Endoscopic Fascia Release for Chronic Exertional Compartment Syndrome of the Forearm: Case Report and Surgical Technique

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OBJECTIVE
To describe a case report of a professional motocross patient with forearm chronic exertional compartment syndrome (CECS) treated endoscopically using a novel, not previously reported minimally invasive technique.

METHODS
A 23-year-old professional motocross racer presented with a 6-week history of chronic right-sided proximal volar forearm pain when riding, and paraesthesias and weakness of his right hand. Conservative management was unsuccessful. Compartment pressure measurements were performed before and after provocative exercises to confirm diagnosis of CECS. An endoscopic procedure for CECS of the forearm was performed. Grip strength and wrist range of motion were collected pre- and postoperatively.

SURGICAL TECHNIQUE
- Place the portal over the subcutaneous border of the ulna midway between the olecranon and the ulnar styloid
- Mobilize the skin to allow access to the volar and dorsal compartments
- Open the volar compartment
- Place the EndoRelease™ cannula under the fascia and advance distally
- Slide the attached retractor along the external surface of antebrachial fascia thereby separating the superficial nerves from fascia
- Divide the fascia under direct endoscopic visualization
- Similarly, release the proximal fascia of the volar compartment
- Mobilize the skin and release the dorsal compartment in the same fashion through the same portal

RESULTS
The patient’s symptoms resolved following surgery. He resumed riding at 1 week, competing at 3 weeks, and continues to ride competitively without symptoms at 1 year. Pre- and postoperative grip strengths were 46kg and 57kg respectively. Wrist extension / flexion was 70°/52° preoperatively and 76°/63° postoperatively.

CONCLUSION
This technique is simple and effective. The cannula used protects the superficial nerves while allowing release through a small, cosmetically pleasing incision.

*Patient consent was obtained*