

## *SURGICAL TECHNIQUE*

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**safeguard**<sup>®</sup>

Mini Carpal Tunnel Release System

## DESCRIPTION

A two-component system that simplifies the “Mini Open” surgical technique while providing a high-level of control and median nerve protection.

## THE SAFEGUARD SYSTEM

### Simple

- Instrumentation - protective guide and knife.
- SafeGuard® Knife provides high level of control.

### Safe

- Direct visualization of median nerve.
- Defines the “Safe Zone” for carpal tunnel release.

### Cost Effective

- Eliminates the need and cost for endoscopic equipment.
- Reduces O.R. set-up and time.



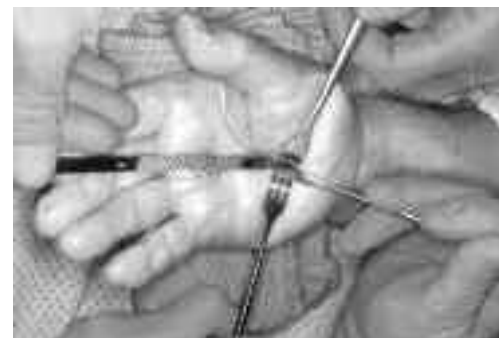
## INDICATIONS

The SafeGuard® Mini Carpal Tunnel Release System is used for the treatment of carpal tunnel syndrome in patients who fail to respond to conservative treatment.



## CONTRAINDICATIONS

- Repeat carpal tunnel release
- Distortion of anatomy
- Neurologic defects
- Previous soft tissue injury at the surgical site



## PRECAUTIONS

Surgeons using this device should be familiar with the recommended surgical technique and the required surgical instrumentation.



## PACKAGING AND STERILITY

- Each knife is provided sterile in packaging and is a single-use, disposable product.
- The guide is **non-sterile** and must be removed from packaging and **autoclaved prior to surgery**.

STEP  
1

### GENERAL RECOMMENDATIONS

- **10 cc** of anesthetic mixture (*5 cc of 1% lidocaine without epinephrine plus 5 cc of .25% Marcaine® without epinephrine*) are **injected** into the midline of the proximal palm to the proximal flexion wrist crease.
- Anesthesia should infiltrate **both** the carpal tunnel and subcutaneous tissues, taking care **not to injure** the median nerve. (FIG. 1)

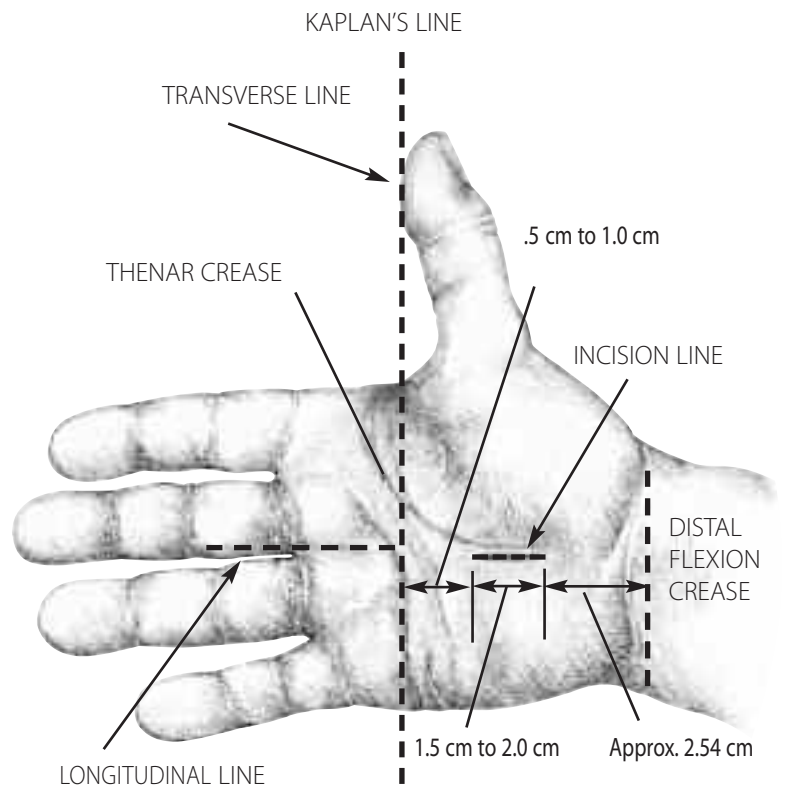


(FIG. 1)

