

the “Insight Precision”

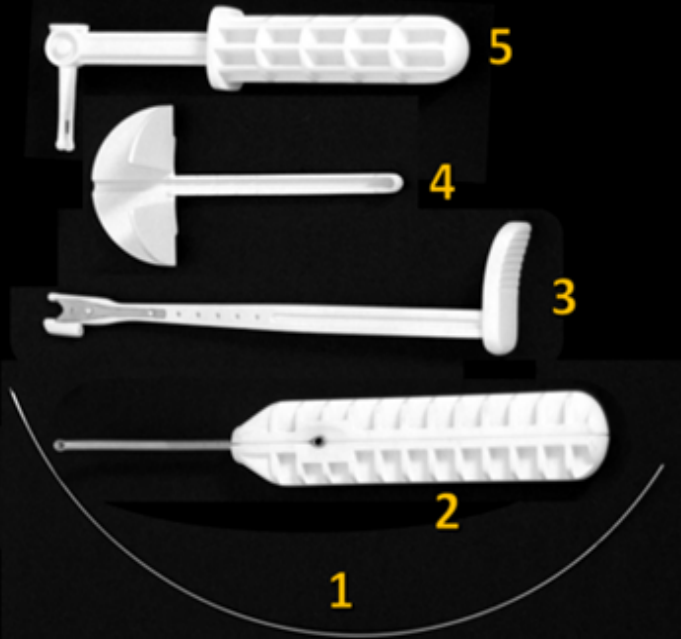
A new technique for carpal tunnel release

by

Dr. Dinis Carmo, MD

the “Insight Precision”

- Prototypes of Kit of Disposable Instruments



1. Flexible metal Guide Needle (0.6x250mm)
2. (curved tip) Cannulated Guide Rod
3. Straight JD Fasciotome
4. Slotted fenestrated-tip Guide Cannula
5. 90° angled-shaft JD Fasciotome

disposable kit of instruments

kit of instruments

- patented -

EUA	Denmark	Italy	Portugal	Israel
Canada	Finland	Luxembourg	Spain	Australia
Mexico	France	Monaco	Sweden	China
Austria	Germany	Netherlands	Switzerland	Japan
Belgium	Ireland	Norway	United Kingdom	South Korea

Patents valid: Dec 2030

*why do we think
this technique will be
quickly adopted by
most hand surgeons ?*

because

our technique

is!

- *simple*
- *fast*
- **SAFE**
- *easily reproducible*
- *economical*
- *no need for special skills*
- *use of the endoscope is optional* (mainly for documentation)

What is new?

