

**Baseline evaluation**

Key question(s): Do we adequately identify malnutrition and other nutritional diagnoses? Does this impact on outcomes? Do we adequately identify and correct nutritional barriers?

Study design: QUANTITATIVE -> qualitative; Baseline / pilot evaluation.

Participants: 344 prospective, consecutive hip fracture patients.

Primary worldview: Pragmatic

Phase I: Nutrition screening and assessment in hip fracture

Key question(s): Are any malnutrition screening tools useful?

What is the prevalence of PEM and other nutrition diagnoses? Do these impact on nutritional, patient or healthcare outcomes?

Study design: QUANTITATIVE; diagnostic accuracy studies + prospective, consecutive case series

Participants: 150 prospective, consecutive hip fracture patients.

Primary worldview: Post-positivist

Phase II: Energy and protein intake post hip fracture

Key Questions(s): What are the mean energy and protein intakes? What are patient reported barriers to intake?

Study Design: QUANTITATIVE; prospective, consecutive case series.

Participants: 60 randomly selected hip fracture patients.

Primary worldview: Post-positivist

Phase III: Identification of barriers and clinical practice improvements

Key Questions(s): What are patient and staff reported barriers to intake? Can these be improved?

Study Design: QUANTITATIVE -> qualitative; sequential explanatory mixed methods.

Participants: Phase I & II participants + 30 purposefully sampled multidisciplinary team members stratified by clinical experience.

Primary worldview: Post-positivist -> Constructivist

IMPLEMENTATION OF KEY CHANGES TO ROUTINE CLINICAL PRACTICE**Phase Four: Evaluation of changes to clinical practice**

Key Questions(s): Did the multidisciplinary, multimodal intervention improve nutritional, patient, or healthcare outcomes?

Study Design: QUANTITATIVE; controlled before and after comparative study evaluating changes to routine clinical practice

Participants: 120 randomly selected hip fracture patients including 60 Phase II participants.

Primary worldview: Post-positivist