

Is Monolateral External Fixation still a valid solution?

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Femur lengthening and varus-valgus deformities correction are common practices in orthopedic units. When opting for surgery, they are generally performed with external or internal orthopedic devices, depending on the patient's history, age, medical condition, and other factors.



Dr. Franz Birkholtz and Dr. Nick Peterson tried to answer a question that is both simple and complex at the same time: *among many innovative devices and techniques, is there still a place for monolateral external fixation?* The two global experts were the keynote speakers of the Orthofix Academy online medical education initiative broadcast live on the 2 December 2021. Their answer is "Yes!".

Franz Birkholtz works in the Walk-A-Mile Centre for Advanced Orthopedics, in Centurion, South Africa, and specializes in complex trauma and limb reconstruction, surgery, deformity correction and limb lengthening, while **Nick Peterson** is a consultant orthopedic surgeon at the Alder Hey Children's Hospital NHS Foundation Trust in Liverpool, United Kingdom, and specializes in adult and pediatric limb reconstruction surgery.

According to their substantial and evidence-based experience, **the time for the monolateral external fixator is not yet over. This solution is still useful** in many challenging situations: in addition to **short stature** and **angular deformities correction**, indications include **joint contracture** and **bone transport** with short segments, following **bone infection** and infected **femoral non-unions** with bone loss. Due to its **high stability**, the device is widely used for the treatment of **acute trauma** and open fractures.

With the Orthofix LRS ADV monolateral external fixator, it is possible to assemble well-tolerated constructs with limited modularity that are reliable and easy to adjust, and possibly reduce complications caused by internal fixation.



Particularly used on the **femur, upper arm and forearm**, the device allows an **accurate bone alignment**, and the surgeon can perform **translation, rotation and reduction either acutely or gradually**. It is worth remembering that acute correction is generally carried out if the parameters of a deformity are less than 20°; for larger deformities, gradual correction is more appropriate.



Regarding the versatility of the construct, *"for a tibia and femur fracture, the surgeon can decide to apply a circular Ilizarov type frame on the tibia, and the rail external fixator on the femur, attaching the two devices together"* – said N. Peterson. *"Moreover, it can also be used as a provisional fixation that can easily be converted into a definitive fixation with circular fixation, or it can assist internal fixation with nailing (a technique more frequently used in US) or plating (more frequently performed in UK and South Africa)"* – added F. Birkholtz.

There were many questions from the audience, which were very practical and once again proved the intensity of both interest and participation, as well as the success of all educational events organized by Orthofix Academy in 2021.

References

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