STEP  
2

### PRE-OPERATIVE PLANING

- Draw a **transverse line** from the **proximal-most extent** of the first web space (Kaplan's line) in the palm.
- Draw a second line **longitudinally** from the radial border of the ring finger proximally.
- A point **.5 cm to 1 cm** proximal to the **junction** of these lines represents the distal point of the surgical incision. From this distal point, draw a **1.5 cm to 2 cm surgical incision line** in a **longitudinal fashion proximally**, which should be about **1.54 cm** from distal flexion crease and slightly ulnar to the thenar crease. (FIG. 2)

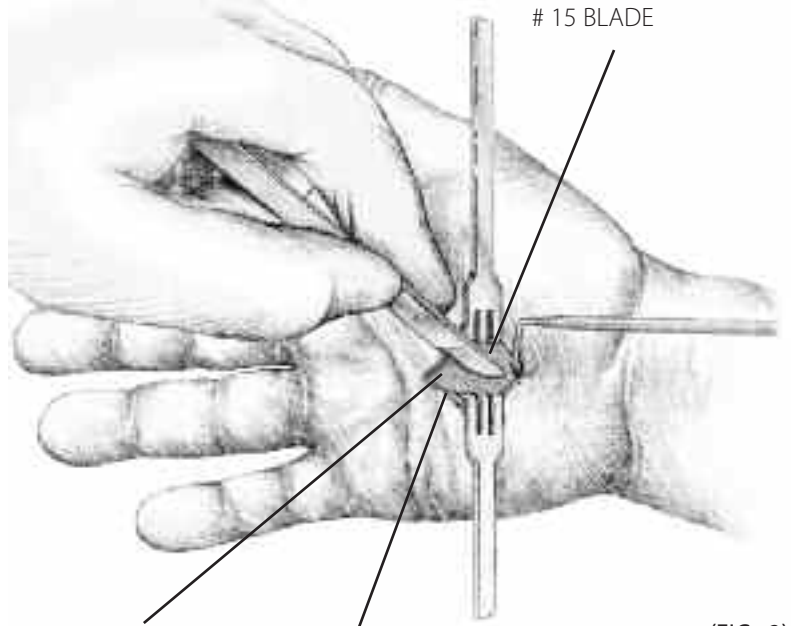


(FIG. 2)

STEP 3

**INCISING SKIN AND PALMER APONEUROSIS**

- After tourniquet exsanguination of the upper extremity, use a **#15 blade** to incise the palmar skin, coursing through skin and subcutaneous fatty tissue **exposing** the palmar aponeurosis. (FIG. 3)

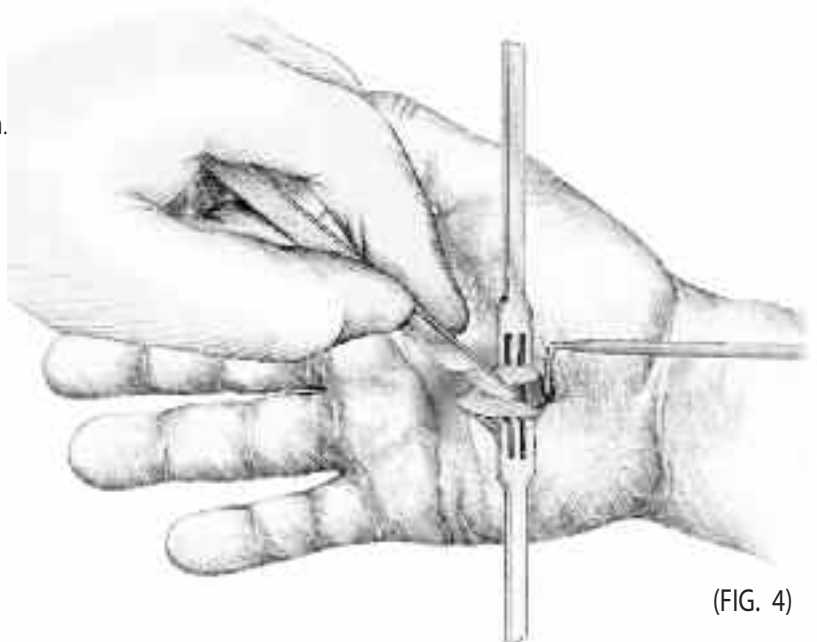


PALMER APONEUROSIS

SUBCUTANEOUS FATTY TISSUE

(FIG. 3)

