

# The feasibility of developing a comprehensive risk assessment tool for evaluating the safe application of lower limb compression therapy?

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## Background:

In 2018, approximately 250 million patients globally received compression therapy as it is proven to be a safe and effective treatment for lower leg conditions such as lymphatic insufficiency and venous hypertension. The most common method of arterial assessment is the calculation of a patient's Ankle Brachial Pressure Index (ABPI) and the measurement/recording of this is embedded within many policies and best practice statements. ABPI compares the arterial flow of the arms (brachial artery) and the legs (Dorsalis Pedis artery and/or posterior tibial artery) providing a ratio to determine the presence and severity of Peripheral Artery Disease (PAD), therefore ensuring suitability for compression therapy.

## Aim:

To investigate the feasibility of creating a reliable assessment tool capable of identifying patients suitable for lower limb compression therapy without requiring an Ankle-Brachial Pressure Index (ABPI) arterial assessment.

## Objectives of the project:

- Identify and critically appraise evidence in the published literature to identify risk factors that could compromise patient safety when initiating lower limb compression therapy.
- Use the identified risk factors to convene a consensus group of national and international key opinion leaders in leg ulcer management.
- Develop a conceptual framework tool and a risk assessment tool to aid clinical decision making for patients requiring lower limb compression therapy.
- Test the new risk assessment tool for inter-rater reliability and content validity.



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## Significance of the project :

There has been no prior investigation exploring the development of a conceptual framework and subsequent development of a risk assessment tool for lower limb compression therapy. The development of a risk assessment tool to be used as an alternative to ABPI assessment could remove a significant barrier to timely and effective management for patients requiring strong compression therapy. This project has the potential to share new knowledge and significantly improve patient access to a timely and sustainable treatment outcome for those requiring lower limb compression therapy for venous leg ulcers, reducing costs, and utilising appropriate resources.

## Methodology and project design:

An exploratory mixed methods approach will be applied.

To achieve the three aims of the study, four phases will be undertaken.

**Phase One** – Narrative review of primary research to identify the development of risk assessment tools in clinical practice and predictive risk factors of Peripheral Artery Disease (PAD) and the impact of compression therapy application.

**Phase Two** - Conduct an online survey based on themes identified in the literature review. Data collected will be used to inform phase 3.

**Phase Three** – Consensus group - Conduct a consensus group to explore and critically analyse findings from the online survey and identify the most important risk factors for summarising patient risk.

**Phase Four – 4a)** - Develop a risk assessment tool.

**Phase Four - 4b)**-Conduct an evaluation of usability, acceptability, and accuracy of the newly developed risk assessment tool.

## Progress so far:

A preliminary scoping literature review has been conducted to ensure that nothing currently exists within the literature, regarding the use of alternative methods of screening for compression therapy suitability. The findings from this literature review have been used to develop the online survey to gather information for practicing clinicians. The online survey is aimed at clinicians caring for and assessing patients requiring lower limb compression therapy as part of their treatment.

An online survey has been conducted, collecting 126 responses from a diverse population of healthcare professionals.

University ethical approval was granted on the 5<sup>th</sup> of March 2024

**Key Words: Ankle Brachial Pressure Index (ABPI), Compression Therapy, Lower Limb Assessment & Patient Safety**