The Guide system

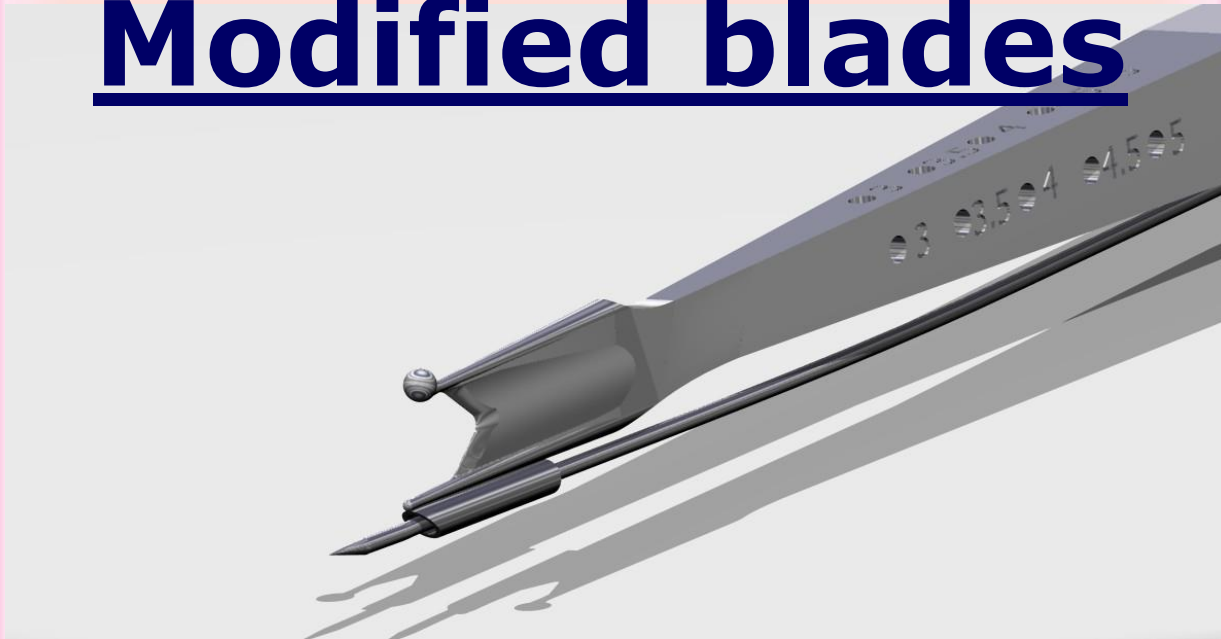
and

Modified blades

A Guide system



Modified blades



**better manufactured as a one use
only, disposable, units**

some important surgical features:

- **We have been using this technique since 2005.**
- **To date, about 500 patients have been operated with this technique without any reports of any significant complications**
- **Minimally invasive surgery: a 1cm proximal single incision**
- **Minimally painful surgery: most patients do not need post-op. analgesia**
- **Average surgery time: 15m**
- **Documented surgery: photo and /or video**

A BIT OF HISTORY

1

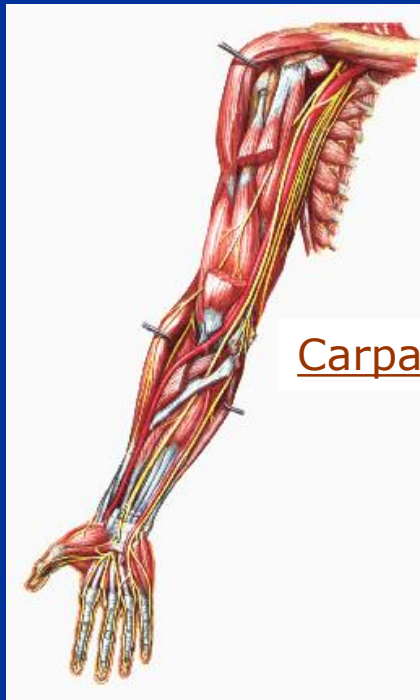
about the pathology

Carpal Tunnel Syndrome :

what is the cause of the problem?

The median nerve, one of the most important hand nerves, passes UNDER the transverse carpal tunnel ligament, therefore, it may be compressed under it.

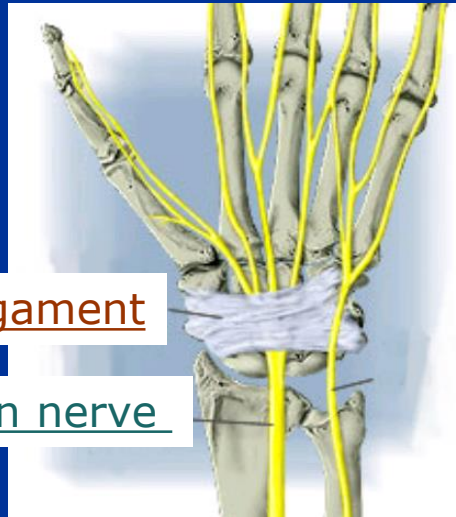
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Median nerve: course in the upper extremity

Carpal Tunnel Ligament

Median nerve



Median nerve at the wrist: the nerve travels UNDER the transverse Carpal Tunnel Ligament.



fingers normally enervated by the median nerve

the Solution:

