

Development of a standard definition of ‘no-option’ and ‘poor-option’ for revascularization in chronic limb-threatening ischemia

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Abstract

Introduction: Revascularization to prevent limb loss is not feasible or represents a very high risk in a significant proportion of patients with chronic limb-threatening ischaemia (CLTI). No standard definition currently exists to define this population of patients. The aim of this study was to develop a consensus-based, multidomain definition to improve clinical assessment and reporting of studies in people with ‘no option’ (NO) or ‘poor option’ (PO) CLTI.

Methods: A modified Delphi process was conducted with 164 specialists from 30 countries. Two iterative survey rounds were used to reach consensus, defined as $\geq 70\%$ agreement with a score of ≥ 7 on a nine-point scale.

Results: Some 164 international vascular specialists participated in the study, averaging 19 years of experience. A multidomain framework including arterial disease anatomy, biology, risk, function, and context (ABRFC) achieved 83% consensus. A ‘desert foot’ was defined as the absence of distal arterial revascularization targets on advanced non-invasive imaging, invasive digital subtraction angiography, and at least one failed endovascular revascularization attempt (81.6% agreement). Inadequate autogenous bypass conduit was defined as the lack of usable autologous vein across all four limbs (85% agreement). Patients were classified as NO for revascularization if they present with ‘desert foot’, prohibitive medical risk, a non-functional limb, or in those patients who refused arterial revascularization. PO revascularization patients combined factors such as severe infection, lack of autologous vein, or treatment non-compliance (72.1% agreement).

Conclusion: This consensus study established a structured, expert-validated definition of no option or poor option for revascularisation of patients with CLTI. The multidomain ABRFC framework provides a foundation for standardized clinical assessment, trial design, and future guideline development.

Introduction

Chronic limb-threatening ischaemia (CLTI) represents the most severe manifestation of peripheral arterial disease (PAD), with a high risk of limb loss and death. Despite advances in both surgical and endovascular revascularization techniques, a substantial subset of patients remains ineligible for conventional interventions owing to the absence of suitable inflow or outflow targets, lack of adequate venous conduit, or prohibitive co-morbidity. These individuals are frequently described as ‘no-option’ (NO-CLTI) and ‘poor-option’ (PO-CLTI) patients for standard arterial revascularization.

The natural history of patients with CLTI who do not undergo revascularization has always been very poor¹. In response, a variety of adjunctive and experimental strategies have been

investigated to address the therapeutic gap for those not eligible for standard revascularization procedures. These include neuromodulatory interventions such as spinal cord stimulation^{2–4}, vasoactive drugs⁵ (for example prostanoid infusions), gene therapy approaches employing angiogenic growth factors⁶, cell-based regenerative therapies^{7,8}, and venous arterialization⁹. Although some studies have demonstrated symptomatic improvement or transient improvements in limb salvage, randomized trials have failed to show improvements over best medical care.

The concept of NO-CLTI presents not only a therapeutic challenge but also uncertainty as to date no standardized definition has been available¹⁰. Current definitions vary, and the term is often applied inconsistently, encompassing both an anatomic impossibility of revascularization and situations where an intervention is considered technically feasible but clinically inappropriate¹¹.

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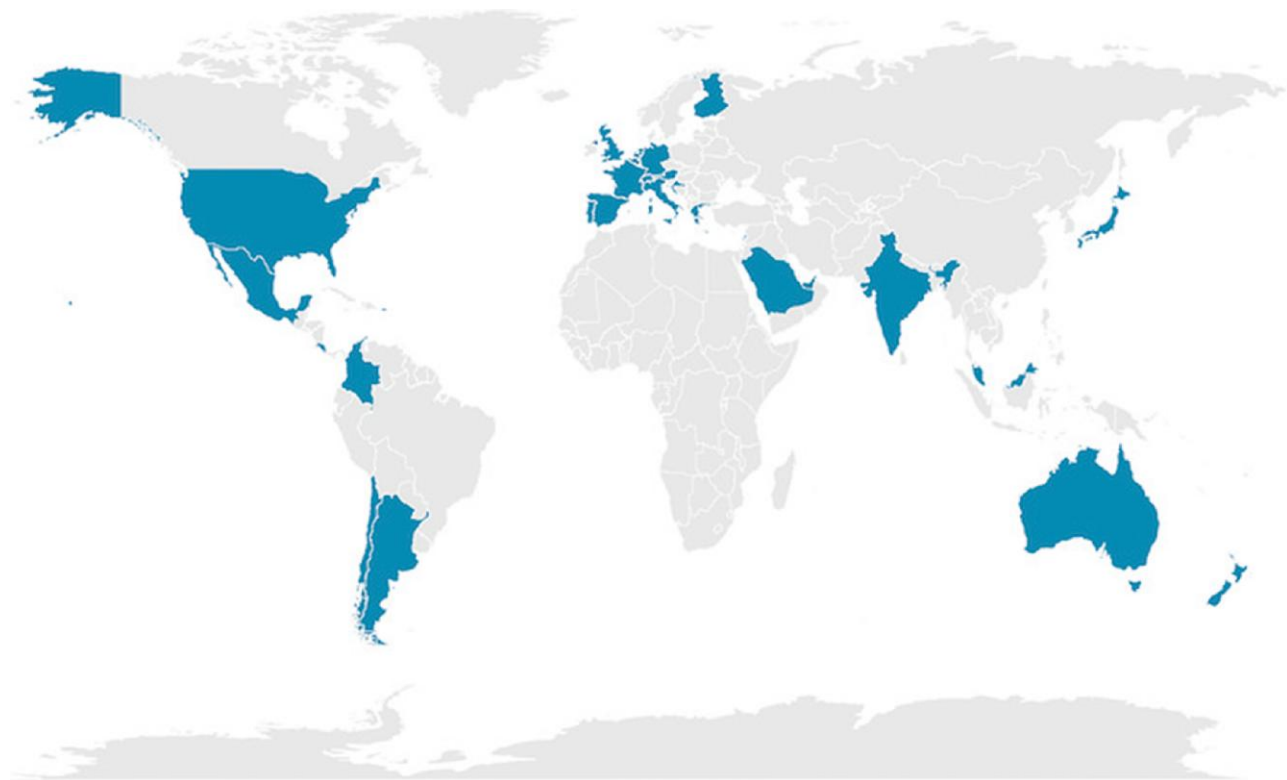


