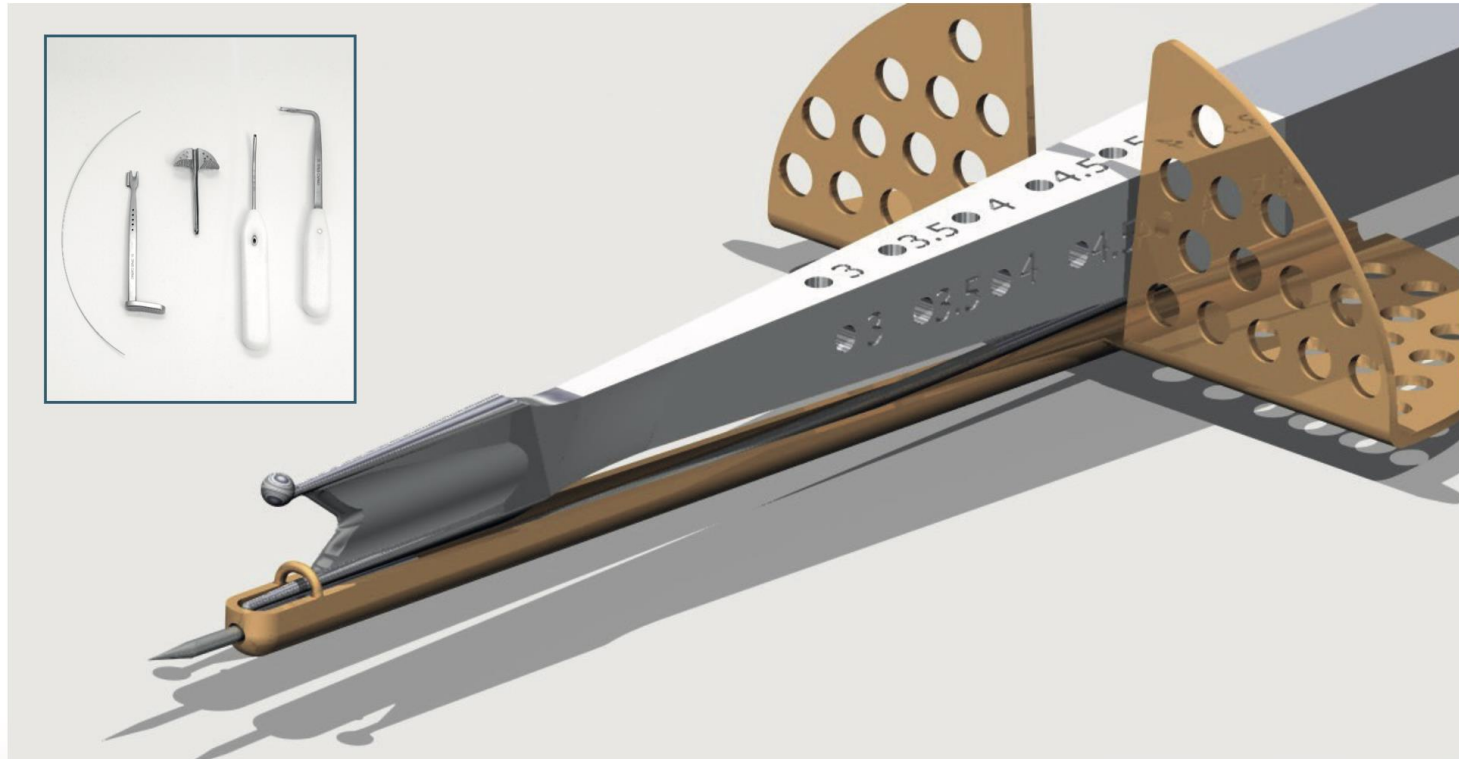


“INSIGHT/PRECISION”