Surgical release of the transverse carpal ligament



A BIT OF HISTORY

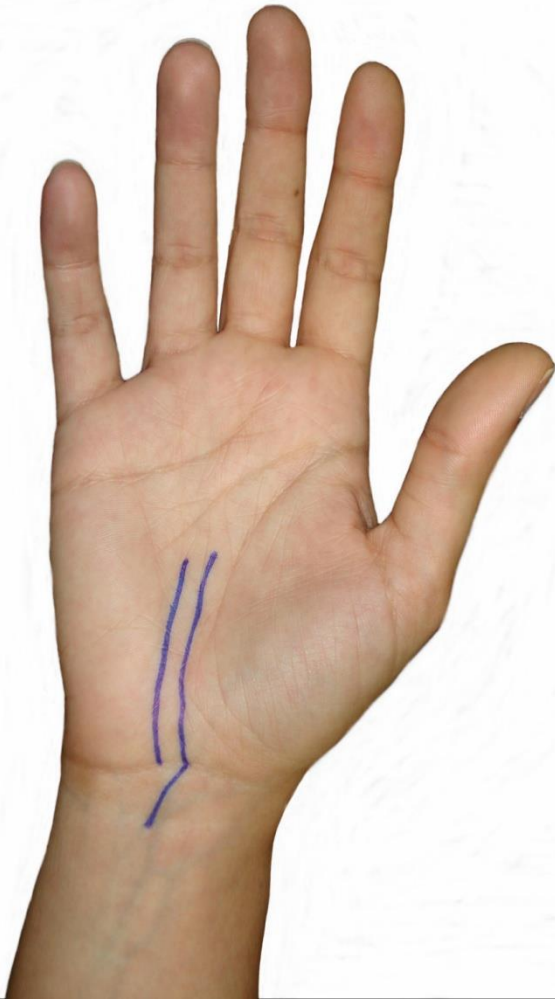
2

about the surgical techniques

Surgical techniques available for the release of the CTL

- classic “open” surgery
- “mini-open” techniques
- endoscopic techniques
- “blind” (uncontrolled) techniques

Common used incisions for Carpal Tunnel Release



2 of the most common incisions used for "open" CTR

some of the most common incisions used in mini-open and endoscopic techniques. In many, two combined incisions ("double portal" techniques) are used.



