning or providing a high-quality varicose veins service are listed in Related quality standards.

### Training and competencies

The quality standard should be read in the context of national and local guidelines on training and competencies. All healthcare professionals involved in assessing, caring for and treating people with varicose veins in their legs should have sufficient and appropriate training and competencies to deliver the actions and interventions described in the quality standard.

### Role of families and carers

Quality standards recognise the important role families and carers have in supporting people with varicose veins in their legs. If appropriate, healthcare professionals should ensure that family members and carers are involved in the decision-making process about investigations, treatment and care.
List of quality statements

Statement 1. People with varicose veins that are causing symptoms or complications (including ulceration) are referred to a vascular service.

Statement 2. People with varicose veins who are seen by a vascular service are assessed with duplex ultrasound.

Statement 3. People with confirmed varicose veins and truncal reflux are offered a suitable treatment in this order: endothermal ablation, ultrasound-guided foam sclerotherapy, surgery, compression hosiery.
Quality statement 1: Referral to a vascular service

Quality statement

People with varicose veins that are causing symptoms or complications (including ulceration) are referred to a vascular service.

Rationale

If left untreated, varicose veins will continue to cause symptoms that affect quality of life, and may progress to bleeding, skin damage and ulceration. Referral to a vascular service is a first step to interventional treatment for varicose veins that can relieve symptoms, and slow disease progression and improve people's quality of life.

Quality measures

Structure

Evidence of local arrangements and written referral criteria to ensure that people with varicose veins that are causing symptoms or complications (including ulceration) are referred to a vascular service.

Data source: Local data collection.

Process

Proportion of people with varicose veins that are causing symptoms or complications (including ulceration) who are referred to a vascular service.

Numerator – the number in the denominator who are referred to a vascular service.

Denominator – the number of people who present with varicose veins that are causing symptoms or complications (including ulceration).

Data source: Local data collection.

Outcome

a) Progression of venous leg disease.
**Data source:** Local data collection.

**What the quality statement means for service providers, healthcare professionals and commissioners**

**Service providers** (such as GPs and vascular services) ensure that local referral pathways into vascular services are consistent with the evidence-based referral criteria in NICE clinical guideline 168, which include varicose veins that are causing symptoms or complications (including ulceration).

**Healthcare professionals** (such as GPs) follow local referral pathways into vascular services to ensure that people with varicose veins that are causing symptoms or complications (including ulceration) are referred to a vascular service.

**Commissioners** (CCGs and NHS England) monitor activity across local referral pathways to ensure that the evidence-based referral criteria in NICE clinical guideline 168 are being followed.

**What the quality statement means for patients and carers**

People with varicose veins that are causing symptoms (for example pain, aching, discomfort, swelling, heaviness and itching) or problems such as bleeding, eczema or leg ulcers are referred to a specialist vascular service (a team of healthcare professionals who have training and experience in diagnosing and treating varicose veins).

**Source guidance**

- Varicose veins in the legs (NICE clinical guideline 168), recommendation 1.2.2 (key priority for implementation).

**Definitions of terms used in this quality statement**

**Symptoms of varicose veins**

Symptoms of varicose veins include troublesome lower limb symptoms (typically pain, aching, discomfort, swelling, heaviness and itching). The symptoms may be associated with primary or recurrent varicose veins. [Adapted from NICE clinical guideline 168, recommendation 1.2.2]
Complications of varicose veins

Complications of varicose veins are:

- lower-limb skin changes, such as pigmentation or eczema, thought to be caused by chronic venous insufficiency
- bleeding varicose veins
- superficial vein thrombosis (characterised by the appearance of hard, painful veins) and suspected venous incompetence
- a venous leg ulcer (a break in the skin below the knee that has not healed within 2 weeks) or a healed venous leg ulcer.

