



Letter to the Editor

Response to Letter to the Editor “Treatment of complex foot deformities with hexapod external fixator in growing children and young adult patients”


Dear authors,

Thank you for your positive comments and interest in our work. We agree with you and share your same experience with the use of distraction osteogenesis for correction of complex foot deformities. We have been performing surgical correction of complex foot deformities for the last 20 years. However, over the course of the last 7 years at least we have almost completely abandoned the traditional technique of open correction with multiple osteotomies and soft tissue releases. The main reason for this shift has been the high complication rate we have observed with the open technique along with the stiffening effect of multiple joint fusions.

In order to avoid contact between the rings during correction it is extremely important to test a frame trial at pre-operative assessment of the patient (Fig. 1, panels A and B). Furthermore, because the reference ring (at midfoot) and the two moving rings (at hindfoot and forefoot) are often big and bulky it is important to space them wide enough to avoid contact during correction. Feet with deformities in multiple planes are often small, therefore if the two moving rings are fixed directly to the hindfoot and forefoot they will end up too close to allow complete correction without contact between the rings. We have found that the addition of two small connecting rings is very useful in preventing this problem. In brief, it is the two connecting rings that are fixed to the forefoot and hindfoot while the two moving rings are left wide apart and connected to the reference ring by the micrometer struts (Fig. 2).

We acknowledge the fact that weight bearing with the frame is possible with the use of commercially available dedicated walking supports/soles. This is a point we have not discussed in our manuscript because we do not routinely use these walking supports. There is definitively a benefit in allowing weight bearing in these patients, however this must be weighed against the higher costs and risks of damaging the frame. In our experience, patients tolerate quite well the period in the frame. Following removal of

the frame, we immobilize the foot in a non-walking cast for 4 weeks and then allow weight bearing with a walking cast for an extra 4 weeks.

Distraction osteogenesis with hexapod external fixator represents the latest advancement in the field of surgical correction of complex foot deformities and we believe it is a great advancement in treatment of these patients. Although a fully plantigrade foot was achieved in 80% of the patients at the end of treatment, it is worth noting that we did not observe any major complication in our series of 10 patients treated with this technique. We remain positive about future developments and applications of this technique and look forward to bigger case series and longer follow-up.

Simone Riganti
Valentino Coppa
Luigi Aurelio Nasto*
Mauro Di Stadio

Department of Pediatric Orthopaedics, IRCCS Istituto “G Gaslini”, Via Gerolamo Gaslini 5, 16147 Genova, Italy

Maria Grazia Calevo
Department of Epidemiology and Biostatistics, IRCCS Istituto “G Gaslini”, Via Gerolamo Gaslini 5, 16147 Genova, Italy

Antonio Pompilio Gigante
Department of Trauma and Orthopaedics, Università Politecnica delle Marche, School of Medicine, Via Tronto 10/a, 60126 Ancona, Italy

Silvio Boero
Department of Pediatric Orthopaedics, IRCCS Istituto “G Gaslini”, Via Gerolamo Gaslini 5, 16147 Genova, Italy

* Corresponding author at: Department of Pediatric Orthopaedics, IRCCS Istituto “G Gaslini”, Via Gerolamo Gaslini 5, 16147 Genova, Italy.

E-mail address: luigiaurelionasto@gaslini.org (L. Nasto).

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