A BIT OF HISTORY

what is the problem with

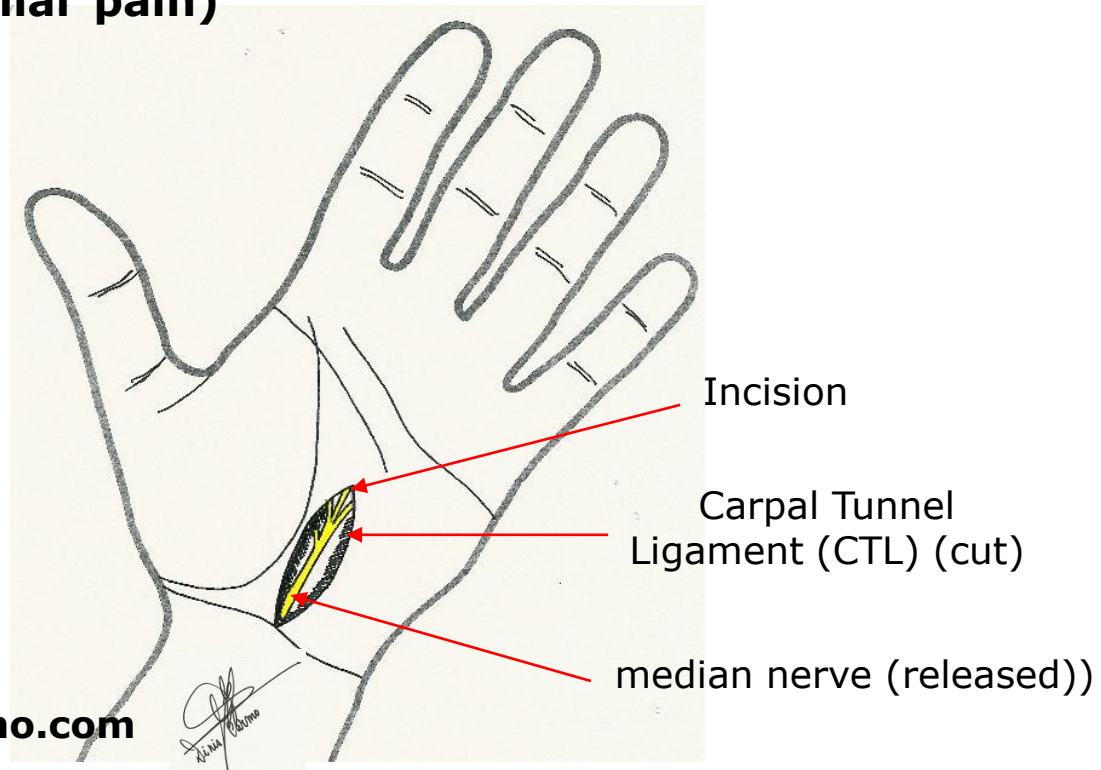
-1 -

classic “open” surgery?

Classic "open" Surgery

Open surgery is straight forward, simple, easy, accessible to less differentiated surgeons and inexpensive. Results are generally good.

The problem is: the possibility of persistent residual pain at the level of the incision (local or pillar pain)



A BIT OF HISTORY

what is the problem with

-2-

“mini-open” surgery?

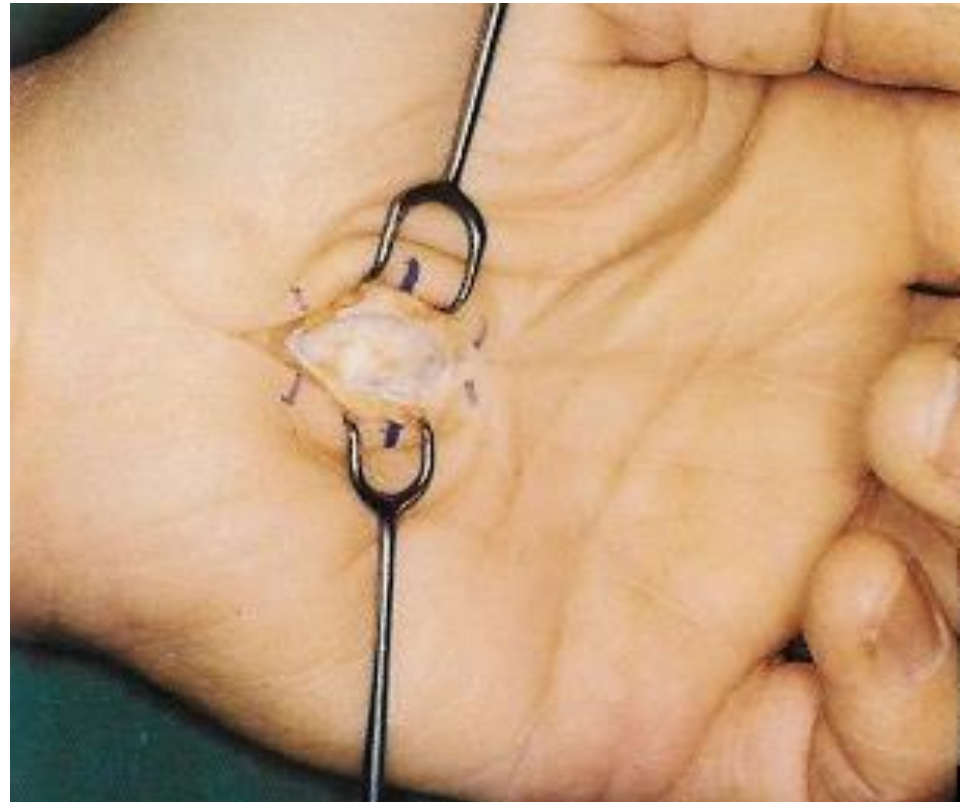
"Mini-Open" Techniques

The Problems are:

