Endotrac®
Endoscopic Carpal Tunnel Release

Operative technique
This publication sets forth detailed recommended procedures for using Stryker devices and instruments.

It offers guidance that you should heed, but, as with any such technical guide, each surgeon must consider the particular needs of each patient and make appropriate adjustments when and as required.

A workshop training is recommended prior to first surgery. All non-sterile devices must be cleaned and sterilized before use. Please remember that the compatibility of different product systems have not been tested unless specified otherwise in the product labeling.

For additional information please refer to the instructions for use (IFU), Ref. I-IFU-02 delivered with each instrument. The surgeon must discuss all relevant risks, including the finite lifetime of the device, with the patient, when necessary.
Operative technique

Site preparation

- Position the hand on a sterile rolled towel allowing it to fall into a natural wrist extension.

- The proximal portal incision site for the cannula assembly is located 1 to 2 cm proximal to the distal wrist crease, is 1 cm in length, and is concealed within the proximal wrist crease if possible.

- The position of the distal edge of the transverse carpal ligament is estimated by measuring and marking two points at 3 cm and 4 cm distal to the distal wrist crease along the trajectory of a line extending from the palmaris longus tendon (or mid-palmar point if the tendon is absent) to the third web space. A 1 cm circle drawn around the distal portal denotes the position of the exit zone for the obturator.

- The extremity is exsanguinated and tourniquet is inflated.
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Initial incision
A superficial incision is made through the dermis to create the proximal portal, and dissecting scissors are used to spread through the subcutaneous tissue along the longitudinal axis of the extremity to the level of the volar forearm fascia.

With the volar forearm fascia exposed, the scissors are rotated in a vertical orientation to the axis of the extremity and are gently used to create a small opening in the volar forearm fascia.

Once the scissor tips pass through the fibers of the fascia, small spreading movements help to enlarge the proximal portal opening.

Median nerve
The median nerve can usually be visualized in the radial portion of the incision deep to the volar forearm fascia.
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Synovial elevator

The synovial elevator is introduced into the proximal portal incision and used to separate the ulnar bursa and proliferative synovium from the undersurface of the transverse carpal ligament. The transverse fibers of the carpal ligament should be palpable.
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**Obturator insertion**

The obturator with the overlying slotted cannula is inserted into the space created by the synovial elevator immediately subjacent to the transverse carpal ligament and opposed to the hook of the hamate ulnarily. It is advanced until the end of the obturator is palpable subcutaneously, distal to the distal edge of the transverse carpal ligament. The assisting surgeon makes an incision through the skin only over the position of the distal portal.

The obturator and cannula are advanced through the distal portal, effectively separating the transverse carpal ligament from the underlying structures. Note that the point of the obturator is in line with the third web space.
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**Probe or rasp**

The obturator is withdrawn; leaving the cannula slot inclined 5 degrees ulnarily. A 4mm, 30 degree endoscope is inserted into the distal portal by the assisting surgeon.

The probe or rasp may be inserted into the proximal portal to identify and remove any remaining adherent synovial tissue.
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**Hook knife**

The hook knife is inserted in the proximal portal pressed upward against the transverse carpal ligament until the distal edge is palpated. The knife is then withdrawn proximally in one smooth motion, dividing the transverse carpal ligament.

**Forearm fasciotomy**

The obturator is inserted back within the cannula and the obturator/cannula assembly is removed as one entity.

Attention is subsequently directed to the development of a volar forearm fasciotomy through the proximal portal incision. A plane is developed by a vertical spreading technique between the subcutaneous tissue and the antebrachial fascia and between the antebrachial fascia and the median nerve, staying ulnar to the nerve. The antebrachial fascia is divided for a distance of 2 to 3 cm proximally under direct loupe visualization, staying ulnar to the palmaris longus tendon to avoid injury to the palmar cutaneous branch of the median nerve.
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Notes:
This document is intended solely for the use of healthcare professionals. A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Stryker does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery.

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