A new, mini-invasive, full-guided, technique for CARPAL TUNNEL and CUBITAL TUNNEL in-situ RELEASE



safe and easy.... no endoscopy, no ultrasound

developed by Dr. Dinis Carmo, MD

kit of instruments

- patented -

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

Patents valid: Dec 2030

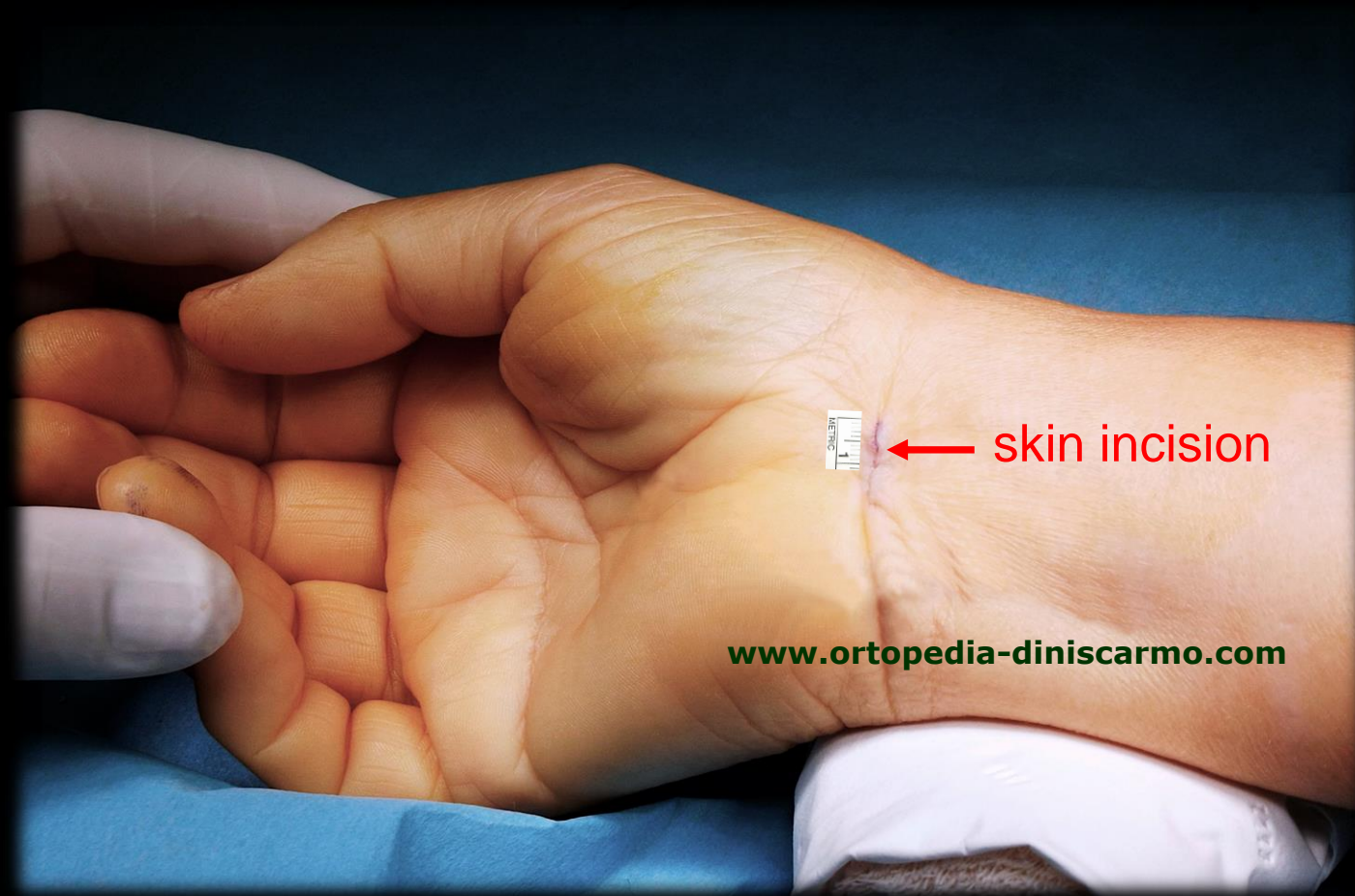
“Insight-Precision” technique

simple and safe

- **More than 650 cases successfully performed in Portugal alone, since 2005**
- **No incisions on the palm of the hand**
- **no stitches to remove**
- **scar aesthetically close to perfection**
- **virtually painless post-operative period**
- **uneventful and faster recovery**
- **no record of serious or irreversible complications**

Our technique :

a SINGLE incision of 1 cm or less is used, placed transversely over the distal palmar crease of the wrist, as shown in the photograph. This small incision is closed with 2 internal stitches, which do not need to be removed. Cuts are not made in the palm of the hand, which are usually painful.

