

# A single centre retrospective cohort study to examine the association between living with frailty and mortality in patients undergoing lower limb amputation due to peripheral arterial disease

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## Introduction

Increasing frailty has been linked to both increased morbidity and mortality in surgical patients. Peripheral arterial disease (PAD) is the major cause of lower limb amputation (LLA) in the UK.

We aim to assess the incidence of frailty and associated mortality for people having lower limb amputation due to PAD.

**P Population:** All patients undergoing LLA

**E Exposure:** Clinical frailty scoring

**C Comparison:** Those without frailty

**O Outcome:** Mortality

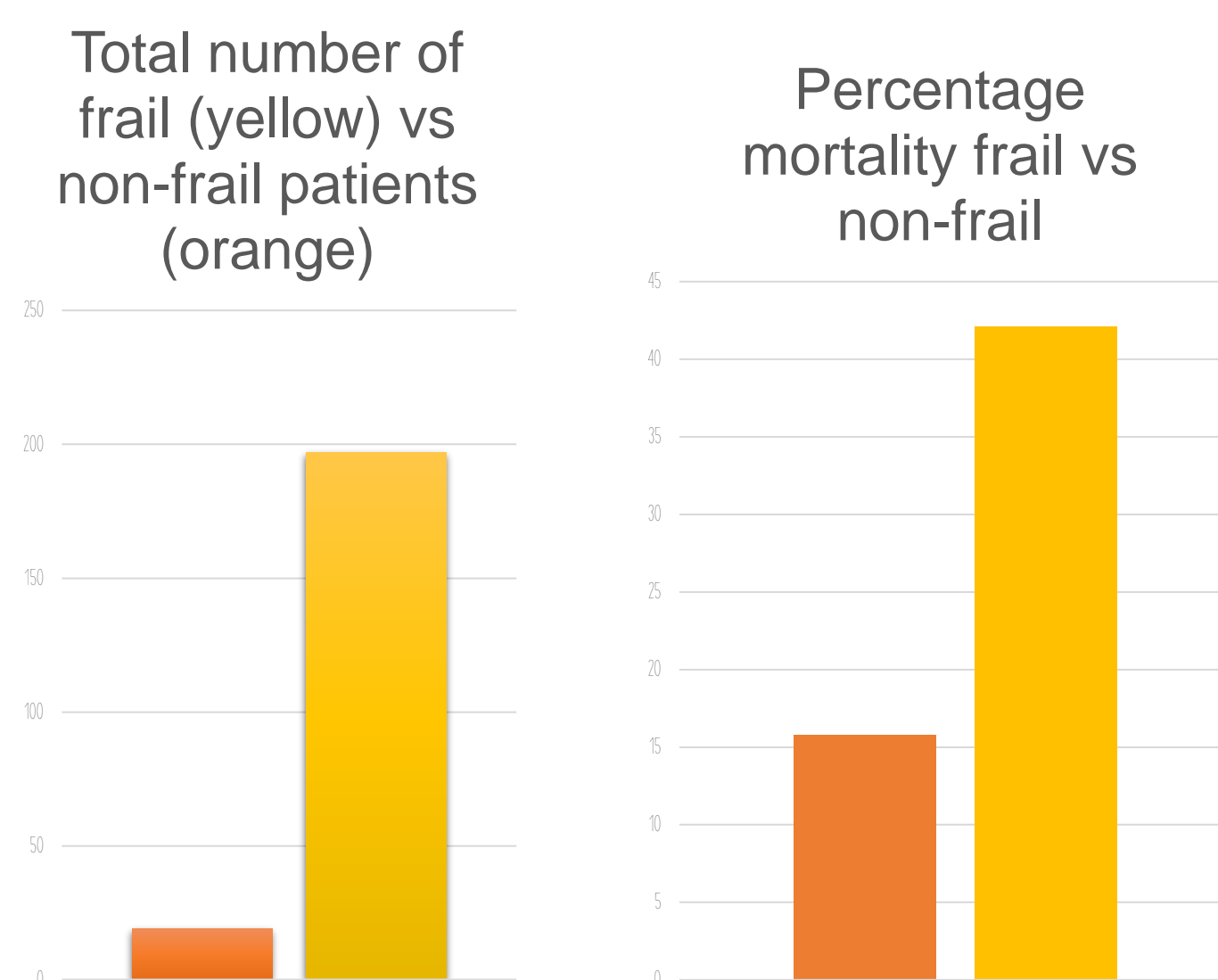
## Methods

We conducted a single centre retrospective cohort study of all patients who underwent amputation at Southmead Hospital between 2017 and 2021.

Of these, 216 patients had undergone lower limb amputation for PAD. Primary outcome was time to mortality from amputation. Clinical Frailty Score (CFS) was calculated from electronic notes with patients stratified as non-frail (CFS 1-3) or frail (CFS 4-8) based on their function two weeks prior to admission.

## Results

Of the 216 included, 86 (39.8%) died during follow up. The median age at amputation was 69 (IQR 62-75) and 57 were female (26.4%). There was median follow up of 15.4 months (IQR 4.9-23.2) in those that died and 20.9 months (9.4-33.9) in those completing the study alive. The majority 91.2% (197) were assessed as frail. The mortality for those living with frailty was 42.1% (n=83) compared to 15.8% (n=3) for those who were not frail.



## Conclusion

The great majority of patients undergoing amputation for PAD are already living with frailty. This study demonstrated that increasing frailty is associated with increased mortality in this patient group. Further research should aim towards assessing whether the Clinical Frailty Scale is an independent predictor of mortality.