Fig. 1 Map showing the geographical distribution of participants

Highlighted countries in blue represent the countries from which participants were invited to participate in the Delphi rounds.

Establishing a precise, consensus-driven framework for NO-CLTI and PO-CLTI for arterial revascularization is therefore essential to improve patient stratification, guide clinical decision-making, and harmonize research in this high-risk population. The aim of this study was to develop a framework to standardize the description and reporting of NO-CLTI and PO-CLTI.

Methods

A modified Delphi methodology was employed, consisting of systematic and iterative rounds to guide a group of experts towards an agreed position.

Participants

An invitation outlining the background, rationale, and structure of the Delphi process was distributed via email and WhatsApp to 200 consultant vascular specialists from 30 countries. Participants were included based on the following criteria: a minimum of 5 years' clinical experience in the treatment of patients with CLTI, with an annual caseload exceeding 50 cases; recognized academic contributions; professional standing within the field; and geographic diversity.

Steering committee

A steering committee of three vascular specialists (M.A.F., J.C.v.d.B., A.D.) oversaw the study. The committee's roles were to design the initial statements and domains for the first Delphi round, analyse the quantitative results and qualitative feedback from each round, adapt and refine the statements for subsequent rounds based on this feedback, and supervise the overall process. The steering committee members did not participate in the voting rounds of the Delphi process to avoid introducing bias.

Study procedure

The study was conducted using the online survey platform Google Forms (Google, Mountain View, CA) and adhered to the Conducting and Reporting Delphi Studies guidelines¹². Responses remained anonymous throughout, to encourage participants to express their views openly. Data were analysed using the most current version of RStudio (Posit RStudio 2025.05.x) with de-identified data. Graphical figures were generated in Python using Matplotlib, whereas summary tables and visual content were constructed in R using packages such as ggplot2 (v3.5.2), gridExtra (v2.3), dplyr, tidyr, and stringr. Data handling complied with the General Data Protection Regulation (<https://gdpr-info.eu/>). Ethical approval was not required.

The Delphi rounds were undertaken between August and September 2025 under the supervision of a steering committee with expertise in the management of patients with CLTI. To ensure clarity, consistent terminology was employed across all rounds. Each round remained open for 3 weeks, with a 1-week interval between rounds to allow for collation and analysis of responses. Weekly reminders were sent to participants via email and WhatsApp.

Delphi rounds

The first round sought to determine the necessity of redefining NO-CLTI and PO-CLTI to establish the principal domains of the new definition. After each statement, participants who provided a rating below 7 were invited to suggest modifications through an open-ended question.

The second round incorporated these suggested revisions and was designed to refine and converge upon the proposed definition. Again, participants who rated below 7 were encouraged to propose changes.

