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# Acute Achilles Tendon Rupture: Isokinetic Plantarflexion Torque Evaluation after Krackow Suture Technique

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## Introduction

The purpose of the study is to evaluate the overall functional results of surgical repair of the acute achilles tendon rupture utilizing the Krackow suture technique, including the isokinetic plantarflexion torque evaluation.

## Material and Methods

The study is based on 15 patients of acute achilles tendon ruptures who had been surgically treated with primary repair from 1997 to 2001 and had at least 6 months follow-up. Twelve patients were male and average age at the time of injury was 39.6 years old. Ruptured ends were primarily repaired with single or double Krackow suture technique, and early range of motion (ROM) exercise was performed at postop 7 days (5~14). Postoperative clinical evaluation was performed using Arner-Lindholm scale as well as patient satisfaction and muscle power deficit. Isokinetic maximum dorsiflexion and plantarflexion torque of the ankle joint were also evaluated postoperatively utilizing the Cybex 6000 dynamometer (Cybex Inc. USA)

## Result

Clinical results at final follow-up were 11 (73%) excellent, and 3 (20%) good, 1 (7%) fair, good / excellent cases comprising 93%. Ten patients (67%) were very satisfied, while 3 patients (20%) were satisfied. As for the subjective muscle power deficit, no loss, minimal and moderate loss were 3 feet (20%), 9 feet (60%) and 3 feet (20%) respectively. Among 15 feet, 7 feet (47%) had undergone the isokinetic plantarflexion torque evaluation at postop 3 and 6 months. Isokinetic plantarflexion torque deficit compared to intact limb at postop 3 months was average 29% at 30o / sec and 11% at 120o / sec, which decreased to 14% and 5% respectively at postop 6 months.

## Conclusion

We achieved 93% good / excellent results for the acute achilles tendon ruptures after Krackow suture repair and early ROM exercise, and all patients successfully returned to pre-injury sports activities. Therefore we conclude that Krackow suture repair is appropriate for primary repair and early rehabilitation of the acute achilles tendon ruptures.

**Key word:** Acute achilles tendon rupture, Krackow suture, Isokinetic plantarflexion torque