

Early Weight Bearing in Lengthening Nails

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Dear Drs Konrad Mader and Mr Paul Harwood

We read the article by Bafor et al.¹ with interest. It echoes the work published in this journal by Elsheikh et al.² (*Use of the pixel value ratio following intramedullary limb lengthening: uncomplicated full weight-bearing at lower threshold values*. May 2022) where full weight bearing for patients with the PRECICE nail was permitted at a median of 42 days after the last day of lengthening [with an overall median pixel value ratio (PVR) of 0.85] with no nail failures. This study also commented upon a trend to higher PVR values in the patient group with an earlier weight-bearing regime.

Bafor et al. report full weight bearing at similar time points (12 weeks for the STRYDE group and 17 weeks for the PRECICE) and comparable PVRs. This chimes with Ilizarov's principles that weight bearing is beneficial in distraction osteogenesis³ and suggests that a trend toward earlier weight bearing in limb lengthening with intramedullary nails is a good one.

It is, however, unfortunate that the STRYDE nail, which allows for earlier weight bearing compared with the PRECICE, was withdrawn from the market in the first quarter of 2021.⁴ With currently available intramedullary lengthening devices, this has to be taken into consideration with the manufacturer's guidance regarding safe levels of load. We welcome further research into how much and how early the regenerate-nail construct can be loaded to stimulate bone healing while maintaining integrity of the nail.

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