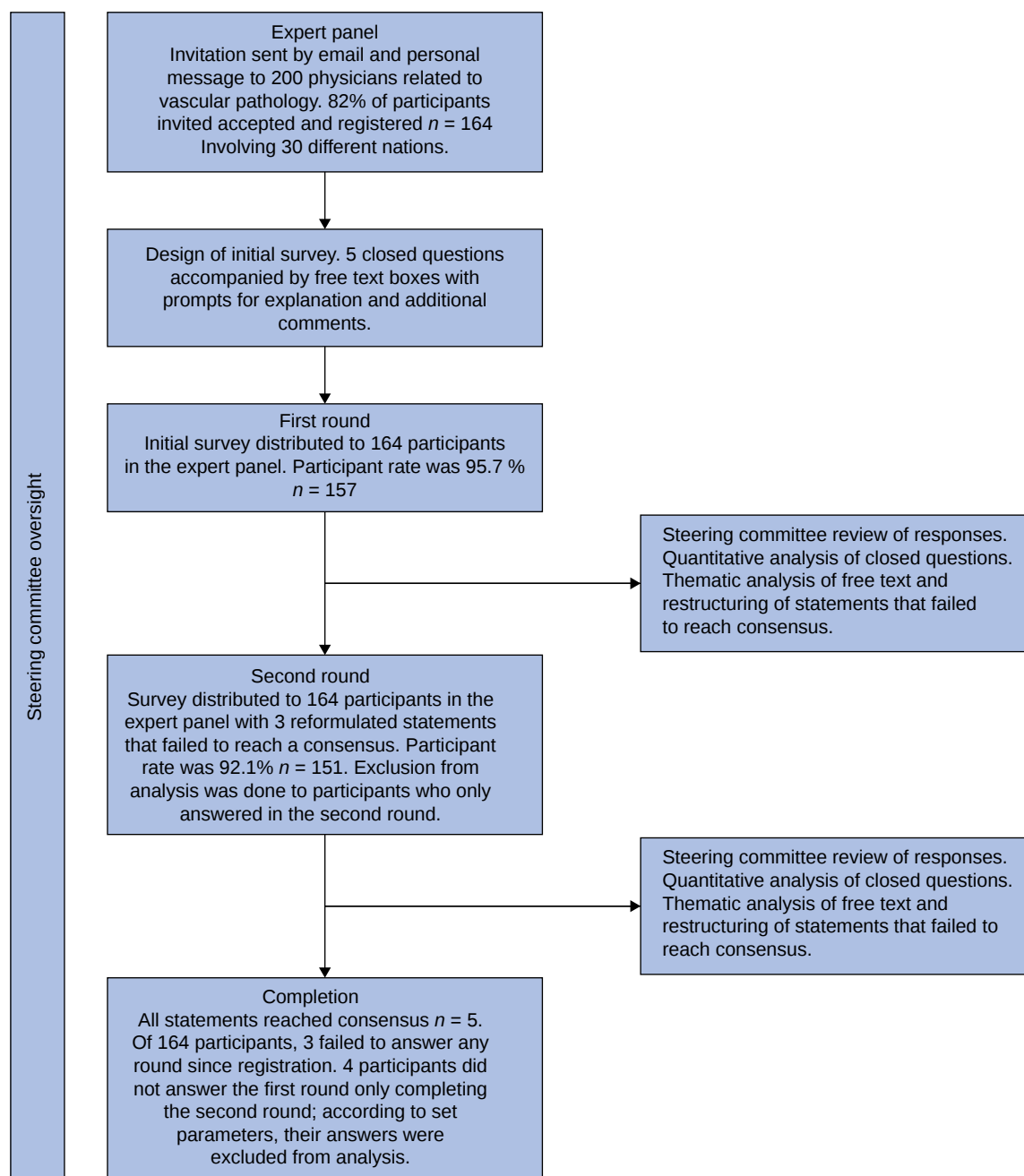


Fig. 2 Delphi consensus flowchart

First and second round results were not shared with participants until consensus was achieved to avoid bias.

Outcome measures and consensus definition

Agreement with each statement was assessed using a 9-point agreement scale, and responses to all questions were mandatory. In line with common practice in Delphi methodology, consensus was defined as $\geq 70\%$ of participants rating a statement at 7 or higher. Abstentions were not interpreted as agreement.

Results

Some 200 consultant vascular specialists invited to participate, 164 (82%) from 30 countries accepted the invitation (Fig. 1). The

mean experience in the field of participants was 19 years (s.d. 7.8 years), and the mean number of cases treated each year was 563 cases. Tables S2, S3 contain further participant details. Of the 164 registered participants, 157 answered the first-round form during a 3-week span (95.7% response rate). Those who agreed to participate but did not answer the first round were eliminated, making the new base 157 participants. The second round was answered by 151 participants (92.1%) (Fig. 2).

Delphi rounds

The questionnaires comprised eight closed and seven open questions in total (each question representing a statement), which had been agreed upon by the steering committee. Participants could provide suggestions for modifications on the original statement to be able to reach consensus (Table 1 and Fig. 3a). A consensus was reached