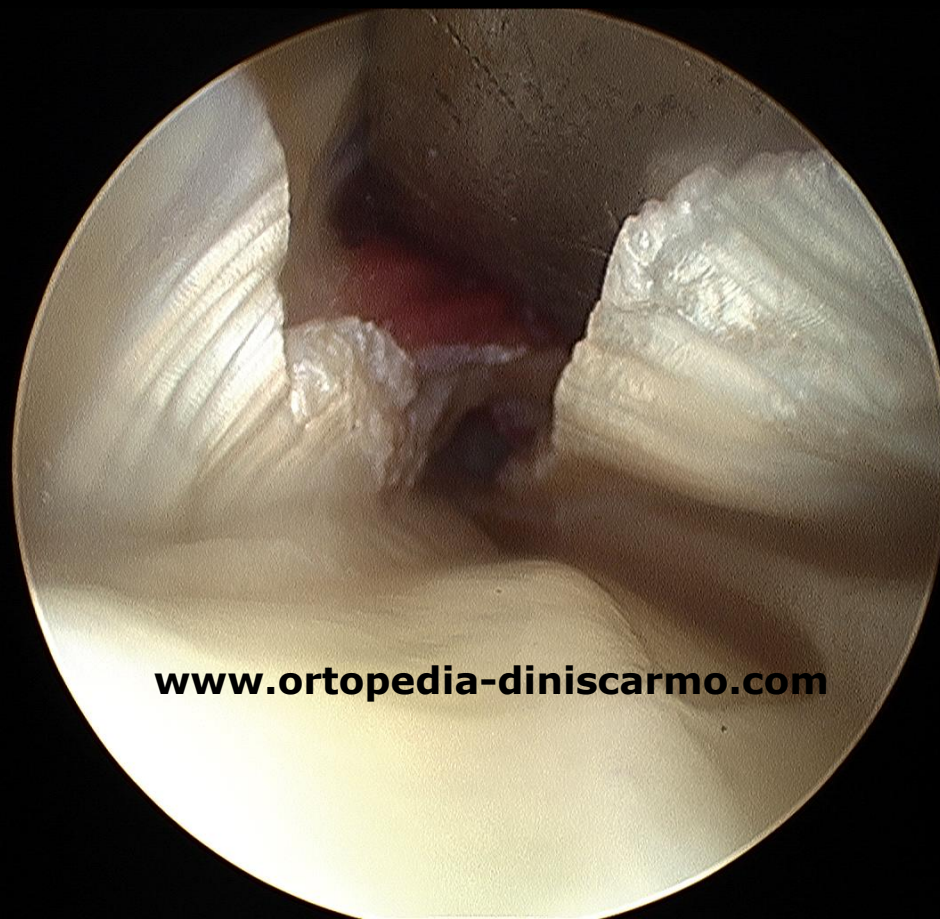


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*The very low morbidity of this technique and the quality of the postoperative period allows the operation to be performed **simultaneously on both hands** – if the patient so wishes – avoiding duplication of hospital stay, anesthesia, period of postoperative incapacity and expenses.*