- Incise the **palmar aponeurosis** exposing the transverse carpal ligament at its **distal portion**. Care should be taken not to damage the vascular arch.
- Use either a **self-retaining retractor** or two Senn retractors transversely and one Ragnell retractor proximally, to **expose** the distal portion of the transverse carpal ligament which is then identified. (FIG. 4)



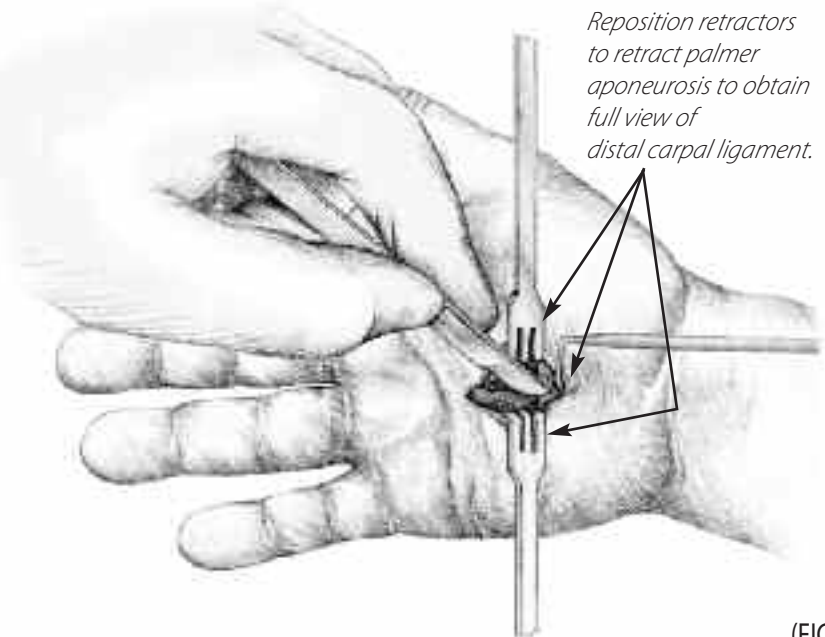
(FIG. 4)

STEP  
4

### INCISING DISTAL PORTION OF TRANSVERSAL CARPAL LIGAMENT

- Under direct vision, incise the **distal portion** of the transverse carpal ligament longitudinally as far proximally as possible with a **#15 blade** using the proximal Ragnell retractor for visualization.

(FIG. 5)



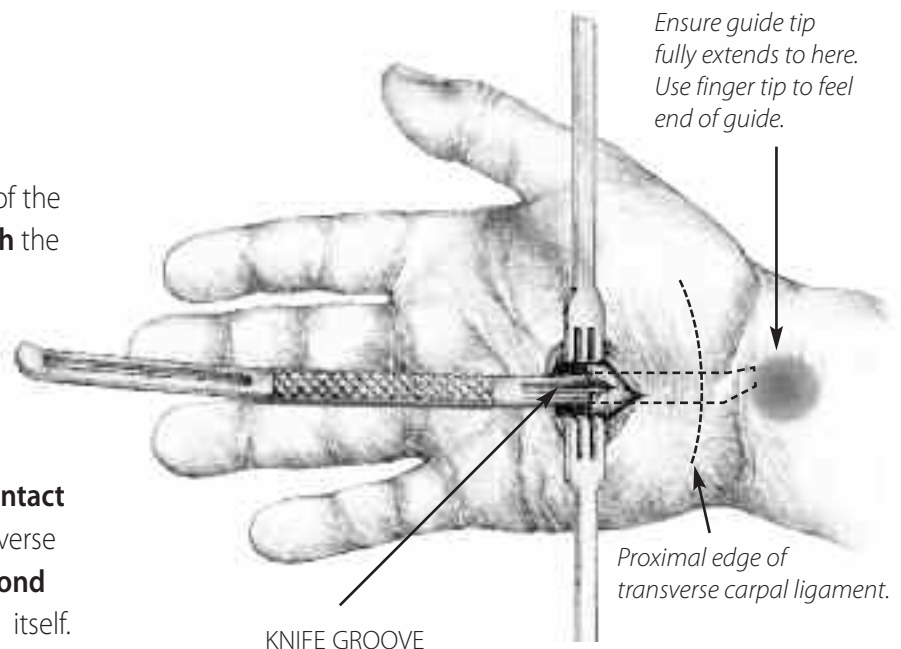
(FIG. 5)

STEP  
5

### ALIGNING CUTTING GUIDE

- Pass either the **large or small end** of the Knife Guide **proximally underneath** the remaining portion of the transverse carpal ligament.
- The **curved tip** of the guide should pass proximally and always be in **contact** with the **undersurface** of the transverse carpal ligament until it reaches **beyond** the proximal extent of the ligament itself.

