The population assessed was patients who underwent rotationplasty at an average age of equal to or less than 21 years of age as a result of either proximal femoral focal deficiency (PFFD) or osteosarcoma. Participants were assessed a minimum of two years post-rotationplasty with a maximum average follow up of 25.1 years.

Methods

Three databases (PubMed, Embase, CINAHL) were searched for articles that assessed outcome measures of rotationplasty amongst pediatric patients using the Musculoskeletal Tumor Society rating scale (MSTS) and/or the Short Form 36 (SF-36) outcome measures, as described below.

### Results

#### Subjects

- Population
  - 21 patients with congenital/ acquired lower extremity bone deficiency
  - 22 patients with congenital lower limb bone deficiency
  - 67 patients with congenital lower limb bone deficiency
  - 30 patients with congenital lower limb bone deficiency
  - 4 patients with congenital lower limb bone deficiency
  - 16 patients with congenital lower limb bone deficiency
  - 3 patients with congenital lower limb bone deficiency
  - 5 patients with congenital lower limb bone deficiency

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#### Outcomes

- The Short Form Health Survey (SF-36) is a self reported outcome measure used to quantify health related quality of life.
- The Musculoskeletal Tumor Society Scale (MSTS) is a functional scale in which clinicians rate patients on their walking ability and gait, while asking the patients to rate their pain, emotional acceptance and support

#### Background

- Rotationplasty is a surgical technique that was popularized by Van Nes in the 1950s.
- Originally used for patients with congenital proximal focal deficiency (PFFD), but it is now commonly used for patients with osteosarcoma as well.
- Involves removal of the knee joint, the distal femur and proximal tibia; the ankle joint is then rotated 180 degrees and reattached to the residual femur.
- Allows the foot and ankle to be used as a functional knee joint within a prosthesis.

#### Purpose

The purpose of this scoping review is to compare the long-term quality of life outcomes following rotationplasty with other limb salvage procedures and healthy, matched controls.

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