Table 1 First round results

Statement number	Statement	Acceptance rate (%) n = 164	Consensus reached (≥70%)
1	No option (NO) and poor option (PO) revascularization in patients with CLTI is not perfectly defined and needs further clarification	84.8% (n = 139)	Yes
2	Kim's classification proposes five types for a patient with CLTI to be considered NO-OPTION (NO) or POOR-OPTION (PO) for arterial revascularization: I) desert foot pedal anatomy II) inadequate venous conduit III) extensive tissue loss IV) prohibitive risk for procedure V) non-functional limb Those types are enough to include all patients with NO or PO for open and endovascular treatment.	49.4% (n = 81)	No
3	All these steps must be completed to consider a desert foot: a) No distal posterior tibial artery (PTA), nor pedal artery seen with non-invasive imaging methods, as ultrasound Doppler (US), computed tomography angiography (CTA), photon-counting computed tomography angiography (PCCTA), magnetic resonance angiography (MRA) b) No distal PTA, pedal, peroneal, nor plantar that takes flow to plantar arches, nor the toes, evidenced with: i. DSA with long exposure (at least 20 s), injecting through a catheter positioned at: • The distal popliteal artery or, • The CFA allows for the filling of the profunda collaterals, which will show the distal reconstitution (proximal angiography should allow for collateral filling to occur) if the SFA is occluded. • Supra-selective injection after crossing an occlusion • If so, at least one attempt of antegrade and/or retrograde endovascular revascularization performed by an experienced interventionist with the best available dedicated materials.	81.6% (n = 133)	Yes
4	NO OPTION PATIENTS For a better definition of type II inadequate venous conduit, all these conditions must be present. a) Under ultrasound scan, not enough length of Great Saphenous Vein (GSV) or Lesser Saphenous Vein (LSV) in the ipsilateral leg. b) No possibility of harvesting or not enough length of GSV or LSV in the contralateral leg. c) Under ultrasound scan, not enough length of any brachial vein or no possibility for its harvesting d) No availability of homologous cryopreserved or cadaveric graft e) At least one attempt of antegrade and/or retrograde endovascular revascularization performed by an experienced interventionist with the best available dedicated materials.	63.3% (n = 103)	No
5	NO OPTION PATIENTS After fulfilling all the above requirements to classify a patient as type II Inadequate venous conduit, I would consider at least one attempt of bypass using fresh or cryopreserved allograft or dedicated prosthetic material as conduit.	53.8% (n = 88)	No

This table represents statements involved in the first round; participants who rated from 1 to 6 their agreement were invited to provide feedback to modify statements. The acceptance rate was defined based on answers with 7 or more in agreement. Consensus achieved statements had 70% or more agreement. The total participants were 157 during the first round (n = 157).

on statements 1 and 3; the remaining statements were adapted based on participants' comments and sent for the second round. After the second round was closed, all statements reached consensus. The full set of questions and results obtained from the second round can be seen in [Table 2](#) and [Fig. 3b](#).

Definitions consensus

To define the concept of 'desert foot', three mandatory steps must be undertaken: the utilization of non-invasive imaging techniques, digital subtraction angiography, and at least one attempt at endovascular revascularization performed by a skilled interventionist with specialized equipment. Similarly, the absence of an appropriate conduit necessitates a comprehensive examination of the veins in both the lower and upper

extremities via ultrasound. Consideration must also be given to composite and alternative prosthetic or biological grafts.

Following these novel anatomical definitions, a multidomain framework is proposed to delineate NO- and PO-CLTI: A (Anatomy and Reconstructibility), B (Limb Biology), R (Patient Risk), F (Functional Status and Treatment Goals), and C (Contextual Modifiers) ([Table 3](#)).

NO-CLTI is characterized by the presence of any single factor that overrides all others: A2 denotes desert foot anatomy, R2 signifies prohibitive patient risk (ASA 5), F2 indicates a non-functional limb, or C-p reflects a patient's preference against revascularization.

Conversely, PO-CLTI is combinatorial, requiring the presence of a reconstructible or marginal artery (A0/A1) alongside at least one adverse factor from the other domains: A-c/A-r/A-x indicates