(FIG. 6)

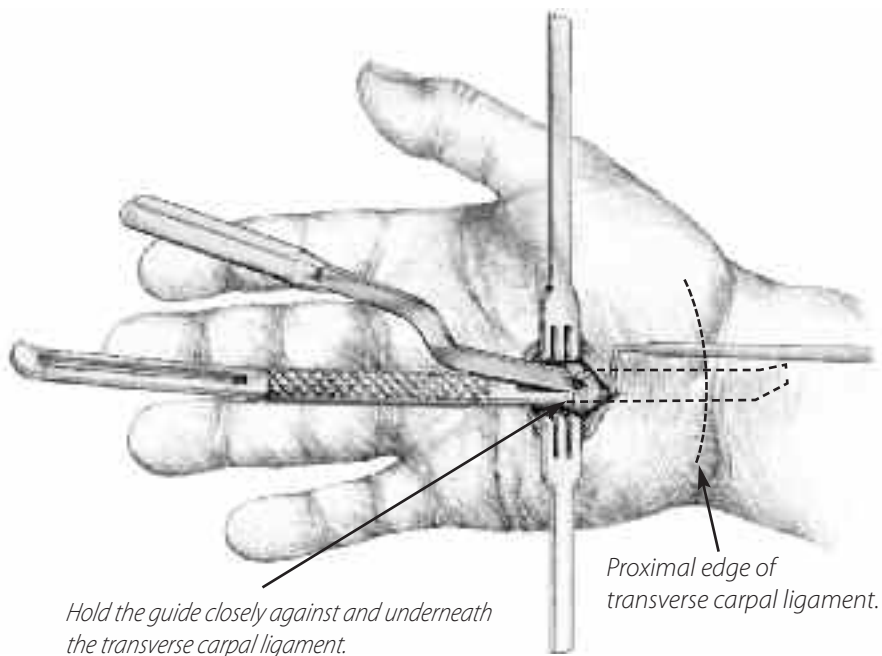


(FIG. 6)

STEP 6

**CUTTING KNIFE ALIGNMENT**

- After ensuring an appropriate **passage** of the guide, (without tissues between the ligament and the guide itself) hold the guide **closely against** the transverse carpal ligament. Engage the **carpal tunnel knife** into the dedicated guide's knife **groove**. (FIG. 7)

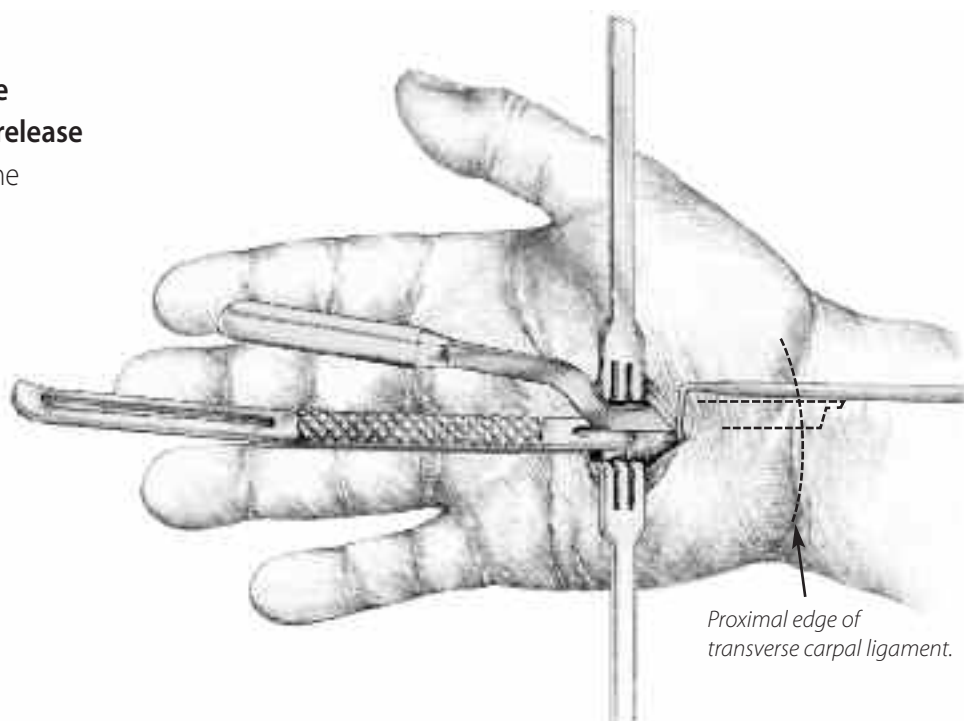


(FIG. 7)