[Adapted from NICE clinical guideline 168, recommendation 1.2.2]

Vascular service

A vascular service is a team of healthcare professionals who have the skills to undertake a full clinical and duplex ultrasound assessment and provide a full range of treatment. [NICE clinical guideline 168, recommendation 1.2.1]
Quality statement 2: Duplex ultrasound

Quality statement

People with varicose veins who are seen by a vascular service are assessed with duplex ultrasound.

Rationale

Duplex ultrasound is a non-invasive scan used to image the blood vessels of the body. It provides detailed information that helps to confirm the diagnosis and pattern of venous disease and determine the most appropriate treatment option. The handheld doppler is still used in some services, but it is outdated and does not provide the detailed, accurate information produced by duplex ultrasound.

Quality measures

Structure

Evidence of local arrangements to ensure that people with varicose veins seen by a vascular service are assessed with duplex ultrasound.

Data source: Local data collection.

Process

Proportion of people with varicose veins seen by a vascular service who are assessed with duplex ultrasound.

Numerator – the number in the denominator who are assessed with duplex ultrasound.

Denominator – the number of people with varicose veins seen by a vascular service.

Data source: Local data collection. NICE clinical guideline 168 clinical audit tool, standard 1.

What the quality statement means for service providers, healthcare professionals and commissioners

Service providers (secondary care) ensure that vascular services have adequate numbers of duplex
ultrasound machines and that staff have undergone appropriate training, so that all people with varicose veins referred to a vascular service are assessed with duplex ultrasound.

**Healthcare professionals** working in a vascular service ensure that people with varicose veins are assessed with duplex ultrasound.

**Commissioners (CCGs)** ensure that they commission vascular services that have sufficient capacity, equipment and skilled staff to assess varicose veins using duplex ultrasound.

**What the quality statement means for patients, service users and carers**

People with varicose veins who have been referred to a vascular service have a duplex ultrasound scan (a scan that uses high-frequency sound waves to produce a picture of the veins). The scan shows the blood flow and helps the vascular service team locate any damaged valves that might be causing the varicose veins.

**Source guidance**

- Varicose veins in the legs ([NICE clinical guideline 168](https://www.nice.org.uk/guidance/CG168)), recommendation 1.3.1 (key priority for implementation).

**Definitions of terms used in this quality statement**

**Vascular service**

A vascular service is a team of healthcare professionals who have the skills to undertake a full clinical and duplex ultrasound assessment and provide a full range of treatment. ([NICE clinical guideline 168, recommendation 1.2.1](https://www.nice.org.uk/guidance/CG168))

**Duplex ultrasound**

A device utilising doppler ultrasound that permits colour-coded visualisation of blood flow in the superficial, perforating and deep veins, as well as grey-scale imaging of the veins and surrounding tissue. It can also be used to image blood flow in arteries. ([Full guideline on varicose veins in the legs, glossary](https://www.nice.org.uk/guidance/CG168))
Quality statement 3: Treatment of varicose veins

Quality statement

People with confirmed varicose veins and truncal reflux are offered a suitable treatment in this order: endothermal ablation, ultrasound-guided foam sclerotherapy, surgery, compression hosiery.

Rationale

Historically surgery and compression therapy were the only treatments available to people with varicose veins, but in recent years other treatments including endothermal ablation and ultrasound-guided foam sclerotherapy have been developed. These newer therapies are less invasive than surgery, promote faster recovery and need shorter hospital stays. Not all treatments are suitable for all people and therefore it is important that the person's needs and preferences are also considered when deciding which is the most suitable treatment.

Quality measures

Structure

Evidence of local arrangements that the full range of treatments for varicose veins is commissioned in accordance with NICE clinical guideline 168.

Data source: Local data collection.

Process

a) Proportion of people with confirmed varicose veins and truncal reflux suitable for endothermal ablation who are offered endothermal ablation.

Numerator – Number in the denominator offered endothermal ablation.

Denominator – Number of people with confirmed varicose veins and truncal reflux suitable for endothermal ablation.