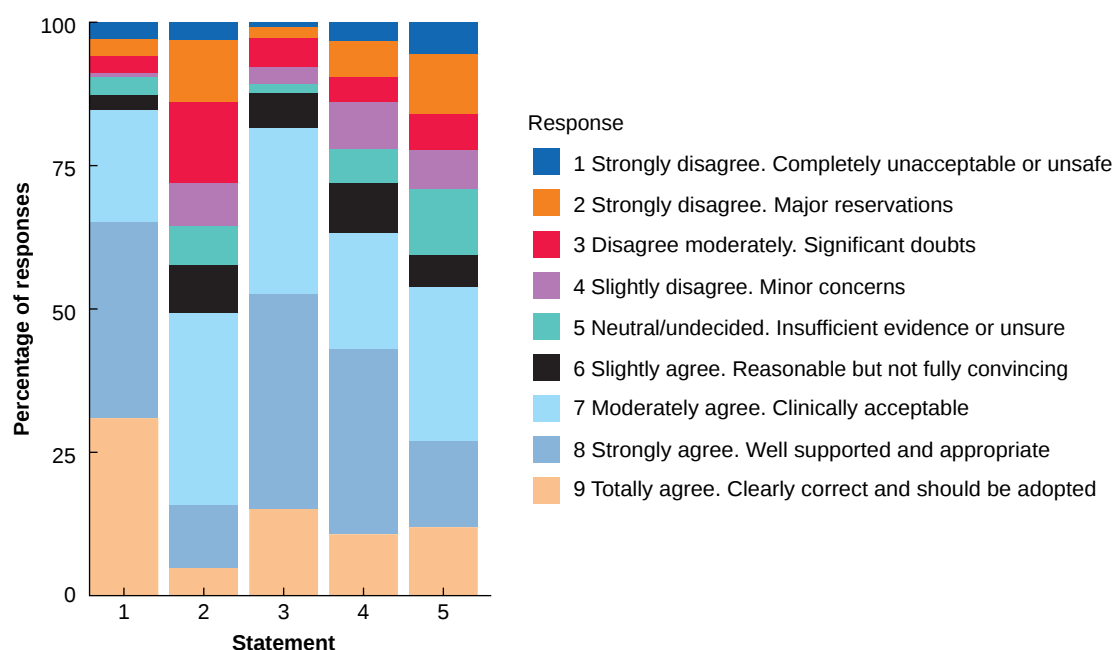
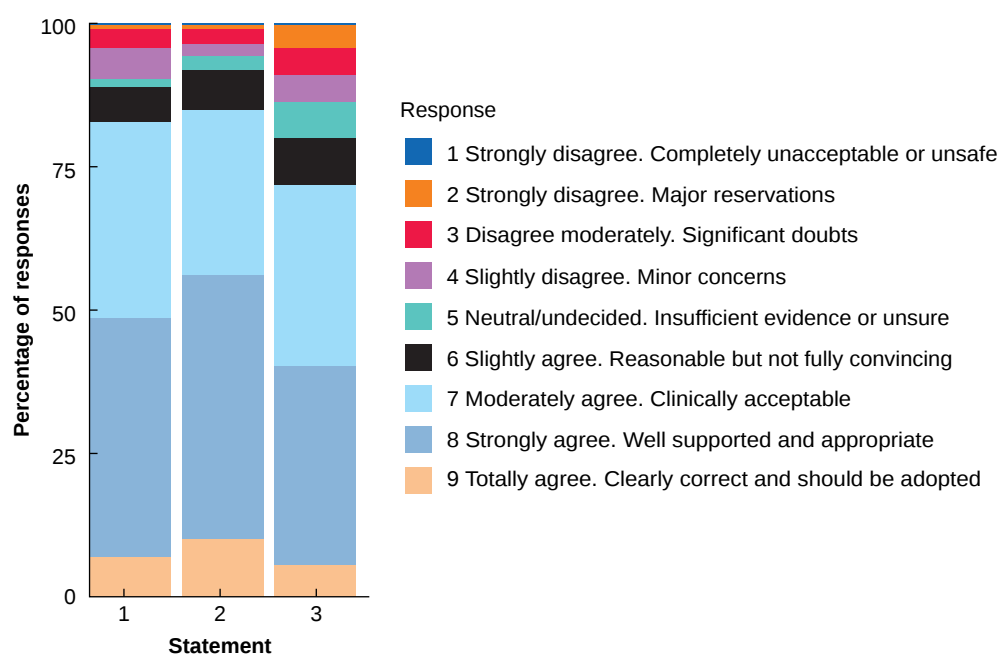
a Distribution of responses**b** Distribution of responses

Fig. 3 a First round (left-hand side). **b** Second round (right-hand side). The x-axis represents each statement response distribution in order of appearance. The y-axis represents the percentage of total registered responses per statement. Each stacked bar depicts the proportions of response category, with colour intensity matching the frequency of that response

anatomical challenges, A-v denotes the unavailability of autologous vein conduits, A-g refers to alternative graft conduits without an endovascular option, B4 signifies severe biology (WIFI stage 4), and C-n indicates non-compliance with medical therapy (Table 4 and Fig. 4).

Discussion

The concept of the patient with CLTI without an option for arterial reconstruction has evolved considerably over time^{1,11,13,14},

reflecting the diagnostic and therapeutic tools available in each era. The increasing diffusion of endovascular procedures has opened new therapeutic possibilities for patients who would previously have been classified as having no option, thereby reducing the proportion of patients falling into this category¹⁵.

Despite these advances, there is still no clear, objective, and universally accepted definition of patients with these characteristics in the context of the current state of the art. The absence of such a definition has created variability in clinical

