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Z-lengthening Plasty of the Extensor Hallucis Longus (EHL) Tendon Proximal to the Retinaculum Extensorum to Repair a Chronic Rupture of the Distal EHL Tendon

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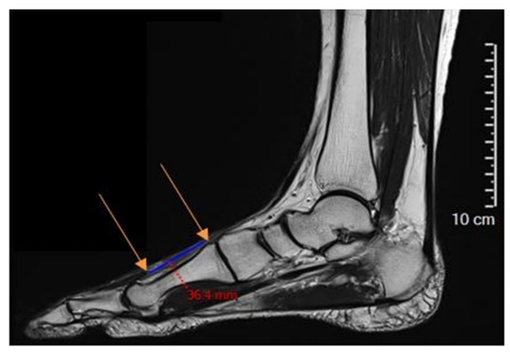
Introduction We present the surgical technique and the follow-up of our method to repair a traumatic EHL rupture with a non-reducible gap by using a Z-lengthening of the EHL tendon proximal to the superior retinaculum of the extensors.

Methods We used two incisions, one at the level of the rupture and the other proximal to the retinaculum of the extensors. We measured the distal gap between the stumps. We then identified the EHL tendon through the proximal approach, and performed a Z-shaped tenotomy to gain the needed length distally. An end-to-end suture without tension was then carried out at the level of the rupture.



Day 1	Day 15	After 6 weeks
Lower leg cast + 100% WB	Dynamic splint for 4 weeks	Normal shoes + PT

Results The active dorsiflexion in the MP joint at 3 months follow-up was 50°. The active and passive plantarflexion in both joints of the hallux was equivalent to the opposite side. There were no wound complications.

FU	ROM	AOFAS (/100)	FAAM Daily living (/84)	FAAM Sports (/12)	EQ – 5D
3 months	60-0-50	90	83	12	0.8

Discussion This repair of the EHL using a Z-lengthening plasty of the tendon proximal to the retinaculum has not been previously described. Based on our case this technique appears safe, simple and affordable to treat the EHL ruptures if a direct end-to-end suture is not possible, thus eliminating the need for an allograft, or the risk of secondary donor site dysfunction potentially associated with tendon transfer procedures.

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