LETTER TO THE EDITOR

Early Weight Bearing in Lengthening Nails

Elizabeth K Tissingh¹⁰, Jonathan Wright²⁰, Peter Calder³

Received on: 10 February 2023; Accepted on: 30 April 2023; Published on: 31 May 2023

Keywords: Distraction osteogenesis, External fixator lengthening, Hybrid lengthening, Internal lengthening nail, Intramedullary lengthening, Lengthening nail, Limb lengthening, Motorised implantable nail, Short stature.

Strategies in Trauma and Limb Reconstruction (2023): 10.5005/jp-journals-10080-1580

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is, however, unfortunate that the STRYDE nail, which allows for earlier weight bearing compared with the PRECICE, was withdrawn from the market in the first quarter of 2021. 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.

ORCID

Elizabeth K Tissingh https://orcid.org/0000-0003-3554-6209
Jonathan Wright https://orcid.org/0000-0001-6055-648X

^{1–3}Paediatric and Limb Reconstruction Unit, Royal National Orthopaedic Hospital, Brockley Hill, Stanmore, Middlesex, London, United Kingdom

Corresponding Author: Elizabeth KTissingh, Royal National Orthopaedic Hospital, Brockley Hill, Stanmore, Middlesex, London, United Kingdom, Phone: +44 7976843094, e-mail: elizabeth.tissingh1@nhs.net

How to cite this article: Tissingh EK, Wright J, Calder P. Early Weight Bearing in Lengthening Nails. Strategies Trauma Limb Reconstr 2023;18(1):63.

Source of support: Nil
Conflict of interest: None

REFERENCES

- Bafor A, Duncan ME, lobst CA. Early weight-bearing accelerates regenerate bone mineralisation: A pilot study comparing two postoperative weight-bearing protocols following intramedullary limb lengthening using the pixel value ratio. Strategies Trauma Limb Reconstr 2022;17(3):148–152. DOI: 10.5005/jp-journals-10080-1572.
- Elsheikh AA, Wright J, Stoddart MT, et al. Use of the pixel value ratio following intramedullary limb lengthening: Uncomplicated full weight-bearing at lower threshold values. Strategies Trauma Limb Reconstr 2022;17(1):14–18. DOI: 10.5005/jp-journals-10080-1542.
- Ilizarov GA. Clinical application of the tension-stress effect for limb lengthening. Clin Orthop Relat Res 1990;(250):8–26. PMID: 2403497.
- 4. Medicines and Healthcare products. Regulatory Agency Device Recall 20 January 2021 letter (boa.ac.uk).

[©] The Author(s). 2023 Open Access This article is distributed under the terms of the Creative Commons Attribution-Non Commercial-share alike license (https://creativecommons.org/licenses/by-nc-sa/4.0/) which permits unrestricted distribution, and non-commercial reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. If you remix, transform, or build upon the material, you must distribute your contributions under the same license as original. The Creative Commons Public Domain Dedication waiver (http://creativecommons.org/publicdomain/zero/1.0/) applies to the data made available in this article, unless otherwise stated.