inside-out view of the sectioned transverse carpal ligament



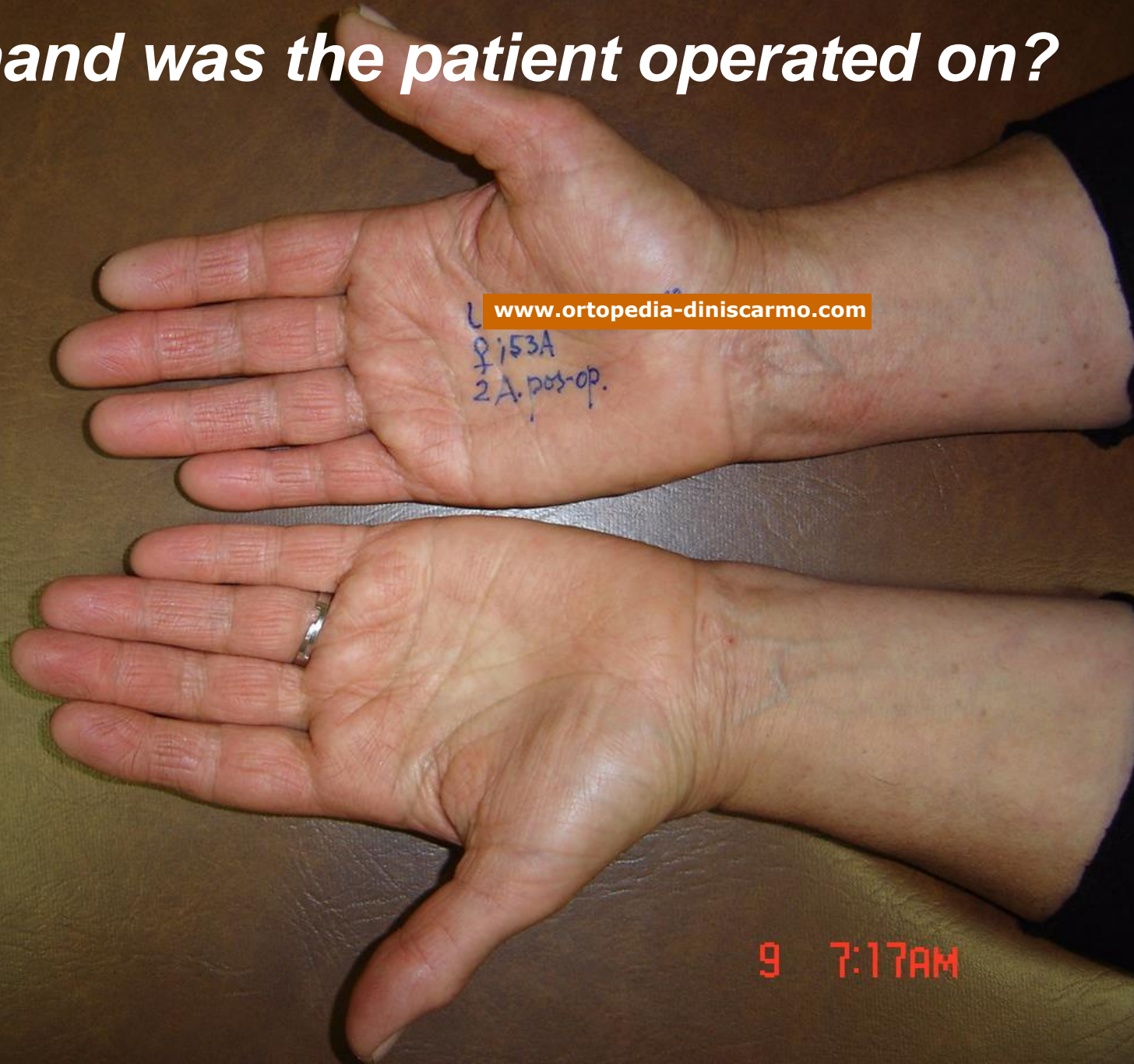
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clinical examples

which hand was the patient operated on?



both, simultaneously

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U. 10.10.10
♀ 153A
2A. pos-op.

9 7:18AM

in June, 2005

EL 6

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1 month post-op.



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↑
Op. scar

9 months post-op.



A BIT OF HISTORY

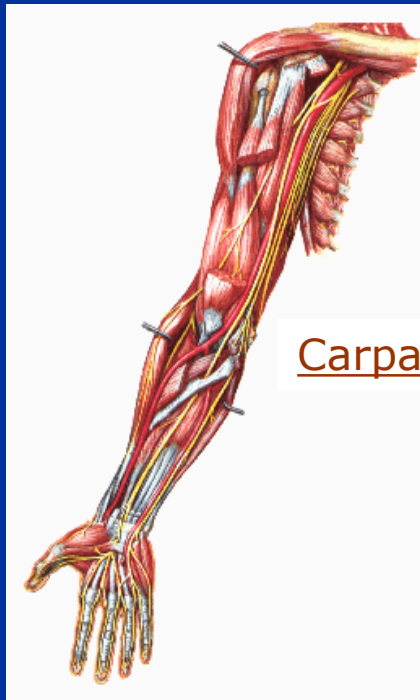
1

about the pathology of
carpal tunnel syndrome

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.

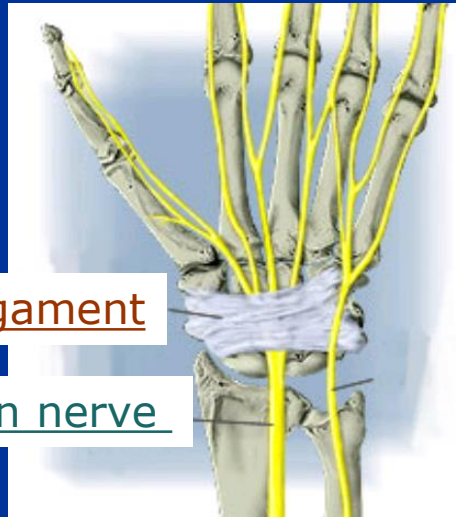
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Median nerve: course in the upper extremity

