The management of multiapical and multidirectional deformities of the lower limb due to different aetiologies is still a challenging task for the orthopaedic surgeon. Internal fixation techniques for deformity correction are normally combined with open osteotomies and acute correction. For complex deformities these methods are restricted by several factors, particularly when additional leg length discrepancy has to be corrected. (...

Different modes of the software program are available; the Total Residual Program is most helpful. Despite using the same principles for callus distraction as the Ilizarov device, the computer-operated TSF allows a great number of advantages: The handling of the frame is less time consuming, no difficult changes of hinges are necessary. The duration of the correction time is predictable due to the prescription site, and what’s most important the results of treatment are more accurate than the Ilizarov device as shown in a study.

In 1999 at the Orthopaedic Hospital Vienna-Speising we started to change from the Ilizarov system to the Taylor Spatial Frame for treatment of complex deformities and leg lengthening. From June 1999 to February 2009 we were able to perform correction of 501 segments with the TSF-system. The patients suffered from congenital and hereditary disorders (Congenital Femoral Deficiency, Fibular Hemimelia, Hypophosphataemia, Skeletal Dysplasia, Achondroplasia, Enchondromatosis, Osteochondromas), after infections and trauma with deformity and growth disturbance and from idiopathic disorders.

For treatment single and multilevel corrections were performed. The results of follow-up studies have encouraged us to use this new external fixation system. The Taylor Spatial Frame offers the experienced surgeon an accurate and reproducible correction technique with several advantages compared to previously used devices.