- the concept of "mini" is subjective. some techniques use 2 incisions.
- most of these techniques are, at least, partially "blind", with deep incisions extended blindly (no control), through minor superficial (skin) incisions.
- they can be potentially traumatic. If too vigorous retraction is applied the problem of local or pillar pain can persist or even be aggravated.
- **The potential for post-op. complications increases.**

One or two smaller incision(s) is(are) performed

The aim is to diminish local or pillar pain

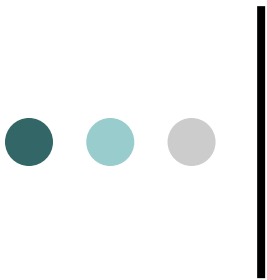


A BIT OF HISTORY

what is the problem with

-3 -

“blind” (uncontrolled) surgery?



Blind (uncontrolled) Surgery

“Blind” surgery is actually a “mini-open” surgery, in which the small(s) incision(s) practiced for endoscopic surgery is(are) used and the operation carried forward “blindly” guided by the “experience” or “feeling” of the surgeon as to how and when the CTL is released. The idea is to take advantage of the small incisions practiced without the cumbersome use of the endoscope. A few surgeons use it.

The main problem is the lack of control and documentation about the performed release. It is prone to litigation and in countries where medical malpractice is common, like the USA, it is certainly a surgeon’s major hazard.

To the best of our knowledge there are no scientific papers published with the results of this particular type of technique.

A BIT OF HISTORY

what is the problem with

- 4 -

endoscopic surgery?

what are the problems with Endoscopic Techniques?

1

Many hand surgeons have abandoned endoscopic techniques because they feel that the technique is:

- expensive
- demanding
- potentially dangerous
- the risk of causing a serious iatrogenic lesion that may be (at least partially) irreversible does not justify the benefit of a smaller scar and discomfort.

Endoscopic Techniques - where do we stand today?

- ❑ do to technical difficulties and complications all-endoscopic carpal tunnel release has dramatically faded out of favor in the USA.
- ❑ a survey from the most recent American Society for Surgery of the Hand annual congress showed that of the membership, 78% do a mini-open CTR, 20% do all-endoscopic CTR, and 2% do "other".

CTR TECHNIQUES - THE FUTURE -

2

- ❖ (1) ***local and pillar pain (amongst others) continue to be major problems in CTRelease surgery.***
- ❖ (2) **surgery for Carpal Tunnel Syndrome is the second most common type of surgery, with well over 430,000 procedures performed annually in the USA alone (*).**

- the opportunity is still open for the right method. -

(*) Data from the Bureau of Labor and Statistics and the National Institute for Occupational Safety and Health-NIOSH.

our technique

is:

- *mini- invasive (one single proximal portal)*
- *without previous dilation of the contents of the carpal canal*
- *guided*
- *simple*
- *fast*
- **SAFE**
- *easily reproducible*
- *economical*
- *no need for special skills*
- *optional use of the endoscope (mainly for documentation)*