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

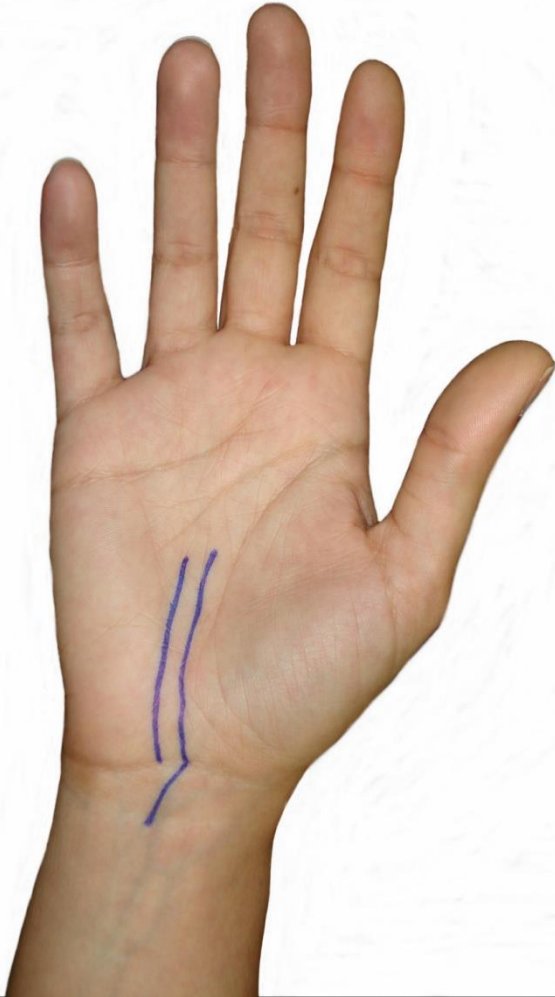
2

about the surgical techniques

Surgical techniques available for the release of the CTL

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

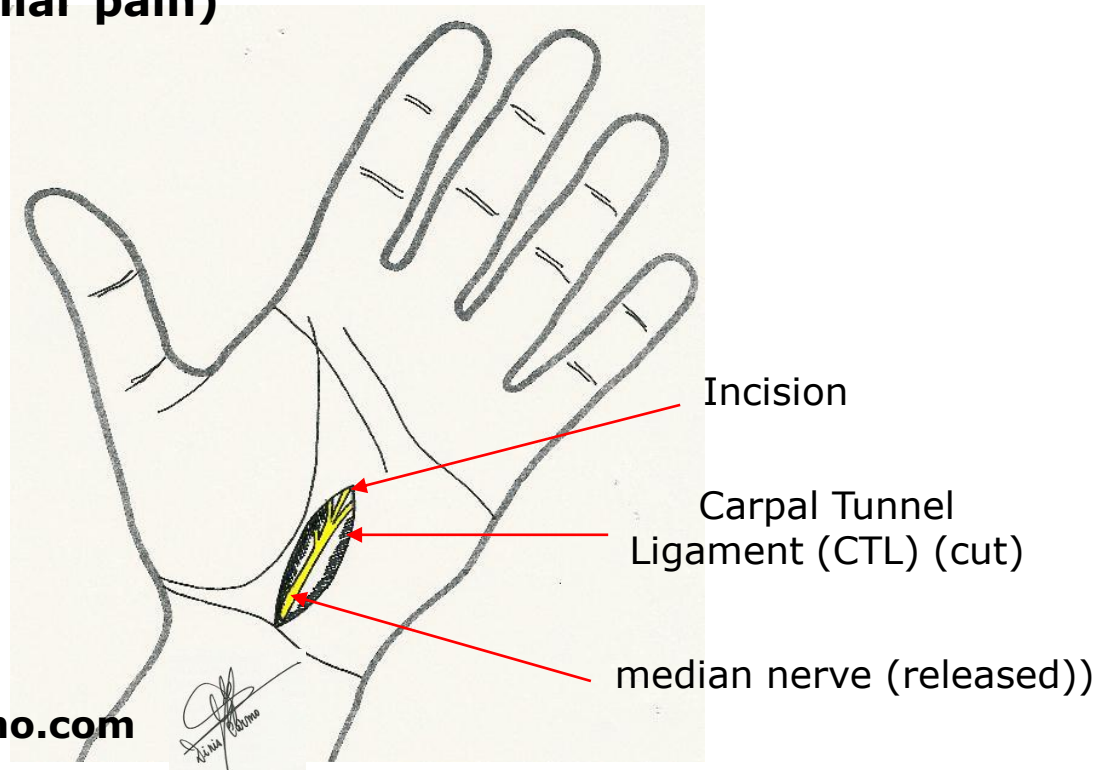
-1 -

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?