STEP 7

**COMPLETE RELEASE**

- Pass the knife along the **groove** proximally until the **complete release** of the **remaining portion** of the transverse carpal ligament has been accomplished. (FIG. 8)

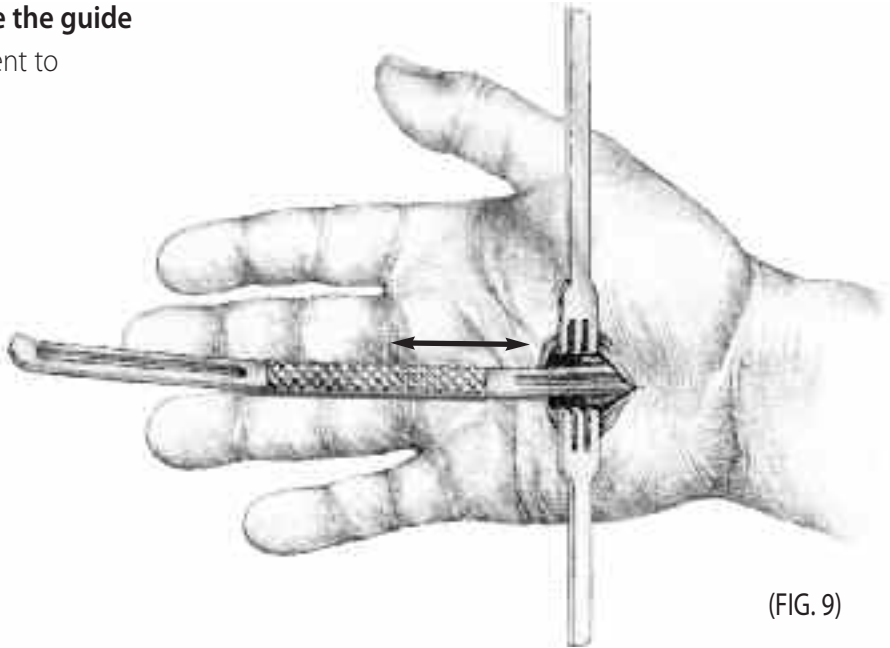


(FIG. 8)

STEP  
8

**ENSURING COMPLETE RELEASE**

- After the knife has been retracted, **use the guide to probe** the transverse carpal ligament to ensure complete release.  
(FIG. 9)



(FIG. 9)

STEP  
9

**CLOSURE**

- After the wound is irrigated, use **two nylon sutures** for wound closure. A soft short palmar dressing is then placed, making sure that full finger and thumb flexion and extension can occur, without difficulty, postoperatively.

**POSTOPERATIVE CARE**

- Patients are encouraged to perform range of motion exercises postoperatively, although heavy lifting should be avoided.
- Sutures are generally removed at **7 to 10 days** with progressive increases in hand use counseled for the patient over the ensuing weeks.

81-0003 Carpal Tunnel Knife



81-0001 Carpal Tunnel Guide



Mini Carpal Tunnel Release System



FEATURES

**Simple**

- Simple instrumentation—protective guide and knife.
- SafeGuard® Knife provides high level of control.

**Safe**

- Direct visualization of median nerve.
- Defines the “Safe Zone” for carpal tunnel release.

**Cost Effective**

- Eliminates the need and cost for endoscopic equipment.
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INSTRUMENT SET



PART NO.	DESCRIPTION
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GUIDE

08-0001 SafeGuard® Guide

CUTTING KNIFE

08-0003 SafeGuard® Knife

08-0005 SafeGuard® Knives (set of 5)

COMPONENT MATERIALS

GUIDE

- 316L Stainless Steel as per ASTM A276

KNIFE

- HANDLE: Polyethylene PE955I
- BLADE: Stainless Steel (modified AISI.SAE 51440 A)



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