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Authors: Michèle Kläusler, Bernhard Maria Speth, Reinald Brunner, Oren Tirosh, Carlo Camathias, Erich Rutz



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Long-term Follow-up after Tibialis Anterior Tendon Shortening in Combination with Achilles Tendon Lengthening in Spastic Equinus in Cerebral Palsy

Michèle Kläusler^{1,2}, Bernhard Maria Speth¹, Reinald Brunner¹, Oren Tirosh³, Carlo Camathias¹, Erich Rutz¹

1) Department of Orthopedic Surgery, University Children's Hospital Basel, Spitalstrasse 33, 4056 Basel, Switzerland (corresponding author: Erich Rutz, erich_rutz@hotmail.com)

2) Department of Orthopedic Surgery, University Hospital Basel, Spitalstrasse 21, 4056 Basel, Switzerland

3) Department of Health & Medical Sciences, Swinburne University of Technology, Melbourne, Australia

Research highlights:

- Satisfactory long-term (5.8 years) results.
- Active ankle dorsiflexion was possible in all patients.
- All 20 included patients were able to walk without Ankle Foot Orthosis.
- Significant improvement of Movement Analysis Profile dorsiflexion / Gait Profile Score.
- Recurrence rate of 13% and no overcorrection could be shown.

Abstract

Using Tibialis Anterior Shortening (TATS) in combination with Achilles Tendon Lengthening (TAL) to treat spastic equinus in children with cerebral palsy (CP) was described in 2011. Short-term results have indicated a good outcome, especially an improvement of the drop foot in swing phase and the correction of equinus in stance phase. The aim of this study was to analyse the results of the long-term follow-up and to determine the relapse rate of TATS and TAL.

The kinematics of the sagittal, frontal and transversal planes were measured by using instrumented 3D gait analysis at three defined time points and then described using the Gait Profile Score (GPS) and Movement Analysis Profile (MAP). The data was exported into Gaitabase and then the preoperative (T0), short-term (T1) and long-term (T2) follow-up data was statistically compared.

23 patients (mean age at index-surgery = 14.9 years) were included, there was a mean follow-up time of 5.8 years. 3 children (13%) have shown a relapse. The data of 12 children with

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