Table 2 Second round results

Statement number	Statement	Acceptance rate (%) n = 157	Consensus reached (≥70%)
1	Classification of CLTI Patients as No-Option (NO) or Poor-Option (PO) Structured division to classify patients in poor-option and no-option for standard arterial reconstruction, specifically limited to percutaneous transluminal angioplasty (PTA), bypass surgery, or a combination of both. A. Arterial Anatomy and Reconstructibility A0: Reconstructible targets suitable for bypass or endovascular therapy. A1 (PO): Marginal targets (severe medial arterial calcification, segmental arterial disease, or incomplete revascularization with residual ischaemia in the wound bed). A2 (NO): No reconstructible inflow, or outflow (desert foot*) Apply modifiers when relevant: A-c: Severe calcification. A-r: Early/frequent reocclusion despite technically adequate procedures. A-x: Exhausted targets or severe in-stent restenosis ('full metal jacket'). A-v: Autologous vein conduit unavailability A-g: Alternative graft conduits B. Limb Biology: Biology (B1–B4 based on stage of Wifl classification): B4: Severe adverse biology (for example extensive infection, osteomyelitis, calcaneal involvement) with limited salvage potential (corresponding to Wifl Clinical Stage 4). R. Patient Risk and Prognosis R0: Acceptable operative risk (ASA 1–2) R1: High risk but potentially appropriate for intervention (ASA 3–4) R2: Prohibitive systemic risk/limited life expectancy (ASA 5) (for example advanced metastatic disease, severe dementia, moribund state not due to foot sepsis alone). F. Functional Status and Treatment Goals F0: Fully functional limb (ambulatory, limb contributes to mobility). F1: Limb essential for transfer/standing (limited ambulation, limb required for bed-chair transfers). F2: Non-functional limb (non-ambulatory, limb does not contribute to mobility or transfers). C. Contextual Modifiers C-n: Non-compliance with medical therapy. C-p: Patient preferences: declines revascularization.	83.0% (n = 130)	Yes
2	Autologous vein conduit unavailability Inadequate venous conduit should be defined as the absence of a usable autologous vein for bypass, despite standardized and comprehensive mapping of both lower and upper extremity veins, and the consideration of composite or spliced vein strategies. Criteria to be considered (all must be addressed): - Lower limb veins—duplex or cross-sectional imaging confirms no adequate ipsilateral or contralateral great or small saphenous vein segment (≥2.5–3.0 mm diameter for most targets; ≥2.0 mm acceptable for pedal bypass), accounting for wall quality, thrombosis, or scarring. - Upper limb veins—no adequate cephalic or basilic vein segments are available after bilateral mapping. - Composite or spliced conduits—use of combined autologous segments from legs and/or arms is not feasible. Alternative graft conduits: before discharging a bypass option, consider: - Prosthetic grafts with adjuncts (for example venous cuff, Miller cuff) or biosynthetic conduits. - Cryopreserved or cadaveric grafts may also be considered if none of the above options are available.	85.0% (n = 133)	Yes
3	Operational Definitions NO-option CLTI if: Presence of any one of: A2, or R2, or F2, or C-p Poor-option CLTI if: Presence of any one of: A0/A1 + A-c or A-r or A-x, or A0/A1 + B4 (Wifl Clinical Stage 4), or A0/A1 + F2, or A0/A1 + C-n, or A0/A1 with no endovascular option + A-v, or A0/A1 with no endovascular option + A-g	72.1% (n = 113)	Yes

Table showcasing modified statements based on first round analysis. The acceptance rate was defined based on answers with 7 or more in agreement. Consensus achieved statements had 70% or more agreement. The total participants were 151 in the second round (n = 151).

practice, making the establishment of a consensus both timely and necessary¹⁰. A Delphi methodology provides an appropriate framework for this purpose, allowing a diverse panel of experts to iteratively refine and converge upon a definition that is both evidence-informed and practice-oriented.

In this study, 157 vascular specialists from 30 countries across five continents contributed to the consensus process. Collectively, the panel had an average of almost 20 years of experience and more than 6000 indexed scientific publications, underscoring the robustness and credibility of the group. The high level of

Table 3 Multidomain framework

ABRFC Framework
A. Anatomy and Reconstructibility:
• A0: Suitable for bypass/endovascular. • A1 (PO): Marginal targets (severe medial arterial calcification, segmental arterial disease, or incomplete revascularization with residual ischaemia in the wound bed). • A2 (NO): No reconstructible inflow, or outflow (desert foot) • Modifiers: A-c (calcification), A-r (reocclusion), A-x (exhausted/full metal jacket), A-v (no vein), A-g (alternative graft).
B. Biology (B1–B4 Based on stage of Wifl classification): B4: Severe adverse biology (for example extensive infection, osteomyelitis, calcaneal involvement) with limited salvage potential (corresponding to Wifl Clinical Stage 4).
R. Risk: R0: Acceptable operative risk (ASA 1–2); R1: high risk but potentially appropriate for intervention (ASA 3–4); R2: prohibitive systemic risk/limited life expectancy (ASA 5) (for example advanced metastatic disease, severe dementia, moribund state not due to foot sepsis alone).
F. Function: F0 (fully functional limb); F1 (limb essential for transfer/standing only); F2 (non-functional limb).
C. Context: C-n (non-compliance with medical therapy); C-p (patient declines revascularization).

This table represents the anatomical framework to help define No-Option and Poor-Option patients with CLTI. CLTI: chronic limb-threatening ischaemia; Wifl: wound ischaemia and foot infection.

consensus achieved strengthens the validity of the resulting definition.

The first and most fundamental point of agreement, reached with 85% consensus, was the recognition that no clear or universally accepted definition or classification of NO-CLTI currently exists, and that the creation of such a framework is urgently required. This shared acknowledgement among experts underscores the importance of establishing common terminology and criteria, both to standardize clinical practice and to facilitate the comparison of outcomes across studies and health systems.

The initial Delphi round focused on anatomical factors. However, qualitative feedback from participants overwhelmingly indicated that a purely anatomical definition was insufficient to capture the clinical reality of 'no-option' status. Experts emphasized that patient co-morbidities, life expectancy, functional status, and personal preferences are integral to decision-making. Consequently, the steering committee broadened the framework for Round 2 to include the A, B, R, F, C domains, which achieved strong consensus (83%). This multidimensional approach offers a comprehensive, holistic perspective of the patient, crucial for defining 'option' which is inherently a clinical, not purely anatomical, judgement.