Data source: Local data collection. NICE clinical guideline 168 clinical audit tool, standard 2.

b) Proportion of people with confirmed varicose veins and truncal reflux unsuitable for endothermal ablation who are offered ultrasound-guided foam sclerotherapy.
Numerator – Number in the denominator offered ultrasound-guided foam sclerotherapy.

Denominator – Number of people with confirmed varicose veins and truncal reflux unsuitable for endothermal ablation, but suitable for ultrasound-guided foam sclerotherapy.

**Data source:** Local data collection. NICE clinical guideline 168 clinical audit tool, standard 3.

c) Proportion of people with confirmed varicose veins and truncal reflux unsuitable for endothermal ablation and ultrasound-guided foam sclerotherapy who are offered surgery.

Numerator – Number in the denominator offered surgery.

Denominator – Number of people with confirmed varicose veins and truncal reflux unsuitable for endothermal ablation and ultrasound-guided foam sclerotherapy, but suitable for surgery.

**Data source:** Local data collection. NICE clinical guideline 168 clinical audit tool, standard 4.

d) Proportion of people with confirmed varicose veins and truncal reflux unsuitable for endothermal ablation, ultrasound-guided foam sclerotherapy and surgery who are offered compression hosiery.

Numerator – Number in the denominator offered compression hosiery.

Denominator – Number of people with confirmed varicose veins and truncal reflux unsuitable for endothermal ablation, ultrasound-guided foam sclerotherapy and surgery.

**Data source:** Local data collection. NICE clinical guideline 168 clinical audit tool, standard 6.

**What the quality statement means for service providers, healthcare professionals and commissioners**

**Service providers** (secondary care) ensure that the local treatment pathway is consistent with the evidence-based treatment order in NICE clinical guideline 168.

**Healthcare professionals** ensure that they follow the local treatment pathway to offer people a treatment that is consistent with the evidence-based treatment order in NICE clinical guideline 168.
Commissioners (CCGs) ensure that the full range of treatments for varicose veins is commissioned in accordance with NICE clinical guideline 168.

**What the quality statement means for patients, service users and carers**

People with varicose veins caused by problems with the blood flow in the leg are offered treatment with:

- endothermal ablation (in which the veins are closed off using heat)
- or, if endothermal ablation is unsuitable, a treatment called ultrasound-guided foam sclerotherapy (in which the veins are closed off using a chemical foam)
- or, if both endothermal ablation and ultrasound-guided foam sclerotherapy are unsuitable, surgery to remove the varicose veins.

They should only be offered compression hosiery (stockings designed to improve blood flow by squeezing the legs) as a permanent treatment if none of the other treatments are suitable for them.

**Source guidance**

- Varicose veins in the legs (NICE clinical guideline 168), recommendations 1.3.2 and 1.3.4 (key priority for implementation).

**Definitions of terms used in this quality statement**

**Suitable treatment order**

NICE clinical guideline 168 recommends that endothermal ablation, ultrasound-guided foam sclerotherapy or surgery may be offered in that order, according to suitability. It recommends compression hosiery only if those 3 interventions are unsuitable for the person. The suitability of each option will depend on the person's clinical circumstances and their preferences.

**Truncal reflux**

Truncal reflux is the failure of competence of valves in 1 or more of the 3 truncal veins – the great saphenous vein, the small saphenous vein and the anterior accessory saphenous vein. [Adapted from Full guideline on varicose veins in the legs, page 122 and glossary definition of reflux]
Endothermal ablation

There are 2 types of endothermal ablation in common use: radiofrequency ablation (see Radiofrequency ablation of varicose veins [NICE interventional procedure guidance 8]) and laser ablation (see Endovenous laser treatment of the long saphenous vein [NICE interventional procedure guidance 52]). Radiofrequency ablation uses radio wave electromagnetic energy to cause venous ablation and closure by raising the temperature of the inner lumen of the vein. Laser ablation uses laser energy to cause venous ablation and closure by raising the temperature of the inner lumen of the vein. [Adapted from Full guideline on varicose veins in the legs, glossary definitions of radiofrequency ablation and laser ablation]

