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The Bone & Joint Journal femoral lengthening article review

Femoral lengthening with the PRECICE femoral implant achieved excellent results with fewer complications and greater patient satisfaction when compared to external fixator lengthening.

Dear NuVa Sales Force,

M. Laubscher, C. Mitchell, A. Timms, D. Goodier and P. Calder from The Royal National Orthopaedic Hospital, Middlesex, United Kingdom, published an article titled "Outcomes of femoral lengthening" in *The Bone & Joint Journal*.

The authors set out to determine if patients undergoing femoral lengthening by external fixation did not tolerate treatment as well when compared to tibia lengthening. They also wanted to determine if lengthening of the femur with an intramedullary device had advantages.

They reviewed "simple femoral lengthening" cases between 2009 and 2014 excluding nonunions, concurrent deformities, congenital limb deficiencies, and lengthening with an unstable hip. Thirty-three cases were studied, and healing index, implant tolerance, and complications were compared.

In 20 cases, the PRECICE lengthening device was used, and in 13 cases the Orthofix LRS external fixator system.

The mean healing index was 31.3 days/cm in the PRECICE group and 47.1 days/cm in the LRS group. This was associated with an earlier ability to full weight bear without aids in the PRECICE group, suggesting that the regenerate formed more rapidly in the PRECICE group.

There were more complications with the LRS lengthening, including pin site infections and regenerate deformity.

Implant tolerance and the patients' perception of the cosmetic result were better with the PRECICE treatment.

On a scale from 0 to 10, with 0 being none and 10 being worst, pain score during the distraction phase was 4.4 versus 8.1, pain score during the consolidation phase was 2.2 versus 5.3, and the cosmetic scar rating was 3.0 versus 7.5 all in favor of the PRECICE group.

The authors' conclusion is that femoral lengthening with the PRECICE femoral implant achieved excellent functional results with fewer complications and greater patient satisfaction when compared with the LRS system for the patients in their study.

Abstract link: <http://www.bjj.boneandjoint.org.uk/search/laubscher>



Outcomes following femoral lengthening

An initial comparison of the Precice intramedullary lengthening nail and the LRS external fixator monorail system

M. Laubscher, C. Mitchell, A. Timms, D. Goodier, P. Calder

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Abstract

Aims Patients undergoing femoral lengthening by external fixation tolerate treatment less well when compared to tibial lengthening. Lengthening of the femur with an intramedullary device may have advantages.

Patients and Methods We reviewed all cases of simple femoral lengthening performed at our unit from 2009 to 2014. Cases of nonunions, concurrent deformities, congenital limb deficiencies and lengthening with an unstable hip were excluded, leaving 33 cases (in 22 patients; 11 patients had bilateral procedures) for review. Healing index, implant tolerance and complications were compared.

Results In 20 cases (15 patients) the Precice lengthening nail was used and in 13 cases (seven patients) the LRS external fixator system. The desired length was achieved in all cases in the Precice group and in 12 of 13 cases in the LRS group. The mean healing index was 31.3 days/cm in the Precice and 47.1 days/cm in the LRS group ($p < 0.001$). This was associated with an earlier ability to bear full weight without aids in the Precice group. There were more complications with LRS lengthening, including pin site infections and regenerate deformity. Implant tolerance and the patients' perception of the cosmetic result were better with the Precice treatment.

Conclusion Femoral lengthening with the Precice femoral nail achieved excellent functional results with fewer complications and greater patient satisfaction when compared with the LRS system in our patients.

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Laubscher M, Mitchell C, Timms A, et al. Outcomes following femoral lengthening. *Bone Joint J* 2016;98-B(1):1382-8.



- PRECICE® internal lengthening versus LRS external lengthening
 - 33 cases: 20 PRECICE and 13 LRS external fixation.
- PRECICE had:
 - more rapid regenerate formation
 - fewer complications including pin site infections and regenerate deformity
 - less pain during lengthening
 - less pain during consolidation
 - favorable cosmetic scar rating
 - earlier ability to fully weight bear
- Conclusion: femoral lengthening with the PRECICE femoral implant achieved excellent functional results with fewer complications and greater patient satisfaction when compared with the LRS system.
- Abstract link: <http://www.bjj.boneandjoint.org.uk/content/98-B/10/1382>

Laubscher M, Mitchell C, Timms A, Goodier D, Calder P. Outcomes following femoral lengthening. *Bone Joint J.* 2016 Sep; 98-B(10), 1382-1388.



Sincerely,

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