This ABRFC framework is not intended to replace existing validated classification systems such as Rutherford, Wifl, or the Kim classification. Rather, it provides a structured reporting scaffold that makes explicitly mentions the multidimensional factors that already influence clinical decision-making in advanced CLTI. By formally separating anatomy, limb biology, patient risk, functional status, and contextual factors, the framework allows a better comparison between studies and centres, particularly in populations traditionally grouped under the heterogeneous label of 'no-option' CLTI.

Within the individual domains, several important areas of agreement were reached. In the anatomical domain, >80% consensus was achieved on a series of processes required to ensure the accurate identification of patients with so-called

Table 4 NO- and PO-CLTI definition

NO-CLTI criteria (the presence of any single overrides all else)	PO-CLTI criteria (combinational)
• A2: Desert foot anatomy. • R2: Prohibitive patient risk (ASA 5). • F2: Non-functional limb. • C-p: Patient preference against revascularization.	Requires a reconstructible/marginal artery (A0/A1) plus at least one adverse factor from other domains: • A-c/A-r/A-x: anatomical challenges • A-v: No autologous vein conduit available • A-g: Alternative graft conduits without an endovascular option • B4: Severe biology (Wifl stage 4) • C-n: Non-compliance with medical therapy

This table represents the criteria set for CLTI patients under the NO and PO categories. CLTI: chronic limb-threatening ischaemia; NO: no option; PO: poor option; Wifl: wound ischaemia and foot infection.

'desert foot', as well as on the absence of a suitable autologous venous conduit for bypass. In the biological domain, adherence to the Wifl classification¹⁶ was reaffirmed as the basis for defining NO- and PO-CLTI. In terms of risk, the ASA classification¹⁷ was adopted to stratify perioperative risk. The functional domain encompassed not only the utility and functionality of the limb itself, but also the overall functional status of the patient. Finally, in the contextual domain, weight was given to patient adherence to treatment, as well as to their autonomy in decision-making, including the option to decline revascularization and instead choose primary amputation.

The inclusion of the F (Function) and C (Context) domains warrants specific discussion, as their purpose extends beyond the typical clinical trial enrolment criteria. The F2 (non-functional limb) category identifies a clinical scenario where the burden of complex, high-risk revascularization to preserve a limb that does not contribute to patient mobility or quality of life may be ethically questionable, potentially favouring alternative strategies like primary amputation for palliation. Documenting this status is essential for transparent unequivocal reporting and understanding treatment selection in real-world practice. The C-p (patient declines revascularization) modifier is critical for completeness in real-world classification. It distinguishes patients who are 'no-option' due to personal choice from those who are anatomically or physiologically untreatable, which is vital for accurate natural history studies, health services research, and audits of decision-making.

Although the stratification into the five core domains (A, B, R, F, C) achieved a high level of consensus, the subsequent integration of these domains to classify patients into 'poor-option' and 'no-option' categories attained a consensus of 72.1%. While this met the pre-specified threshold, qualitative feedback from participants who scored this step below 7 frequently highlighted the perceived complexity of the combinatorial algorithm. In direct response, we emphasize that the framework's primary application is for nuanced assessment and research stratification. For straightforward clinical application, a simplified pathway is paramount: the presence of any single severe criterion—A2 (desert foot), R2 (ASA 5), F2 (non-functional limb), or C-p (patient declines revascularization)—is sufficient to classify a patient as 'no option'. This streamlined approach is captured in the visual algorithm (Fig. 4), which we present as the key clinical translation of this consensus.