Ultrasound-guided foam sclerotherapy

The injection of a sclerosing agent into a vein for chemical ablation guided by real-time ultrasound imaging (see Ultrasound-guided foam sclerotherapy for varicose veins [NICE interventional procedure guidance 440]). [Full guideline on varicose veins in the legs, glossary definition of ultrasound guided foam sclerotherapy]

Surgery

A surgical technique of truncal or tributary vein removal, in which the vein is physically stripped from surrounding tissues and removed. [Full guideline on varicose veins in the legs, glossary definition of stripping]

Compression hosiery

Graduated elastic stockings work by compressing the varicose veins, so emptying them of blood and by increasing the venous return, both of which reduce venous pressure. They can be bought ‘off the shelf’ in different sizes or they can be made to measure and are available in different pressures. [Adapted from Full guideline on varicose veins in the legs, glossary definition of compression hosiery]

Reflux

Reflux is the backflow of blood through a venous valve. [Full guideline on varicose veins in the legs, glossary definition of stripping]
Using the quality standard

Quality measures

The quality measures accompanying the quality statements aim to improve the structure, process and outcomes of care in areas identified as needing quality improvement. They are not a new set of targets or mandatory indicators for performance management.

We have indicated if current national indicators exist that could be used to measure the quality statements. These include indicators developed by the Health and Social Care Information Centre through its Indicators for Quality Improvement Programme. If there is no national indicator that could be used to measure a quality statement, the quality measure should form the basis for audit criteria developed and used locally.

See NICE’s What makes up a NICE quality standard? for further information, including advice on using quality measures.

Levels of achievement

Expected levels of achievement for quality measures are not specified. Quality standards are intended to drive up the quality of care, and so achievement levels of 100% should be aspired to (or 0% if the quality statement states that something should not be done). However, NICE recognises that this may not always be appropriate in practice, taking account of safety, choice and professional judgement, and therefore desired levels of achievement should be defined locally.

Using other national guidance and policy documents

Other national guidance and current policy documents have been referenced during the development of this quality standard. It is important that the quality standard is considered alongside the documents listed in Development sources.

Information for commissioners

NICE has produced support for commissioning that considers the commissioning implications and potential resource impact of this quality standard. This is available on the NICE website.
Information for the public

NICE has produced information for the public about this quality standard. Patients, service users and carers can use it to find out about the quality of care they should expect to receive, as a basis for asking questions about their care and to help make choices between providers of social care services.
Diversity, equality and language

During the development of this quality standard, equality issues have been considered and equality assessments are available.

Good communication between healthcare professionals and people with varicose veins is essential. Treatment, care and support, and the information given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English. People with varicose veins should have access to an interpreter or advocate if needed.

Commissioners and providers should aim to achieve the quality standard in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in this quality standard should be interpreted in a way that would be inconsistent with compliance with those duties.
Development sources

Further explanation of the methodology used can be found in the quality standards Process guide.

Evidence sources

The documents below contain recommendations from NICE guidance or other NICE-accredited recommendations that were used by the Quality Standards Advisory Committee to develop the quality standard statements and measures.

- Varicose veins in the legs. NICE clinical guideline 168 (2013).

Policy context

It is important that the quality standard is considered alongside current policy documents, including:


Definitions and data sources for the quality measures

• Varicose veins in the legs. NICE clinical guideline 168 (2013).
Related NICE quality standards

Published

- Patient experience in adult NHS services. NICE quality standard 15 (2012).

Future quality standards

This quality standard has been developed in the context of all quality standards referred to NICE, including the following topics scheduled for future development:

- Obesity in adults.
- Physical activity.

