

Endoscopic Cubital Tunnel Release *Surgical Technique Guide*

Minimally Invasive ECuTR System

Seg-WAY is the first ECuTR system designed to view the entire fascia from above and below through controlled portals in the guide. The scope and blade work independently, providing surgeons with a better field of view and a tactile feel.

The guide is designed to provide visualization of the ulnar nerve through a nerve port prior to the release. The ECuTR guide covers the blade on each side of the fascia to protect against any unwanted release.

Instrument Overview



A) Bottom Guide (8cm)



B) Top Guide (8cm)



C) Synovial Dilator/Elevator



B) Antegrade Ligament Knife

Sterile Field Setup

The following instruments are needed for an endoscopic cubital tunnel procedure using the Seg-WAY Endoscopic Guide System:

- 4mm 30° scope
- Endoscopic Tower
- Army-Navy Retractors
- Marking Pen
- Cotton Swabs
- Anti-fog wipes, for scope
- Rolled Towel
- Standard dissection kit

Anesthesia Options

Plexus block, regional, or general anesthesia.

Operating Room Setup

The operating room should be set up to enable the surgeon to have a clear view of the video monitor and proper access to the patient's hand. The assistant should also be seated opposite the surgeon and must have a clear view of the monitor as he/she will assist in the operation of the scope.

Surgical Preparation

Place the patient on OR table in a supine position. Place a tourniquet over the axilla and elevate to 250 mmHg, prep the upper extremity and drape in usual sterile fashion. Place rolled towels under the elbow to elevate the arm and to improve the access to the cubital tunnel.

Seg-WAY Guide Prep

Make Incision

- Using a 15-blade scalpel, mark a small longitudinal incision (1.5cm to 2.5cm) over the cubital tunnel just posterior to the medial epicondyle

Dissection

- Dissect down to the deep fascia using Stevens scissors and forceps until the cubital tunnel fascia (Osborne's fascia) is in view
- Once the fascia is clearly visualized and free of neurovascular structures, use a 15-blade scalpel or blunt dissection to incise the cubital tunnel fascia exposing the ulnar nerve just posterior to the medial epicondyle

Elevating Subcutaneous Nerves

- Using curved Mayo scissors and/or the dilator/elevator, elevate the subcutaneous tissue and create a space between the deep fascia, skin and dermis. Be sure to elevate the subcutaneous nerves, namely the medial antebrachial cutaneous nerve, with the skin and dermis, keeping them protected. Complete this step proximally and distally

Decompressing the Ulnar Nerve

- Distally decompress the ulnar nerve by placing the dilator underneath the deep fascia and above the ulnar nerve. This helps release any adhesions between the fascia and the nerve and creates a pathway for the guide insertion. Complete this step proximally and distally

Cubital Tunnel Release

Insert Guide

- Insert the bottom guide directly below the fascia and advance 2cm. Place the top guide over the fascia and lock in place with the bottom guide. Advance the guide into the cubital tunnel far enough to ensure an adequate release

Visualize Ulnar and Neurovascular Structures

- The guide has 2 portals, one superior and one inferior, which allow for visualization of deep fascia from above and below. The inferior portal allows for visualization of the ulnar nerve, confirming it is protected outside of the guide. The superior portal allows for visualization of the fascia and neurovascular structures from above
- Insert a 4mm 30° arthroscope into inferior portal. The fascia is viewed from below distal to the level of the flexor carpi ulnaris (FCU). The camera is rotated 180° to view the posterior slot in the guide confirming that the ulnar nerve is protected outside the guide.
- The scope is inserted into the top portal to view the fascia from above and to confirm the neurovascular structures are protected outside the guide.

Releasing Distally

- Insert antegrade knife into the knife channel while the scope is in the superior portal. Under direct visualization, incise the deep fascia distally thus decompressing the nerve between the two heads of the FCU



Cubital Tunnel Release

Releasing Proximally

- Remove the guide and reinsert proximally to repeat the steps to insert guide and visualize ulnar and neurovascular structures in preparation for the proximal release of the cubital tunnel fascia
- Insert antegrade knife into the knife channel while the scope is in the superior portal. Under direct visualization, incise the deep fascia proximally up to the Arcade of Struthers

Confirm Proximal Release with Scope

- Remove the guide and under direct visualization, or with the use of the scope, confirm the release and that the ulnar nerve is intact.

Completing the Procedure

Retract the skin and visualize the ulnar nerve directly using Army-Navy retractors. Verify the ulnar nerve is not subluxating over the medial epicondyle by flexing and extending the elbow. Release the tourniquet, achieving hemostasis, irrigate the wound copiously with normal saline and close with four nylon sutures.

Postoperative Care

The postoperative care is as usual, with the extremity placed into a soft dressing. The Seg-WAY ECU TR procedure generally allows the patient full range of motion the next day. Restrict lifting more than five pounds for six weeks. Assuming no pain, the patient can perform functional activities as tolerated.