clinical example

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skin incision

2 8:10AM

Released Carpal Tunnel Ligament

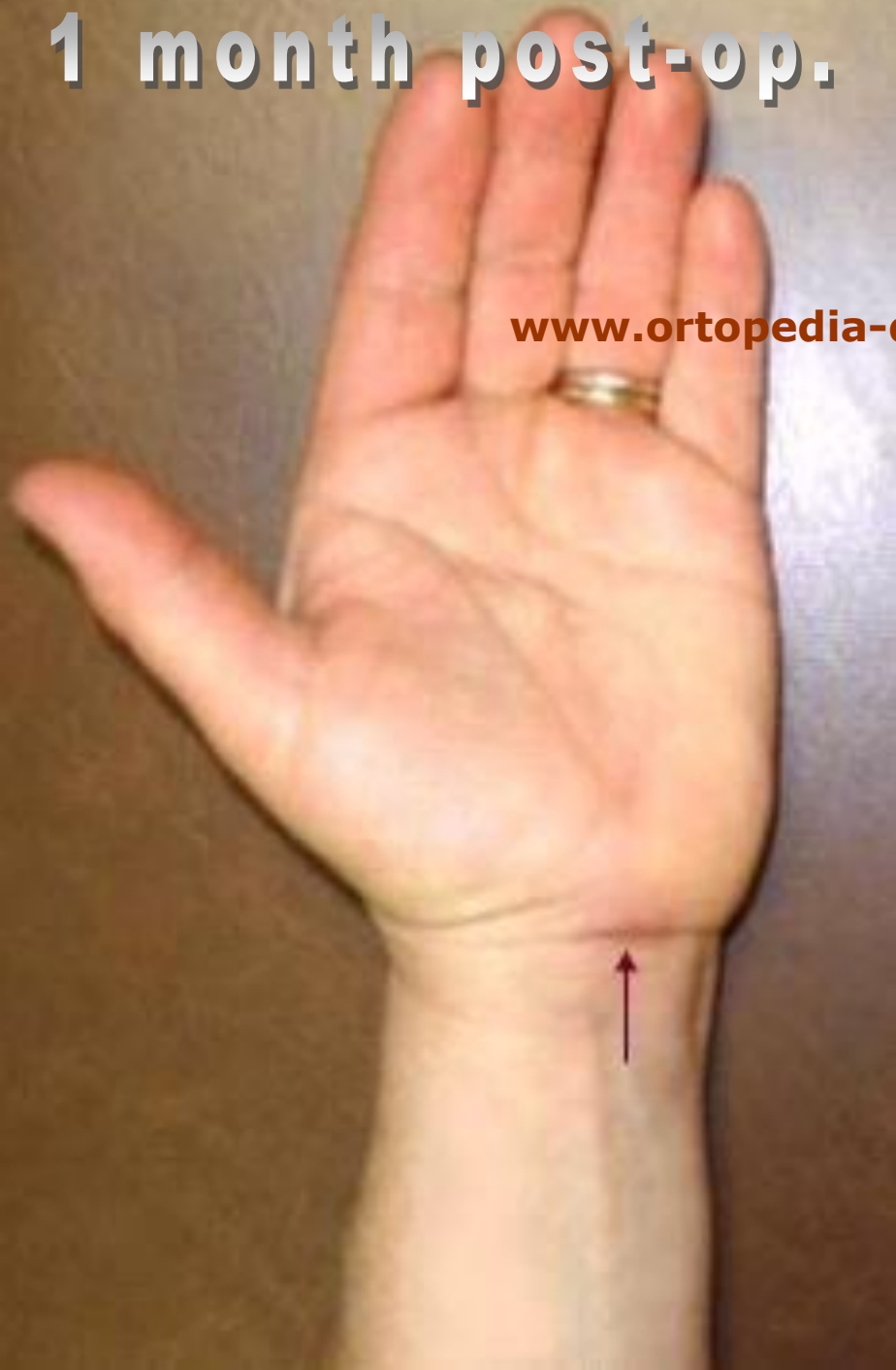
the 2 divided parts of the ligament are displayed



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1 month post-op.



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9 months post-op.



**resume of the
main differences
between
our technique
and each of the existing ones**

concerning "classic", open, Surgery

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- smaller incision/ smaller scar
- no cuts over the pillar area of the hand
- faster
- much more comfortable for the patient

concerning "Mini-open" Surgeries

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- smaller incision
- one proximal incision only
- no cuts over the pillar area of the hand
- CTL cut guided, under control. Many of the so called "mini-open" techniques are, at least partially blinded techniques
- documented

concerning endoscopic techniques

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- no previous dilation of the carpal tunnel
- Simple
- Safe
- Fast
- *Economical*
- *endoscope use optional (mainly for documentation)*

concerning "blind" (uncontrolled) techniques

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"blind surgery is for blind surgeons, blind about their results"

- the section of the CTL is done under control
- the results of the surgery is documented

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