The full list of quality standard topics referred to NICE is available from the quality standards topic library on the NICE website.
Quality Standards Advisory Committee and NICE project team

Quality Standards Advisory Committee

This quality standard has been developed by Quality Standards Advisory Committee. Membership of this committee is as follows:

Mr Barry Attwood
Lay member

Professor Gillian Baird
Consultant Developmental Paediatrician, Guys and St Thomas' NHS Foundation Trust

Mrs Belinda Black
Chief Executive Officer, Sheffcare Ltd

Dr Ashok Bohra
Consultant Surgeon, Dudley Group of Hospitals NHS Foundation Trust

Mrs Julie Clatworthy
Governing Body Nurse, Gloucestershire Clinical Commissioning Group

Mr Derek Cruikshank
Consultant Gynaecological Oncologist/Chief of Service, South Tees NHS Foundation Trust

Miss Parul Desai
Consultant in Public Health and Ophthalmology, Moorfields Eye Hospital NHS Foundation Trust, London

Mrs Belinda Dooley (Member until February 2014)
Divisional Manager, Sandwell Metropolitan Borough Council

Mrs Jean Gaffin
Lay member

Dr Joanne Greenhalgh
Principal Research Fellow, University of Leeds
The following specialist members joined the committee to develop this quality standard:

**Professor Andrew Bradbury**
Sampson Gamgee Professor of Vascular Surgery, College of Medical and Dental Sciences, University of Birmingham and Honorary Consultant Vascular and Endovascular Surgeon, Heart of England NHS Foundation Trust, Birmingham

**Dr Jocelyn Brookes**
Consultant Endovascular Radiologist, University College London Hospitals

Mrs Joyce Calam
Lay member

Professor Alun H Davies
Professor of Vascular Surgery, Imperial College London and Honorary Consultant Surgeon, Imperial College NHS Trust, Charing Cross and St Mary's Hospitals, London

Ms Hazel Trender
Senior Vascular Nurse Specialist, Sheffield Vascular Institute, Sheffield

Dr Mark Vaughan
GP, Avenue Villa Surgery, Llanelli, Carmarthenshire

NICE project team

Dylan Jones
Associate Director

Shirley Crawshaw
Consultant Clinical Adviser

Rachel Neary
Programme Manager

Craig Grime
Technical Adviser

Justine Karpusheff
Lead Technical Analyst

Natalie Boileau
Project Manager

Jenny Mills
Coordinator
About this quality standard

NICE quality standards describe high-priority areas for quality improvement in a defined care or service area. Each standard consists of a prioritised set of specific, concise and measurable statements. NICE quality standards draw on existing NICE or NICE-accredited guidance that provides an underpinning, comprehensive set of recommendations, and are designed to support the measurement of improvement.

The methods and processes for developing NICE quality standards are described in the quality standards process guide.

This quality standard has been incorporated into the NICE pathway for varicose veins in the legs.

NICE produces guidance, standards and information on commissioning and providing high-quality healthcare, social care, and public health services. We have agreements to provide certain NICE services to Wales, Scotland and Northern Ireland. Decisions on how NICE guidance and other products apply in those countries are made by ministers in the Welsh government, Scottish government, and Northern Ireland Executive. NICE guidance or other products may include references to organisations or people responsible for commissioning or providing care that may be relevant only to England.

Changes after publications

April 2015: minor maintenance

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Endorsing organisation

This quality standard has been endorsed by NHS England, as required by the Health and Social Care Act (2012)
Supporting organisations

Many organisations share NICE's commitment to quality improvement using evidence-based guidance. The following supporting organisations have recognised the benefit of the quality standard in improving care for patients, carers, service users and members of the public. They have agreed to work with NICE to ensure that those commissioning or providing services are made aware of and encouraged to use the quality standard.

- Royal College of Obstetricians and Gynaecologists
- Royal College of Surgeons of England
- Society of Vascular Nurses
- Vascular Society