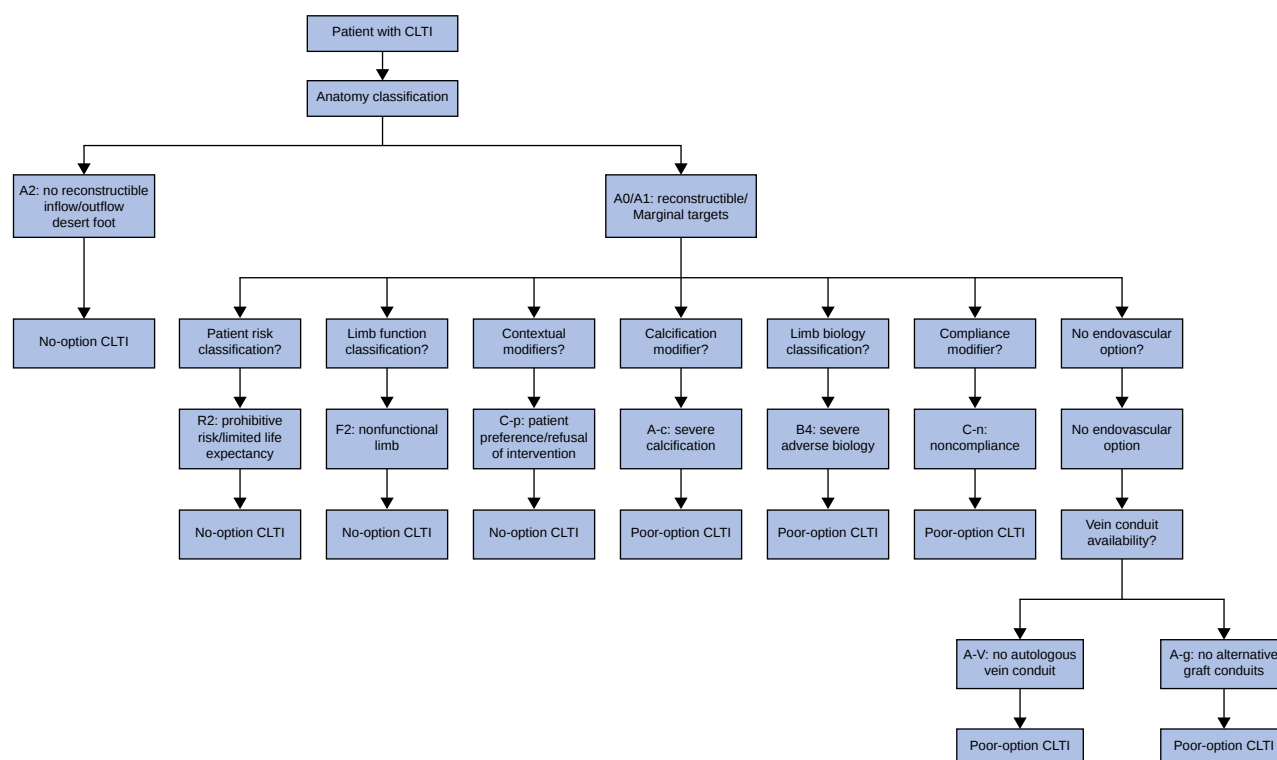


Fig. 4 No option (NO) and poor option (PO) chronic limb-threatening ischaemia (CLTI) classification

We acknowledge that the definitions for the R (Risk) and F (Function) domains represent a starting point and have limitations. The use of the ASA classification for R2, although simple and universal, is a generalized tool. In the CLTI population, most patients are ASA 3, and ASA 5 is intended to identify those with a systemic moribund state where revascularization is futile, not those with severe limb sepsis alone (which is captured under B4). More nuanced risk scores exist but lack universal adoption. Similarly, the F domain, although improved with functional descriptors, would benefit from input from rehabilitation specialists, who were not represented on our panel. These aspects highlight areas for future refinement and validation.

In comparison to the Kim classification system¹¹, the framework established by the present consensus introduces several substantive refinements. Principally, it consolidates the previously distinct vascular anatomical Categories I and II into a single, comprehensive A (Anatomical) domain, which is further augmented by explicit, step-by-step protocols for defining critical concepts such as 'desert foot' and 'inadequate venous conduit'. The element of extensive tissue loss, previously categorized as Kim's Type III, is now integrated into the B (Biology) domain and is objectively defined using the established WIfI (Wound, Ischaemia, and foot Infection) classification¹⁶. Similarly, Kim's Type IV, pertaining to patient co-morbidity, has been subsumed under the R (Risk) domain and operationalized using the widely adopted ASA physical status classification system¹⁷. The previous classification of a non-functional limb (Kim's Type V) has been elaborated into a more nuanced F (Functional) domain, comprising three distinct strata: fully functional limb, limb essential for transfer/standing, and non-functional limb. A significant advancement of this new system is the introduction of a dedicated C (Contextual) domain, which formally incorporates critical modifiers such as patient

preference and adherence to medical therapy, thereby acknowledging the pivotal role of these factors in clinical decision-making.

This study has certain limitations inherent to the Delphi methodology. The process relies on expert opinion, which may introduce subjectivity despite efforts to achieve balanced representation. Selection bias cannot be entirely excluded. The panel, although internationally diverse and clinically experienced in vascular disease, lacked dedicated expertise in perioperative medicine, anaesthesiology, and rehabilitation for the R and F domains, which is a recognised limitation. The findings require validation in prospective clinical settings to assess their applicability and impact on patient outcomes. Future research should focus on testing the proposed definition in real-world practice, integrating it with clinical registries, and evaluating its utility in guiding both therapeutic decision-making and health policy.

In contrast to other publications^{1-9,11,14}, the objective of this study was not to examine which therapeutic options may be valid for the management of patients with NO- or PO-CLTI. Rather, the aim was to establish a clear, objective, and universally applicable classification and definition. By focusing on definitional clarity rather than treatment strategies, this work seeks to provide a common foundation upon which future research, clinical decision-making, and guideline development can be reliably built. Without a clear classification, there is a risk of overusing alternative therapeutics that lack proven efficacy¹⁸.

Collaborators

This research was done with participation from members of the International Cooperative Vascular Consortium (ICVC). The following members of the ICVC consented to acknowledge their participation on the development of this research:

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Supplementary material

Supplementary material is available at [BJS](#) online.

Data availability

Deidentified raw data will be available upon request

Previous communication

This research paper is based on an editorial for the *Journal of Endovascular Therapy* titled 'No-option critical limb-threatening ischemia: a term still subjective'. The authors emphasized the need to standardize clinical definitions for chronic limb-threatening ischaemia patients. This editorial gave foundation to our research proposal and includes one of the original authors. doi:10.1177/15266028251379374.

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