

**CORRESPONDENCE**

**Carpal and Cubital Tunnel and Other, Rarer Nerve Compression Syndromes**

by Dr. med. Hans Assmus, Prof. Dr. med. Gregor Antoniadis, Prof. Dr. med. Christian Bischoff in issue 1-2/2014

**Open Biptortal Decompression of the Median Nerve**

The authors published an excellent review article on the evidence-based diagnostic procedures and therapeutic recommendations for the two most common peripheral nerve compression syndromes: carpal tunnel syndrome and cubital tunnel syndrome (1). The team of authors, which is also involved in setting out the S3 guideline for the diagnostic evaluation and therapy of carpal tunnel syndrome, presented four approaches for decompression in carpal tunnel syndrome. We wish to add to these a fifth procedure: that of open biportal decompression of the median nerve, which was first described by Kenneth Wilson in 1989 and was compared prospectively in 1994 with the standard approach, in patients with bilateral carpal tunnel syndrome intraindividually as a double-incision method (2). After endoscopic procedures became established, this method has taken a backseat, but in persons who do not wish to have an endoscopic intervention it represents a safe technique that is potentially superior to the classic open approach.

We perform this technique in our hospital by placing the transverse incision between the linea restricta and the distal part of the carpal tunnel, from the palmaris longus tendon in an ulnar direction. After the incision of the antebrachial fascia, adhesions between the flexor retinaculum and the median nerve are released. A second, distal-longitudinal incision is placed in the linea vitalis above and throughout the distal carpal ligament. The carpal ligament is split up to the superficial ulnar arch. The advantage compared with the open technique is the fact that no surgical scar is left in the proximal palmar surface region, in which the palmar skin is more tightly connected to the subcutaneous tissue than in other regions. Transversal nerve fibers pass through here that are severed when using the monoportal open standard technique, so that scar pain may occur in the palmar surface region. Compared with endoscopic procedures, the reduced technical complexity is an advantage. It goes without saying that the basis of safe open biportal decompression is an appropriate learning curve.

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**REFERENCES**

1. Assmus H, Antoniadis G, Bischoff C: Carpal and cubital tunnel and other, rarer nerve compression syndromes. *Dtsch Arztebl Int* 2015; 112: 14–26.
2. Wilson KM: Double incision open technique for carpal tunnel release: an alternative to endoscopic release. *J Hand Surg Am* 1994; 19: 907–12.

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**In Reply:**

Painful scarring after splitting the retinaculum constitutes a certain problem, but this is as a rule of a temporary nature. As our correspondents rightly point out, this is usually due to the severing of small, sensitive nerve branches from the palmar branch of the median nerve with or without a connection to the sensitive branches of the ulnar nerve (and presumably also the cause of the so called pillar pain). As the course of nerve branches can vary, no method—not even endoscopic surgery—guarantees that they will be spared, all that can be done is minimizing the risk. By comparison, the double-incision method explained by our correspondents is (much like endoscopic approaches) technically more demanding than open incision with a slightly longer incision. They rightly mentioned the required learning curve, which is also true for endoscopic interventions. The suggested open method using two incisions is probably superior to the often used mini-incisions, as it allows reliable splitting of the proximal parts of the retinaculum under conditions of good visibility, and simultaneously it minimizes the risk of nerve injury.

The discussion around the best and, importantly, the safest surgical method in carpal tunnel syndrome is ongoing: a recently published meta-analysis (1) explicitly mentions the learning curve and the surgeon’s individual experience, which will have to be given more attention in future studies. One thing is certain, however, and holds true for most surgical procedures: the more experienced the surgeon (this is also the case for defining the indication), and the more familiar s/he is with the relevant method, the lower the risk of complications and the better his/her outcomes (2).

It is worth mentioning that carpal tunnel syndrome became notifiable in Germany as an occupational disorder on 1 January 2015.

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**REFERENCES**

1. Sayegh ET, Strauch RJ: Open versus endoscopic carpal tunnel release: A meta-analysis of randomized controlled trials. *Clin Orthop Relat Res* 2015; 473: 1120–32.
2. Assmus H: *Das Karpaltunnelsyndrom. Eine Übersicht für Ärzte aller Fachgebiete. Essentials.* Berlin, Heidelberg: Springer 2015.
3. Assmus H, Antoniadis G, Bischoff C: Carpal and cubital tunnel and other, rarer nerve compression syndromes. *Dtsch Arztebl Int* 2015; 112: 14–26.

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**Conflict of interest statement**

The authors of both contributions declare that no conflict of interest exists.