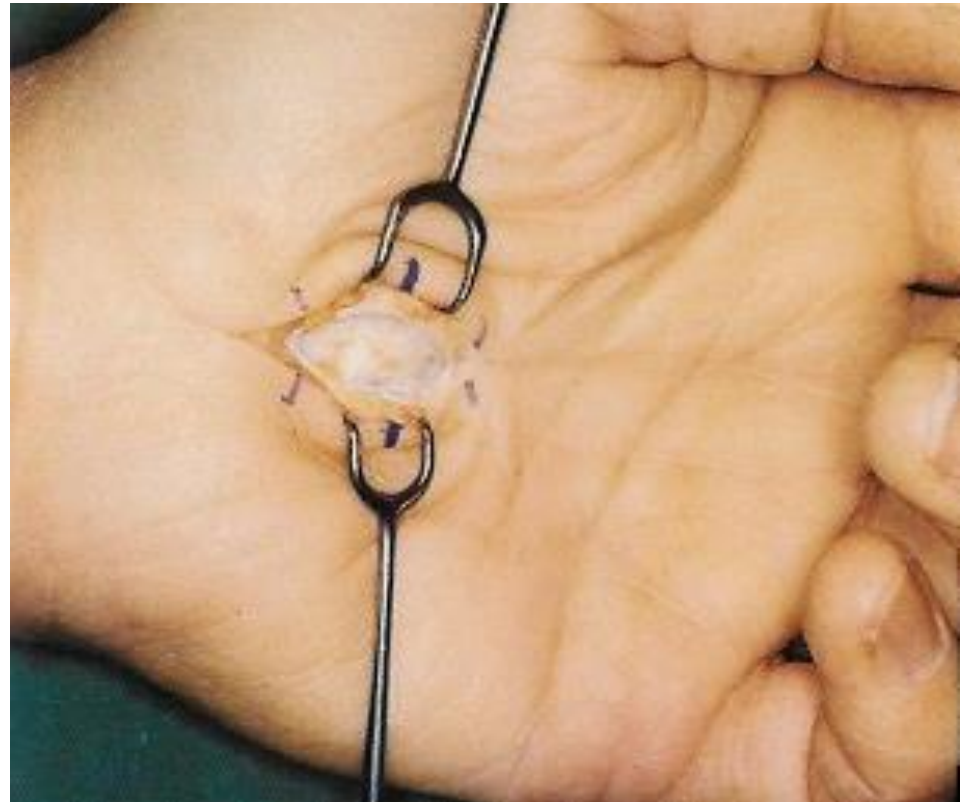
"Mini-Open" Techniques

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



Problems with miniopen techniques

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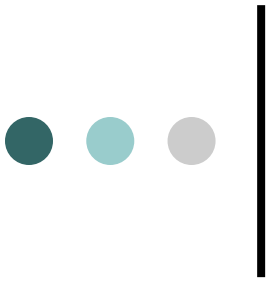
- the concept of “minimal” (incision) is relative
- many use two incisions, with at least one incision on the palmar region of the hand
- potentially traumatic at the level of the incision(s) made
- many of the so-called minimally open techniques are at least partially “blind”
- the risk of operative complications is higher
- **Conclusion:** they do not resolve or only partially resolve the problem of postoperative pain at the level of the incision on the palm of the hand. Eventually they may even exacerbate the problem. Higher risk of surgical complications

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 irreversible does not justify the benefit of a smaller scar and less 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.

**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” surgery

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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
- can be documented

concerning endoscopic surgery

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- no previous dilation of the carpal tunnel
- simple
- safe
- fast
- *economical*
- *no need for endoscopic equipment / set-up*

concerning “blind” surgery

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“blind surgery is for blind surgeons, blind about their results”

- the section of the CTL is done under control
- the result of the surgery can be documented

concerning ultrasound assisted surgery

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- no need for ultrasonic equipment / set-up
- no need for extra skills

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